Attachment IV-6

"Treatment/Storage Unit Uniform Building Code Compliance and Certification"

Piland Structural Engineers, Inc., 6/30/05

PILAND
STRUCTURAL ENGINEERS
INC.

716 LIGHTHOUSE AVE
P.O. BOX 51266
PACIFIC GROVE, CA 93950

PH - (831) 642-9090
FAX - (831) 642-9093
EMAIL - TIMP@PILANDSE.COM

June 30, 2005

D. A. Cook & Associates
Environmental Management & Consulting
1130 Denise Drive
Calistoga, CA 94515

Attn: Mr. Douglas A. Cook

Subject: Treatment/Storage Unit (TSU) Uniform Building Code (UBC) Compliance
Pacific Scientific Energetic Materials Company (PSEMC) – Hollister Facility
Observation Date – May 19, 2005
Project No. 5006

Dear Mr. Cook:

On May 19, 2005, Piland Structural Engineers Inc. (PSI) conducted an onsite visual observation of TSU's 1, 2, 3, and 8 to ascertain compliance of the structures as related to the relevant UBC to which the Units were subjected at the time of construction. Additionally, PSEMC drawings, Building Permits/Approvals, and Inspection reports, from the County of San Benito, relating to the TSU's were also reviewed for compliance.

OBSERVATION AND REVIEW

<u>TSU-1: Open Burning and Detonation of Waste Energetic Materials Unit</u>

The original TSU-1 structure appeared to have been an open flat concrete slab-on-grade. According to drawings provided by PSEMC, the slab was approximately 20'-0" square and currently supports two 10-foot diameter reinforced concrete pipe sections which house the burning and detonation of materials. The slab thickness and reinforcement was unknown.

Observation: Documentation for the original slab-on-grade, as pertaining to permitting or construction drawings was not available; therefore, only a visual observation for compliance with review of PSEMC drawings was conducted. The original slab area appeared adequate for the purpose to which the design was intended and was absent of any notable degradation or failures.

Recommendations: None

A pre-engineered metal roof canopy was installed in 2000, with permit and inspection reports from the County of San Benito. The roof structure consisted of fabricated plate girders and columns which supported a lightweight metal deck. Horizontal lateral stability was provided by tie rods in the roof diaphragm.

Vertical lateral support in the longitudinal and transverse directions, were provided by tie rods and moment frames, respectively. The columns were bolted to concrete caissons, as indicated in the inspection reports. The roof structure encompassed a concrete area of approximately 50'-0" x 54'-0", as depicted on drawings provided by PSEMC.

Observation: Upon review of the County of San Benito documentation for the roof structure, it appeared that all necessary inspections and permits were obtained throughout the course of construction. Approved occupancy was granted on November, 1, 2000, in accordance to Building Permit application records. Visual observation also confirmed the above construction methods and absence of any notable degradation, failures, or structural alterations. It was observed, however, that several of the column anchor bolts were immersed in drain water, as the corrugated pipe used for the caisson forms, protruded above the column base plates.

Recommendations: Provide weep holes in the sides of the corrugated pipe, below the base plates to ensure drainage of water and minimize the potential for corrosion of the anchor bolt/base plate assemblages.

According to the permit application and PSEMC drawings, an additional 12" thick concrete wall, which encompasses an extended 18" deep concrete slab, was installed in 2002. The extended slab and walls, which surrounds the original slab, creates the above-mentioned 50'-0" x 54'-0" slab area. The slab was shown to have 2-layers of #4 reinforcement bars at 12" on center each way. Additionally, a steel mesh cage encompasses the 10-foot pipe sections and is supported structurally by two rows of diagonal steel pipes along the longitudinal sides. The steel pipes, in turn, are bolted to elevated concrete foundation piers, which protrude above the surrounding slab. The exposed piers are approximately 1'-0" x 3'-0" in plan with a maximum-sloped height of 3'-6".

Observation: The original and new slab areas, along with the installed concrete walls appeared adequate for the purpose to which the design was intended. Visual observation confirmed the absence of any notable degradation or failures.

The steel mesh cage, which partially contains projectiles during detonation, showed deformations which were consistent with its intended use. Anchorage of one of the diagonal steel supporting pipes, however, had failed at the base plate/elevated concrete pier interface.

Recommendations: Retrofit/replace the failed base plate/concrete anchorage to original specifications.

TSU-2: Open Burning of Solvents on Slab with Secondary Containments

TSU-2 is an open flat concrete slab-on-grade with no superstructure. Solvent is placed in longitudinal half-barrel metal drums on racks over stainless steel secondary containment pans for open burning. According to supplied drawings by PSEMC, the slab is 6" in depth and approximately 25'-0" x 40'-0" in plan. The slab reinforcement was unknown and poured at grade.

Observation: Documentation for the slab-on-grade, as pertaining to permitting or construction drawings was not available; therefore, only a visual observation for compliance with review of PSEMC drawings was conducted. The slab area appeared adequate for the purpose to which the design was intended and was absent of any notable degradation or failures.

Recommendations: None

TSU-3: Storage of Hazardous Materials (mostly solvents) in Drums

TSU-3 is a pre-engineered metal building open on all sides and supported upon a concrete perimeter footing with an interior concrete slab-on-grade. The foundation appeared to be constructed upon engineered fill of unknown depth, as the soil gradation and color were markedly different from the adjacent surrounding expansive clays. According to drawings provided by PSEMC, the structure encompasses approximately 60'-0" x 70'-0" and is used for storage of solvents. The roof structure consisted of fabricated plate girders and columns which supported a lightweight metal deck. Horizontal lateral stability was provided by tie rods in the roof diaphragm. Vertical lateral support in the longitudinal and transverse directions, were provided by tie rods and moment frames, respectively. The columns were bolted to a raised concrete square footing, which in all probability was an integral part of a spread footing within the perimeter footing system. A raised curb was present on three side of the building with a grated drain system along the front to ensure solvent containment. The slab thickness and reinforcement was unknown.

Observation: Documentation for the structure, as pertaining to permitting or construction drawings was not available; therefore, only a visual observation for compliance with review of PSEMC drawings was conducted. The structure appeared adequate for the purpose to which the design was intended and was absent of any notable degradation or failures. It should be noted, however, that the foundation along the backside of the structure, adjacent to the exterior grade, had been eroded by water drainage, revealing the exterior footing face.

Recommendations: Replace and compact additional soil adjacent to the exterior foundation and redirect drainage away from the structure.

TSU-8: "Safety Bucket" Water Treatment by Evaporation

TSU-8 consisted of two open flat concrete slabs-on-grade. Both slabs had a perimeter curb for containment and are used for liquid evaporation. Neither slab was constructed with a superstructure. The slabs support troughs which contain turbid water from "safety buckets", which allow for open exposure to the ambient atmosphere to evaporate over time. According to supplied drawings by PSEMC, one slab is approximately 16'-0" square with the other 25'-0" x 13'-0" in plan. The slab thicknesses and reinforcement were unknown and poured at grade.

Observation: Documentation for the slabs-on-grade, as pertaining to permitting or construction drawings was not available; therefore, only a visual observation for compliance with review of PSEMC drawings was conducted. The slab areas appeared adequate for the purpose to which the design was intended and was absent of any notable degradation or failures.

Recommendations: None

CERTIFICATION

It is in my professional opinion that TSU's 1, 2, 3, and 8 are in general compliance to the Uniform Building Code to which the Units were subjected at the time of construction. The above-mentioned recommendations should also be performed to ensure continued stability of the structures.

It is emphasized that this report is limited to visual observation and review of existing documents and whose primary purpose was to determine compliance to applicable UBC requirements and the general overall structural condition of the TSU's primary structural elements. It is not the intent of this report to verify code level forces, as no calculations or analyses were conducted in determining the given recommendations. Certification and compliance to the above-mentioned recommendations does not imply that damage to the system and any associated equipment or storage objects will not occur, but rather, the systems' stability should be maintained thereby reducing the possibility of structural failures and damage to the surrounding environment.

Piland Structural Engineers Inc. appreciates the opportunity to provide this UBC compliance and certification report. Should you have any questions regarding this report, please do not hesitate to contact us at (831) 642-9090.

Sincerely,

PILAND STRUCTURAL ENGINEERS INC.

Timothy J. Piland, S.E.
Principal - Structural Engineer
S3711 - Exp. 6/30/07

Chapter V - Security

A. Control Methods

Security Central (SC), located at the only entrance to the PSEMC property, controls all resource protection activity. (See Figure II-3 for location.) Security associated with HW units is integrated with normal and emergency facility security operations.

1. Procedures:

A seven day, 24 hour Resource Protection Patrol (RPP) maintains surveillance of all structures and grounds on a planned irregular schedule, in combined vehicle and foot patrols. Unscheduled patrols conducted during working hours also verify that employees and visitors conform to safety and environmental requirements. Each HW unit is observed at least once every 24 hours by the RPP. Standard Operating Procedure 235106 (Attachment V-1) describes resource protection procedures used if any deficiency is noted at any HW unit. SC and the RPP are tasked with emergency response functions (shown in Chapter VIII of this plan), as well as the usual security functions.

2. Equipment:

Redundant two-way radio communications between SC and the RPP is maintained through use of a base station with remote repeater, and hand-held and/or mobile radios. The base station radio is furnished with automatic and redundant manual start backup power. SC can also preempt the PSEMC transportation radio network if other PSEMC vehicles are used for security or environmental support. The patrol vehicle is equipped with a two-way radio, spot lights, a fire extinguisher, a first aid kit, and a small spill control kit which includes sorbent material, safety cones and warning tape to isolate incident scenes, and binoculars for observing incident scenes from a safe distance. Each Resource Protection Specialist (RPS) is assigned a hand-held radio while on patrol. All RPP radios have two channels, one of which is independent of repeater operation. Response for the RPP is less than five minutes to any TSU on the property. SC is equipped with both PSEMC system and public utility telephones that are independent of site electrical power. By telephone, pager, or cellular telephones, SC can contact the Facility Contact Person, Incident Director, PSEMC First Responders, and PSEMC Officers.

3. Personnel:

RPSs, during their first year of tenure, complete professional training and are State Certified security guards. All guards are certified for use of the police baton, and some are certified to carry MACE and/or to carry a firearm. On-the-job training includes Hazard Communications, spill control for small spills, and emergency response duties.

B. Security Fencing

The site is surrounded by a typical three-strand barbed wire grazing fence. (See Figure II-2.) The main 100-acre industrial site is contained within an eight-foot chain link security fence that is topped with three strands of barbed wire canted outward. Six (6) service gates in the security fence are locked except when in use. An additional grazing fence surrounds TSU-1, the Explosive Open Burning and Detonation Site, and the containment device for explosives burning is within a steel frame, heavy expanded metal security cage. The cage is locked with high security combination pad locks at all times when not attended by PSEMC employees. Site access is controlled through Security Central and/or Support Services.

C. Signs

Signs with block lettering (the same size as the 20/50 line on standard eye examination charts), are posted at approximately 100-yard intervals on the outer grazing fence, the security fence, and on each approach to the perimeter of each HW management unit bearing the following legend:

CAUTION! HAZARDOUS WASTE AREA.
UNAUTHORIZED PERSONS KEEP OUT.
CUIDADO! ZONA DE RESIDUOS PELIGROSOS PROHIBIDA
LA ENTRADA A PERSONAS NO AUTORIZADAS.

Chapter V Attachment

Attachment V-1: PSEMC Standard Operating Procedure:

Monitoring and Observation of Hazardous Material Storage and Operational Use Areas,

SOP No. 235106

SUBJECT: MONITORING AND OBSERVATION OF HAZARDOUS MATERIAL STORAGE AND OPERATIONAL USE OF AREAS

Date/Prepared By:	Date/Approval	Date/Approval	Date/Environmental	Date/Safety

SUMMARY OF CHANGES

- Updates Company name to Pacific Scientific-EMC, (PSEMC), California Operations
  - Document has been significantly revised and is to be read in its entirety.
  - For forms mentioned in this document, contact Document Control

1.0 INTRODUCTION

During all off-hours, including weekends and holidays, security personnel shall monitor Pacific Scientific (PSEMC's) hazardous materials sites as part of their facility patrol. Facility patrols will be performed at approximately two (2) hour intervals throughout all off-hours.

Hazardous Material Storage and Hazard Waste Treatment/Storage Unit sites (TSU) shall be visually inspected and monitored as stated in guidelines established in PSEMC's Environmental worksheet PSEMC Form 1956, "*Observation of Treatment and Storage Units (TSU)*".

2.0 SAFETY

2.1. In the event of a suspected hazardous spill or leak (observed by Security or by a third party) the following steps are to be taken:

a. Ascertain the exact location of the spill or leak

b. Note the time that the spill or leak was discovered

c. When possible, ascertain the type of material involved

d. Estimate the amount of the spill material

e. Verify if any persons are involved, exposed and/or injured

f. Track and document what steps, if any, are being taken to abate the situation

g. Verify bodies of water, drains or sewer systems, if any, are involved.

WARNING: If gas is involved, ascertain the direction of travel of the plume (cloud)

Always stay upwind and upgrade from any hazardous material spill or leak

2.2. Upon completion of gathering all information and estimating (as best as possible) the quantity up the hazardous material spill or leak, respond as follows:

a. Contact Support Services

b. Contact the Spill Team Leader

c. Contact the affected area supervisor

d. Contract the Emergency Response Team (ERT) HazMat Team if directed by Support Services or the Spill Team Leader

e. Evacuate and cordon off/restrict access to the affected area

f. Notify the Security Supervisor

Important Note: If a spill does not appear to be "serious", size up the spill. If you are adequately trained, know what material is involved and can control the spill safely yourself, do so. Always wear all necessary Personal Protective Equipment (PPE). PPE requirements will vary depending on the specific materials involved. Eye protection, boots, gloves, respirators, or self-contained breathing apparatus (SCBA) are the most common PPE requirements. Always follow all necessary safety guidelines.

2.3 If you are not confident that you can safety control the spill, call the area management/ supervisor to evaluate the spill; you may assist them in control if so requested and can do so safely.

3.0 EXAMPLES

3.1. You notice a small puddle of a chemical, which you know is not very hazardous, located next to its container. Notify Security Central and wear the PPE required for control. Following control, notify the area management/supervisor of the steps you took. Make a detailed log entry regarding the incident.

3.2. A small amount of an unknown, foul smelling, chemical is discovered on the floor of the Chemical Lab in Building 102. You would restrict access to the area and call the Chemical Lab Manager.

3.3. A drum on the drum pad has leaked a small amount of material and may still be leaking. You would call the Environmental Department.

Chapter VI - Management Practices

Operating procedures for each HW unit are found in Chapter IV in the discussion of the unit, or are referenced in that location.

A. HW Handling Equipment

1. Management Vehicles:

In addition to those practices described in Chapter IV, management activities may include on-site movement of HW in containers, transfer of HW between containers and/or tanks, and loading and unloading HW in containers. The following vehicles are used or available for HW management.

a. **Trucks**. Two to three trucks, typically one-half to one and one-half ton pickups, trucks or vans are dedicated to HW management activities and/or are assigned to Support Services. These PSEMC-owned trucks and vans are used for occasional on-site HW hauling. At present, no PSEMC vehicles are registered with the State of California for hauling hazardous waste off- site.

   All units used for on-site waste management are equipped with fire extinguishers, hazard placard signs, two-way radios on either the RP or transportation frequency, a first aid kit, and seat belts. PSEMC procedure requires daily operator inspection.

b. **Forklifts**. Three forklifts typically are available on a shared utilization basis. All forklifts are equipped with roll cages, seat belts, audible backup warning devices, amber strobe warning lights, and portable fire extinguishers. Some of these units are gasoline powered and are equipped with anti-spark exhaust systems; others are battery powered and are suitable for operation in areas with flammable or ignitable vapors. The forklifts are placarded to limit lifting to weights appropriate for each forklift's capabilities.

c. **Tractors**. Also available on-site are various tractors (diesel farm tractor or 4-wheel drive tractor) are available for towing equipment and maintaining fire lines. The tractors are equipped with various agricultural implements, front loader, scraper blade, posthole auger, and mowing attachments. Typical safety devices on each tractor include a roll cage, audible backup warning device, amber strobe warning light, fire extinguisher, and seat belt.

2. Other Material Management Equipment:

The following equipment is available on a shared utilization basis:

a. **Ramps**. Aluminum ramps with an adjustable rise of 30 to 60 inches, and 20,000 pounds gross weight capacity are available for HW management through Department 51.

b. **Battery Operated Pallet Jack and Hydraulic Pallet Jack**. A 5000-pound battery operated pallet jack and a 4500-pound manual hydraulic pallet jack, with drum adapters. These units are also used to move individual containers.

c. **Hand Truck**. A hand truck for movement of individual containers.

3. Pumps:

The following types of equipment are available on site for management of liquid HW:

- **a. Compressed Air Diaphragm Pump**. Compressed air powered diaphragm pumps of several capacities and various construction materials are used to manage fluid HW. Com- pressed air may be furnished by the installed industrial system, a portable gasoline powered compressor, or compressed gas cylinders, depending on operational requirements and location. The pumps are shared with Support Services and Chemical Operations. Pumps are triple rinsed with water, or an appropriate solvent after each use, and the rinse material is added to the waste stream or, if not compatible with the waste stream, accumulated as a separate HW for subsequent management.
- **b. Polyethylene Siphon Hand Pump**. Polyethylene siphon hand pumps are used to manage fluid HW in containers. Because of their relatively low cost, these pumps are normally dedicated to the waste stream on which they are first used. If used on another waste stream, pumps are triple rinsed and the rinse material is added to the first waste stream. When they have reached the end of their useful life, they are added to a compatible waste stream for subsequent management.
- **c. Gas Powered Centrifugal Pump**. A gasoline powered, centrifugal pump is available for use in removing uncontaminated rainwater from TSU secondary containments. This unit is not used to manage HW.
- **d. Air Compressor**. A gasoline powered air compressor available to power bladder pumps when working at locations where piped compressed air is not available.

4. Fluid Lines:

Portable, two-inch lines, made of the following materials, are compatible (as indicated) with HWs stored in tanks and containers. These resources are jointly shared by Support Services and Chemical Operations.

Lines are rinsed with water, or an appropriate solvent, after each use, and the rinse material is added to the waste stream or, if not compatible, accumulated as a separate HW for subsequent management.

- **a.** Flexible, cross-linked polyethylene lined with Teflon (Table III–1 listed liquid HW), and;
- **b.** Flexible, cross-linked polyethylene lined with polypropylene (Table III-1 listed liquid HW), and;
- **c.** Rigid metal lined with Kynar (Table III-1 listed liquid HW except ketone, acids more than 70% strength, all nitric acid concentrations).

5. Eye Wash/Shower:

TSU-1, TSU-2, TSU-3, and TSU-8 are supported by nearby installed eye wash/shower units.

6. Radios/ Pagers/Cellular Telephones:

(See also Chapter V, Security, Section A.2.) The Environmental Technician is assigned hand held radios on the RP network. The Manager, Support Services, is also assigned a cellular telephone on the statewide network.

7. Emergency Lighting:

Two (2) gasoline powered portable generators, and two (2) 1000-watt portable light stands are available for emergency lighting in support of HW operations.

B. Control of HW

Operational procedures for control of HW are found in Chapter IV for each HW Unit. Subjects covered include:

a. Placement of HW in designated areas
b. Employee protection from HW
c. HW dispersal prevention
d. Mist/gasses/dust prevention
e. Cleaning of equipment contaminated with HW, after use.

1. Procedure for Response to Ground Water Contamination:

This procedure is to provide guidance to PSEMC employees if they should find evidence of contamination of the groundwater anywhere on the plant site. Hazardous waste operations are designed to make it extremely unlikely that there will be any occurrence of groundwater contamination.

a. Policy. PSEMC's policy is to minimize the possibility of any spills of hazardous waste and/or groundwater contamination from hazardous waste operations. The policy is carried out by:

i. Providing employee training and supervision so that the movement and storage of hazardous waste is done safely.
ii. Assuring that waste containers, tanks, and secondary containment are adequate to contain the waste.
iii. Providing periodic patrols of waste storage areas during off-shift hours.
iv. Providing radio communication for hazardous waste handlers and security patrol personnel so that they may take notice of any incidents and can call for assistance.
v. Providing training, equipment, communications, and personnel capable of responding to a chemical spill within 15 minutes, anywhere on-site, during working hours.
vi. Avoiding the piping and pumping of hazardous waste, whenever possible.
vii. Avoiding hazardous waste operations in an area with open drains or other surface openings that could allow the escape of material, if there is a spill.

b. Planning. Planning of procedures, and the training and equipping of employees who work with hazardous waste will consider the following conditions:

i. Spills are most likely to occur during transfer of materials between containers, and during the handling of the containers.
ii. Spills are most likely to involve a vehicle that is delivering hazardous materials, and during the movement of drums of waste by forklift or handcart.
iii. Spills are most likely to occur in the presence of an employee during handling and storage operations.

c. Discovery of Groundwater Contamination. Groundwater contamination would probably be discovered in one of two ways:

i. Direct Observation - An Employee may see a liquid spill into a storm drain, drainage ditch, or onto soil. A spill may be noticed by odor or soil coloration. If the quantity is large enough, it could result in groundwater contamination, if not cleaned up before it reaches the groundwater.

ii. Groundwater Monitoring - During routine testing of monitoring wells or domestic water wells, evidence of the presence of a hazardous material that is above the action level will indicate groundwater contamination.

d. Corrective Action Required. Action required will depend on the way the threat is discovered.

i. If discovered by direct observation, prompt action is required to minimize water and soil contamination. Any observed spill or evidence of a spill shall be treated as an emergency. Employees assigned to the activity or site shall immediately contain and clean up the spill, if it can be done with the personnel, equipment, and supplies available at the site. Employees will contact Support Services for container(s) and disposition of the spill residue. In all other cases, report the spill by calling Extension 234. This call will activate the PSEMC Hazardous Materials Emergency Business Response Plan. The contaminated soil will be excavated, to the maximum extent possible, to prevent leaching of the contamination into the groundwater and to prevent further migration into areas of clean soil.

ii. If the results of routine groundwater testing indicate contamination, additional testing shall be ordered immediately. Enough testing shall be done to confirm the presence of the contaminant. If contamination above the Action Level is confirmed, the source of contamination must be found and remedial action taken. (See Chapter XIII for current ground water monitoring requirements.)

At the appropriate time, both the Regional Water Quality Control Board (RWQCB) and the Department of Toxic Substances Control (DTSC) shall be notified and informed of the spill event or the finding of groundwater contamination. Both agencies should be kept informed, and coordinated with, during the following activities.

e. Investigation and Remediation. If soil or apparent groundwater contamination remains after immediate source removal, a plan for soil and/or groundwater investigation and remediation is necessary. Support Services shall plan and direct the action to be taken. This includes determination of the soil to be removed, soil and water testing, and the determination of the source of the contamination. When necessary, hydro-geological engineering consultants will be used to plan and carry out actions.

i. Work Plan.

- Prior to investigation, a Work Plan (sample plan or proposal) should be prepared. The Work Plan should summarize the required geologic information from the existing site characterization necessary to support investigation, sample collection, laboratory analysis, soil excavation, and groundwater extraction, treatment, and disposal. It will also include a schedule of activities.
- The Work Plan shall be submitted to the RWQCB and the DTSC prior to initiating fieldwork for investigation, migration control or interim remediation.

ii. Preliminary Site Assessment - The first phase of soil and groundwater investigation at a site is the Preliminary Site Assessment. It involves collection of soil samples and installation of, at least, three groundwater monitoring wells to determine the hydraulic gradient direction. Work already completed by PSEMC may be used for this purpose.

iii. Migration Control - Migration control of the pollutants may be necessary to prevent continued migration of free product and/or dissolved constituents in the soil and groundwater. Groundwater extraction and soil vapor extraction are two common methods of interim remedial action. The effectiveness of this migration control will be evaluated during the next step.

iv. Remedial Investigation – The objective of a Remedial Investigation (RI) is to provide information on the horizontal and vertical extent and severity of soil and groundwater pollution at a site, and to identify current and potential impacts on the present and future beneficial uses of the contaminated water. Following the investigation, PSEMC will evaluate remediation options and propose a final remediation plan in a Feasibility Study (FS) for both soil and groundwater. The RI Technical Report will include the following information:

- Investigation Objectives and Scope of Work
- Site Background
- Investigative Methods Used
- Evaluation of Local and Regional Hydrogeology
- Extent of Soil and Groundwater Pollution
- Beneficial Uses
- Immediate Source Removal and Interim Remedial Actions Completed

f. Feasibility Study. A Feasibility Study (FS) is an evaluation of alternative corrective action options for soil and groundwater. The Feasibility Study Report shall identify and evaluate feasible alternatives for remediating the pollution and remedying threats to beneficial uses of water. The FS consists of the following elements:

i. Evaluation of corrective action options (at least three).
ii. Beneficial uses that exist and are potential, including a human exposure assessment.
iii. Information summaries that provide for option comparisons.

g. Proposed Corrective Action Plan. The proposed corrective action should be selected from one of the alternatives evaluated in the FS. It should include:

i. A detailed description of the proposed corrective action.
ii. Proposed remediation levels and treatment processes.
iii. A proposed schedule of each major phase of work should be included.
iv. A proposed verification monitoring program.

h. Corrective Action Implementation. The FS will be evaluated by the RWQCB and DTSC and a corrective action plan approved for PSEMC. Implementation of the accepted corrective action plan should be described in a technical report. Status reports and self-monitoring reports may be required during the corrective action.

i. Verification Monitoring. Once the final remediation levels are reached, operation of the corrective action may be temporarily curtailed. During this curtailment, monitoring of soil and/or groundwater for a site-specific time period will be used to verify the effectiveness of the final corrective action and to confirm that final remediation levels have been attained.

j. Remediation Effectiveness Evaluation. An effectiveness evaluation of the corrective action should be prepared, based on the verification monitoring results and operation of the corrective action plan. The technical report, containing the effectiveness evaluation, should also contain a comparison of previous expected costs with the costs incurred, and a recommendation to the RWQCB and DTSC for case closure, if appropriate.

2. Procedure for Collection/Treatment/Disposal of Decontamination Wash Water.

Whenever possible, decontamination and cleaning is performed at the wash area, shown in Figure II-2. The cleaning area is concrete lined and curbed. It will contain approximately 300 gallons of water and has no outlet. Water is removed with an air driven diaphragm pump, accumulated, and managed as HW. However, the following procedure allows safe decontamination and cleaning in any location. Objects or persons to be decontaminated are placed in the center of a four-foot to six- foot diameter "decon pool" for washing with TSP (Pool 1). After washing, they are moved to another pool (Pool 2) for rinsing. After rinsing they are allowed to drain in a third unit (Pool 3). When decontamination is completed, wash water is pumped from Pool 1 to the contaminating waste stream (if compatible) and rinse water is pumped from Pool 2 into Pool 1 for rinsing. Pool 3 is partially filled with water that is used then to rinse Pools 2 and 1, in turn. This final rinse water is also added to the contaminating waste stream (if compatible) for subsequent management. If incompatible with the contaminating waste stream, wash and rinse water is accumulated as a hazardous waste, containerized, and labeled for subsequent management as HW.

3. Procedure for Minimizing Fire/Explosion Risk.

Risk of fire/explosion is minimized through control of smoking, employee and visitor orientation and circulation control, posting of minimum Personal Protective Equipment requirements at HW units, a high speed incident reporting procedure to summon aid, availability of portable fire extinguishers, and use of fork lifts with anti-spark exhaust systems.

a. **Smoking Restrictions**. Smoking is forbidden except in posted smoking areas outside buildings. Smoking restrictions are posted on a large sign at the facility entry point.

b. **Safety Orientation Training**. Visitors who are not issued a photographic or "no escort "identity badge require continuous escort by an employee while on PSEMC property. All other persons are issued their badge on their first day on-site. They receive a safety orientation at this time, which covers smoking practices, emergency evacuation, incident reporting, and general safety practices. On their first day at their job-site, specific training includes evacuation routes, location of fire extinguisher, other emergency equipment, location of MSDS file, and PPE requirements including anti-static, non-sparking, conductive, and insulating items related to fire/explosion prevention (Attachment VI-1, Safety Instruction, Associate Training Program, E&HS No. 011). Facility areas with potentially significant chemical and physical hazardous environments, including HW management units, require a red bordered badge for unescorted entry. The red bordered badge is issued only to employees who are assigned frequent duties in the restricted area, and are thus trained to recognize and mitigate the material and physical hazards in the area.

c. **Incident Reporting/Emergency Response Procedures**. Incident reporting and emergency response procedures are fully explained in Chapter VIII, Contingency Plan and Emergency Procedures.

d. **Fire Extinguishers**. Over 150 portable fire extinguishers are installed in readily assessable locations throughout the facility, including at least one extinguisher, at or near each HW unit, and in all PSEMC industrial vehicles. Fire extinguishers are inspected and certified annually, and are visually checked monthly by the RPP. Records of inspections and visual checks are kept with Department 37's Resource Protection staff, and are available for inspection.

e. Fire Suppression/Water Distribution System. All HW units, except TSU-1, are served by a high-pressure, underground fire suppression water distribution system with a fire hydrant near each unit. The system is supplied from Lake Teledyne, which contains several million gallons of water for fire suppression and spill cleanup. A 6000-gallon per minute automatic pump with an electric motor pumps water to the distribution system. Primary power is from the public utility, with backup power from an automatic diesel generator. A dedicated automatic start diesel motor, driving a separate water pump, backs up the electric main pump. Static system pressure is maintained by a small automatic electric pump using the same power sources. A foot valve in each of the pumps prevents flow back into Lake Teledyne. A loud audible alarm sounds when either the main or backup fire pumps are running. The fire protection system is also connected to the San Justo Aqueduct through a system of manual valves, which includes an automatic positive flow protection device to prevent back flow, and pumping loops to allow pressure to be boosted by a pumper fire truck.

f. Grounds Keeping Practices. Grounds keeping practices are also used to prevent the spread of fires that may occur. Fire lines are maintained free of major combustible material at all fence lines and at intermediate locations. Several acres of surface around TSU - 1 and TSU - 2 are scraped or cultivated at the end of each growing season to remove combustible material.

g. Emergency Operations Coordination. The PSEMC Hazardous Materials Emergency Business Operations Plan (Chapter VIII) is coordinated through, and acknowledged in writing by, all off-site, first responder organizations, the San Benito County Office of Emergency Services and Hazel Hawkins Hospital. It has also been accepted as the PSEMC Emergency Business Plan. In addition, the Hollister Fire Department (HFD), under contract to the County as the HAZMAT responder, is periodically given a guided tour of the entire industrial plant, including HW units. Tours are usually conducted when new personnel are in training for HFD or during on-site emergency response exercises. Typical response time for HFD is seven minutes from time of alarm.

h. Satellite Accumulation of HW. (See also CCR Title 22, Section 66262.34 (c)). Upon advance written application, the Manager, Environment, may authorize satellite accumulation of up to one container of 55 gallons of a single HW stream, for not over one year, provided the following conditions are met:

i. The HW is not acutely hazardous or subject to mass detonation, and;

ii. It is actively accumulated by additional volume being added, at least every 60 days, and;

iii. A DOT approved container, as listed in Tables III-1 and IV-1, is used, and;

iv. The container is properly labeled, prior to accumulation start date. The label shall be annotated with the date of each addition of HW, and;

v. A coordinated waste notice is forwarded to Support Services when the container is three-fourths full, marked in red (on its face in 1" or higher letters) “SATELLITE ACCUMULATION”, and;

vi. The requesting department inspects the container for external signs of leakage or corrosion on a weekly basis, and maintains a written record of all inspections until the HW is accepted by Support Services for further management, and;

vii. No other HW is accumulated at the same location for over 90 days, and;

viii. No incompatible HW is accumulated closer than 50 feet to the satellite location, and;

ix. The generating department maintains control and security of the HW, as instructed by Support Services.

4. Hazardous Waste Inventory:

Examples of the PSEMC HW Inventory and PSEMC HW History are presented in Attachments VI-2 and VI-3, respectively.

PSEMC hazardous waste inventory and historical records are maintained on magnetic media that is updated weekly by Environmental Technicians. These records typically contain the following information:

a. **Location**. The location entry refers to the TSU or accumulation point for a specific HW. For TSU-3, the numbers 31, 32, 33, and 34 are used to correspond to Bays A, B, C, and D, respectively. For example, a HW container containing caustic, cyanides, sulfides, and aqueous solutions with a pH of 5 to 9, would be at location 31 where (3) would designate the TSU and (1) would specify Bay "A". For wastes stored in tanks, the tank number is used. For accumulation points, the associated building number is used, followed by a serial number for the accumulation point(s) at that building. For example, location 1021 is Building 102, accumulation point 1.

b. **HW Notice/Drum Number**. This number is given to a HW when the material is placed in a storage unit or location for subsequent management by Support Services. The HW Notice/ Drum Number is six numeric digits. This unique number is also referenced on the associated "Notice of Waste of Material" and the hazardous waste label. The first two digits represent the year the HW was collected, the middle two numbers represent the generating department, and the last two digits represents the total sum of notices submitted that calendar year by the generating department. For the number 025301, 02 represents the year 2002, 53 designates the department that generated the HW, and 01 represents the number of notices issued by that department.

c. **Job Number**. This number is used for internal accounting to assign HW management costs to specific jobs, when possible.

d. **Accumulation Date**. The date HW was first placed in the container.

e. **Description**. This entry describes the chemical name and percent mixture of each HW, and any other material that may be contained in the drum. It includes the remark "LDR" if the HW is restricted from land disposal and will be treated on site.

f. **Quantity**. The total quantity is entered (in gallons) for tank storage, and number and size of containers for all other entries, and in pounds.

g. **Management Action**. This entry is made by Support Services when final management action is decided and completed. For on-site actions, the management unit used for treatment (TSU-1, etc.) is entered. When a HW is transported off-site, the manifest number and the treatment facility accepting the HW are entered.

h. **Action Date**. This is the date the HW was treated or shipped to an off-site location for further management. When a line in a storage unit record is completed with an action date, the information is transferred to an archive magnetic file where it is retained as a part of the operating record.

C. Facility Inspection

Facility Inspection is fully explained in Attachment VI-4, PSEMC Standard Operating Procedure, 235105. Subjects covered include all categories listed in the DTSC Permit Application Completeness Checklist, dated March 1999.

D. Operating Record

A written operating record is maintained by Support Services. An operating record will be maintained until closure of the last active HW management unit under an approved closure plan. Records listed in Paragraphs 2 through 5 below are retained for three years.

1. Hazardous Waste Inventory/History (Section VI.B.5, above):

The magnetic medium record is maintained in original and backup copies until the facility is closed.

2. Waste Notices for HW Stored in Tanks/Containers:

The waste notice includes a description of the HW, date of storage, quantity of waste, and management action. (Retained until the next DTSC annual facility inspection.

3. Waste Notices for Satellite Accumulation Points:

The waste notice for authorized satellite accumulation points, clearly marked in red “SATELLITE ACCUMULATION AUTHORIZED”. (Retained until the next DTSC annual facility inspection.)

4. Report of Safety Bucket Water Volume:

A monthly report of volume of safety bucket water, treated in TSU-8, including estimate of volume under treatment at the end of the month. (Retained until the facility is closed.)

5. Records/Results of Waste Analysis:

Records and results of waste analysis required to characterize HW for management in support of this plan, documented in accordance with Chapter III, Waste Analysis.

6. Reports:

a. Accidents/Incidents. Summary reports and details of all accidents/incidents that required implementing of the contingency plan.

b. Annual Report. The Annual Report is transmitted to DTSC in the format to be furnished by DTSC.

   i. EPA identification number
   ii. Name of facility
   iii. Address
   iv. Calendar year covered by report
   v. N/A (off-site facility)
   vi. Most recent closure/post closure cost estimates

vii. Owner/operator signed certification
viii. Environmental monitoring data, per CCR Title 22, Section 66264/73
ix. Certification for each waste shipped off-site.

7. Other Records Retained Until Final Facility Closure:

a. Current closure plan, including closure cost estimate. Retained until final closure of the facility is approved.
b. Training records of current employees.
c. Land Disposal Restriction Notifications (LDRN).
   i. LDRN's for LDR HW shipped off-site are maintained with the associated HW manifests and are destroyed on the same schedule.
   ii. LDRN's (PSEMC self-notification) for HW treated on-site in TSU's 1 and 2.

8. 3-Year Records:

The following records will be maintained for three years:

a. HW manifests

b. Records and results of HW management unit inspections

c. Closure reports, after approval by DTSC/USEPA.

d. Training records of former employees.

E. Operating Record Availability

The operating record is available for review with Department 37's Support Services upon reasonable notice. Persons requesting access should have identification credentials issued by DTSC, the Regional Water Quality Control Board, or the State Water Resources Control Board. Photographic identification, such as a driver's license, is required for entry of all visitors to PSEMC.

F. Additional Reports

1. Contingency Reports:

For contingency reporting, see Chapter VIII.

2. Facility Closure:

Facility closure will be reported as described in Chapter IX of this plan.

G. Procedure for Annual Review and Update

This Plan, and all supporting procedures/documents, will be reviewed annually, starting no later than the first anniversary of approval of the plan by DTSC. Such reviews will be completed within 60 days of the anniversary date.

Chapter VI Attachments

- *Environmental Health & Safety Procedure*
- *Hazardous Waste Inventory*
- *Hazardous Waste History (Example)*
- *Facility Inspection SOP*

Attachment VI-1

PSEMC EH&S Procedure No. 011:

Associate Training Program

PACIFIC SCIENTIFIC EMC-California Operations	ENVIRONMENTAL HEALTH & SAFETY PROCEDURE	EH&S No. 011 Date: 11 August 2005 Page 1 of 13 Approval: R. Glover
SUBJECT: Associate Training Program		Affects: All Associates

1.0 INTRODUCTION (PURPOSE)

1.1 This procedure establishes the program for the training and development of associates whose work activities relate to, influence or have an effect on the quality, reliability or safety of products manufactured by PS-EMC. Personnel performing critical and/or technique-sensitive operations, or processes requiring specific knowledge and objectives, shall receive sufficient training to perform assigned tasks in such a manner as to work safely and produce products in accordance with established requirements.

2.0 PROCEDURE

2.1 AEROSPACE AND COMMERCIAL MANUFACTURING: CERTIFICATION AND QUALIFICATION PROGRAMS

2.1.1 This section establishes the administration, policy, and controls for the training and development of associates to perform operations and special processes associated with Aerospace and Commercial Manufacturing, Inspection, and Test functions within PS-EMC operations.

2.1.2 Training shall be provided for: 1) critical and/or technique-sensitive production, inspection and test operations resulting in operator certification; and 2) other processes not directly associated with certification requirements, but requiring specific knowledge and abilities which result in the qualification of the operator.

2.1.3 PS-EMC personnel engaged in Aerospace and Commercial manufacturing operations, classified as critical and/or technique-sensitive, shall be provided training through either a qualification or certification program. The Training and Certification Committee, in conjunction with the responsible area management, shall be responsible for identifying those processes/operations that require personnel qualification or certification.

2.1.4 **Certification Program**

2.1.4.1 The Certification Program is designed to ensure that personnel performing critical and technique dependent operations, such as, but not limited to, special processes (TIG welding, laser welding, resistance welding and hand soldering), NDT (mass spectrometry, X-ray and N-ray), CDI, and others, are properly trained. Requirements for certification are designated by specific contractual/specification requirements or regulatory requirements. Personnel are initially tested and certified and periodically re-evaluated, as required by the applicable certification training instruction, to maintain the high level of skill and knowledge required.

2.1.4.2 The training requirements leading to certification status shall be defined in the applicable process procedure developed by the responsible organization. These procedures shall be developed to satisfy the training requirements set forth in the applicable specification or industry standard.

2.1.4.3 The certification training program is structured around the four (4) basic elements listed as follows, all of which must be successfully completed for certification:

2.1.4.3.1 <u>On-The-Job-Training (OJT)</u>

This is an instruction and practice period for the associate to learn in a supervised, hands-on environment, the practical elements of the particular operation/process. The OJT period is defined in the appropriate process procedure, but may not exceed one (1) year. The hours expended specifically for OJT certification/qualification processes shall be documented on the associate's "On-The-Job Training Record".

2.1.4.3.2 <u>Practical Examination</u>

This is a multi-part, functional test that is designed to clearly indicate whether the associate understands how to properly set up and operate the necessary equipment/tooling, how to make the necessary adjustments to the equipment and is competent to perform the described process on their own, to produce the required quality and product performance level. The practical exam is taken at the completion of the OJT.

2.1.4.3.3 <u>Written Examination</u>

This is comprised of a series of multiple-choice, fill-in, true-false or matching questions that have been developed to thoroughly test the associate's knowledge of the process. The specific test is made up from a bank of questions to ensure the same series of questions are not given repetitively. The responsible department shall designate within their training program, the pass/fail percentage for written exams. The written exam is taken at the completion of the OJT.

2.1.4.3.4 Medical Monitoring

For some specific processes/procedures, medical examination(s) may be required to verify that the associate meets the physical requirements, or to verify that the associate's health has not changed, due to exposure to the process/procedure.

2.1.4.4 Personnel achieving certification status shall be issued PS-EMC Form 1156A, "*Associate Certification Card*" which may be worn by the certified associate or posted in the work area where the process/procedure is performed or conducted. Certification cards shall be issued by the functional department management.

2.1.5 Qualification Program

2.1.5.1 The Qualification Program is structured similarly to the Certification Program described above in that training is provided for personnel performing critical/technique-sensitive processes. Whereas processes requiring certification training are governed by either contractual/ specification direction or applicable regulatory requirement, qualification training is established by the Training and Certification Committee and in conjunction with the applicable operating department.

2.1.5.2 The amount of OJT instruction, and the scope of the practical and written examinations required to assure personnel proficiency, shall be described in the applicable process procedure. OJT training hours shall be recorded on PS-EMC Form 2184, "*On-The-Job - Training Record*".

2.1.5.3 The need for medical monitoring for processes requiring qualification shall be prescribed as required by the applicable regulation(s).

2.1.6 Re-certification/Re-qualification

2.1.6.1 Re-certification/re-qualification shall be based on the associate's demonstrated and documented skill, coupled with the re-testing associated with the specific process and regulatory requirements. Re-certification/re-qualification renewal timeframes shall be established in the applicable process procedures.

2.1.7 Revocation of Certification/Qualification

2.1.7.1 Revocation of certification/qualification is mandatory if the associate is terminated or transferred to a non-production status or for nonconformance with requirements of the program. An individual's certification/qualification may be revoked or suspended if there is indication that the required level of workmanship is not being maintained.

2.2 **COMPANY POLICIES AND PROCEDURES TRAINING**

2.2.1 The objective of this section is to identify the training provided PS-EMC associates relative to compliance with Company policies and procedures.

2.2.1.1 HR and functional organizational management, in conjunction with the Training and Certification Committee, shall develop a recommended list of training topics in which all Company personnel should receive periodic training (i.e., ethics, sexual harassment, …etc.)

2.2.1.2 Training relating to Company Policies and Procedures shall be provided by the functional organization management on an "as needed" basis.

2.3 INITIAL TRAINING.

2.3.1 All permanent, temporary and contract associates shall complete a general safety instruction session on the first day of employment. Training Shall include:

2.3.1.1 The right to a safe and healthy work place (CAL/OSHA)

2.3.1.2 An overview of the safety portion of the "Associate Handbook"

2.3.1.3 Personal protective equipment (PPE)

2.3.1.4 Emergency reporting

2.3.1.5 Injury reporting

2.3.1.6 Evacuation procedures

2.3.1.7 Hazard warning signs/devices

2.3.1.8 Safety and survival during an earthquake

2.3.1.9 Lifting and handling cautions/ergonomics

2.3.1.10 Hazard Communication Program

2.4 ANNUAL COMPLIANCE TRAINING.

2.4.1 All permanent, temporary and contract associates shall complete an Annual Compliance Training session. Training Shall include:

2.4.1.1 Company & Quality mission statements

2.4.1.2 The right to a safe and healthy work place (CAL/OSHA)

2.4.1.3 Workplace Violence and Sexual Harassment Awareness

2.4.1.4 Personal protective equipment (PPE)

2.4.1.5 Emergency reporting
2.4.1.6 Injury reporting
2.4.1.7 Evacuation procedures
2.4.1.8 Hazard warning signs/devices
2.4.1.9 Explosive Safety
2.4.1.10 Lifting and handling cautions/ergonomics
2.4.1.11 Fire Extinguisher Safety
2.4.1.12 Lock Out/Tag Out Awareness
2.4.1.13 Process Safety Management Awareness
2.4.1.14 Hazard Communication
2.4.1.15 Material Safety Data Sheets

2.5 SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM TRAINING

2.5.1 This section is intended to establish and define the required health, safety and environmental training provided to PS-EMC associates. The scope of the training is intended to satisfy applicable OSHA, EPA, DoD and other regulatory agency regulations.

2.6 GENERAL SAFETY TRAINING RECORDS

2.6.1 General safety training shall be recorded on Form 1438-1, "*Associate General Safety Training*". Records shall be maintained as outlined in section 2.7 of this procedure.

2.7 DEPARTMENTAL SAFETY TRAINING.

2.7.1 All regular full-time, temporary, and contract associates and each transferred associate shall complete the department safety training no later than their second full work day in the department. The Human Resources Department shall notify Resource Protection of all associate transfers.

2.7.2 Departmental Safety Training shall include, at a minimum, the following subjects applicable to the job, area and department:

2.7.2.1 **Location and Use of Safety Equipment**

2.7.2.1.1 Company-furnished Personal Protective Equipment.

2.7.2.1.1.1 Primary personal protective equipment (PPE) is issued from the Stores Department, except for prescription safety glasses and conductive footwear. PPE, such as lab coats and coveralls, shall be provided, used, and maintained in a sanitary and reliable condition. PPE may not be modified in any form.

2.7.2.1.1.2 Prescription safety glasses are available through a company-sponsored vendor. The vendor is available on-site once a month. All Prescription safety glasses must meet ANSI Z87 standards and have side shields (or equivalent) affixed to the frame. The side shields must meet ANSI Z87 standards.

2.7.2.1.1.3 Conductive and steel-toed shoes shall be requisitioned by the associate's department manager. Conductive footwear shall be tested daily and documented for conductivity. Conductive shoes shall be clearly and visibly marked as being conductive.

2.7.2.1.2 Portable Fire Extinguisher and Fire Fighting Restrictions Use of a portable fire extinguisher is restricted to the discharge of one extinguisher by trained personnel. Do not attempt to use the portable fire extinguisher on anything other than small, incipient fires (i.e., trash cans).

2.7.2.1.3 Eye Washes and Emergency (Deluge) Showers (Portable and Fixed). Associates working with hazardous chemicals or other similar materials, are to be observant of posted informational signs in their working area. Associates must be cognizant of the location of emergency safety shower(s), eye wash stations and first aid equipment.

2.7.2.1.4 Respiratory Protection. A respirator will be provided by EH&S to associates required to wear one as part of their job function. An associate must receive special training and medical clearance before being issued a respirator.

2.7.2.1.5 Hearing Protection. Hearing protection (ear plugs or ear muffs) will be provided to associates by area management as required by their supervisors. Areas of high noise hazard may require special training and medical testing for the associates.

2.7.2.2 **Emergency Procedures**

2.7.2.2.1 Job Related Accident and Injury Reporting. All job related accidents or injuries, no matter how minor, must be reported to Resource Protection, EH&S Department and the associates' supervisor immediately. If the referenced sources are not available, notify the next level of supervision.

2.7.2.2.2 Telephone Locations and Emergency Reporting Number
The emergency reporting number, extension 234, is conspicuously posted on locations throughout the facility. This number may be dialed from any phone within the facility. Hazardous areas contain red emergency telephones. These phones dial the emergency phone number automatically and are for emergency use only. Decals with the emergency number are placed on telephones throughout the facility.

2.7.2.2.3 First Aid Station. The First aid station is located in Building 102 on the main manufacturing floor. There is a First Aid telephone next to the First Aid station to call for assistance. First Aid assistance may also be summoned by dialing extension 202 from any telephone on site.

2.7.2.2.4 Exit Locations. All exits, emergency doors and exit routes are marked. All exits are to be kept clear of materials and clutter. Always be aware of the location of exits and evacuation routes from working locations.

2.7.2.2.5 Safety Evacuation Routes. Emergency situations may require evacuation. Evacuate using safety evacuation routes or alternate routes. Once out of a building during an evacuation, do not re-enter any building until clearance is given.

2.7.2.2.6 Assembly Site Number and Location. Upon receiving an evacuation notification, each associate must report to their emergency assembly location immediately. A letter or number which identifies designated assembly locations is conspicuously posted in assigned work areas.

2.7.2.3 Personnel and Property Access Controls

2.7.2.3.1 Limited Access to Hazardous Areas. Limited access areas are LFE (Building 106), R&D (Building 108), Chemical Manufacturing (Building 111.1), Powder Blending (Building 103), Class 7 (Building 104) and the Machine Shop (Building 102). Associates with red border badges are the only personnel allowed in limited access areas without escort.

2.7.2.3.2 Authorization for Use of Machinery and Equipment.
Associates are not to use any machinery or equipment if they have not received training and authorization from a qualified instructor or supervisor.

2.7.2.4 Explosive Handling and Restrictions

2.7.2.4.1 Restriction for Workers Under 21 Years Old. No associate under the age of 21 may handle explosives.

2.7.2.4.2 Working Alone. Working alone is not permitted. There must be at least two (2) persons present in the area at all times when working with explosives or in a hazardous area.

2.7.2.4.3 Standard Operating Procedures (SOP's). SOP's are to be posted, read, understood and signed by the associate prior to beginning any work. Direct questions shall be asked of the supervisor if directions are not clear. Only steps listed on the SOP may be performed. Associates are not allowed to perform work for which they are not trained unless they are under the direct supervision of a trainer during their on-the-job training period.

2.7.2.4.4 Area Explosive Limits. The maximum explosive limit (Net Explosive Weight, N.E. W) permitted at any one time shall be properly displayed in all buildings, cubicles, cells, shields, and rooms. These limits shall be kept current and enforced by the supervisor in charge. The maximum amount of explosives allowed in a holding area is equal to the four (4)-hour supply, or the explosive limit – whichever is less.

2.7.2.4.5 Grounding/Bonding Conductivity Requirements. All grounding shall be made to true earth ground. Conductivity testing shall be conducted at least semi-annually by a trained and qualified associate.

2.7.2.4.6 Humidity Control. Humidity control is necessary in certain areas for controlling static electricity and to prevent inadvertent ignition of static-sensitive materials in explosive work areas.

2.7.2.4.7 Use of Explosive Waste Buckets and Identification. These containers shall be color-coded and identified with the type of waste involved. The supervisor shall ensure associates are properly instructed prior to use of water buckets.

2.8 GENERAL AND JOB SPECIFIC TRAINING

2.8.1 Each functional organization should identify those training needs necessary to provide personnel with the skills and knowledge required to effectively carrying out their specific work activities.

2.8.2 Functional departmental management shall ensure that all records pertaining to training provided are maintained within the functional organization. Training records shall be accessible for audit and verification purposes.

2.9 **TRAINING RECORD MAINTENANCE**

2.9.1 Records pertaining training conducted on a Company wide basis shall be maintained in Human Resources.

2.9.1.1 Certain training subjects have been designated as critical to the welfare of the associates or to the operation of the Business. These subjects are identified in the "PS-EMC Training Subjects" list and include associate training related to safety, certification and qualification, specific job processes, and Government mandated training.

2.9.1.2 Records relating to these subjects shall be filed in the associate training folders in Human Resources.

2.9.1.3 Human Resources shall oversee maintaining a training database to track associate training status and renewal dates.

2.9.2 Functional organization training records shall be maintained within the applicable organization.

2.9.2.1 Training activities (for informational awareness, or routine skill improvement) beyond the scope of the formal "PS-EMC Training Subjects" list commonly take place within specific department and job functions.

2.9.2.2 Records related to this type of training shall be filed and maintained with the applicable organization. These records shall identify the training subject matter and attendance sheets reflective of individual receiving training.

2.9.3 Departmental Safety Instructions training shall be recorded on Form 1438-2, "*Departmental Safety Training Record*". The original shall be filed in the individual's personnel file in their department, and a copy shall be filed with Support Services. All spaces on the form shall be marked as "Complete" or "Not Applicable"

2.9.4 The Associate Training Program shall be evaluated for effectiveness on a semi-annual basis as part of the Quality Assurance Company Internal Audit Program.

2.9.4.1 This evaluation will include a sampling of associate training records, instructions, lesson plans and tests to verify compliance with the directives and guidelines of this procedure.

2.9.4.2 Summaries of all findings identified as part of the Company Internal Audit Program shall be provided to the Training and Certification Committee on a semi-annual basis. These findings will be used to identify training needs aimed at eliminating audit non-conformances and inconsistencies.

3.0 DEFINITIONS

3.1 Standard Operating Procedure (SOP) – any document (such as Engineering Change Order, Manufacturing Procedure, Assembly Procedure, or Work Instruction) that describes the steps necessary to perform an operation or task.

3.1.1 Instructor

An individual qualified and designated to provide classroom or laboratory training for personnel.

3.1.2 Level III Instructor

An individual deemed capable by virtue of training and experience to instruct and administer tests to associates who require training for those identified processes requiring personnel certification.

3.1.3 Qualified Operator

An individual who has completed all training instruction requirements (OJT, formal training, and applicable testing), and deemed qualified by the instructor to perform a process adequately and without supervision.

3.1.4 Trainee

An individual who receives introductory instruction relative to a particular operation/process and is receiving on-the-job training (OJT) instruction in a supervised environment.

3.1.5 Qualification

A process or procedure for which an operator must receive instruction and demonstrate proficiency before being designated as qualified. Qualifications are company driven for critical operations.

3.1.6 Certification

A process/operation determined by specification, contractual direction, regulatory requirements to be of sufficient criticality to require operational personnel to be certified. This entails successfully passing a written examination, exhibiting the required proficiency in the functional and practical tests, and passing a physical examination if applicable.

3.1.7 On-The-Job-Training (OJT)

This is an instruction and practice period for the associate to learn in a supervised, hands-on environment, the practical elements of the particular operation/process. The OJT period is defined in the appropriate process procedure, but may not exceed one (1) year.

3.1.8 Practical Examination

This is a multi-part, functional test that is designed to clearly indicate whether the associate understands how to properly set up and operate the necessary equipment/tooling, how to make the necessary adjustments to the equipment and is competent to perform the described process on their own, to produce the required quality and product performance level.

3.1.9 Written Examination

Is comprised of a series of multiple-choice, fill-in, true-false or matching questions that have been developed to thoroughly test the associate's knowledge of the process.

3.1.10 Medical Monitoring

For some specific processes/procedures, medical examination(s) may be required to verify that the associate meets the physical requirements, or to verify that the associate's health has not changed, due to exposure to the process/procedure.

4.0 RESPONSIBILITY

4.1 Associate.

4.1.1 Attend all scheduled training sessions.

4.1.2 Ask questions if something is unclear.

4.2 Department/Area Manager.

4.2.1 The Department/Area manager is responsible for defining the training necessary for each associate and arranging for that training to be completed.

4.2.2 The area-specific training is the direct responsibility of the manager of the department/area hiring the associate.

4.2.3 The responsible supervisor/manager shall ensure that all associates receive the required training prior to the associate commencing a new work assignment.

4.2.4 Functional organization management shall be responsible for assuring personnel are provided adequate training essential to complying with established Company operating policies and procedures.

4.3 EH&S Department.

4.3.1 The EH&S Department will be responsible for developing and delivering general Company-wide Safety training, Annual Compliance Training, and any specialized training required to meet various Federal, State and Local regulations. EH&S will monitor the established training programs to evaluate their effectiveness.

4.3.2 EH&S shall be responsible for providing all Company new hires with General Awareness training relating to safety/environment as part of the new hire indoctrination program.

4.3.3 Operations pertaining to safety/environmental that are designated by EH&S as requiring personnel qualification/certification, shall be handled in accordance with the guidelines of this procedure.

4.4 Training Committee

4.4.1 The PS-EMC training program shall be administered by the Training and Certification Committee. This committee shall establish policies governing the Company program and define those critical and/or technique-sensitive functions which will require associate certification/qualification. The committee shall meet at a minimum on a quarterly basis to review the status of the program. The committee membership shall come from the following functional organizations:

4.4.1.1 Manufacturing Operations
4.4.1.2 LFE/Chemical Operations
4.4.1.3 Quality Assurance
4.4.1.4 Program Management
4.4.1.5 Product Engineering
4.4.1.6 Human Resources
4.4.1.7 Finance
4.4.1.8 Environmental, Health & Safety (EH&S)

4.5 Human Resources

4.5.1 Human Resources (HR) shall maintain all certification/ qualification records, records pertaining to mandated regulatory training, and required medical testing. These records will be included in the associate's training folder and shall attest to training provided.

4.5.2 HR shall be responsible for the maintenance of the "Certification and Qualification Listing" which identifies personnel who have received training for those critical, and/or technique sensitive operations that require qualification/certification training and identifies the medical monitoring requirements associated with these operations.

4.5.3 HR shall be responsible for establishing blanket Purchase Orders (P.O.s) with those applicable agencies engaged in providing medical examinations for personnel whose qualification/certification process requires such testing.

4.5.4 HR shall be additionally responsible for the review, approval and coordination of all departmental training requests, which would involve the services of an outside agency to provide the training.

4.6 Quality Assurance

4.6.1 Quality Assurance (QA) shall be responsible for the control and issue of stamps to personnel who have attained certification status for specified processes. Stamp impressions shall be applied to documentation to attest certified operations have been properly performed.

5.0 REFERENCES

5.1 CAL/OSHA 1510, 1511, "*Responsibility for Safety Instruction for Associate and General Safety Precautions*"

Attachment VI-2

PSEMC *Hazardous Waste Inventory* (example),

5/08/02, 1 page

Location	Waste No.	Accum Date	Description	Container	Lbs	Liq G	Management action	Action Date
31,(S01)	PRODUCT	PRODUCT	Lead	02-55-gal	1088.0	0.0		
31,(S01)	PRODUCT	PRODUCT	ENDURA-FLEX 1947 A,B two part epoxy	18-01-gal	180.0	18.0		
32,(S01)	015504	Jul-9-01	Spent Vaccum Pump Oil	01-55-gal	383.0	50.0		
32,(S01)	023203	Jan-12-02	Vac.Pump Oil 99%,Water 1%	01-05-gal	28.0	3.0		
32,(S01)	PRODUCT	PRODUCT	Elastomer 20 N	01-55-gal	443.0	55.0		
32,(S01)	PRODUCT	PRODUCT	Calcium Hypochlorite Granular	01-15-gal	40.0	0.0		
32,(S01)	PRODUCT	PRODUCT	Dupanol	01-55-gal	207.0	25.0		
32,(S01)	PRODUCT	PRODUCT	Centex Non-Selective Weed Killer	01-55-gal	600.0	55.0		
33,(S01)	023310	Dec-17-01	Sulfuric Acid 20%,Magnisum 10g	01-250mls	1.0	0.1		
34,(S01)	013308	Jul-12-01	Acetone 70-95%,Methanol 0-10%,Water,5-10% Trace RDX,HNS,PETN	01-05-gal	34.0	4.0		
34,(S01)	013309	Aug-27-01	Acetone 40-50%,DMF 40-50%,RDX 0-1%,HNS 0-1%,PETN 0-1%	01-05-gal	29.0	4.0		
34,(S01)	013311	Sept-19-01	Acetone 70-95%,Methanol 0-10%,Water,5-10% Trace RDX,HNS,PETN	01-05-gal	31.0	4.0		
34,(S01)	015509	Nov-8-01	Ethanol 95%,Water 5%,K2B12H12,HNBB,HNS Trace	01-55-gal	347.0	46.0		
34,(S01)	023311	Nov-28-01	Acetone 40-50%,DMF 40-50%,RDX 0-1%,HNS 0-1%,PETN 0-1%	01-05-gal	12.0	2.0		
34,(S01)	023312	Dec-8-01	Acetone 70-95%,Methanol 0-10%,Water,5-10% Trace RDX,HNS,PETN	01-05-gal	31.0	4.0		
34,(S01)	023313	Feb-14-02	Acetone 40-50%,DMF 40-50%,RDX 0-1%,HNS 0-1%,PETN 0-1%	01-05-gal	38.0	5.0		
34,(S01)	023314	Feb-20-02	Acetone 70-95%,Methanol 0-10%,Water,5-10% Trace RDX,HNS,PETN	01-05-gal	37.0	5.0		
34,(S01)	025919	Feb-26-02	DMF 98%,510265 2%	01-05-gal	8.0	1.5		
34,(S01)	PRODUCT	PRODUCT	Diesel Fuel	500 Gallon	2000.0	250.0		
M10,(S01)	023703	Apr-1-02	Varied Silver Hardware 90%,HNS/Dipam 10%	01-wd-bx	2.6	0.0		
M10,(S01)	023704	Apr-1-02	Varied Silver Hardware 90%,HNS/Dipam 10%	01-wd-bx	2.4	0.0		
M10,(S01)	025916	May-8-02	Alum Tubing 2%,510193 98%	01-Tube	0.6	0.0		

Example: Current Inventory Sheet

This current inventory record shows the waste numbers and the storage of hazardous/nonhazardous waste.

- Location is on the first column which tracks the bays (number 31 is Bay A, number 32 is Bay B, etc.).
- The second column is the waste number, which matches the number on the form called Notice of Waste Material.
- The third column is the accumulation date, which is the date the waste is initially accumulated at the generator area.
- The fourth column is a description of the waste.
- Columns five, six, and seven have container information.
- The eighth & ninth columns describe the final fate of the material & action date (see history record, Attachment IV-3).

EXAMPLE: Hazardous Waste Inventory

Attachment VI-3

PSEMC *Hazardous Waste History* (example),
5/22/02, 1 page

Location	Waste No.	Accum Date	Description	Container	Lbs	Liq G	Management action	Action Date
31,(S01)	025206	Apr-5-02	Filters 99%,Lead 1%	01-pl/bag	8.0	0.0	Consolidated into drum #015216	05-Apr-02
31,(S01)	013206	Aug-17-01	Lead Ash & Debris,100% (TSU-1)	01-55-gal	486.0	0.0	Safety Kleen-Manifest #98358481 (a)	29-May-02
31,(S01)	025204	Feb-8-02	Filters 99%,Lead 1%	01-pl/bag	8.0	0.0	Consolidated into drum #015216	08-Feb-02
31,(S01)	025203	Jan-4-02	Filters 99%,Lead 1%	01-pl/bag	8.0	0.0	Consolidated into drum #015216	07-Jan-02
31,(S01)	013719	Jul-11-01	Lead Ash & Debris,100% (TSU-1)	01-55-gal	324.0	0.0	Safety Kleen-Manifest #98358481 (a)	29-May-02
31,(S01)	023204	Mar-10-02	Lead Ash & Debris,100% (Test)	01-55-gal	52.0	0.0	Consolidated into drum #013719	28-May-02
31,(S01)	025205	Mar-1-02	Filters 99%,Lead 1%	01-pl/bag	8.0	0.0	Consolidated into drum #015216	01-Mar-02
31,(S01)	025207	May-3-02	Filters 99%,Lead 1%	01-pl/bag	8.0	0.0	Consolidated into drum #015216	08-May-02
31,(S01)	023202	Nov-8-01	Lead Ash & Debris,100% (TSU-1)	01-55-gal	502.0	0.0	Safety Kleen-Manifest #98358481 (a)	29-May-02
31,(S01)	013723	Oct-12-01	Lead Ash & Debris,100% (TSU-1)	01-55-gal	208.0	0.0	Consolidated into drum #023202	28-May-02
32,(S01)	025917	Apr-10-02	Cindol 5%,Water 95%	01-55-gal	455.0	55.0	Safety Kleen-Manifest #98358481 (d)	29-May-02
32,(S01)	025310	Apr-30-02	Paper 60%,Cans 30%,Plastics 10%,contaminated with zinc chromate	01-55-gal	36.0	0.0	Consolidated into drums #015317 & #025302	24-May-02
32,(S01)	015317	Aug-22-01	Cans & Cardboards contaminated with Zinc Chromate 100%	01-55-gal	42.0	0.0	Safety Kleen-Manifest #98358483 (a)	29-May-02
32,(S01)	013106	Aug-27-01	Paints,Thinners,Primers,Resins,Adhesives,Sealants	01-55-gal	302.0	20.0	Safety Kleen-Manifest #98358482 (a)	29-May-02
32,(S01)	015219	Dec-10-01	Water 96%,MEK 1%,Xylene 1%,Titanium 1%,Toluene 1%	01-55-gal	131.0	15.0	Consolidated into drums #025202	03-Jan-02
32,(S01)	025303	Dec-12-01	Cans & Cardboards contaminated with Zinc Chromate 100%	01-55-gal	58.0	0.0	Safety Kleen-Manifest #98358483 (a)	29-May-02
32,(S01)	015964	Dec-19-01	Cindol 5%,Water 95%	01-55-gal	460.0	55.0	Safety Kleen-Manifest #98358481 (d)	29-May-02
32,(S01)	025907	Dec-20-01	Cindol 5%,Water 95%	01-55-gal	477.0	55.0	Safety Kleen-Manifest #98358481 (d)	29-May-02
32,(S01)	023702	Jan-18-02	Paints,Thinners,Primers,Resins,Adhesives,Sealants	01-55-gal	172.0	30.0	Consolidated into drums #023103 & #025304	18-May-02
32,(S01)	023103	Jan-25-02	Paints,Thinners,Primers,Resins,Adhesives,Sealants	01-55-gal	305.0	0.0	Safety Kleen-Manifest #98358482 (a)	29-May-02
32,(S01)	025201	Jan-3-02	Water/Sludge 96%,MEK 1%,Xylene 1%,Titanium 1%,Toluene 1%	01-55-gal	470.0	25.0	Safety Kleen-Manifest #98358482 (d)	29-May-02
32,(S01)	025202	Jan-3-02	Water 96%,MEK 1%,Xylene 1%,Titanium 1%,Toluene 1%	01-09-gal	4018.0	485.0	Safety Kleen-Manifest #98358482 (b)	29-May-02
32,(S01)	015945	Jul-23-01	Cindol 5%,Water 95%	01-55-gal	143.0	17.0	Consolidated into drum #015964,#015963,#025907,#025912,#025917	18-May-02
32,(S01)	025912	Mar-13-02	Cindol 5%,Water 95%	01-55-gal	460.0	55.0	Safety Kleen-Manifest #98358481 (d)	29-May-02
32,(S01)	025401	Mar-15-02	(Sol Cut),Mineral Oil 1-5%,Water 94%,Steel Dust ,1-1%	01-05-gal	30.0	4.0	Consolidated into drum #015964	22-Mar-02
32,(S01)	015218	Nov-19-01	SSR Ultra Coolant 100%	01-05-gal	37.0	4.0	Safety Kleen-Manifest #98358482 (c)	29-May-02
32,(S01)	015963	Nov-24-01	Cindol 5%,Water 95%	01-55-gal	430.0	55.0	Safety Kleen-Manifest #98358481 (d)	29-May-02
32,(S01)	023101	Nov-27-01	Paints,Thinners,Primers,Resins,Adhesives,Sealants	01-55-gal	254.0	30.0	Safety Kleen-Manifest #98358482 (a)	29-May-02
32,(S01)	015966	Nov-5-02	LB 2000 98%,Tin 2%	01-05-gal	41.0	5.0	Safety Kleen-Manifest #98358481 (a)	29-May-02
32,(S01)	013725	Nov-8-01	Paints,Thinners,Primers,Resins,Adhesives,Sealants	01-55-gal	230.0	0.0	Safety Kleen-Manifest #98358482 (a)	29-May-02
32,(S01)	015965	Oct-9-01	LB 2000 98%,Tin 2%	01-05-gal	15.0	2.0	Consolidated into drums #015954 & 015968	24-May-02
33,(S01)	023315	Feb-8-02	H2O 91%,HC1 5%,HNO3 4%	01-01-gal	1.0	1.0	Consolidated into notice #013307	28-May-02
33,(S01)	015307	Jul-2-01	Alumprep33 15%,Water 85%	01-05-gal	32.0	3.0	Safety Kleen-Manifest #98358483 (b)	29-May-02
33,(S01)				01-05-gal	[illegible]	4.0	Safety Kleen-Manifest #98358483 (a)	29-May-02
33,(S01)								
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34,(S01)								
M10,(S01)								
M10,(S01)								
M10,(S01)	025906	Feb-14-02	Tin 90%,510532 10%					
M10,(S01)	025908	Feb-14-02	Tin 90%,510532 10%	01-wd-bx	6.3	0.0	Treated @ TSU-1 (X01)	16-Apr-01
M10,(S01)	025913	Feb-19-02	Lead 90%,510285 10%	01-wd-bx	2.7	0.0	Treated @ TSU-1 (X01)	14-May-02
M10,(S01)	023201	Jan-3-02	Misc. Hardware, RDX, CH8, 510212	01-wd-bx	3.3	0.0	Treated @ TSU-1 (X01)	18-Feb-02
M10,(S01)	025901	Jan-9-02	Alum 83%,510212 17%	01-wd-bx	3.1	0.0	Treated @ TSU-1 (X01)	28-Jan-02
M10,(S01)	025905	Jan-9-02	Tin 90%,510532 10%	01-wd-bx	4.6	0.0	Treated @ TSU-1 (X01)	11-Mar-02
M10,(S01)	025909	Mar-12-02	300 gr/ft Copper LSC 510190	01-wd-bx	0.8	0.0	Treated @ TSU-1 (X01)	15-Apr-02
M10,(S01)	025910	Mar-12-02	Tin 90%,510190 10%	01-wd-bx	0.1	0.0	Treated @ TSU-1 (X01)	15-Apr-02
M10,(S01)	025914	Mar-12-02	Lead 10%,510507 3%,Fiberglass yarn 40%,Poly.10%,Estane Poly.37%	01-wd-bx	0.6	0.0	Treated @ TSU-1 (X01)	14-May-02
M10,(S01)	025915	Mar-12-02	Tin 90%,510532 10%	01-wd-bx	6.0	0.0	Treated @ TSU-1 (X01)	03-Jun-02
M10,(S01)	023104	May-22-02	SMDC Lines 50%,FCDC Lines 10%,MDC 10%,FLSC 20%,Detonators 5%,Int5	01-wd-bx	2.8	0.0	Treated @ TSU-1 (X01)	06-Jun-02
M10,(S01)	015961	Oct-28-01	Tin 90%,510532 10%	01-wd-bx	4.8	0.0	Treated @ TSU-1 (X01)	15-Jan-02

Example: Hazardous Waste Inventory

(similar to current inventory record - see Attachment IV-2)

This history shows the waste numbers and the final fate of the hazardous or nonhazardous waste.

- Location is on the first column which tracks the bays (number 31 is Bay A, number 32 is Bay B, etc.).
- The second column is the waste number, which matches the number on the form called Notice of Waste Material.
- The third column is the accumulation date, which is the date the waste is initially accumulated at the generator area.
- The fourth column is a description of the waste.
- Columns five, six, and seven have container information.
- The eighth column describes the final fate of the material, and column nine gives the action date.

EXAMPLE: Hazardous Waste History

Attachment VI-4

PSEMC Standard Operating Procedure:

Facility Inspection, SOP No. 235105, and
Associated Inspection Checklists and Forms

PACIFIC SCIENTIFIC EMC-California Operations	STANDARD OPERATING PROCEDURE	SOP 235105, Rev. F Affects: Dept. 37 Date: 1/27/06 Page: 1 of 8

SUBJECT: FACILITY INSPECTION

Date/Prepared By:	Date/Approval	Date/Approval	Date/Environmental	Date/Safety

SUMMARY OF CHANGES

- Document has been significantly revised and is to be read in its entirety.
- Referenced Company forms available through Document Control.

1.0 INTRODUCTION

This procedure requires inspections to ensure that the storage, handling, use and disposal of hazardous materials and hazardous waste does not lead to an environmental or health hazard, cause damage to property or result in regulatory violations. In the event that such a situation is discovered, management shall promptly correct the situation and take appropriate steps to prevent a re-occurrence.

2.0 TYPES OF PROGRAMS

There are two (2) types of programs in effect:

2.1. **Inspection Programs**

RCRA-permitted treatment/storage units (TSUs) will be inspected each regular business day using PSEMC Form 1003B/1, "*TSU Inspection Sheet*", in accordance with the California Code of Regulations, Title 22, sections 66264.15(B)(4), 66264.195, and 66264.602.

2.2. **Audit Programs**

Subjects that will be audited include hazardous materials use and waste generating areas, industrial hygiene issues and other areas as appropriate. PSEMC Form 1003B/2, "*TSU Audit Sheet*" shall be used by the Resource protection Staff to record daily audits of TSUs.

3.0 REQUIREMENTS FOR INSPECTIONS/AUDIT PROGRAMS

3.1. **Areas to be Inspected or Audited**

a. Areas in which hazardous materials are used and/or hazardous waste are routinely generated.

b. Areas in which hazardous materials are periodically or routinely stored or accumulated including hazardous waste.

c. Any area, which has a potential for employee exposure to hazardous materials including hazardous waste.

All building as PSEMC shall be inspected to some degree, inside and out.

3.2. **Inspection Parameters, Techniques and Considerations**

a. Container Inspection and Labeling Requirements

All containers shall be compatible with the materials it contains. These containers shall be in good condition and undamaged in any way. Containers shall be kept closed at all times except when adding or dispensing materials.

All containers containing materials that are toxic, reactive, flammable or corrosive shall be labeled as such. If a material is a waste, it shall have a PSEMC "Hazardous Waste Label" with the accumulation date clearly written on it. The common name of the material must be on the label. Conflicting label/information on a container is not acceptable. Labels shall be legible.

Containers of mixtures (such as commonly occurs with waste materials) shall have the percentage of each constituent indicated.

b. Compatibility

All chemicals shall be stored in a manner that assures incompatible materials cannot come in contact with each other if the integrity of a container fails. This shall be accomplished by using separate cabinets, berms or dividers, or other effective means.

c. Storage

All hazardous materials shall be stored in a manner that prevents containers from being punctured, crushed, dropped or otherwise damaged to a point that could allow the contents to be released. Containers of ignitable and/or reactive material shall be stored away from heat, flame and spark sources.

Hazardous waste shall not be kept for more than 90-days at any location except in TSU-3. Departments shall notify the Environmental Department at least ten (10) days prior to the 90th day.

Due to the 90-day restriction on all ordnance waste, notification must be given to the Environment Department within ten (10) days.

Note: If authorized in writing by the Manager of the Environmental Department, a satellite accumulation point for a single hazardous waste stream, not to exceed 55 gallons, may be authorized for up to one (1) year.

d. Employee Exposure

At least weekly, all manufacturing areas shall be audited for proper hygienic practices and considerations shall include, but will not be limited to, the following:

1. Proper respirator and cartridge selection
2. Proper glove selection
3. Proper chemical storage and handling techniques
4. Proper use of fume hoods
5. Safety glasses
6. Safety shoes
7. Lab coats
8. Ventilation systems
9. Quality of working conditions in general

e. General Considerations of Facility Inspections

Check the condition/working order/integrity of the following items in all applicable areas. In some cases, PSEMC Form 1716, "*Support Services Department Audit/Inspection Report*" may be issued to departmental managers indicating areas of non-compliance and remedial actions required.

1. Sumps
2. Pumps
3. Valves
4. Surface impoundments
5. Berms
6. Drums
7. Tanks
8. Dikes
9. Integrity of containments and their protective coatings
10. Soil adjoining all facilities
11. Sudden drops in liquid levels, overfilling of liquid and improper operations
12. Evidence of spills or contamination

Soil-adjoining facilities using or storing hazardous materials will be inspected for signs of spills or contamination.

f. Facility Hazardous Waste Operations Emergency Equipment Inspection

Emergency equipment and supplies shall be inspected and recorded as shown in Table 1. Tasked departments will develop the required checklists and implement the required inspection within 15 days of the publication of this SOP. (Reference documents: PSEMC Forms 2282 and 1993, "*Emergency Response Equipment Audit*" and "*Shift Change Checklist*", respectively.

4.0 INSPECTION PROGRAM FOR THE FOUR (4) RCRA PERMITTED TSU FACILITIES

The four (4) TSUs shall be inspected daily by the Environmental Department. As an added safety precaution, Resource Protection Security Patrols will also observe each unit every day for abnormalities.

The four (4) TSUs are:

4.1. **TSU-1**
A solid, reactive hazardous waste treatment unit.

4.2. **TSU-2**
A contaminated (reactive) solvent hazardous waste treatment unit

4.3. **TSU-3**
A hazardous waste drum storage area.

4.4. **TSU-8**
Natural evaporation safety bucket water treatment (next to TSU-2).

5.0 AUDIT PROGRAM

The PSEMC Audit Program applies to all facilities (except to HW facilities listed previously) and locations on the PSEMC plant site which contain, store, handle, use and/or dispose of hazardous materials and wastes. It also applies to industrial hygiene and other related issues. At location where containers of hazardous wastes are stored, these containers shall not be stored over 90 days. The applicable buildings are as follows:

5.1. **Building 101 (Administration)**
Inside: Electronics
Outside: Outside Electronics

5.2. **Building 102 and 102A (Manufacturing)**
Inside: All of the areas, except areas used for administrative purposes only.
Outside: All areas

5.3. **Building 103 (Powder Blending)**
Inside: All areas
Outside: All areas

5.4. **Building 104 (Propellant Machine/Class 7)**
Inside: All areas
Outside: All areas

5.5. **Building 105 (Research and Development)**
Inside: All areas
Outside: All areas

a. R&D Pilot Plant
b. High-bay labs, numbers 1 through 5
c. Bulk chemical storage areas

5.6. **Building 106 (LFE)**
Inside: All areas
Outside: All areas

5.7. **Building 107 (Old Telezine Plant)**
Inside: All areas
Outside: All areas

5.8. **Building 108 (LFE Annex)**
Inside: All areas
Outside: All areas

5.9. **Building 109 (Maintenance)**
Inside: All areas
Outside: All areas

5.10. **Building 111 (Chemical Operations)**
Inside: Chemical Operations laboratory
Outside: All areas

a. Chemical plant, levels 1, 2 and 3
b. Drum storage pads, number 1, 2 and 3 (3 being bulk chemical storage area)

5.11. **Propellant Manufacturing (PMA Buildings)**
Inside: All areas
Outside: All areas

Table 1

Emergency Equipment Inspection Plan

Location	Item	Quantity	Frequency	Inspected By	Records Location
Maintenance	Front Load Tractor	1	M	E	E
Maintenance	Tractor/Spray Tank	1	M	E	E
EH&S Pickup	Fire Blanket	1	M	E	E
EH&S Pickup	Fire Extinguisher	1	M	E	E
EH&S Pickup	First Aid Kit	1	M	E	E
TSU-1	Emergency Horn	1	D	E	E
TSU-1	Shower/Eyewash Station	1	D	E	E
TSU-1	Fire Extinguishers	3	D	E	E
TSU-2	Emergency Horn	1	D	E	E
TSU-2	Shower/Eyewash Station	1	D	E	E
TSU-2	Fire Extinguishers	1	D	E	E
TSU-3	Absorbent Clay	150 lbs	D	E	E
TSU-3	Absorbent Matting	50ft	D	E	E
TSU-3	Absorbent Pillows/Socks	15	D	E	E
TSU-3	55 gallon open top steel drums	10	D	E	E
TSU-3	55 gallon bung top steel drums	10	D	E	E
TSU-3	85 gallon over-pack drums	5	D	E	E
TSU-3	Emergency Horn	1	D	E	E
TSU-3	Fire Extinguishers	2	D	E	E
TSU-3	Shovel, non-sparking	1	D	E	E
TSU-3	Shower/Eyewash Station	2	D	E	E
TSU-3	Siphon Pump	2	D	E	E
TSU-8	Fire Extinguisher (shared with TSU-2)	1	D	E	E
TSU-8	Emergency Horn (shared with TSU-2)	1	D	E	E

Location	Item	Quantity	Frequency	Inspected By	Records Location
Support Services	SCOT SCBA (complete)	5	M	E	E
Support Services	Firefighter Turn-out Gear	2	QRT	E	E
ERT Trailer	Acid Suits – Reusable and Disposable	3 & 5	QRT	E	E
ERT Trailer	Acid Boots	6	QRT	E	E
ERT Trailer	Blankets – Wool and Utility	2 & 1	QRT	E	E
ERT Trailer	Communication Phone Cable	6pr/200ft	QRT	E	E
ERT Trailer	Communication Phone	1	QRT	E	E
ERT Trailer	Decontamination Pool	3	QRT	E	E
ERT Trailer	Dual-head Emergency Lights	2	QRT	E	E
ERT Trailer	Face Shields	5	QRT	E	E
ERT Trailer	Fire-King Proximity Suits	2	QRT	E	E
ERT Trailer	Flashlight	1	QRT	E	E
ERT Trailer	Gloves - Rubber	1 box	QRT	E	E
ERT Trailer	Hard hats	12	QRT	E	E
ERT Trailer	Light – Explosion Proof	1	QRT	E	E
ERT Trailer	Oxygen Resuscitator	1	QRT	E	E
ERT Trailer	Pick-head Axe	1	QRT	E	E
ERT Trailer	Plastic Bags – Large	10	QRT	E	E
ERT Trailer	Plug and Dike	5 gal	QRT	E	E
ERT Trailer	Pry Bar	1	QRT	E	E
ERT Trailer	Rope – Fiber	200 ft	QRT	E	E
ERT Trailer	SCOT air cylinders	15	QRT	E	E
ERT Trailer	Shovels	2	QRT	E	E
ERT Trailer	Smoke Ejector	1	QRT	E	E
ERT Trailer	Spare Batteries	12 ea. Ds	QRT	E	E
ERT Trailer	Stretchers	2	QRT	E	E
ERT Trailer	Traffic Cones	12	QRT	E	E
ERT Trailer	4000-watt Generator	1	QRT	E	E
ERT Trailer	1500-watt Generator	1	QRT	E	E

Location	Item	Quantity	Frequency	Inspected By	Records Location
Security Central	Megaphone	1	D	RPS	SC
Security Central	Safety Vests	30+	D	RPS	SC
Security Central Support Services	Portable 2-way Radios	6	D	RPS	SC
Security Central	Base Station Radio	1	D	RPS	SC
Security Vehicle	Barricade Tape	1	D	RPS	SC
Security Vehicle	Binoculars	1	D	RPS	SC
Security Vehicle	Spot Light	1	D	RPS	SC
Security Central	Fire Extinguisher	3	D	RPS	SC
Security Vehicle	Oxygen Resuscitator	1	D	RPS	SC
Security Vehicle	Emergency Kit	1	D	RPS	SC
First Aid Station	Emergency Kit	1	M	E	E
Building 106	Emergency Kit	1	M	E	E
Selected ERT Member Issue	Coveralls – Fire Resistant	1	EU	Individual	None
Selected ERT Member Issue	Hard Hat	1	EU	Individual	None
Selected ERT Member Issue	Rain Gear	1	EU	Individual	None
Various Areas	Paging System	1 lot	EU	Individual	None
All Areas	Evacuation Alarm System	1 each	M	E	E

<u>Inspection Legend:</u>

E = Environmental Health & Safety

RPS = Resource Protection Specialist

SC = Security Central

D = Daily (During scheduled work days)

EU = Each Use

M = Monthly

QRT = Quarterly

W = Weekly

PACIFIC SCIENTIFIC

TSU Inspection Sheet

All TSUs shall be inspected in accordance with SOP 235105 and the FHWOP. Should there a be an inconsistency with the FHWOP or SOP 235105, the inspector shall utilize the "Notes" section of this form to indicate any items of concern, including the date and time of findings and any corrective action, or any other pertinent information that may be appropriate. Make notations for any "no" responses.

TSU-1

	Date	Time	Yes	No	Signature
Is the structure free from cracks or other structural defects that would preclude safe and environmentally sound treatment of waste?					
Are fire extinguishers (3) charged and available?					
Is an emergency horn (1) available and operational?					
Is the area free of any evidence of spills or contamination outside the containment area?					
Are fences, gates and locks intact and operational?					
Are eyewash/emergency showers (1) operational?					

Note: There is a Department of Defense 48-Hour minimum waiting period between burns at TSU-1. As such, the enterior portion of TSU-1 cannot be inspected during this waiting period.

TSU-2

	Date	Time	Yes	No	Signature
When configured for a burn, are the drums and secondary containment free from cracks or other structural defects that would preclude safe and environmentally sound treatment of waste?					
Are fire extinguishers (1) charged and available?					
Is an emergency horn (1) available and operational?					
Is the area free of any evidence of spills or contamination outside the containment area such as staining or dead vegitation?					
Are eyewash/emergency showers (1) operational?					

TSU-3

	Date	Time	Yes	No	Signature
Is the structure free from cracks or other structural defects that would preclude safe and environmentally sound treatment of waste?					
Are fire extinguishers (2) charged and available?					
Is an emergency horn (1) available and operational?					
Is the area free of any evidence of spills or contamination outside the containment area?					
Are the chain barriers intact and operational?					
Is the area free of any signs of leaking containers?					
Are all containers appropriate labeled?					
Are eyewash/emergency showers (2) operational?					
Are sumps free of liquid?					
Inspect for the following spill cleanup supplies:					
150 pounds of asborbent clay					
50 feet of absorbent matting					
15 absorbent socks/pillows					
10 each 55 gallon open top drums					
10 each 55 gallon bung top drums					
5 each 85 gallon (approx size) over-pack drums					
2 hand siphons pumps					
1 non-sparking shovel					

TSU-8

	Date	Time	Yes	No	Signature
Is the structure (tanks and secondary containment) free from cracks or other structural defects that would preclude safe and environmentally sound treatment of waste?					
Are fire extinguishers (1) charged and available?					
Is an emergency horn (1) available and operational?					
Is the area free of any evidence of spills or contamination outside the containment area?					
Are fences, gates and locks intact and operational?					
Is the area free of any signs of leaking containers?					
Are all containers appropriate labeled?					
Are eyewash/emergency showers (1) operational?					
Are sumps free of liquid?					
Do the tanks have at least six (6) inches of freeboard?					

Notes:

PACIFIC SCIENTIFIC

TSU Audit Form

The Resource Protection Staff (Security) shall utilize this form to document the observation of PSEMC's four (4) RCRA Permitted units. These units shall be observed not less than once every twenty-four hours. Any observation of concern shall be reported immediately to EH & S staffing. Make detailed notes of any observations in the "notes" section of this form. *Note*: In the event of a liquid, solid or gaseous leak or emission, immediately place yourself in an upwind and up-gradient location to protect yourself from potential harm. Each TSU and surrounding area shall be observed in accordance with the following parameters:

TSU-1

-Insure that the cage area doors and both access gates are locked.
-Check concrete walls for significant cracks and spalling.
-Look for materials that may have been ejected from the caged enclosure.

TSU-2

-Look for leaking or damaged containers.
-Observe the ground for staining or dead vegetation that could indicate spilled or leaking material.
-Look for smoke or flames

TSU-3

-Look for leaking or damaged containers.
-Observe the ground for staining or dead vegetation that could indicate spilled or leaking material
-Make note of any visible smoke, fumes or odors.

TSU-8

-Insure that the gate is locked and fencing is secure.
-Observe the evaporation tanks, drums and secondary containment for leaks.
-Look for staining on the ground and dead vegetation that could indicate spilled or leaking material.

TSU	Description	Deficiency? Y/N	Date	Time	Signature
1	Thermal destruction of reactive waste				
2	Thermal destruction of reactive solvent waste				
3	Storage of hazardous waste in drums				
8	Natural evaporation of reactive laden water and accumulation of reactive waste				

Notes:____

PACIFIC SCIENTIFIC

Environmental Health and Safety Audit/Inspection Report

ITEM(S) OR AREA AUDITED: ______________________________

Responsible for area: ______________________________ ____________
Name Badge #

Auditor Escort ☐
Escort Unavailable ☐ ______________________________ ____________
Name Badge #

Auditor: ______________________________ ____________
Name Badge #

TYPE OF AUDIT:
- ☐ Operational
- ☐ Administrative
- ☐ Requested
- ☐ Scheduled
- ☐ Walk Through
- ☐ Follow Up

Date: ____________________

Page ____ of ____

Concurrence: ______________________________ ____________
Name Badge #

ITEM	AUTHORITY	DESCRIPTION/LOCATION OF EXISTING CONDITIONS	CORRECTIVE ACTION(S) AND REMARKS	DATE C/A

NOTE: Interim Measure(s) required: yes ☐ no ☐. An Interim Measure is immediate (temporary) Corrective Action.
Please notify Support Services within ______ working days of Corrective Actions(s) taken or schedule and when completed. For assistance, guidance or further explanation, contact Support Services Department.

Form 1716 Rev H (1/06)

Revision E January 4, 2006

PACIFIC SCIENTIFIC

Emergency Response Equipment Inspection Checklist

All listed items shall be inspected in accordance with SOP 235105 and the FHWOP. Should there a be an inconsistency with the FHWOP or SOP 235105, the inspector shall utilize the "Notes" section of this form to indicate any items of concern, including the date and time of findings and any corrective action, or any other pertinent information that may be appropriate.

Location	Item	Quantity	Frequency	Date	Time	Signature
Maintenance	Front Load Tractor	1	M			
Maintenance	Tractor/Spray Tank	1	M			
EH&S Pickup	Fire Blanket	1	M			
EH&S Pickup	Fire Extinguisher	1	M			
EH&S Pickup	First Aid Kit	1	M			
Support Services	SCOT SCBA (complete)	5	M			
Support Services	Firefighter Turn-out Gear	2	QRT			
ERT Trailer	Acid Suits – Reusable and Disposable	3 & 5	QRT			
ERT Trailer	Acid Boots	6	QRT			
ERT Trailer	Blankets – Wool and Utility	2 & 1	QRT			
ERT Trailer	Communication Phone Cable	6pr/200ft	QRT			
ERT Trailer	Communication Phone	1	QRT			
ERT Trailer	Decontamination Pool	3	QRT			
ERT Trailer	Dual-head Emergency Lights	2	QRT			
ERT Trailer	Face Shields	5	QRT			
ERT Trailer	Fire-King Proximity Suits	2	QRT			
ERT Trailer	Flashlight	1	QRT			
ERT Trailer	Gloves - Rubber	1 box	QRT			

Location	Item	Quantity	Frequency	Date	Time	Signature
ERT Trailer	Hard hats	12	QRT			
ERT Trailer	Light – Explosion Proof	1	QRT			
ERT Trailer	Oxygen Resuscitator	1	QRT			
ERT Trailer	Pick-head Axe	1	QRT			
ERT Trailer	Plastic Bags – Large	10	QRT			
ERT Trailer	Plug and Dike	5 gal	QRT			
ERT Trailer	Pry Bar	1	QRT			
ERT Trailer	Rope – Fiber	200 ft	QRT			
ERT Trailer	SCOT air cylinders	15	QRT			
ERT Trailer	Shovels	2	QRT			
ERT Trailer	Smoke Ejector	1	QRT			
ERT Trailer	Spare Batteries	12 ea. Ds	QRT			
ERT Trailer	Stretchers	2	QRT			
Location	**Item**	**Quantity**	**Frequency**			
ERT Trailer	Traffic Cones	12	QRT			
ERT Trailer	4000-watt Generator	1	QRT			
ERT Trailer	600-watt Generator	1	QRT			
First Aid Station	First Aid Kit	1	M			
Building 106	First Aid Kit	1	M			
Selected ERT Member Issue	Coveralls – Fire Resistant	1	EU			
Selected ERT Member Issue	Hard Hat	1	EU			
Selected ERT Member Issue	Rain Gear	1	EU			
Various Areas	Paging System	1 lot	EU			
All Areas	Evacuation Alarm System	1 each	M			

Notes:

PACIFIC SCIENTIFIC

SHIFT CHANGE CHECKLIST

Day ______________
Date ______________

Watch Commander or senior person on the shift coming on duty, and the shift going off duty must complete this checklist at the beginning of each shift and sign below. Unsatisfactory or missing items must be explained in the remarks section. (Lengthy remarks are to be entered on a separate sheet.) Check either Sat/Un-Sat for each item.

		Grave Shift			Day Shift			Swing Shift		
Item	QTY	Sat	Un-Sat	QTY	Sat	Un-Sat	QTY	Sat	Un-Sat	QTY
Keysets	2									
Spot Light	1									
Flashlights	2									
Bullet-Proof Vests	2									
2-way Radios	6									
Base Station Radio	1									
Incident Vests	30+									
Megaphone	1									
Binoculars	1									
First Aid Kit (Vehicle)	1									
Fire Extinguishers	3									
Barricade Tape	1									
Oxygen Resuscitator	1									
Vehicle Cleanliness										
Vehicle Checklist										
Professional Appearance										
Security Central Supplies										
Security Central Cleanliness										

Bulletin Board and Log Book Checked

Grave: Yes_____ No_____ Int_____
Days: Yes_____ No_____ Int_____ (Swing Shift, Pick Up Mail)
Swing: Yes_____ No_____ Int_____ Yes____ No____ Int ____

Remarks:____
____
____

Shift Leader Going Off: ______________________ Shift Leader Coming On: ______________________
Shift Leader Going Off: ______________________ Shift Leader Coming On: ______________________
Shift Leader Going Off: ______________________ Shift Leader Coming On: ______________________

Chapter VII - Personnel Training

A. Training Program

1. Training for Primary HW Management Employees:

At PSEMC, Primary Hazardous Waste Management Employees have been separated into two categories: manager and technicians. The specific job titles, and the respective duties and responsibilities associated with hazardous waste management and handling for each category, are summarized below:

a. Manager, Environment and Security

i. Establishes training program for a variety of environmental health and safety issues (including, of course, hazardous waste management and handling).

ii. Provides guidance and assistance to Environmental Technicians (who report to the Manager, Environment and Security).

iii. Acts as point of contact for a variety of environmental related regulatory agencies.

iv. Acts as the Training Director for the environmental program.

v. Generates regulatory related reports.

vi. Acts as Incident Commander during Emergency Response Team activities.

vii. Educational/experience requirements for the position include a BS/BA in Chemical, Mechanical, Environmental, or Safety Engineering or in environmental management, physical sciences, safety management, industrial hygiene, or appropriate technical field plus 7 years' experience minimum as an environmental engineer, safety engineer or industrial/occupational hygienist. With an MS in any of the above fields, 5 or more years of experience are acceptable. Additional experience can be substituted for the noted degrees. Professional registration as a PE, CIH, CSP, CHMM or equivalent is preferred.

b. Environmental Technician

i. Containerizes, consolidates, treats and ships hazardous waste in accordance with PSEMC's Facility Hazardous Waste Operations Plan.

ii. Assists in training Limited Hazardous Waste Duty personnel.

iii. Supports the Manager, Environment and Security in his duties as required.

iv. There are no specific educational or experience requirements for the position.

As a supplement to their education and work experience, Environmental Technicians receive training for their respective tasks in HW management through classroom and on-the-job training, commercial seminars, and continuing technical and professional education. All employees are given a safety orientation in the first three days of employment, which includes a review of environmental considerations, as well as operational requirements. Environmental Technicians receive an annual refresher briefing on the HW regulatory requirements of USEPA, OSHA, Cal/OSHA and DTSC. Personnel whose jobs involve handling of chemical HW receive instruction in the use of respirators, protective clothing, drum and container handling, and MSDS. These programs are initially administered to each employee when assigned to HW duties, and annually thereafter. Persons who drive forklifts must maintain certified status. Further, when assigned to HW duties, employees receive instruction in pump operation, basic chemical reactions (for those individuals who have not taken high school chemistry or have less than two years of industrial chemical processing experience), and explosives burning techniques. Training also includes assigned reading of printed material and periodic “tail-gate” sessions. All assigned HW personnel are required to complete all phases of the PSEMC Hazardous Materials Communications program.

The initial training activities are completed within six (6) months after assignment to HW duties. Annual eight (8) hour refresher training includes regulatory, contingency plan, and health material. Table VII-1 summarizes the subject and course content, type of training, and duration of training, for both initial and refresher training for all employees (i.e., the HW manager and HW technicians) primarily concerned with hazardous waste operations, and includes emergency procedures, emergency equipment, and emergency systems. Table VII-1 also includes the number and title of each training document and the frequency of refresher training activities.

2. Training for Limited HW Duty Workers:

At PSEMC, there are a variety of hazardous waste management duties that are performed in the various laboratories and manufacturing areas in the many buildings at the site. These activities are regulated only by the State and Federal laws and regulations dealing with the generation and on-site management of such wastes, not the treatment and storage unit (TSU) activities described herein. At PSEMC, these individuals are described as Limited HW Duty Workers, as defined below:

3. Limited Hazardous Waste Duty Workers

The personnel filling this role work in a variety of functions and hold innumerable and ever-changing job titles. Hazardous waste management is incidental to their primary job function (e.g., Production, Engineering, and Laboratory Technician). Typical hazardous waste duties include:

a. Label and containerize hazardous waste at the point of generation.

b. Generates internal hazardous waste tracking documents.

c. There are various educational/experience requirements for each of these production, laboratory and engineering positions.

Table VII-2 outlines initial and ongoing/refresher training for employees who perform limited HW duties, such as collection of safety bucket water, tested ordnance, EHWs, HW lubricant, and laboratory HW for accumulation at accumulation points, maintenance technicians, and employees in charge of authorized Satellite Accumulation pints. Training frequency for the ongoing/refresher training also is provided in Table VII-2.

4. Training for Emergency Response Team (ERT) and Resource Protection/Security Personnel with Hazardous Waste Responsibilities:

Initial and ongoing/refresher HW training for employees who are members of the ERT and/or the Resource Protection/Security staff and have HW responsibilities are summarized in Table VII-3. These employees typically include the Incident Director, the Safety Officer, and the Environmental Technicians/Spill Team (as described in Chapter VIII and Attachment VIII-1, the Hazardous Materials Emergency Business Response Plan) and Resource Protection staff. Position descriptions for the various affected positions are provided below:

5. Incident Director/Alternate Incident Director

The Incident Director (i.e., the Manager, Environment & Security) serves as the contact person with off-site agencies; the incumbent plans, organizes, directs, and reports ERT activity.

6. Safety Officer

The Safety Officer (i.e., the Safety Specialist) is responsible for assessing hazardous and unsafe situations and developing measures for assuring personnel safety and has the authority to stop and/or prevent unsafe acts. He/She also is responsible for developing and supervising the Emergency Medical Team (EMT).

7. Spill Control Coordinator

The Spill Control Coordinator (an Environmental Technician) is responsible for staffing and training the spill team; maintaining a current list of outside sources for emergency supplies, equipment, and services; training other ERT members in hazard control; and training the alternate Spill Control Coordinator.

8. Spill Team

The Spill Team is comprised of Environmental Technicians. They can be assisted by employees from Powder Blending and/or Chemical Operators who are thoroughly knowledgeable with the safe handling and removal of the materials in their respective areas.

9. Security Coordinator

The Security Coordinator (i.e., the Senior Resource Protection Specialist) shall maintain instruments, wires and equipment necessary to install a temporary telephone at the emergency Command Post location; maintain ropes and barricades for on-scene personnel and vehicle control; maintain keys for Company vehicles, train ERT members in radio operation and use; provide a security force for on-scene personnel and vehicle control; ensure that a security vehicle is equipped with required rescue, first aid, firefighting, and additional supplies; and train the alternate Security Coordinator. The highest-ranking on-duty security guard shall act as alternate Security Coordinator.

10. Resource Protection Staff

The Resource Protection Staff do not merely control access to the facility; they protect PSEMC's resources as follows:

a. Inspect emergency showers and eye washes (CFR Title 8) monthly
b. Inventory and restock first aid kits/monthly
c. Inspect fire extinguisher (CFR Title 8) monthly
d. General safety inspections (CFR Title 8).
e. Inspect firefighting indicator valve monthly
f. Inspect emergency generators monthly
g. Provide medical response and first aid treatment.
h. Coordinate off-site emergency response (fire, ambulance, police, etc.).
i. Provide incident scene control (barricading, crowd control, traffic control, etc.).
j. Activate the Emergency Response Team.
k. Perform hazardous materials incident recognition and reporting/coordination.
l. Perform traffic control.
m. Deter unauthorized access to facility.

n. Emergency response equipment inspection (CFR Title 40 and CCR Title 22) monthly.

o. Fire protection system inspections (CFR Title 8) monthly

p. Observe permitted HW units at least once every 24 hours (typically on the first patrol of each shift.

q. Perform facility patrols at approximately 2-hour intervals.

Training frequency for the ongoing/refresher training for these individuals also is provided in Table VII-3.

B. Training Director

Qualifications of the Training Director are summarized in Appendix 7.

C. Training Records

1. Training Record Maintenance (Primary HW Duties):

Training records for employees assigned primarily to HW duties (and those ERT members with HW responsibilities) are maintained in a magnetic media file by the Manager, Environment and Security. (Attachment VII-1 is a typical example.) These data include job title, employee name, job description, and types/amounts of training received. Backup documents, such as copies of certificates, transcripts, attendance rosters, and degrees/diplomas are maintained in Department 37, or are documented in individual personnel records. These records for former HW employees are kept for three years after the employee's termination from HW duties. Training records of current HW employees will be kept until the facility ceases operation.

2. Training Record Maintenance (Limited HW Duties):

Training records for employees assigned Limited HW duties are retained in Department 37 files. (See Attachment VII-2.) Records for terminated employees will be retained in archived personnel files for three years.

3. Training Record Maintenance (ERT & Resource Protection Staff):

Training records for employees assigned to the ERT and Resource Protection staff (with hazardous waste duties) are maintained by the Manager, Environment & Security. Records for terminated employees will be retained in archived personnel files for three years.

Chapter VII Attachments

- *Hazardous Waste Worker Training*
- *Training Record Form*
- *Emergency Responder Training*

Attachment VII-1

PSEMC Hazardous Waste Worker Training

(Primary and Limited HW Personnel)

TABLE VII-1
PRIMARY HW EMPLOYEE INITIAL AND REFRESHER TRAINING OUTLINE AND SCHEDULE

Subject/Course	Training Method	Initial	Refresher	HW Mgr	HW Tech
HAZWOPER Training Includes regulatory overview, specific hazards, personal protective equipment (PPE), containers and labeling, hazard communication requirements, inspection procedures, recordkeeping, etc.	On-site online training or off-site commercial training sessions	40 hours	8 hours annually	X	X
Organization/Personnel Who is responsible for site safety and health.	Orientation, oral	0.1 hour	One time	X	X
Emergency Equipment/Systems Emergency equipment location and use. What is emergency, evacuation procedure,emergency equipment location and use.	Orientation, tour of facility read FHWOP Chapter VII and HMEBRP followed by verbal discussion	1 hour	One time	X	X
Safety & Health Hazards in HW Facilities (Overview) What are the HW facilities, materials stored, and basic hazards.	Orientation, oral	0.5 hour	One time	X	X
Explosive Hazards What are explosives, how do they initiate, and what precautions are taken.	Orientation, reading	3 hours	0.3 hours annually	X	X
Solvent Hazards Main Solvent hazards, identifying hazardous conditions, and safe handling.	Orientation, video, oral reading	1 hour	One time	X	X
Corrosive Hazards Which are the corrosives, how to identify hazards, and safe handling.	Orientation, oral, reading	1 hour	One time	X	X
Hazard Communication Program MSDS, labeling training, and right to know.	Orientation, video, oral reading:	1 hour	0.3 hours annually	X	X
Drum Pad Procedures General drum handling, damaged drum handling and compatibility.	Oral reading, EH&S No.001 Hazardous Waste Training & EH&S No.002 Handling and Storage of Hazardous Materials, Waste Site Visits	1.5 hours	One time	X	X
Explosive Waste Facility Collection procedure, separation of water from solids, waste identification labeling and storage, water treatment.	Oral, visit, reading EH&S No. 003 Removal of Explosive Waste from Manufacturing Areas	1 hour	One time	X	X
Ordnance Destruction Facility Waste transportation, tube loading, ignition tube inspection, re-entry interval, tube cleanup safety/health hazards, emergency procedures, and detonation of scrap.	Oral, reading: Environmental Technician SOP 235074 Treatment of Hazardous Waste site visit, OJT	6 hour	One time	X	X
Solvent Burning Facility Transporting, solvent, solvent loading and ignition.	Oral, reading: Environmental Technician SOP 235074 Treatment of Hazardous Waste. Site visit, OJT	4 hour	One time	X	X
Magazine Operations Storage, compatibility groups, no handling in magazine, locking procedure.	Oral, reading: DOD 4145.26M, Chapter 5	1 hour	One time	X	X
Exposure Paths Respiratory, dermal, oral, pathways; source, dose, and body response.	Oral, reading	0.5 hour	0.5 hour HAZWOPER		X
Symptoms & First Aid Identifying overexposure, immediate response, and further treatment.	Oral, reading: ARC approved, Basic Life Support, first year	6 hours	As req. to maintain certification	X	X
Use of Ordinary Personal Protective Gear Respirator selection and maintenance, glove, safety glasses, goggles, hard hat, coverall, and safety shoes selection.	Oral, reading	2 hours	0.2 annually	X	X
Back Safety Proper lifting, pushing, and pulling.	Oral, reading	1 hour	0.1 annually	X	X
Lead Training Hazards of lead exposure. Symptoms of over exposure and prevetative measures.	Oral, reading	2 hours	0.2 annually	X	X
Use of Simple Monitoring Devices pH paper, IDLH atmosphere monitor and detector tubes.	Oral, demo	1 hour	One time	X	X
Proper Packing and Labeling Adequate containers, material compatibility, labeling requirements, lab pack, explosive packaging.	Oral, demo, reading: EH&S No. 001 Hazardous Waste Training and EH&S No. 002 Handling and Storage of Hazardous Materials	2 hours	One time	X	X

TABLE VII-1
PRIMARY HW EMPLOYEE INITIAL AND REFRESHER TRAINING OUTLINE AND SCHEDULE

Subject/Course	Training Method	Initial	Refresher	HW Mgr	HW Te
Use of Equipment Forklift, compressor, and pumps	Oral, demo	1.5 hours	As Req to maintain Cert	X	X
Basic OSHA Rules Right to safe and healthy environment, how to locate rules, permissible exposure limits.	Oral, demo	1 hour	0.3 hours annually	X	X
HW Facility Inspection and Records Inspection of plant storage and treatment facilities.	Oral, visit, reading: Support Services SOP 235105 Facility Inspections, EH&S No. 001 Hazardous Waste Training, EH&S No. 002 Handling and Storage of Hazardous Materials, EH&S No. 003 Removal of Explosive Waste from Manuafacturing Areas, EH&S No. 004 Disposition/Removal of Expired Shelf Life Material, and FHWOP	3 hours	1 hour annualy	X	X
Manifest Preparation	Oral	1.5 hours	One time	X	X
SCBA Training How and when to use. How and when to use.	Oral, demo (Support Services provides)	3 hours	As required	X	X
Spill Control Procedure Material identification, containment and cleanup	Oral, demo, reading: EH&S No. 008 Non-Explosive Spill Management. HAZWOPER	2 hours	HAZWOPER	X	X
Confined Space Procedure Pre-entry testing required equipment, form.	Oral, demo, reading: EH&S No. 016 Confined Space Entry	2 hours	0.5 hour annually	X	X
Site Control Security patrol, signs, secured facilities.	Oral	0.5 hour	One time	X	X
In Depth Environmental Regulations Seminar Overview of existing and new State & Federal Requirements.	Commercial seminar	8 hours	One time		X
Hazardous Waste Facility Operations and facilities permitted by DTSC; FHWOP	Read permit, discussion	8 hours	As modified	X	X
Field Test Mock incident exercise.	Exercise	Periodic	Periodic	X	X
Sample Collection Proper sampling techniques, containers and holding times.	Chapter III, FHWOP,	See above	0.5 hour annually	X	X
New Hazardous Waste Regulations (Summary) State and Federal regulations that effect operations at MS.I	Verbal Review with Environmental Technician	N/A	As available	X	X
Basic Life Support (Every other year) Extended first aid and emergency response training.	American Red Cross or equivalent	6 hours	6 hours Biennially	X	X

Note:
Training records, for HW Employee Initial Training, are retained in departmental training files. Records for terminated employees, or employees terminated from HW duties, will be retained in archived personnel files for three years after employee's termination or termination from HW duties. Training records for HW employees will be kept until the facility ceases operation.

Legend:
HW Mgr. = Manager of Hazardous Waste Technicians
HW Tech. = Hazardous Waste Technicians

TABLE VII-2
LIMITED HW DUTY PERSONNEL INITIAL AND REFRESHER HAZARDOUS WASTE TRAINING OUTLINE AND SCHEDULE

Subject/Course Content	Training Method	Initial	Refresher	Trainer
Individual HW Tasks: identification of specific tasks performed by individuals and provides techniques and requirements for minimum performance expectations. Individual tasks typically involve packaging, labeling, and internal waste documentation.	Reading Limited Hazardous Waste Worker Training Manual, OJT	0.5 hour	0.5 hour annually	S/HWT
HW Specific Hazards: Identification and discussion of hazardous materials/waste properties and related concerns (corrosivity, flammability, toxicity, reactivity, etc.	Reading Limited Hazardous Waste Worker Training Manual, discussion, OJT	0.25 hour	0.25 hour annually	S/HWT
PPE: Understanding appropriate PPE given specific tasks and hazards; Selection techniques and use.	Hazardous Waste Worker Training Manual, discussion, OJT	0.1 hour	0.1 hour annually	S/HWT
Spill Containment & Emergency Procedures: Emergency response and techniques and concerns related to spill containment.	Hazardous Waste Worker Training Manual, discussion, OJT	0.3 hour	0.1 hour annually	S/HWT
First Aid Measures: Limited first aid training focusing on injury and illness recognition and basic first aid care associated primarily with possible hazardous materials exposure.	Reading Limited Hazardous Waste Worker Training Manual, discussion, OJT	0.25 hour	0.1 hour annually	S/HWT
Containers & Labels: Proper selection and use of containers and proper labeling requirements.	Hazardous Waste Worker Training Manual, discussion, OJT	0.3 hour	0.1 hour annually	S/HWT
Generation Points:Discussion of various points of waste generation and appropriate management techniques.	Reading Limited Hazardous Waste Worker Training Manual, discussion,	0.2 hour	0.1 hour annually	S/HWT
Records:techniques for accurately and correctly completing internal HW tracking documents.	Reading Limited Hazardous Waste Worker Training Manual, discussion,	0.1 hour	0.1 hour annually	S/HWT

Note:
Training records, for employees assigned limited HW duties, are retained in Department 37 files. Records for terminated employees will be retained in archived personnel files for three years.

Legend:
S = Supervisor/Lead person/Trained Employee
HWT = Environmental Technician Trained Employee
OJT = On the Job Training

Pacific Scientific
HW Worker Training
Charles F. Martin
Manager, Environment and Security

Date	Freq.	Type	Subject	Source	Time	Instructor	Remarks

LEGEND

A = Annual	Fld = Field
Form = Formal	I = Initial
OJT = On the Job	P = Periodic
Ref = Refresher	Sem = Semi-ann

Attachment VII-2

PSEMC Training Record
Hazardous Waste Training for Limited Hazardous Waste Duties

Training Record

Hazardous Waste Training For Limited HW Duties

Employee Name	Badge No.	Department	Employee's Signature (Upon Training Completion)

HW Task Title	Job Title	Supervisor/Lead Signature (Upon Training Completion)

	Subject	Date	Duration	Trainer's Initials
1.	Individual HW Tasks		0.50	
2.	Hw Specific Hazards		0.25	
3	PPE		0.10	
4.	Spill Containment & Emergency Procedure		0.30	
5.	First Aid Measures		0.25	
6.	Containers & Lables		0.30	
7.	Generation Points		0.20	
8.	Records		As Req.	

Annual Review

	Date	Duration	Trainers's Initials	Employee's Initials
Annual Review		0.50		

Notes:

WHITE-E&IH, YELLOW-E&IH Follow Up, PINK - Originator (To be returned to Generator after review)

Form 1838 2/91

Attachment VII-3

PSEMC Hazardous Waste Training for Certain Emergency Response Team Members

TABLE VII-3
HAZARDOUS WASTE TRAINING FOR CERTAIN EMERGENCY RESPONSE TEAM (ERT) MEMBERS AND RESOURCE PROTECTION STAFF

Subject/Course Content	Training Method	Initial	Refresher	Incident Commander/ Safety Officer	Spill Team (EH&S Techs)	Resource Protection Staff
HAZWOPER Training--includes regulatory overview, specific hazards, personal protective equipment (PPE), containers and labeling, hazard communication requirements, inspection procedures, recordkeeping, etc. Not: This course surpasses the First Responder Operational requirements.	On-site online training or off-site commercial training sessions	40 hours	8 hours annually	X	X	
Facility Training--training in understanding and implementation of PSEMC's internal health and safety policies and locations and design elements of each building or TSU with hazardous materials and/or hazardous wastes. Includes instruction on the PSEMC organization & current personnel, etc.	Reading, Verbal, Site Tour, OJT	4 hours	One time	X	X	X
First Responder Awareness: Understanding of what hazardous substances are, and the risks associated with them. Understanding of the potential outcomes associated with an emergency created when hazardous substances are present. Ability to recognize the presence of hazardous substances in an emergency. The ability to identify the hazardous substances, if possible. What to do in an emergency situation.	On-site online training or off-site commercial training sessions	4 hours	4 hours annually			X
First Responder Operational: What hazardous substances are and the risks associated with them in an incident. Recognize presence of hazardous substances in an emergency. Hazard and risk assessment techniques. Basic control, containment, and/or confinement operations and rescue. Basic equipment, victim, and rescue personnel decontamination procedures. Understanding operating procedures and termination procedures.	On-site online training or off-site commercial training sessions	Initial: 8 hours	One time	X		
Incident Command training: What hazardous substances are, the risks associated with them in an incident. Potential outcomes associated with an emergency created when hazardous substances are present. Recognize the presence of hazardous substances in an emergency. Ability to realize the need for additional resources, and to make appropriate notifications to the communication center.	On-site online training or off-site commercial training sessions	8 hours	8 hours annually	X		
First Aid Measures/CPR--basic Red Cross or equivalent first aid course and American Heart Association or equivalent CPR course. (Cert)	OJT/Classroom &/or off-site training	6 hours	As required to maintain Certification	X	X	X
Records and Reporting--Familiarization with PSEMC and regulatory agency reporting requirements; assistance to the Incident Director in collecting required facts	Reading Company Procedure 33, Regulatory Reporting, verbal, OJT	0.5 hour	One time	X	X	X

Note:
Training records, for employees assigned ERT duties, are retained in Department 37 files. Records for terminated employees will be retained in archived personnel files for three years.

Legend:
OJT = On the Job Training

Chapter VIII Attachment

Attachment VIII-1: PSEMC's *Hazardous Materials Emergency Business Response Plan*

Pacific Scientific Energetic Materials Company (California) Inc

Hazardous Materials

Emergency Business Response Plan

THE PLAN FOR ASSURING TIMELY, EFFECTIVE RESPONSE TO INCIDENTS INVOLVING HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Pacific Scientific Energetic Materials Company (California) Inc

HAZARDOUS MATERIALS EMERGENCY BUSINESS RESPONSE PLAN

Revision H – 8 April 2008

Table of Contents

PREFACE

This plan is published to meet the requirements of CCR Title 8, Section 5192, "*Emergency Response by Employees at Uncontrolled Hazardous Waste Sites*"; CCR Title 19, Chapter 2, Subchapter 3, Section 2731, "*Emergency Response Plan and Procedures*" and Title 22, Division 4.5, Chapter 15, Article 4, "*Contingency Plan and Emergency Procedures for Permitted Facilities*". This plan has the same directive authority for Pacific Scientific Energetic Materials Company (California) Inc. (PSEMC) employees as a PSEMC Procedure.

EMERGENCY CONTACT FOR OFF-SITE AGENCIES

All calls should be made to (831) 637-7876. This is a separate telephone service directed to PSEMC Security Central, which is staffed 24 hours a day, seven days a week. Security Central has checklists, teleconferencing capability, and paging equipment which will allow them to contact and recall the designated contact person, Emergency Response Team (ERT) members and all other PSEMC resources quickly. If unable to contact Security Central, contact the following:

Contact Person and Alternates

For the purpose of this plan, the contact person is designated Incident Director.

Incident Director (ID)*	Alternate Incident Director (AID)*
Charles F. Martin 2031 Calistoga Dr. Hollister, CA 95023 831-636-5932 State of California Cert. #888	Steven Secara 1630 Mimosa Hollister, CA 95023 831-636-6809
	Richard Glover 120 Tarragon Drive Morgan Hill, Ca 95037 408-776-0974

*The Incident Director is authorized to direct all facility responses, clean-up and recovery activity, and is authorized to obligate Company funds, as required, to support this plan. Authority to obligate funds transfers to the President upon his/her arrival on site during emergency operations.

Section 1

INTRODUCTION

This document directs emergency actions required to mitigate the effects of potential disasters; such as, earthquakes, structural and wild land fires, accidental detonations, accidental spills or release of hazardous materials including hazardous waste, or employee injuries. This plan is also designed to support the State of California Emergency Plan and the Standardized Emergency Management System (SEMS) to include the Incident Command System (ICS). As such, the plan should guide and assist the pre-response planning and emergency responses of elements from the San Benito County Hazardous Materials Area Plan, and the San Benito County Emergency Operations Plan. These plans work in conjunction with law enforcement, fire, environmental health and emergency medical services. These agencies are San Benito County Environmental Health (CUPA), County Fire (California Department of Forestry and Fire Protection), Sheriff Department, Emergency Medical Services, Office of Emergency Services, Communications, Hollister Fire, Hollister Police, California Highway Patrol, A M R and Hazel Hawkins Hospital.

Any spill or release of materials that has the potential to cause injury to people, environment, or property is considered an initiating event if it cannot be completely and immediately contained and neutralized by the people on the scene using the equipment on the scene at the time of the spill.

The direction in this plan shall be initiated by the first PSEMC employee who becomes aware of any event that results in, or may result in:

- A major personal injury
- Sudden onset of personal illness
- Endangerment of a member of the public or domestic or wild animals, or environmental damage due to the release of a hazardous material
- Serious impairment of a production facility
- Damage to a major facility or building

Section 2

EMERGENCY RESPONSE TEAM

Emergency response is a coordinated effort requiring participants from, and with expertise in, a wide range of disciplines. It requires significant investment in training and personal protective equipment. The duties listed for each team position shall be incorporated into the incumbent's job description.

TEAM COMPOSITION

Employees in the following jobs or positions are appointed to the Emergency Response Team (ERT) by the Vice President/General Manager, PSEMC.

Command

- **Incident Director/Alternate Incident Director**
  Manager, Environment Health and Safetyty. The Incident Director serves as the contact person with off-site agencies; the incumbent plans, organizes, directs, and reports ERT activity. (Alternates are appointed by name.)

- **Executive Advisor/Liaison/Information Officer**
  Vice President/General Manager, PSEMC. The President may appoint a Liaison and/or Information Officer. The Executive Advisor makes major financial management decisions and authorizes expenditures of funds required to support emergencies. The Information Officer serves as the point of contact for the media. The Liaison's function is to ascertain accurate and complete information regarding incident cause, size, situation, resource committed, and other matters of general interest.

- **Safety Officer**
  Safety Engineer. The Safety Officer is responsible for assessing hazardous and unsafe situations and developing measures for assuring personnel safety. This position shall have the authority to stop and/or prevent unsafe acts.

Operations

- **Spill Control Coordinator**
  Environmental Technician. The Spill Control Coordinator is responsible for staffing and training the spill team; maintaining a current list of outside sources for emergency supplies, equipment, and services; training other ERT members in hazard control; and training the alternate Spill Control Coordinator.

- **Spill Team**
  The Spill Team shall be comprised of Environmental Technicians, and employees from Powder Blending and/or Chemical Operators who are thoroughly knowledgeable with the safe handling and removal of the materials involved.

Logistics

- **Medical Response Team (MRT) Coordinator**
  The Safety Officer may serve as the MRT Coordinator. The most experienced and/or medically qualified MRT member may serve as the MRT coordinator or alternate. The MRT Coordinator is responsible for staffing the MRT with trained personnel through out the facility, ensuring a sufficient number of qualified, currently trained volunteers to maintain the MRT at full strength; ensuring that other ERT personnel are trained and current in first aid/CPR, and, maintaining an inventory of medical supplies.

- **Medical Response Team (MRT)**
  The MRT is comprised of volunteers from throughout the facility. They are responsible for rendering first aid under the direction of the MRT Coordinator in the event that personnel are injured as a result of an incident. The members of the MRT consist of a combination of first aid/CPR, EMR or higher-level trained employees.

- **Security Coordinator**
  Senior Resource Protection Specialist. The Security Coordinator shall maintain instruments, wires and equipment necessary to install a temporary telephone at the emergency Command Post location; maintain ropes and barricades for on-scene personnel and vehicle control; maintain keys for Company vehicles, train ERT members in radio operation and use; provide a security force for on-scene personnel and vehicle control; ensure that a security vehicle is equipped with required rescue, first aid, fire fighting, and additional supplies; and train the alternate Security Coordinator. The highest-ranking on-duty security guard shall act as alternate Security Coordinator.

- **Incident Recorder**
  The Incident Recorder coordinates documentation of emergency incidents. The incumbent shall be prepared to create written, video, audio, or photographic documentation. (As appointed)

- **Procurement Agent**
  A PSEMC Purchasing Representative shall support the ERT Executive Advisor during other than normal business hours, as needed.

- **Facility Advisor**
  Senior facility personnel. The Facility Advisor shall have a working knowledge and maps of the facility utilities (gas, electric, and water supplies). The Facility Advisor is also responsible for coordinating the activities of the maintenance crew to support clean up and post incident operations.

- **Area Advisors**
  One supervisory or management employee from each production center/facility; that is, Buildings 101, 102, 106, 108 Chemical Operations, Powder Blending, PMA and Class VII shall be area advisors. Building Specialist shall 1) maintain personal knowledge of the amount, location, and characteristics of all transitory hazardous materials in the assigned respective facility that are over 55 gallons, 400 pounds, and/or 200 cubic feet; 2) maintain knowledge of the location, amount, and characteristics of all extremely hazardous materials that are in the assigned respective facility; be able to show emergency response personnel, on a site map or facility drawing, the locations of materials identified above; 3) and know the locations of, and be able to operate, fire extinguisher shut-off valves in the assigned respective facility.

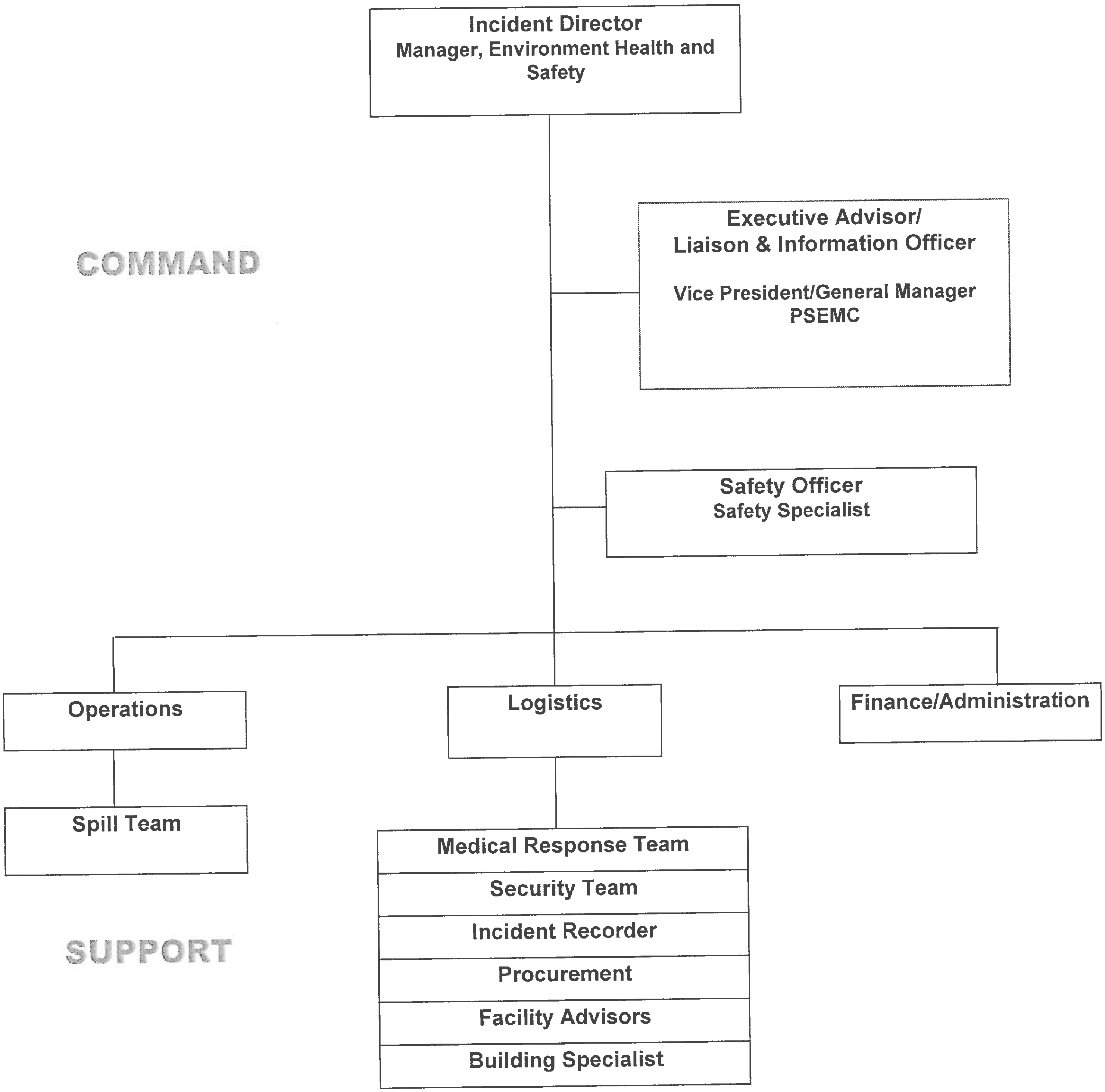


Figure 1. Emergency Response Team Organization

Section 3

EMERGENCY RESPONSE TEAM TRAINING

ERT members shall receive formal training in the subject areas identified below to the extent indicated.

- **Orientation**
  Addresses the statutory requirements and business reasons for emergency response. Introduces the trainee to philosophy and limitations of ERT employment. Outlines general training subjects for all members and for specialty teams. Reviews physical and organizational resources available.

- **First Aid/CPR**
  Approved first aid and CPR training consisting of an American Red Cross or equivalent basic first aid course completed within one year of ERT member entry date, and any American Heart Association, or equivalent, CPR course completed within one year of ERT member entry date. Not all positions on the ERT require First Aid/CPR, but it is recommended.

- **Medical Training**
  All members of the MRT shall have the appropriate medical training and certification for their positions. The courses shall be American Red Cross or equivalent. The annual re-certification shall also be American Red Cross or equivalent courses.

- **Safe Handling of Hazardous Materials**
  Operational Personnel shall receive training in the safe handling of Hazardous Materials used at PSEMC. This is a requirement for all personnel who enter restricted or contamination reduction zones.

- **Initial Emergency Response**
  All members shall be instructed on initial emergency response activities including readiness to respond, required personal protective equipment and clothing, approach to the scene, identification of and evaluation of hazardous materials, and notifications required until the Incident Director assumes control of emergency scene activities.

- **Working With Off-site Emergency Organizational Personnel**
  All members will be familiarized with off-site emergency organizations and teams. Instruction in authorities of, capabilities of, and responsibilities of each organization; explores cooperative deployment scenarios.

- **Monitoring, Containment, and Decontamination Familiarization**
  Members likely to be in restricted or contamination reduction zones shall receive training in monitoring, containment, and decontamination activities required by hazardous materials spills.

- **Media Relationships**
  All members will be instructed on PSEMC policy concerning the release of information or statements to the media. Only designated personnel release information to the media.

- **Recovery**
  Operational personnel shall be familiarized with the activities and sequences of activities required to control and terminate emergencies, remove hazards, and return the facility to production.
- **Reports**
  Sufficient familiarization with PSEMC and regulatory agency reporting requirements to allow ERT members to assist the Incident Director in collecting required facts.

SPECIALTY TEAM TRAINING

Spill Team members shall be trained in the use of required control, decontamination, and recovery methods and procedures. Specific training shall also include the wearing of various level of personal protective equipment, such as respirators, SCBA equipment, and Level A and B chemical suits (as required)

Section 4

EMERGENCY PREPAREDNESS RESPONSIBILITIES

The following emergency preparedness responsibilities are hereby assigned to the identified personnel.

- **Incident Director and/or Alternate Incident Director**

  Establish and manage Emergency Response Team staffing and training.
  - Maintain and publish the Emergency Response Plan.
  - Furnish Security Central a current listing of the Emergency Response Team members' names and telephone numbers.
  - Maintain liaison with off-site emergency response agencies.
  - Ensure quarterly audits of emergency response equipment are performed.
  - Act as PSEMC Information Officer when designated by the PSEMC Vice President/General Manager.

- **Executive Advisor/Liaison/Information Officer**
  - Make major financial management decisions and authorize expenditure of funds required to support emergency response and emergency cleanup efforts, salvage, and production restoration. The Executive Advisor may appoint a separate Liaison/Information officer.

- **Safety Officer**
  - Maintain up to date knowledge of facility projects, operations, and personnel. Detailed knowledge of chemical storage locations, quantities of hazardous materials, and on-going activities associated with the Hazardous Waste Treatment Storage Units.

- **Spill Team Coordinator**
  - Staff and train the Spill Team
  - Maintain current list of outside sources for emergency supplies, equipment, and services.
  - Train other Emergency Response Team members in hazardous material control.

ACTIVATION OF THE EMERGENCY RESPONSE TEAM

Upon notification, or becoming aware of any event listed in Section 1, the on-duty Security Officer shall notify the off-site responders in accordance with the approved security checklists. The Senior Security Officer shall then notify the Incident Director or alternate and recall the Emergency Response team, as directed.

EMERGENCY RESPONSE SEQUENCE

The following sequence of activities shall be performed by the on-duty Senior Security Officer and responding Emergency Response Team personnel in the event of an emergency.

Potential/Actual Disaster (Event Listed in Paragraph 1.0) Occurs

- **Security:**
  The on-duty Sr. Security Officer Shall:
  1. Activate the evacuation signal, if appropriate (EH&S No. 015, Emergency Evacuation Procedure, Appendix E).
  2. Notify San Benito County Communications (911) if off-site response is, or may be required.
  3. Notify Emergency Response Team Members
  4. Dispatch Security Patrol to the scene.

Neighbor Notification

A release or threatened release of hazardous material must take into account that a release may affect persons or property adjacent to the PSEMC facility. Therefore, if upon initial response, it is felt that the hazard is acute enough to warrant the notification of neighboring residents, it will be done by telephone if possible.

If telephone notification is not possible due to malfunctioning equipment, the notification may be made by personal service by civil authorities, or in their absence, by PSEMC Security or Management designated personnel

Emergency Response Team Arrival

1. The first member to arrive at the scene shall select a command post location.
2. Start and/or continue actions to contain or mitigate any spill.[1]
3. Establish communications between the Command, Operations and Logistics group.
4. Complete the Emergency Response Checklist.
5. Terminate emergency response activities as soon as practical and initiate safety/other required investigations.
6. Initiate and coordinate recovery actions to restore production.

- **Incident Director and/or Alternate**
  - Confirm the Emergency Command Post location
  - Verify communications with the special response teams.
  - Appoint Safety Officer if designated Safety Officer is not available
  - Request further assistance, as required. Coordinate response efforts of the off-site responding agencies.
  - Confirm all evacuated personnel are accounted for
  - Relay information to neighbors through the security force.
  - Redirect personnel for emergency service, as required; coordinate with Executive Advisor/Information Officer upon arrival.
  - Review Checklist.
  - Downgrade the emergency when appropriate.
  - Coordinate planning of salvage and recovery operations.

[1] An initial response defensive action to mitigate or contain a spill is to be taken only when the materials involved are a known substance.

- When safe conditions are restored, return control of the scene to the operating department.
- Ensure the following agencies are notified as required by law or PSEMC policy.
- County Environmental Health. Telephone 831-636-4036.
- California Office of Emergency Services: if the emergency has or is likely to create an off-site hazard. Provide the California Office of Emergency Services an Emergency Release Follow-up Report as soon as practical but not more than fifteen days after the incident.
- DOD, DCMC (24 hour notification and 15 day report).
- DTSC (24 hour notification and 15 day report)
- Insurance Carriers.
- National Response Center (24 hour).
- OSHA in the event of a reportable accident, (8 hours).

- **Safety Officer and MRT Coordinator**
  - Assess the situation and advise the Incident Director.
  - Assure safety for emergency personnel
  - Stage MRT for administration of First Aid of injured.
  - Enter affected area and triage and/or administer first aid to injured individuals when directed by the incident director. Only qualified personnel are allowed to enter the affected area.
  - Evacuate victims from the area by triage priority.
  - Standby at the Emergency Command Post.
  - Coordinate cleanup efforts with regard to exposure to blood borne pathogens and other safety considerations

- **Spill Control Coordinator**
  - Contain the incident, including required shutdown of plant utilities. If the incident involves a chemical spill, block all drains and establish dikes, as required.
  - Suppress the hazard using the Spill Team, as required.
  - Investigate and report the extent of damage to the Incident Director.
  - Direct spill cleanup and environmental decontamination.
  - When safe conditions are restored, return control of the scene to the operating department. Process recovered hazardous waste to the appropriate TSU for storage, treatment, and/or disposal. Undamaged material may be returned to the using department after any needed decontamination.

- **Security Coordinator**

- Check in with Command Post to assure hazard perimeter control and assist the Command Post as required.
- Staff Security Central
- Set up an area to accommodate non-emergency personnel; such as OSHA, and EPA representatives.
- Ensure all communications remain operable.
- Control traffic onto and off the facility.
- Control location of media personnel.

- **Executive Advisor/Liaison/Information Officer**
  - Check in with Command Post.
  - Furnish financial and business decisions to support emergency operations.
  - Decide on the termination/resumption of work operations.
  - Determine procedural priorities and advise the Incident Director.
  - Approve the expenditure of funds to pay for the response services provided by outside vendors; such as, bulldozer, ditch witch, and consultants.
  - Release information to media as time and circumstance permit; maintain records of information released.
  - Advise the PSEMC Director in charge of the area affected by the emergency.

- **Facility Advisor**
  - Respond to the emergency Command Post
  - Brief emergency response personnel, as required, on the location and any limitations, and operation of electrical power, natural gas, water sanitary sewer and storm sewers that are, or may become involved in, the incident.

- **Building Advisors**
  - Maintain Personal knowledge of the amount, location, and characteristics of all explosive materials and listed transitory hazardous materials over 55 gallons, 400 pounds, and/or 200 cubic feet.
  - Maintain personal knowledge of the location, amount and characteristics of all explosive materials and extremely hazardous materials and explosive materials on the facility site.
  - Be able to show emergency responsible personnel, on a site map or a facility drawing, the locations of materials identified above.

- **Incident Recorder**
  - Respond to the emergency Command Post and record details of the incident.
  - Assist the Incident Director in obtaining witness employees' statements from personnel involved in the incident.

Recovery Operations

Emergency operations shall be terminated when all emergency tasks have been completed and the Incident Director terminates the emergency response. Operations to recover the involved the involved portion of the facility shall commence immediately. Priorities other than those outlined below are intended as a guide.

- **Priorities for Repair and Recovery**
  1. TSU's required to store/treat hazardous material/waste released/generated in the incident.
  2. Production facilities, in order of priority, required to meet delivery date commitments.
  3. Administrative facilities, in order of priority, required to meet customer deliverables commitments.
  4. Other TSU's which may have been affected by the incident but which remained operational.
  5. Other production facilities.
  6. Other administrative facilities.

- **Emergency Response Equipment and Supplies**

  Inventory of Emergency Response equipment and supplies shall be taken within 24-hours after each deployment. The new inventory shall be furnished to the Incident Director not later than the next workday. The Environmental Department and/or the department whose resources were expended shall replenish stocks as soon as practicable using urgent purchasing requests. Emergency equipment is listed in Appendix B.

Appendix A

Off-site Emergency Responders

A.1 INTRODUCTION

Emergency units responding to a PSEMC emergency are cautioned that all production buildings, facilities, and magazines may contain significant quantities of explosives and/or hazardous materials at any time. Buildings 102, 106, and Chemical Manufacturing facilities are protected by an automatic sprinkler system, therefore, manual fire fighting in production building should be limited to the discharge of one hand-held fire extinguisher, and fire fighting needed to support rescue efforts when it is known that personnel are in the burning building and are unable to get out. Except when specifically directed by the Incident Director, no fire fighting shall be conducted at Buildings 103 (Powder Blending), 106, (LFE), PMA or any magazine. The road approaching these facilities shall be clearly posted, "NO FIRE FIGHTING BEYOND THIS POINT."

A.2 NOTIFICATION

All employees are trained and instructed to report any fire, explosion, spill or medical emergency to Security Central, extension 234. The answering Sr. Security Officer will obtain location, nature of event, injuries, damages (if known), and will immediately sound the appropriate evacuation alarms. The Sr. Security Officer will then report the event by dialing 911, if required. If an off-site, non-PSEMC emergency agency receives a report from other than a PSEMC Security Officer, they should dispatch the required assistance and then notify PSEMC Security by calling (831) 637-7876.

A.3 PROCEDURE

Responding non-PSEMC emergency units are to report to the Security Officer on duty at the Main Gate. To avoid traffic congestion, only fire, rescue, and police/security equipment is allowed beyond this point. Fire fighters responding in their privately owned vehicles will park inside the gate as directed by PSEMC Security.

PSEMC Security will inform responding emergency units of current conditions, the safest route to the site and to the Command Post, and hazards expected en-route. A security escort to the scene will be furnished, if possible. Responding units are to comply with PSEMC Security instructions. PSEMC Security will make every effort to move responding emergency personnel and equipment through the gate quickly and keep the roadway open for ingress/egress. The first responding law enforcement officer will assist in this duty.

The PSEMC Incident Director shall coordinate all fire fighting activities with the Senior Fire Officer present.

Neither fire fighters nor other emergency personnel shall enter any fire or spill scene except at the specific direction of the Senior Fire Officer. Fire fighters will not take any action until the Incident Director and the Senior Fire Officer have developed a safety plan.

NOTE

To prevent delays of arriving and departing emergency vehicles, traffic control points may be established on Union Road at San Juan/Hollister Road and beyond the Rose driveway by responding law enforcement officers.

A.4 TRAINING AND COORDINATION

All personnel from local area emergency organizations are invited to visit the PSEMC facility to familiarize themselves with the site. Local area emergency organizations may be invited to participate in periodic emergency response drills and exercises. These exercises may be held on a no-notice basis. All non-PSEMC emergency personnel are advised that all explosive containing buildings and magazines are clearly marked with Department of Defense fire fighting symbols visible to approaching units. (See Attachment A for description of Department of Defense Symbols)

A.5 OFFICE OF EMERGENCY SERVICES

This section requires reporting of releases or threatened releases of hazardous material. Hazardous materials include any material that: because of quantity or concentration of physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released. There is no minimum reportable quantity. A reportable incident involves the potential for adverse impact to health and safety or the environment.

Immediate verbal reports of any release or threatened release of hazardous material must be made to the State Office of Emergency Services, to the County Office of Environmental Health (CUPA), and to the San Benito County Communications Center for notification and deployment of fire, law, medical agencies and of the county hazardous materials response personnel, if necessary.

The immediate reporting provisions of the State of California law require notification to 1-(800) 852-7550 or (916) 845-8911. Notice to the San Benito County Office CUPA Environmental Health is to be made by Telephone to (831) 636-4035. At the time of telephone notification, check with the agency to determine if written notification will apply in this case.

NOTE
Notification of the San Benito County Office of CUPA Environmental Health through the communications center does not constitute notification of the State of California Office of Emergency Services. Both agencies must be notified independently.

The following information must be available and provided to the contacted agency:

- The location of the release
- Name of the person reporting the incident
- The chemical name or identity of the substance
- Whether the chemical is on the SARA Section 302 list
- Estimate of the quantity released
- Whether the material was released into (water, air, etc.)
- Potential hazards presented by the material
- Precautions taken
- Contact name and phone number for follow-up

As soon as practicable after release occurs, PSEMC is required to provide written follow-up notices. The report is to be filed on the "Title III Section 304 Emergency Release Follow-up Notice Reporting Form." The written report must be sent to the State Emergency Response Commission and to the local Emergency Planning Committee (CUPA). The report must include an update on the information required under the immediate notice provision above, as well as the following information.

- The actions taken to respond and contain the release
- Any known or anticipated health risks associated with the release
- Where appropriate, advise regarding medical attention necessary for exposed individuals

A.6 DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

Any incident or accident, including releases, fire, or explosion, which results in, or could result in, a hazard to public health and safety, wildlife or domestic livestock due to hazardous waste, or which could result in the discharge of hazardous waste outside of a hazardous waste area designated in the Facility Hazardous Waste Operations Plan (FHWOP), shall be reported within 24 hours by telephone or facsimile to Mr. Paul Ruffin, Department of Toxic Substances Control, 8800 Cal, Center Drive, 2nd Floor, Sacramento, California 95826-3200, (916) 255-6677, fax (916) 255 3697.

Within 15 days after a hazardous waste incident that required activation of the Emergency Response Plan, a written report shall be submitted to the Department of Toxic Substances.

DTSC shall be notified prior to resumption of operations in affected areas in accordance with Title 22, subsection 66264.56(i)

National Response Center

Any release into the ground, water, or air of a substance designated as hazardous in a quantity greater than one pound (as may be modified by 40 CFR 302) shall be reported within 24 hours of knowledge of that release by telephone to the National Response Center at (800) 424-8802. A written follow-up report is not required.

A.7 Monterey Bay Unified Air Pollution Control Center

Any equipment breakdown or failure which results in the inability to comply with the emission standard or rule listed in the Monterey Bay Unified Air Pollution Control District rules and regulations shall be reported to the Air Pollution Control Officer as soon as reasonably possible, but no later than one hour after the onset of the occurrence. This notification shall be made to (831) 647-9411. A written report to the Air Pollution Control Officer shall be submitted within five days after the occurrence has been corrected. The report shall be in narrative form and detail the occurrence and corrective action taken.

Explosive Hazard Identification

1.1 Mass Detonation

1.2 Explosion with Fragment Hazard

1.3 Mass Fire Hazard

1.4 Moderate Fire

A.8 Agreement

This appendix shall constitute the working agreement and understanding between PSEMC and non-PSEMC emergency organizations. This Appendix is subject to revision or cancellation by any party upon written notice.

Charles Martin
Incident Director/Manager,
Environment Health and Safety
Pacific Scientific Energetic Materials
Company (California) Inc.

Curt Itson
Battalion Chief San Benito
County Fire Department

Kris Magano
AMR Ambulance

Curtis Hill
Sheriff/Coroner
San Benito County

SEAN MCRAE

R. S. McRAE, Captain Commander, Hollister-Gilroy Area
California Highway Patrol

PSEMC-O.A. DEPT. Fax 8316373809 Jun 2 2008 04:03pm P002/002

Kĕn Underwood, Administrator
San Benito Hospital District

Fred Cheshire
Interim Fire Chief
City of Hollister

Bob Shingai
Environmental Health Director
CUPA/ Certified Unified Program Agency

Appendix B

Emergency Response Team Required Equipment List

EMERGENCY RESPONSE TEAM REQUIRED EQUIPMENT LIST

Item	Quantity	Location
Front-Load Tractor	1 ea	Maintenance
Tractor/Sprayer	1 ea	Maintenance
Rain Gear	1 ea	Designated ERT Personnel
Fire Extinguisher	3 ea	Security Vehicle
SCOTT Air packs (complete)	5 ea	Support Services
SCOTT spare air cylinders	17	ERT Trailer
Acid Suits (reusable)	3 ea	ERT Trailer
(disposable)	5 ea	ERT Trailer
Acid Boots	6 ea	ERT Trailer
Gloves (rubber)	1 box	ERT Trailer
Coveralls (fire retardant)	1 ea	Designated ERT Personnel
Florescent Vests	5 ea	Security Central
Oxygen Resuscitator	1 ea	Security Vehicle
	1 ea	ERT Trailer
Tri-Med Emergency Kit	1 ea	Security Vehicle
	1 ea	First Aid Station
	1 ea	Building 106 (LFE)
Burn Kit	4 ea	ERT Trailer
Shovels (scoop)	2 ea	ERT Trailer
Fireman's Turn-out gear	2 ea	ERT Trailer or Key Room
	2 ea	Support Services
Pick Head Axe	1 ea	ERT Trailer
Pry Bar	1 ea	ERT Trailer
Blanket (wool)	2 ea	ERT Trailer
(utility)	1 ea	ERT Trailer
Light (explosion proof)	1 ea	ERT Trailer
Plastic Bags, Large	10 ea	ERT Trailer
Rope, Fiber	200 feet	ERT Trailer
Hard Hats	12 ea	ERT Trailer
	1 ea	Designated ERT Personnel
Plug and Dyke	5 gallons	ERT Trailer
Recovery Drums	10 ea	Drum Pad
Traffic Cones	12 ea	ERT Trailer
Face Shields	5 ea	ERT Trailer

Item	Quantity	Location
Communications Phone	1 ea	ERT Trailer
Cable	6 pr/100 ft	ERT Trailer
Paging Systems	1 lot	Various
Radios (portable)	6 ea	Various
Smoke Ejector	1 ea	ERT Trailer
2-head emergency Light	2 ea	ERT Trailer
Decontamination Pool	6 ea	ERT Trailer
Flashlights	1 ea	ERT Trailer
Spare batteries	6 pair	ERT Trailer
Stretcher	2 ea	ERT Trailer
4000 Watt Generator	1 ea	ERT Trailer
650 Watt Generator	1 ea	Security Central
Absorbent, Clay (bulk)	150 lbs	TSU-3
Absorbent Matting	50 ft^2	TSU-3
Absorbent Pillows	5 ea	TSU-3
Absorbent Socks	10 ea	TSU-3
Evacuation Alarm System	Each Building	Bldgs: 101, 102, 103, 104, 105, 106, 107, 108, 109, 111 and 112

Appendix C

Emergency Response Checklists

EMERGENCY RESPONSE CHECKLIST

General (These items may be completed in any order)

_______________1. Security to notify 911 and off-site responders.

_______________2. Notify Vice President, and Directors as required.

_______________3. Sound Evacuation Alarm(s), if appropriate.

_______________4. Notify San Juan Oaks, San Justo Reservoir and the Rodriguez, Rose, Leal, Sandifer, Moreno families, as appropriate.

_______________5. Collect statements from witnesses.

_______________6. Release visitors off-site.

_______________7. Release employees off-site.

_______________8. Notify PG&E.

_______________9. Call in photographer and obtain photographic documentation.

______________10. Notify Premier Sec. Solutions of any fire protection system shutdown or damage.

______________11. Authorize smoking at evacuation assembly areas, only if it is safe.

Environmental Impact Incident/Notifications as required

_______________1. Secure damaged areas for investigation.

_______________2. Assure that salvage crews are properly safeguarded against hazards.

_______________3. Brief employees.

_______________4. Shut down polishing pond sump pump, if pond or spray field is in path of spill.

_______________5. Notify CUPA, DOHS, OES (County and State), MBAUPCD, DCMC

_______________6. Set up collection site for debris contaminated and uncontaminated.

_______________7. Review job contract(s) for safety notification requirements.

Fire

_______________ 1. Use any available equipment to clear firebreak if it can be done without endangering the responder.

_______________ 2. Determine if compressed gas cylinders are present in fire location or path. Notify fire-fighting crew

_______________ 3. Determine if explosives, pyrotechnics, accelerator, oxidizer, hazardous or flammable chemicals are present

_______________ 4. In case of injuries, coordinate notification of employee(s) family member(s) through the supervisor or as directed by the Executive Advisor

_______________ 5. In case of fatality, notify the San Benito County Coroner Suppliers, Contractors, and Services

_______________ 6. Notify OSHA of death or major injury

_______________ 7. If fatality occurs on-site, designate a remote morgue

_______________ 8. Advise hospital(s) of number of people being sent for medical assistance. Include a summary of injuries and treatments rendered at scene. Include precautions if chemicals are involved or if it is known that a patient has other medical requirements/limitations. Send MSDS, via fax; 831-636-2648.

Earthquake, or Minor Explosion

1. Before building re-entry:

_________________ a. Check gas mains for leaks.

_________________ b. Check for electrical hazards.

_________________ c. Verify functioning of HVAC.

_________________ d. Check structural stability.

2. Determine integrity of storage tanks

_________________ a. Chemical Manufacturing storage tank.

_________________ b. Drum storage area

_________________ c. Flammable solvent cabinets

3. Check San Justo Reservoir dike for apparent leaks/seepage.

Area Supervisor's Emergency Checklist

____________________1. Direct immediate evacuation of area if required.

____________________2. Notify Security of nature and seriousness of emergency.

____________________3. Isolate the area and account for all personnel.

____________________4. Obtain an estimate of dangerous/hazardous material involved.

____________________5. Start first aid and containment actions, if qualified assistance is available.

____________________6. Brief the Incident Director upon his arrival.

____________________7. Maintain control of all area resources and personnel.

____________________8. Assist in follow-up investigations.

Appendix D

List of Suppliers, Contractors & Vendors of Emergency Equipment and Supplies, Available 24 hour Services

List of Suppliers, Contractors & Vendors or Emergency Equipment And Supplies, and 24 hour Services Available

Enterprise Electric Co.	831-637-3795
Bob Yant (home)	831-637-2756
JR Plumbing	831-637-6371
24-hour Answering Service	800-666-0221
Clean Harbors	408-451-5000
Hazardous Waste	
PG & E	800-743-5000
24-hour Response Number	
Green Line	831-422-2298
Septic Service	
Pryor's Backhoe Service	831-637-8668
Vince Pryor	
BFI	480-515-4560
Medical Waste	

Appendix E

EH&S No. 015, "*Evacuation Procedure*"

SUMMARY OF CHANGES

- Updated Electrical Storm Evacuation
- Revised Evacuation Map
- Added Earthquake Evacuation
- Added Written Description of Evacuation locations.

1.0 INTRODUCTION (PURPOSE)

1.1 This document establishes the procedure used by Pacific Scientific Energetic Materials Company – California Operations (PSEMC) for the orderly evacuation of personnel from the facility in the event of an emergency. It also establishes the procedure used to account for each person in the facility at the time of the emergency evacuation. This procedure shall be used for all practice drills and emergencies necessitating an evacuation. It is intended to support both the Emergency Business Response Plan and the Facility Hazardous Waste Operations Plan.

2.0 PROCEDURE

2.1 EMERGENCY EVACUATIONS

2.1.1 The primary evacuation signal is an electronic siren system, which operates at over 100 dBA from each of 143 speakers. The evacuation signal is a high pitched "yelp" tone with a rapid repeat cycle, accompanied by flashing blue strobe lights in high noise areas. Secondary evacuation signals may be via verbal directions or air horns.

2.1.2 When the evacuation signal is sounded, each person within a building shall:

2.1.2.1 immediately leave that building through the nearest unobstructed exit (they may not go after personal effects),

2.1.2.2 move away from the buildings, and

2.1.2.3 immediately proceed directly to their assigned emergency evacuation assembly location.

2.1.3 Once outdoors, personnel shall:

2.1.3.1 remain outside, and

2.1.3.2 shall not re-enter any building for any purpose.

2.1.4 Persons who are outside when notified of evacuation shall proceed to their assigned assembly point by the most direct and safe outdoor route.

2.1.5 DO NOT ENTER ANY BUILDING UNTIL NOTIFIED THAT THE BUILDINGS ARE SECURE.

NOTICE: **During an evacuation, only emergency vehicles - those of the Emergency Response Team (ERT) and authorized personnel - may be operated on primary evacuation routes indicated by arrows as shown in Figure 2. Members of the ERT and other emergency vehicles are cautioned to use safe driving practices, especially during an emergency, as to reduce the risk of becoming involved in the emergency.**

CAUTION! **Be alert for, and give the right of way to emergency vehicles that may be moving about the property at relatively high rates of speed.**

2.1.6 Powder Transporters

2.1.6.1 Personnel transporting explosive material when an evacuation begins shall:

2.1.6.1.1 Place these materials in the temporary holding magazine at the southeast corner of the road from Building 102 to LFE. (See M, Figure 2.)

2.1.6.1.2 Powder Blending personnel who are transporting a large quantity of powder during an incident shall take the powder back to Powder Blending <u>if it is safe</u>, otherwise they shall place the powder in the aforementioned magazine. UNDER NO CIRCUMSTANCES SHALL POWDER BE LEFT IN VEHICLES IN THE VACINITY OF THE EVACUATION AREAS, UNLESS AUTHORIZED BY THE INCIDENT COMMANDER, (IC).

2.1.6.1.3 Material shall be removed from the Temporary Holding Magazine as soon as practical after the drill or emergency is declared over by the Incident Commander (IC) or designee.

2.1.6.1.4 The IC shall be notified of powder location. Any further decisions regarding powder shall be on a case-by-case assessment of the situation, type, and quantity of powder, along with any safety concerns.

2.1.7 Non-Employees.

2.1.7.1 Employees who are escorting visitors or who encounter unescorted, non-PSEMC personnel shall escort those persons to the employee's assigned assembly location.

2.1.7.2 Employees escorting these visitors shall report the visitor's presence to their supervisor or the senior employer representative at the assembly point.

2.1.7.3 A member of the ERT shall check the visitor parking area for visitors waiting for employees. The member shall determine where the visitor(s) need to go or whether they may be asked to leave the facility. The visitor may leave a message for the PSEMC employee they have come to see at the front gate upon exiting the facility.

2.1.8 Personnel shall remain at their assembly locations and respond to roll call when conducted. **Smoking is not allowed**.

2.1.9 Each department shall complete a roll call within five minutes of assembly at the site. The names and last known location of employees and/or any other persons unaccounted for shall be given to the ERT member collecting reports at the assembly location.

2.1.10 When personnel are informed that they may resume their normal activities, they shall re-enter buildings only through normally used entrances. Emergency exits shall not be used for entry.

2.2 SPECIAL PROVISIONS FOR EVACUATION DRILLS

2.2.1 If prior notice is given that an evacuation is a drill, the supervisors of LFE, Chemical Manufacturing, Chemical Development, Powder Blending, and Propellant Manufacturing Operations may direct that those operations, which would present a hazard or cause loss or damage if interrupted, be continued.

2.2.2 The supervisor will immediately notify Security, ext. 202, if any operation is continued during a drill. The supervisor must first obtain permission to abstain from the drill and must also give Security/Safety a full accounting of all employees who will not be evacuating, along with a reason why.

2.2.3 All personnel from the aforementioned area(s), who are able to evacuate, are required to do so.

2.3 OPERATIONS ACROSS THE LAKE

2.3.1 In the event that there are personnel across the lake conducting Propellant mixing/casting operations, environmental activities or testing, Security shall call or radio those individuals and inform them of the drill or emergency. Personnel operating across the lake may be issued a shelter in place order based upon decision made by the IC or senior EHS person available.

2.3.2 If practical, a member of security or the ERT shall drive around the lake area to determine if other personnel are walking or conducting activities and are not aware of the emergency. Those personnel shall be taken to their assembly area as soon a practical or isolated in place as the incident dictates.

2.4 SHELTER IN PLACE

2.4.1 In certain conditions, the IC may require that a "shelter-in-place" order be issued. Such a condition would result when the danger to the associates would be greater if they were to leave their buildings than if they were to stay inside (e.g. toxic gas releases or electrical storms.)

2.4.2 A "shelter-in-place" order would be issued via the Public address system or other suitable means to reach the work force in a timely manner.

2.5 ELECTRICAL STORM

2.5.1 When an electrical storm is probable, EHS will monitor electrical storm activity using hand-held lightning monitors and/or web-based lightning tracking systems. A lightning alert will be issued by EHS to Operations management when electrical storm activity approaches within 10 miles of the facility.

2.5.2 In the event of an electrical storm within 7 miles of the facility, operations involving open explosive powders must cease. All open powders must be sealed and placed into appropriate storage areas.

2.5.3 In the event of an electrical storm within 5 miles of the facility, operations involving all explosive materials must cease. Also operations taking place in the presence of explosive materials must cease.

2.5.4 A "Work stand down" order will be issued via the Public address system or other suitable means to reach the work force in a timely manner.

2.5.5 Associates will leave the explosive-containing work areas and shelter in a safe area away from the explosives. Safe areas are:

2.5.5.1 Building 102 – The lunch room in Building 101.

2.5.5.2 Building 106 – The lunch room in building 106.

2.5.5.3 Building 103 – The lunch room in building 106.

2.5.5.4 Building 105 – The lunch room in building 106.

2.5.5.5 Propellant Manufacturing Area – The lunch room in building 101.

2.5.5.6 All other occupied energetic buildings – The lunch room in Building 101

2.5.6 Release from "Work Stand down" will be made via the P/A system or other suitable means.

2.6 EARTHQUAKE EVACUATIONS

2.6.1 During a major earthquake, personnel should:

2.6.1.1 If indoors, take shelter in doors, building corners, next to or beneath substantial furniture until the shaking stops.

2.6.1.2 If outdoors, move away from buildings or structures that could collapse.

2.6.2 Once shaking has stopped, calmly exit the structure (if indoors) and proceed to their designated evacuation area. If outdoors, proceed to their designated evacuation area.

2.6.3 Personnel shall follow section 2.1 of this procedure, bearing in mind that the evacuation signal mention in section 2.1.1 may not activate after an earthquake.

2.6.4 Once personnel arrive at their evacuation areas, please wait for further instructions.

2.7 FACILITY-WIDE EVACUATION

2.7.1 A facility-wide evacuation may be ordered by the IC based upon circumstances.

2.7.2 The facility evacuation would take place through the main facility entrance, unless use of that exit would increase the hazard to the workforce or to responding agencies.

3.0 DEFINITIONS

3.1 Incident Commander (IC) – The person who is in overall charge of incident response. The IC may be the Support Services Manager, EH&S Director, Safety Specialist, or a properly trained individual as approved by the Support Services Manager.

3.2 Shelter-in-place – Employees are to remain where they are and shall not exit their buildings until properly authorized to do so by the IC, or his designate.

3.3 Major Earthquake – Earthquakes of greater than 4.0 magnitude on the Richter scale.

4.0 RESPONSIBILITY

4.1 Employer Representatives

4.1.1 Each employer representative, from line supervisor to General Manager, must:

4.1.1.1 Ensure that all PSEMC personnel, visitors, or others assigned to their areas of responsibility are trained to know and understand this evacuation procedure, and that they participate in evacuation drills.

4.1.1.2 Establish a system to include designation of primary individuals and alternates to account for employees within their respective organizations during evacuations.

4.2 Safety Department

4.2.1 The Safety Department shall complete the following steps:

4.2.1.1 Select and identify evacuation assembly locations and assign evacuation assembly locations to each department.

4.2.1.2 Ensure that each assembly location is identified by an orange sign bearing black numbers. The assembly location for Emergency Response personnel shall be identified by a black "X" on an orange background, located at the flag-pole near the front entrance.

4.2.1.3 Ensure that assembly location notices (Figure 1) are prominently posted in the areas to which they apply.

4.2.1.4 Ensure that a current map of assembly locations (Figure 2) showing departments assigned to them is maintained in this procedure.

4.3 Incident Commander

4.3.1 The Incident Commander shall:

4.3.1.1 Designate alternate assembly sites when the emergency could endanger persons at their assigned locations or routes to the assembly site.

4.3.1.2 Shall establish and maintain the Emergency Response Team (ERT) and other duties as dictated by the Emergency Business Response Plan.

4.4 All Departments

4.4.1 Each department shall establish, and maintain, an up-to-date typed list of all personnel in their evacuation area using PSEMC form 2227, "Evacuation Roster".

4.4.2 Each department shall designate a primary and an alternate person to:

4.4.2.1 Maintain the roster,

4.4.2.2 Bring the roster to the evacuation site,

4.4.2.3 Pick up the visitor log in their area, if it applies,

4.4.2.4 Take roll call, and

4.4.2.5 Turn the roster in to an ERT member while counting is taking place.

4.4.2.6 This person shall replace the roster as soon as they return to their department.

4.4.2.7 The designated person(s) shall be someone in the position to know if the personnel on the roster are on site and their approximate location.

4.4.3 The rosters shall be updated with each permanent personnel change to the area or department. ("Loaned" personnel shall be written in on the evacuation roster of the borrowing department. The Loaning department should indicate on its roster which department that the personnel are on loan to.)

4.4.4 An updated roster shall be sent to the Safety Department each time it is updated or no less than quarterly. The department roster shall have the name(s) of the responsible person(s) printed, and identified, on the roster.

4.4.5 It is the responsibility of each department supervisor to ensure that each employee knows the location of his/her assigned assembly location. All new employees and transfer employees shall be reminded during their regular safety talks.

4.5 Non- PSEMC Personnel

4.5.1 All PSEMC representatives who are responsible for visitors, contractors, or non-PSEMC employees, shall ensure that their visitor accompanies them to their assigned evacuation site.

4.5.2 The Contractors Safety Policy states that if the PSEMC representative is uncertain as to where the contractor(s) under their supervision must go in an emergency, then the contractor(s) shall be instructed to go to Assembly Area 14.

YOUR EMERGENCY ASSEMBLY LOCATION IS

X

TO REPORT AN EMERGENCY, DIAL

234

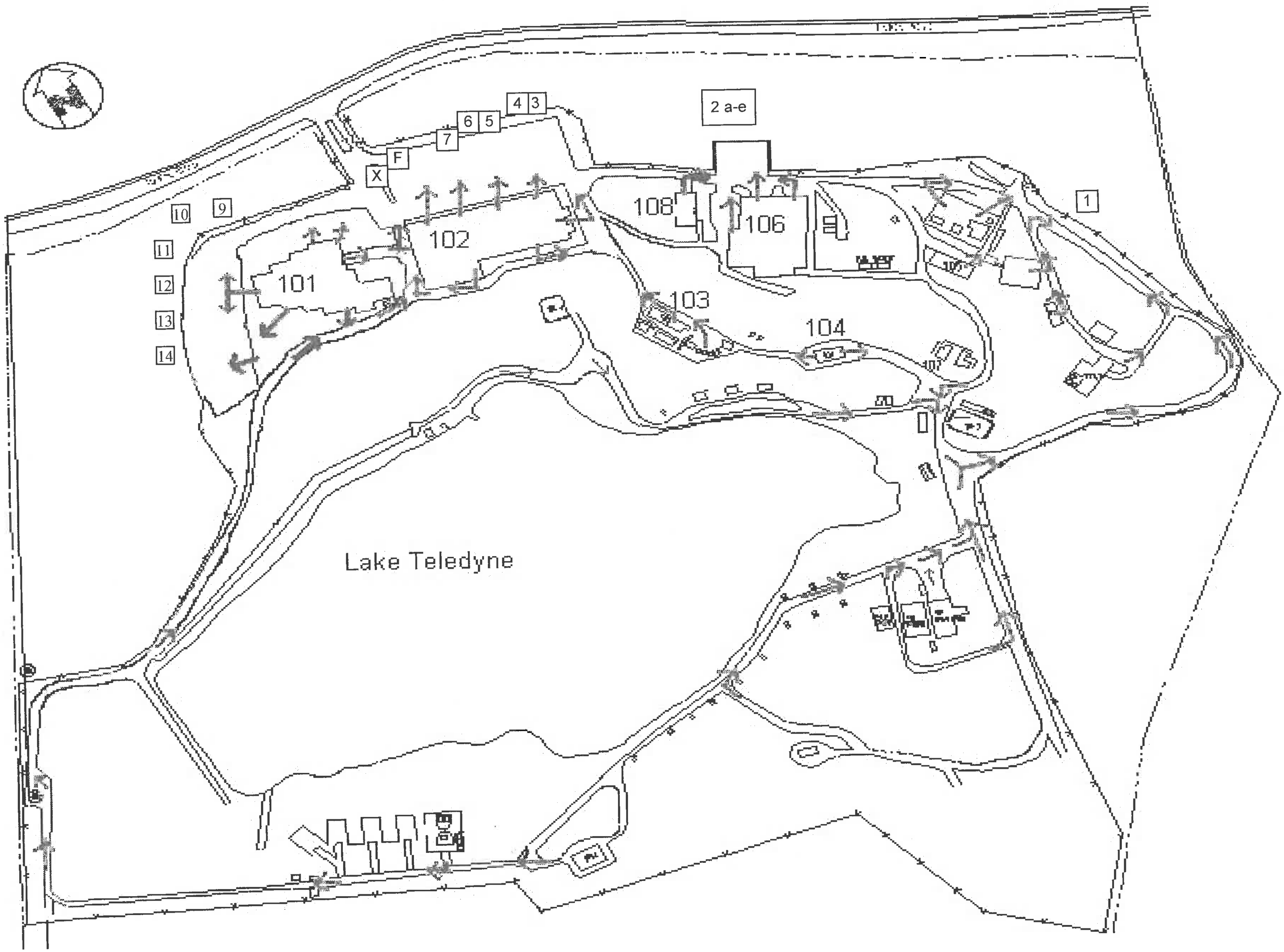
Figure 1 – Example Emergency Assembly Location Notice

Table 1 – Evacuation locations and assigned groups.

All numbered evacuation locations are at fence lines in area described.

Evacuation Area Number	Area Location	Groups Assigned
1	East of well 4 and building 111	Chemical Manufacturing, HMI office, R&D (Buildings 105.x), PMA, Building 109, Building 104 (Propellant Machining)
2	North of building 106 upper parking lot. (5 distinct areas lettered A to E.)	LFE, Ordnance Manufacturing (B 106), Test Dept (B 108 & B 106)
3	North of Building 102 parking lot	Powder Blending (B103), Test Dept. (B102), Shipping, Powder Pressing (B102)
4	North of Building 102 parking lot	C-17, Final inspection, SMDC, Exp Assembly 1, Exp Assembly 2, Exp Assembly 3, Post-planners, Paint Shop, Time Delay, No Load Detent, Javelin Assembly, JSF
5	North of Building 102 parking lot	X-ray, Machine Shop, Receiving Insp., Stores, Receiving, Quality, Proto Type Assembly and Lab.
6	North of Building 102 parking lot	Linear Products IPT (B 102 Inert Area), Business Development
7	North of Building 102 parking lot	Maintenance, B102 Electronics Lab, Advanced Technology, Reliability
9	Northwest corner of B 101 parking lot.	Electronic Systems manufacturing personnel
10	Northwest corner of B 101 parking lot.	Electronic Systems support personnel,
11	West of B 101 parking lot	Finance, IT, Executive Staff, Purchasing,
12	West of B101 parking lot	Engineering Services, Document Control, Configuration management, Contracts
13	West of B101 parking lot	GSI, On-site Customers
14	West of B101 parking lot	Outside Contractors
F	North of B102 parking lot	Outside responding agencies. Keep area clear of employees.
X	Flagpole by main Gate	HR, Security, Environmental, Safety, ERT personnel, MRT personnel, GM

Figure 2 – Evacuation Map



Chapter VIII - Contingency Plan & Emergency Procedure

The Pacific Scientific Energetic Materials Company, Inc. (PSEMC) Hazardous Materials Emergency Business Response Plan is published as a separate document and the latest version is presented here in its entirety. A current coordinated plan is maintained at the facility. DTSC will be provided a copy whenever the plan is significantly updated in the future.

Chapter IX - Closure Plan

This chapter identifies the steps necessary when closing hazardous waste management units, either individually (partial closure) or the entire Facility at the end of its operating life. The intent is to close each unit and the Facility in a way that will not require post-closure maintenance, care, and/or monitoring to protect human health and the environment from escape of hazardous waste, hazardous constituents, contaminated run-off, or decomposition products to ground or surface water, or the atmosphere.

The general steps required for each unit are treating or removing waste inventory, cleaning or decontamination of equipment and unit structures, sampling and testing of surrounding soils, and removal of any contaminated equipment, structures, or soil and any closure-generated wastes. Closure performance standards are generally based on either: a) "non-detect" concentrations of hazardous constituents, b) "background" concentrations for naturally occurring constituents (e.g., metals), or c) health-risk based concentrations based on potential future residential or unrestricted use of the property. Other health-risk based standards (e.g., for future industrial use or other restricted uses of the property) may also be considered. Where restricted use standards for closure are ultimately used, a land use covenant must also be developed and attached to the property deed.

PSEMC will maintain, on-site, a copy of the approved closure plan and all revisions until such time that the DTSC and EPA certify that each TSU has been properly closed. After closure is approved, the portion of the plan applicable to the closed unit will be deleted from the Facility Hazardous Waste Operations Plan, and the closure cost estimate will be revised. DTSC will receive updated closure cost information annually. As was detailed in Chapter IV, six (6) TSUs have been closed at the PSEMC facility since 1992.

A. Closure

1. Performance Standards:

A complete hydrogeological and chemical characterization, and clean closure of three surface impoundments in 1986, demonstrated that PSEMC had not contaminated the site of current and former HW management units. As of the date of this plan, the only release of hazardous waste (HW) or other hazardous materials clearly associated with any of the HW Units at the facility is the finding of lead contaminated soil in the vicinity of TSU-1; this finding, and associated remediation and ongoing monitoring activities consistent with an approved RCRA Corrective Action, are discussed in Chapter XI herein. There have been no other reported uncontrolled spills or releases of either HW or other hazardous material at any of the HW Units addressed in this plan. However, it should be noted that volatile organic compounds (VOCs) and perchlorate were discovered in shallow groundwater at the site in 1999. Site assessment and pilot scale remedial activities are ongoing, and also are described in Chapter XI herein.

Chapter VIII of this Hazardous Waste Operations Plan covers contingency operations and requires the immediate mitigation and complete cleanup of any spill that may occur. PSEMC's continued compliance with environmental statutes and high industrial safety, housekeeping, and hygiene standards will insure the ability to demonstrate clean closure of any, or all, HW management unit(s). PSEMC intends to close each HW management unit in a way that will not require post closure maintenance, care, and/or monitoring to protect human health and the environment from escape of HW, hazardous constituents, leachate, contaminated runoff, or HW decomposition products to ground or surface water, or the atmosphere. This Closure Plan identifies the steps necessary to close PSEMC hazardous waste management units, at any point in their intended operating life, and to completely close an individual hazardous waste unit or the entire facility at the end of its operating life.

The closure plans summarized below for each unit will present numerical (where possible) closure standards to determine when decontamination (if necessary) has been effective. In general, closure performance standards will be either: a) "non-detect" concentrations (depending on the test method), b) "background" concentrations (statistically determined) for naturally occurring constituents (e.g., metals), or c) health-risk based concentrations based on residential or unrestricted use of the property. Other health-risk based standards (e.g., for future industrial use/restricted use) may also be considered for use. Where restricted use standards for clean up are ultimately used, PSEMC understands that appropriate land use covenants must be attached to the property deed.

2. Partial Closure and Final Closure Activities:

PSEMC will notify the California DTSC and the Regional Administrator of the EPA, a minimum of 180 days prior to the commencement of the closure process for the facility. Notice of the closure of any Hazardous Waste Unit will also be provided at least 30 days prior to commencement. Upon completion of closure (both partial and complete) activity, PSEMC will submit to the California DTSC and the Regional Administrator of USEPA a certification by an authorized representative of PSEMC and by an independent professional engineer registered in the State of California, that the TSU(s) has/have been closed in accordance with specifications in the DTSC/EPA approved Closure Plan. Closure of the last active HW management unit will constitute final and complete closure.

3. Maximum Waste Inventories:

Maximum waste inventories are given below for each HW management unit in the discussion of removal, treatment or disposal of inventory for the unit.

4. Closure Schedules:

For each HW management unit, final closure activities will be initiated within 90 days of PSEMC's determination that the unit will no longer be used as a RCRA permitted HW management unit. Closure will be completed in 180 days from the start of closure activity.

a. Closure Dates. PSEMC will close any or all HW units when they individually or collectively are no longer required to manage HW accumulated, or to be accumulated, from PSEMC's manufacturing operations. DTSC had previously requested an estimated closure date for individual HW units and for the entire facility be expressed herein. The year 2015 is used for the entire facility and for individual HW units, for illustrative purposes only. Neither date represents a commitment, intent, or expectation by PSEMC to close any or all units at a specific time in the future. Closure of a specific HW Management Unit or the entire facility is not expected to occur in the foreseeable future.

b. Milestone Charts. A milestone chart for closure events for each HW management unit is referenced at the end of each section's discussion of closure procedures. The charts are located, in order, at the end of the Chapter (See Tables IX-1, -2, -4, and -5).

5. Closure Procedures:

a. TSU-1; Open Burning and Detonation of Explosive Hazardous Waste (EHW).

i. Disposition of Inventory - EHW is not stored in this unit. Material to be treated is placed in the unit immediately prior to treatment, and its reactivity is totally exhausted by the treatment. TSU - 1 will be closed only after all EHW on site has been treated and TSU - 2 has been prepared for closure. PSEMC expects that not more than 3000 pounds of EHW, excluding solvents, will be available for treatment at any time, with a net explosive weight of about 200 to 300 pounds. If a closure becomes required, the remaining EHW will be treated in this unit prior to beginning closure action. Because no EHW is stored in the unit or remains after each treatment, disposition of inventory is not a consideration for closure of this unit.

ii. Extent of Operation - PSEMC's current plan calls for the continued usage of this burning process as long as PSEMC continues to manufacture defense-related ordnance materials and commercial explosives and devices.

iii. Unit Decontamination – Because the treatment leaves no reactive residue, residual contamination is limited to lead scraps from the casings of some of the devices. Routine cleaning after each treatment operation removes the lead scrap. No further decontamination is required. Scrap lead is routinely marketed for smelting and reuse. If not marketed, the lead will be collected manually, containerized, and further managed through TSU-3.

iv. Cleaning Equipment - The equipment used at this TSU consist of hand tools and safety devices. It does not become contaminated because all the EHW is encased in devices or containerized. If containerized, the containers are also burned with their content. This prevents the generation of EHW contaminated containers as an additional waste stream, and reduces the hazard inherent in each unnecessary handling of explosives.

v. Method for Sampling and Testing of the Surrounding Soils - Due to the present design of TSU-1, the nature of the material treated, the fact that EHW is not stored in this unit, and PSEMC’s exercise of good housekeeping practices, the potential for future soil contamination from the operation of TSU-1 is minimized.

Significant sampling/testing/remediation of soils at the TSU-1 and “detonation pit” were conducted in 1999 during the partial closure of that area of the facility under the Corrective Measures Study (CMS) Final Report for Lead-Affected Soils RCRA Unit TSU-1, July 7, 1998, Revision 3.0. These efforts were chronicled at that time and follow- up monitoring (as described below) are ongoing. As a result of these activities, the Site Decontamination costs included in the original closure cost estimate were reduced in the 2005 cost estimate described in Section IX.C below (see Attachments IX-1 and IX-3) and Table X-1 in the following chapter.

As required by the Hazardous Waste Facility Permit, dated July 28, 1993 and modified on subsequent occasions, soil samples will be collected in the vicinity of the TSU-1 annually (by May 1 of each year) in accordance with the CMS described above. Within forty-five (45) days of collecting soil samples, PSEMC will submit a report to the DTSC detailing the interpretation of the analytical soil results and evaluation of the effects from the burn operations on the soil. See also the discussion in Section XI.B herein. PSEMC will remediate any remaining lead contaminated soil in the vicinity of TSU-1 to meet the closure performance standards of CCR

Title 22, Section 66264.111 associated with future industrial and/or unrestricted use when operation of the burn unit ceases. Perchlorate has also been detected in soil at/near the TSU-1 facility. The site assessment work is described in Section XI.C herein.

vi. Procedure for Removing Contaminated Soils - This unit treats solid EHW, which is rendered non-hazardous by the treatment. If any contamination is found, it will be lead scraps and particles. It is anticipated that any contaminated soil (subsequent to the 1998- 1999 partial closure) can be removed with hand tools or light duty excavation machinery. Removed soil will be containerized, manifested and shipped by a registered HW hauler to an offsite, permitted TSD facility.

vii. Procedure for Groundwater Monitoring, Leachate Collection and Control of Run-on and Runoff Water - The only likely contaminant at this unit is lead metal scraps which are not soluble in water. No mechanism exists at this site to render the lead soluble and transport it into the soil more than a few inches. At the developed portions of the PSEMC site, shallow groundwater is approximately 20 to 40 feet below ground surface (bgs). However, near TSU-1, shallow groundwater was first encountered at over 80 feet bgs. Groundwater contamination is so unlikely that this activity is not required for this unit.

viii. Area Restoration - The surrounding chain link and grazing fences will be retained to provide security for the area. The steel cage will be disassembled, decontaminated by washing (with wash & rinse waters collected and disposed of off-site), and removed for salvage as scrap metal. Foundations for the cage and the concrete pad will be sampled (using concrete chip sampling), decontaminated (if necessary), and be saved for future storage or other uses and will not be removed. After sampling (using concrete chip sampling) and decontamination (if necessary), the concrete pipes will be demolished within the containment structure with manual or mechanical “jack-hammers” and the generated concrete waste will be hauled off-site and disposed of at a Class III landfill and construction wastes. At the appropriate following season, the surrounding area will be regarded (if necessary) and seeded with native range grass. The dirt roadbed will be left in place for future access.

ix. Milestone Chart (See Table IX-1 at the end of this Chapter)

b. TSU-2; Open Burning of EHW Contaminated Solvent (EHWS) in a Containment Device.

i. Disposition of Inventory – TSU-2 will be closed only after final inventory of EHWS stored in TSU-3 and safety bucket water in TSU-8 is treated. No HW is stored at this unit. EHWS is not placed in the unit until minutes before burning starts.

ii. Extent of Operation - PSEMC's current plan calls for the continued usage of this burning process as long as PSEMC continues to manufacture defense related ordnance materials.

iii. Unit Decontamination – Troughs, trough racks, and the drip pan containing EHWS residue will be transported to TSU - 1 and treated as EHW contaminated material by burning. This disposition will avoid the generation of additional EHW consisting of cleaning materials, tools, and containers. Soil samples from this site were found to be uncontaminated during the Site Characterization completed in 1986. There are no records of uncontrolled spills at this unit. Any spill which may occur will be immediately cleaned up, including any contaminated soil. Concrete chip samples of the concrete tertiary containment structure will be obtained and analyzed to demonstrate the absence of contamination. It is anticipated that no further decontamination of the concrete tertiary containment structure will be required.

iv. Cleaning Equipment – The equipment used at this TSU consists of hand tools, pipes, pumps, and safety devices. Pipes and pumps will be flushed with clean solvent or clean water as appropriate. Hand tools and safety equipment will be cleaned as described in Chapter VI, Management Practices, and Section B.3, if required. Fluids from equipment cleaning will be treated in the unit with the final inventory of EHWS. EHW contaminated cleaning material and disposable protective clothing used for site cleanup will be treated with other EHW in TSU-1.

v. Method for Sampling and Testing of the Surrounding Soils - Soil samples from this site were found to be uncontaminated during the Site Characterization completed in 1986. There is no record of spills or releases at this unit. The unit has secondary containment, (stainless steel drip pans), under the trough racks and a concrete tertiary containment structure. Spills which may occur in the vicinity of the unit will be immediately cleaned up. PSEMC believes that soil sampling and testing is not required for closure of this unit. Per DTSC request, soil sampling and testing has been included in the closure plan. As described in the Closure Cost estimate in Section IX.C, samples are proposed to be collected at two (2) locations under the pad and at one (1) location adjacent to, but beyond, each of the four (4) sides of the pad. A remote "control" sample also will be collected. At each of these seven (7) locations, soil samples will be collected at the soil surface, and at 6 inches and 12 inches below the surface. Soil samples will be analyzed for potential contaminants arising from past uses of TSU-2, including CAM 17 metals, pH, nitrogen/nitrate, ignitability, halogenated VOCs, and aromatic VOCs. See Attachment IX-3 for details.

vi. Procedure for Removing Contaminated Soils - This step is not anticipated to be required for this unit, given the tertiary level of protection described herein and the complete absence of any historical spills or releases.

vii. Procedure for Groundwater Monitoring, Leachate Collection and Control of Run-on and Runoff Water - This action is not required to support closure of the unit. There is no record of spills or releases at this unit. Spills which may occur in the future will be immediately cleaned up. A groundwater contamination evaluation conducted as a part of the site characterization in 1986 established that other similar treatments at other locations on the facility had resulted in no contamination.

viii. Area Restoration - Because the site is zoned industrial, the concrete pad and the protective earth barricades will remain in place for future industrial use.

ix. Milestone Chart (See Table IX-2 at the end of this Chapter)

c. TSU-3; HW Storage in Containers.

i. Disposition of Inventory - It is anticipated that this will be the last TSU closed. Although this unit has a liquid HW storage capacity of 15,800 gallons, a maximum inventory of about 14,220 gallons or equivalent poundage is anticipated and has been incorporated in the Closure Cost Estimate (see Section IX.C and Table X-1). Final disposition of inventory will be through permitted on-site treatment to the maximum extent possible. HW not treated on-site in existing treatment units or Chemical Operations facilities will be packaged, manifested, and shipped by registered HW hauler to a permitted off-site TSD facility.

ii. Extent of Operation - PSEMC's current plan will require containerized storage of HW as long as PSEMC continues manufacturing operations at this location.

iii. Unit Decontamination - The floor in this unit is treated with a coating that prevents any spilled HW from penetrating into the concrete. Any one of three cleaning methods will adequately decontaminate the unit and may be used in combination or alone on one or more bays. Selection will depend upon resources available at the time of closure. Candidate methods are:

a. Scrubbing with a tri sodium phosphate detergent solution (TSP) and triple rinse.

b. Steam cleaning, using TSP, followed by a single rinse.

c. Hydroblasting.

d. Method (b) is the option of choice because it will generate the least additional potential waste stream (estimated here at 35,280 gallons). Fluids will be collected in the unit bay sump and immediately placed in containers which will be labeled with their source and content, maintaining segregation, by bay, of the wash water and rinse water. Samples of the wash water (one sample for every 5,000 gallons generated, by Bay) will be tested for probable organic solvents (halogenated and aromatic), pH, and lead. If contamination is found above allowable levels, water from the final rinse will be tested. If no contaminants are found at, or above, ten (10) times their respective detection limits, decontamination will be considered complete and the waste water will be sewered. If the final rinse tests at levels above 10 x dl, the cleaning, rinse and test cycle will be repeated. HW generated by cleaning will be containerized, labeled as HW, and included in the waste stream in accordance with (1) above. For purposes of the Closure Cost estimate, it has been assumed that all 35,280 gallons of wash water are disposed of off-site. (see Attachment IX-1). A limited number of concrete chip sampling locations will also be sampled and tested to further document the decontamination of the secondary containment structure and to demonstrate the unlikely nature of subsurface soil contamination from TSU-3 operations. See Attachment IX-3 for the estimated cost, and associated assumptions, for this sampling effort.

iv. Cleaning Equipment – The equipment used at this TSU consists of hand tools, pipes, pumps and safety devices. Pipes and pumps will be flushed with clean solvent or water as appropriate. Hand tools and safety equipment will be cleaned as described in Chapter VI, Section VI.B.3.

v. Method for Sampling and Testing the Surrounding Soil - There is no record of spills or releases at this unit outside the secondary containment. Possible future spills or releases will be immediately and totally cleaned up, including removal of all contaminated soil. To verify decontamination and clean closure, a minimum of five verification concrete chip samples will be collected from TSU-3, from each bay and from the loading and unloading area. Concrete chip sample locations will be selected from those areas having visual staining or other evidence which may indicate the possibility of a leak or spill. If no indication of staining is present, verification concrete chip samples will be taken at each associated bay sump and at the lowest point of the loading and unloading area. (Proposed sample locations are presented in Figure IV-2.) Soil samples from outside and beneath the secondary containment area also will be collected (at the surface and at 6” and 12” below the surface at each sample location) and analyzed to further demonstrate the absence of releases at this site. The EPA method selected for analyzing the concrete chip and soil samples will depend on the HW stored in each bay. In reviewing the HW stored in each bay, Table IX-3 (at the end of this Chapter) summarizes the test method to be used for analysis. These costs are included in the Closure Cost Estimate (see Section IX-C and Table X-1, and Attachments IX-1 and IX-3 for details).

vi. Procedure for Removing Contaminated Soils - This step is not anticipated to be required to support closure of this unit. There is no record of spills or releases outside the secondary containment at this unit, or none that have reached the sumps. Possible future spills or releases will be immediately cleaned up to remove all contaminated soil.

vii. Procedure for Groundwater Monitoring, Leachate Collection and Control of Run-on and Runoff Water - The design of this unit for control of run-on and runoff water is described in Chapter IV, Sections B.1. and B.2. These controls, and operational procedures described in Section IV.B.7., will prevent soil contamination by run-on and runoff prior to closure. There is no record of HW spills or releases at this unit. Any that may occur before closure will be fully cleaned up immediately. Groundwater contamination will not occur under these circumstances.

viii. Area Restoration - Because the site is zoned industrial, the concrete pad and open building will remain in place for future industrial use.

ix. Milestone Chart (See Table IX-4 at the end of this Chapter)

d. TSU-8; Volume Reduction of Safety Bucket Water by Natural Evaporation.

i. Disposition of Inventory – Any EHW contaminated water remaining will be mixed with EHWS and burned in TSU-1 and/or TSU-2.

ii. Extent of Operation – Treatment of Safety Bucket water in this unit will be required until 30 to 90 days after PSEMC ceases ordnance production at this facility. There is no current plan for termination of this manufacturing activity in the foreseeable future.

iii. Unit Decontamination – There is no record of any historic spills or releases at TSU-8. All future spills or releases of EHW contaminated water that may occur within the secondary containment or in the vicinity of the unit will be cleaned up immediately. Decontamination will be achieved by scrubbing the evaporation troughs with TSP to remove any explosive particles that may cling to the steel surface and triple rinsing. The wash and rinse water (estimated at 4,168 gallons) will be included with the final inventory for management and treatment. A total of five (5) concrete chip samples will be collected from the secondary containment structure and analyzed for pH, nitrate, perchlorate, CAM 17 metals, and other EHW constituents (see Attachments IX-1 and IX-3 for additional details).

iv. Cleaning Equipment - The equipment used at this TSU consists of hand tools, pipes, pumps and safety devices. Pipes and pumps will be flushed with clean water. Flushing water will be included with the final inventory for management and treatment. Hand tools and safety devices will be triple rinsed. Environmental technicians performing this closure will continue to use their disposable protective clothing until TSU-2 and TSU-8 are closed. These garments will be burned as EHW contaminated material in TSU-1.

v. Method for Sampling and Testing of the Surrounding Soils - This unit is within a concrete secondary containment structure. Any spill which may occur in the vicinity of the unit will be cleaned up immediately. It is believed that the results of the concrete chip sampling and analysis will demonstrate that no soil sample collection and testing is required. However, DTSC has required that a limited number of soil samples be collected around and under the secondary containment structure and be analyzed for perchlorate and other EHW constituents. See Attachments IX-1 and IX-3 for the details. As for other TSUs, soil samples will be collected from the surface, and at 6” and 12” below surface, at each of the seven (7; two [2] below each of the two [2] pads, one [1] between the pads under the “charge line”, and two [2] “control” samples) soil sample locations.

vi. Procedure for Removing Contaminated Soils – Due to the type of operations and the absence of any reported spills or releases, this step is not anticipated to be applicable to this unit.

vii. Procedure for Ground water Monitoring, Leachate Collection and Control of Run-on and Runoff Water - There is no record of HW spills or releases at this unit. Any that may occur before closure will be fully cleaned up immediately. This activity is not required to support closure of the unit.

viii. Area Restoration - The evaporation troughs will be removed for salvage or other industrial use. The concrete secondary containment for the troughs will be broken up and the broken concrete will be used for erosion control on the industrial site. The security fence and concrete pad will remain in place for future industrial use.

ix. Milestone Chart (See Table IX-6 at the end of this Chapter)

e. **Closed TSUs**:

Since 1992, PSEMC has closed or is in the process of obtaining closure for the following TSUs at the Hollister facility either (a) in compliance with closure plans then in effect or (b) via a regulatory exclusion.

- TSU-4 (DTSC-certified closed, July 2003): three aboveground hazardous waste storage tanks;
- TSU-5 (DTSC-certified closed, April 1992); three aboveground hazardous waste storage tanks
- TSU-6 (DTSC-certified closed, October 2000), a silver recovery reactor;
- TSU-7 (DTSC-certified closed, October 2001), a water evaporation unit;
- TSU-9 (DTSC-certified closed, July 2003): treatment reactor; and
- TSU-10 (*unregulated,* as of January 1999): a waste photographic silver recovery unit;

These six (6) TSUs have not been discussed herein because they have been properly closed and for the same reason, the closure cost estimates for these TSUs are not shown in either Sections IX.C or X herein, although these costs are included in the 1996 Closure Cost Estimate (Attachment IX-1).

B. Certification of Closure

Within 60 days of the completion of final closure, PSEMC will submit a certification that the hazardous waste management facility has been closed in accordance with the approved closure plan. The certification will be signed by an authorized representative of PSEMC and by an independent registered professional engineer. This certification will be submitted to the DTSC and the Regional Administrator of USEPA, Region IX by registered mail.

Similarly, for partial closures of the facility (i.e., for closures of individual hazardous waste management units), PSEMC will submit a signed (as per above) certification to both DTSC and USEPA by registered mail within 60 days of completion of partial closure.

C. Closure Cost Estimate

Closure costs estimates are based on 2004 dollars for third party closure of HW units. Closure costs were originally calculated in 1987 by assessing the cost of in house closure including third party oversight, laboratory testing and closure certifications, and adding sixty percent. The 1987 estimate was adjusted annually for inflation until 1996.

In 1996, a new cost estimate was prepared by Sampson Engineering Inc. A copy of that detailed estimate, with appropriate assumptions and unit costs, is provided in Attachment IX-1. This estimate has been adjusted annually for inflation since then. Attachment IX-2 provides the latest update (February 2005) utilizing this approach.

This estimating approach has been revised for FHWOP submittals in August 2005 and January 2006 with the addition of several cost elements as requested by DTSC (e.g., substitution of concrete chip samples for wipe samples of secondary containment structures; inclusion of 10% project oversight by DTSC or a third party engineer; etc.). The support for these cost element estimates is provided in Attachment IX-3, hereto.

Updated, estimated closure costs for each active remaining unit and for the entire facility are shown in the table labeled as Attachment C in Attachment IX-3, and in Table X-1 in the following chapter. The cost estimates (in 2004 $$, and rounded to the nearest $500) can be summarized as follows:

TSU-1:	$109,000
TSU-2:	$ 64,000
TSU-3:	$302,500
TSU-8:	$ 85,000
Total:	$560,500

Chapter IX Attachments

- *Closure Schedules*
- *Closure Cost Estimate*
- *Closure Cost escalation Estimates*
- *Revised Closure Cost Assumptions*

Chapter IX Table

Closure Schedule Table

TABLE IX-1.
CLOSURE SCHEDULE, TSU-1

	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015
1. LAST HW RECEIVED							
2. CLOSURE NOTICE TO DTSC							
3. INVENTORY REMOVAL							
4. DECONTAMINATION							
5. DECONTAMINATION TESTING							
6. SOIL SAMPLE COLLECTION							
7. SOIL SAMPLE ANALYSIS							
8. SOIL REMOVAL							
9. AREA RESTORATION							
10. CLOSURE CERTIFICATION							
11. CLOSURE REPORT							

Notes:

1) Dates are for illustrative purposes only. Closure is not anticipated before 2015 or later.
2) N/A = Not Applicable

TABLE IX-2.
CLOSURE SCHEDULE, TSU-2

	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015
1. LAST HW RECEIVED							
2. CLOSURE NOTICE TO DTSC							
3. INVENTORY REMOVAL							
4. DECONTAMINATION							
5. DECONTAMINATION TESTING							
6. SOIL SAMPLE COLLECTION							
7. SOIL SAMPLE ANALYSIS							
8. SOIL REMOVAL							
9. AREA RESTORATION							
10. CLOSURE CERTIFICATION							
11. CLOSURE REPORT							

Notes:

1) Dates are for illustrative purposes only. Closure is not anticipated before 2015 or later.

TABLE IX-3.
SUMMARY OF EPA TEST METHODS TO BE USED AT TSU-3

EPA TEST METHOD	8260	6020/ 6010	3010/ 7130	1010	8270	pH Meter	7480/7610/ 7770
BAY A:	√	√				√	
BAY B:	√	√					
BAY C:		√				√	
BAY D:	√		√	√	√		√
LOADING AREA:	√	√					

TABLE IX-4.
CLOSURE SCHEDULE, TSU-3

	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015
1. LAST HW RECEIVED							
2. CLOSURE NOTICE TO DTSC							
3. INVENTORY REMOVAL							
4. DECONTAMINATION							
5. DECONTAMINATION TESTING							
6. SOIL SAMPLE COLLECTION							
7. SOIL SAMPLE ANALYSIS							
8. SOIL REMOVAL N/A							
9. AREA RESTORATION N/A							
10. CLOSURE CERTIFICATION							
11. CLOSURE REPORT							

Notes:

1) Dates are for illustrative purposes only. Closure is not anticipated before 2015 or later.
2) N/A = Not Applicable

TABLE IX-5.

CLOSURE SCHEDULE, TSU-8

	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015
1. LAST HW RECEIVED	■						
2. CLOSURE NOTICE TO DTSC	■						
3. INVENTORY REMOVAL				■			
4. DECONTAMINATION				■	■		
5. DECONTAMINATION TESTING N/A					■		
6. SOIL SAMPLE COLLECTION N/A					■		
7. SOIL SAMPLE ANALYSIS					■		
8. SOIL REMOVAL N/A							
9. AREA RESTORATION						■	
10. CLOSURE CERTIFICATION				■	■	■	
11. CLOSURE REPORT						■	

Notes:

1) Dates are for illustrative purposes only. Closure is not anticipated before 2015 or later.
2) N/A = Not Applicable

Attachment IX-1

Sampson Engineering Inc.

"*Closure Cost Estimate*", 1/10/96, 59 pages

SAMPSON ENGINEERING INC.
6 HANGAR WAY, SUITE C
WATSONVILLE, CA 95076
(408) 761-6222

January 10, 1996
Date

TO: Teledyne Ryan Aeronautical
McCormick Selph Ordnance
3601 Union Road
Hollister, CA 95024-0006

VIA: Teledyne MSO Pick-Up

BY: **Trevor Auer** TBA

ATTENTION: Charlie Martin

PROJECT NO. 95119

CHARLIE:

We are sending you herewith one hardcopy of each the following final, individual TSU closure cost estimates:

1. Closure Cost Estimate - TSU-1;
2. Closure Cost Estimate - TSU-2;
3. Closure Cost Estimate - TSU-3;
4. Closure Cost Estimate - TSU-4;
5. Closure Cost Estimate - TSU-6;
6. Closure Cost Estimate - TSU-7;
7. Closure Cost Estimate - TSU-8;
8. Closure Cost Estimate - TSU-9;
9. Closure Cost Estimate - TSU-10.

SEI has also included a hardcopy of the table summarizing the costs contained in each individual TSU closure cost estimate. Electronic copies of all the above are included on the accompanying floppy diskette as well.

TELEDYNE RYAN AERONAUTICAL, McCORMICK SELPH ORDNANCE
CLOSURE COST ESTIMATE

TSU/DESCRIPTION (COST, $1995)	TSU-1	TSU-2	TSU-3	TSU-4	TSU-6	TSU-7	TSU-8	TSU-9	TSU-10
LABOR	7,820	2,584	7,796	10,360	5,712	2,584	5,712	8,090	2,584
EQUIPMENT/SUPPLIES	4,782	3,176	3,572	8,341	3,584	2,576	7,168	4,037	1,626
WASTE PROCESSING/HANDLING	17,808	11,659	142,415	75,350	21,104	8,914	23,974	17,810	5,347
TESTING	2,105	15,965	29,531	6,556	4,618	4,358	10,169	6,602	5,498
CLOSURE CERTIFICATION	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
SAFETY PLAN	500	500	500	500	500	500	500	500	500
EMERGENCY PLAN	500	500	500	500	500	500	500	500	500
SITE DECONTAMINATION (NOTE 1)	190,000	NA	NA	NA	NA	NA	NA	NA	NA
Subtotal	225,515	36,384	186,314	103,607	38,018	21,432	50,023	39,539	18,055
20% Contingency	45,103	7,277	37,263	20,721	7,604	4,286	10,005	7,908	3,611
TOTAL, $1995 (ROUNDED TO NEAREST $500)	270,500	43,500	223,500	124,500	45,500	25,500	60,000	47,500	21,500

NA - NOT APPLICABLE.

NOTE 1: Soil contamination is known to exist at TSU-1; therefore, the State of California, Department of Toxic Substances Control (DTSC) has requested that a cost estimate for sdecontamination be included in the closure cost estimate. Because site contamination is not suspected at any other TSU, site decontamination cost estimates have neither been requested by the DTSC nor prepared.

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-1 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-1 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-1 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-1.

3. Closure of TSU-1 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-1 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment, equipment pads and secondary containment areas where explosive ordnance is treated, ie. reactivity is totally exhausted by treatment method, are assumed to be free of explosive contamination.

6. The final batch of waste, ie. one-55 gallon drum of lead bearing waste, 854 pounds (gross) of explosive hardware and 397 pounds (gross) of explosive contaminated cellulose waste (ChemWipes, paper towels, etc.), must be sent off-site for treatment or disposal.

7. Wipe samples for CAM 17 metals analysis are taken from the concrete pad (25' x 35'), two wipe samples, and concrete pipes, two wipe samples (one per pipe), for independent laboratory analysis to verify no contamination exists. The

laboratory results will be used to verify decontamination of the equipment and in the preparation of the certification of closure. No contamination is found.

8. An acetylene torch is required to dissemble the steel cage which is placed in 20 yd^3 roll-off bins for disposal in a Class III landfill. A backhoe equipped with a hydraulic hammer is required to break the concrete tubes and concrete pad into manageable pieces before placement in 8 yd^3 bins for disposal in a Class III landfill.

9. Soil contamination is known to exist at TSU-1. Teledyne MSO has already had an independent, third-party consultant characterize the soil contamination at TSU-1. The third-party consultant has also prepared a cost estimate for decontaminating the site based upon the following assumptions:

   A. In their professional opinion, no further soil sampling will be required prior to remediation.
   B. All equipment and equipment pads will be removed prior to remediation.
   C. 400 - 600 yd^3 of soil will be removed from the site for off-site treatment.
   D. Soil sampling following removal of 400 - 600 yd^3 soil demonstrates that no contamination of remaining soil or groundwater exists.

10. Certification of closure for TSU-1 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

11. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-1 is $270,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-1 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (80 hrs @ $52.50/hr)	4,200
Project Manager (20 hrs @ $103.00/hr)	2,060
Health & Safety Coordinator (20 hrs @ $78.00/hr)	1,560
Subtotal	7,820
Equipment: 2 persons, 5 Working Days:	
Safety Equipment (5 days @ $125/person/day)	1,250
Acetylene Torch (2 days @ $50/day)	100
Backhoe/Loader with Hydraulic Hammer & Operator (3 days @ $314/day) Mobilization	942 63
7-8 yd^3 Roll-Offs (@ $225/bin, first 3 days)	1,575
2-20 yd^3 Roll-Offs (@$426/bin, first 7 days)	852
Soil Removal Equipment (Including Associated Soil Sampling Equipment), Included in Site Work, Transportation/Disposal & Soil Sampling/Analytical Testing Costs	0
Subtotal	4,782
Waste Processing/Handling:	
1-55 Gallon Drum, Lead Bearing Waste @ $375/drum	375
854 Pounds (Gross) Explosive Hardware @ $7.50/gross pound Transportation - 2,300 Miles @ $3.50/mile	6,405 8,050
397 Pounds (Gross) Explosive Contaminated Cellulose Waste @ $7.50/gross pound Transportation - Included above	2,978 NA

DESCRIPTION	COST, $
Decontaminated Equipment & Concrete (Steel Cage, Concrete Tubes & Pad) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	17,808
Testing:	
4-Wipe Samples @ $421.00/CAM 17 Metals Test	1,684
1-Drum Grab Sample @ $421.00/CAM 17 Metals Test	421
Subtotal	2,105
Lead Contaminated Soil Removal:	
Site Work, Including Labor & Equipment	30,000
Transportation/Disposal, 400 - 600 yd^3 Lead Contaminated Soil	145,000
Sampling & Analytical Testing, Remaining Soil	15,000
Subtotal	190,000
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	225,515
20% Contingency	45,103
1995 Dollar Total (rounded to nearest $500)	**270,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Personal Safety Equipment	$125/man/day

2. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	$426
8 yd^3 Roll-Off (3 days, unlimited weight), Concrete Only	$225
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

3. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

CAM 17 Metals Testing, Wipe	$421.00/test

4. "Building News Incorporated, General Construction 1995 Cost Book," provided the following prices:

Backhoe/Loader, Rubber Tired w/ Hydraulic Hammer & Operator	$280/day
Mobilization	$56

(Must include 1.12 factor for San Francisco area.)

5. Laidlaw Environmental Services, Thermal Treatment Inc. (Colfax, Louisiana) provided the following prices:

Render Inert & Disposal: Cyclonite (CH6), Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Cyclotetramethylenetetranitramine (HMX), Cyclotrimethylenetrinitramine (RDX), Black Powders.	$7.50/gross pound
Transportation (~2,300 miles)	$3.50/loaded mile (Customer to Laidlaw facility)

6. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

Lead Bearing Waste, Disposal	$350/drum

7. A Tool Shed Equipment Rentals Inc. (Santa Cruz, California) provided the following prices:

Acetylene Cutting Torch	$50/day

8. Jim Dunn of P.E.S. Environmental (Novato, California) provided the following prices:

Site Work for Removal of 400 - 600 yd^3 Lead Contaminated Soil (Includes Equipment)	$30,000
400 - 600 yd^3 Lead Contaminated Soil, Transportation/Disposal	$145,000
Soil Sampling and Analytical Testing of Remaining Soil (Includes Equipment)	$15,000

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-2 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-2 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-2 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-2.

3. Closure of TSU-2 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-2 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment, equipment pads and secondary containment areas where explosive ordnance is stored or otherwise handled, trace explosive contamination is expected. In this case, all equipment, equipment pads and secondary containment areas will be washed with water whereby trace explosives will be inerted. The wash water (<0.1% v/v inerted explosives) will be collected and sent to the appropriate disposal facility for treatment.

6. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

7. Because waste for TSU-2 is stored at a separate TSU and is considered part of that TSU's inventory, no final batch of waste is anticipated for TSU-2 upon closure.

8. The eight half-drums troughs are expected to contain an aggregate of approximately five gallons of explosive residues which must be sent off-site for treatment or disposal after inerting with water to 10 gallons total volume (~50% v/v inerted explosives).

9. Decontamination pressure washing generates an estimated 1,920 gallons of rinse water containing <0.1% v/v inerted explosives that must be collected and sent off-site for treatment.

10. A crack is discovered in the concrete pad and two underlying soil samples, as well as one sample adjacent to, but beyond each of the four sides of the pad, are taken at the surface, and at depths of 6" and 12" below the surface, for CAM 17 metals, pH, nitrogen (nitrate), Title 22 ignitability, EPA Method 601/8010 (halogenated volatile organics) and EPA Method 602/8020 (aromatic volatile organics) analyses. A control sample is taken as well. A soil investigation report must be written.

11. No contamination of groundwater or underlying soil is found to be present at TSU-2. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

12. An acetylene torch is required to dissemble the steel frame which holds the eight half-drums before placing in a 20 yd^3 roll-off bin for disposal in a Class III landfill.

13. Certification of closure for TSU-2 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

14. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-2 is $43,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-2 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (16 hrs @ $52.50/hr)	840
Project Manager (4 hrs @ $103.00/hr)	412
Health & Safety Coordinator (4 hrs @ $78.00/hr)	312
Soil Testing (4 hrs @ $65.00/hr)	260
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	2,584
Equipment: 2 persons, 1 Working Day:	
Pressure Washer (1 day @ $250/day)	250
Safety Equipment (1 day @ $125/person/day)	250
4,000 Gal Baker Tank (1 day @ $14/day) Delivery/Pick-Up (8 hrs @ $57/hr)	14 456
1-20 yd^3 Roll-Off (@$426, first 7 days)	426
Hand Auger (1 day @ $30/day)	30
35-55 Gal D.O.T. Drums (@ $50/drum)	1,750
Brass Liners, Included in Soil Testing Costs	0
Subtotal	3,176
Waste Processing/Handling:	
1,920 Gal Water w/ <0.1% v/v Inerted Explosives @ $3.75/gal Transportation	7,200 3,831
10- Gal Water w/ 50% v/v Inerted Explosives @ $12.75/gal Transportation (Included Above)	128 0
2-Stream Profiles @ $250/stream	500
Decontaminated Equipment (Steel Frame and Half-Drums) Class III Landfill Charges, Included in Roll-Off Rental	0

DESCRIPTION	COST, $
Subtotal	11,659
Testing:	
21-Soil Samples @ $11.50/pH Test	241.50
21-Soil Samples @ $28.75/Nitrate Test	603.75
21-Soil Samples @ $421.00/CAM 17 Metals Test	8,841
21-Soil Samples @ $23.00/Title 22 Ignitability Test	483
21-Soil Samples @ $149.50/EPA Method 601 Test	3,139.50
21-Soil Samples @ $126.50/EPA Method 602 Test	2,656.50
Subtotal	15,965
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	36,384
20% Contingency	7,277
1995 Dollar Total (rounded to nearest $500)	**43,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Pressure Washer	$250/hr
Personal Safety Equipment	$125/man/day
Profiling Fees	$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Profiling Fees	$200/waste stream

3. Baker Tanks (Pittsburgh, California) provided the following prices:

4,000 Gallon Tank	$14/day
Delivery (~4 hrs round-trip)	$57/hour

4. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

5. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil	$11.50/test
Nitrogen, Nitrate Testing, Soil	$28.75/test
CAM 17 Metals Testing, Soil	$421.00/test
Title 22 Ignitability Testing, Soil	$23.00/test
EPA Method 601/8010, Soil (Halogenated Volatile Organics)	$149.50/test
EPA Method 602/8020, Soil (Aromatic Volatile Organics)	$126.50/test

6. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr
Engineer, Report	$95/hr
Hand Auger	$30/day

55 Gallon D.O.T. Drum	$50 ea.
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

7. A Tool Shed Equipment Rental Inc. (Santa Cruz, California) provided the following prices:

Acetylene Cutting Torch	$50/day

8. Drug & Laboratory Disposal, Inc. of (Plainwell, Michigan) provided the following prices:

Water Containing <0.1 V/V Inerted Explosives, Treatment/Disposal	$3.75/gal
Water Containing 50% V/V Inerted Explosives, Treatment/Disposal	$12.75/gal

(Explosives include: Cyclonite (CH6), Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Cyclotetramethylenetetranitramine (HMX), Cyclotrimethylenetrinitramine (RDX), Black Powders.)

9. Tri-State Motor Transport Co. (Byron, California) provided the following prices:

Transportation, Hollister, California to Plainwell, Michigan	$3,831.30/truckload (90-96 55 Gal. Drums)

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-3 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-3 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-3 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce waste for TSU-3.

3. Closure of TSU-3 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-3 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. The final batch of 14,220 gallons of drummed waste, the maximum volume of waste TSU-3 is permitted to store at any one time, is composed of any combination of the waste types listed in the attached table. The 14,220 gallons of waste must be sent off-site for treatment or disposal at the average price per gallon calculated in the attached table.

6. Decontamination steam cleaning and final pressure washing generate an estimated 35,280 gallons of rinse water that must be collected and sent off-site for treatment. The water is expected to be contaminated with trace amounts (<1% v/v aggregate) of any combination of the organics, solvents, oils, inorganic acids/bases found in the attached list of drummed waste.

7. Because the DTSC procedures consider equipment to be decontaminated after steam cleaning, using trisodium phosphate (TSP), followed by a single water rinse, wipe samples must be taken from each of the four bays and the loading area following cleaning for pH and the bay-specific EPA Test Methods presented in the Closure Plan for TSU-3 for independent laboratory analysis. The laboratory results will be used to verify decontamination and in the preparation of the certification of closure.

8. A crack is discovered in each of the four bays, the loading area and the trench drain (aggregate area for TSU-3 is approximately 70' x 63') and underlying soil samples must be taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH, EPA Method 300.0 (anions), EPA Method 601/8010 (halogenated volatile organics), EPA Method 602/8020 (aromatic volatile organics, and EPA Method 8015 (total petroleum hydrocarbons as gasoline and diesel) analyses. For each of the three depths, a single soil sample will be taken at each bay and at the loading area and three soil samples will be taken in the trench drain. A total of two control samples will be taken at each depth as well. A soil investigation report must be written.

9. No contamination of groundwater or underlying soil is found to be present at TSU-3. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

10. Certification of closure for TSU-3 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

11. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-3 is $223,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-3 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (64 hrs @ $52.50/hr)	3,360
Project Manager (16 hrs @ $103.00/hr)	1,648
Health & Safety Coordinator (16 hrs @ $78.00/hr)	1,248
Soil Testing (12 hrs @ $65.00/hr)	780
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	7,796
Equipment: 2 persons, 4 Working Days:	
Steam Cleaner (4 days @ $200/day)	800
Pressure Washer (4 days @ $250/day)	1,000
Safety Equipment (4 days @ $125/person/day)	1,000
2-6,500 Gal Baker Tanks (4 days @ $15/day) Delivery/Pick-Up (8 hrs @ $74/hr)	120 592
Hand Auger (2 days @ $30/day)	60
Brass Liners, Included in Soil Testing Costs	0
Subtotal	3,572
Waste Processing/Handling:	
14,220 Gallons, Drummed Inventory, Including Profiling Fees (See attached sheet) @ $5.94/gal	84,467
35,280 Gal Water, Trace Inorganics/Organics/ Solvents @ $1.60/gal	56,448
6-Stream Profiles @ $250/stream	1,500
Subtotal	142,415
Testing:	
5-Wipe Samples @ $11.50/pH Test	57.50

DESCRIPTION	COST, $
4-Wipe Samples @ $196.65/EPA Method 8240 Test	786.60
4-Wipe Samples @ $15.18/EPA Method 6010 Test	60.72
1-Wipe Sample @ $126.50/EPA Method 602 Test	126.50
2-Wipe Samples @ $138.00/EPA Method 8015 Test	276
1-Wipe Sample @ $86.25/EPA Method 300.0 Test	86.25
1-Wipe Sample @ $149.50/EPA Method 601 Test	149.50
30-Soil Samples @ $11.50/pH Test	350
30-Soil Samples @ $86.25/EPA Method 300.0 Test	2,587.50
30-Soil Samples @ $421.00/CAM Metals Test	12,630
30-Soil Samples @ $149.50/EPA Method 601 Test	4,485
30-Soil Samples @ $126.50/EPA Method 602 Test	3,795
30-Soil Samples @ $138/EPA Method 8015 Test	4,140
Subtotal	29,531
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	186,314
20% Contingency	37,263
1995 Dollar Total (rounded to nearest $500)	**223,500**

TSU-3 DRUMMED INVENTORY AND ASSOCIATED AVERAGE DISPOSAL COST:

DESCRIPTION	CONTAINER	LBS.	COST	SHIPPING INCL?	PRICE SOURCE
Cindol 10%, Water 90%	4-55 gal.	1,720	$990	Y	1
HNS By-products, 100%	7-55 gal.	1,421	$3,200	Y	1
Various Solvents Containing Various Explosives	20-55 gal.	9,048	$8,300	Y	1
Subtotal, Cost With Shipping Included			$12,490		
Water >99%, Lead <1%, Potassium <1%	2-55 gal.	474	$270	N	1
Inert Debris 88-99%, Silver 0.1-2%, Lead 0.1-10%	7-55 gal.	4,163	$2,250	N	1
Filters 99%, Lead 1%	1-55 gal.	40	$375	N	1
1,1,1-Trichloroethane >99%, Inhibitor <1%, Water <1%	3-55 gal.	1,129	$2,250	N	1
Mineral Oil ~15%, Absorbant ~45%, Absorbant Socks ~40%	3-55 gal.	505	$630	N	1
Cans 40%, Cardboard 60%, Zinc Chromate (trace)	3-55 gal.	278	$1,525	N	1
Paints, Resins, Thinners, Primers, Adhesives, Sealants	1-55 gal.	299	$495	N	1
Inhibited Polyalkylene Glycol/ Pentaerythritol Ester Blend 100%	1-5 gal.	17	$60	N	1
Alodine 15%, Water 85% (Water, Chromic Acid, Chromium, Chromium (CR+6))	2-55 gal.	51	$60	N	1
Alumiprep 30%, Water 70%	1-5 gal.	19	$90	N	1
Axarel 6100 98%, Cutting Oil 2%	1-15 gal.	37	$60	N	1
Acetone 90%, Axarel 6100 10%	1-5 gal.	36	$60	N	1
Paper Towels >98.5%, Heptane <1.5%	2-55 gal.	463	$1,015	N	1
Heptane 99%, Explosives <1%	5-55 gal.	1,474	$135	N	1
Sedisperse Rinsing Solution 70%, Sedisperse A-11 30%	1-15 gal.	93	$90	N	1
Toluene, 99%, Water 1%	8-55 gal.	3,297	$4,790	N	1
Paint 40%, Thinner 60%, Zinc Chromate (trace)	2-55 gal.	876	$270	N	1
Heptane >98%, Cindol & Alum. Flakes <2%	1-15 gal.	42	$90	N	1
Acculube 2000 >98.5%, Lead <1.5%	1-15 gal	120	$160	N	1
Petroleum Distillate 95%, Oil 3%, Stainless Steel 1%, Alum. 1%	1-5 gal.	7	$75	N	1

DESCRIPTION	CONTAINER	LBS.	COST	SHIPPING INCL?	PRICE SOURCE
Water 82%, HCl 10%, HNO3 8%, Mercury (Trace)	1-2.5 liter	2	$70	N	1
PCC-1 33.3%, PCC-2 33.3%, PCC-3 33.3%	1-20 gal.	142	$210	N	1
Chloroform 95-100%, Water 0-5%	1-55 gal.	600	$750	N	1
Waste Petroleum Oil	2-55 gal.	743	$20	N	1
Ethylene Glycol 70-80%, Water 20-30%	8-55 gal.	3,170	$1,990	N	1
Nitric Acid 80%, Water 18%, HNS/HNBB Powders 2%	3-55 gal.	1,827	$6,600	N	2
Total Volume	4,721 Gallons				
Subtotal, Cost Without Shipping Included			$24,390		
Shipping @ 15% of Disposal Cost (Assumed)			$3,659		
Total, TSU-3 Drummed Inventory Disposal Cost			$28,050		
			Final $/Gallon		$5.94

Price Sources:

1. Teledyne MSO fax to Sampson Engineering Inc. dated 12/19/95.
2. Drug & Laboratory Disposal, Inc. (Plainwell, Michigan):
   80% Nitric Acid w/ Trace (2%) Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Treatment/ Disposal — $40/gal

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Steam Cleaner	$200/hr
Pressure Washer	$250/hr
Personal Safety Equipment	$125/man/day
Profiling Fees	$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Profiling Fees	$200/waste stream

3. Baker Tanks (Pittsburgh, California) provided the following prices:

6,500 Gallon Tank	$15/day
Delivery (~4 hrs round-trip)	$74/hour ("Dual Rig" rate)

4. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

Water Contaminated w/ Trace Organics, Solvents, Oils, Inorganic Acids/Bases, Treatment/Disposal	$1.61/gallon

5. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil/Wipe	$11.50/test
CAM 17 Metals Testing, Soil	$421.00/test
EPA Method 601/8010, Soil/Wipe (Halogenated Volatile Organics)	$149.50/test
EPA Method 602/8020, Soil/Wipe (Aromatic Volatile Organics)	$126.50/test

6. Sequoia Analytical Services (Walnut Creek, California) provided the following prices (includes 15% consultant mark-up):

EPA Method 300.0, Soil/Wipe (Anions)	$86.25/test

EPA Method 6010, Wipe (Metals-ICP Solid)	$15.18/test
EPA Method 8015, Soil/Wipe (TPH Gasoline & Diesel)	$138.00/test
EPA Method 8240, Wipe (VOC GC/MS)	$196.65/test

7. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr
Engineer, Report	$95/hr
Hand Auger	$30/day
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-4 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-4 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-4 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-4.

3. Closure of TSU-4 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of two technicians and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-4 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

6. The final batch of waste, ie. 5,000 gallons of 36 wt% HCl, 5,000 gallons of 30 wt% H_2SO_4 and 10,000 gallons of corrosive (EPA Waste Code D002) organic solution (amines, imines or nitrosos), must be sent off-site for treatment or disposal.

7. Decontamination pressure washing generates an estimated 27,900 gallons of rinse water requiring pH adjustment that must be collected and sent off-site for treatment.

8. Because of the close proximity to autonomous equipment and the physical size of the storage tanks, a crane will be required for closure efforts.

9. Because the DTSC procedures consider equipment to be decontaminated after triple rinsing, triplicate water samples must be taken from final rinses of each of the three tanks and the secondary containment area for independent laboratory pH analysis. A single, background sample of the rinse water used must also be taken. The laboratory results will be used to verify decontamination of the equipment and in the preparation of the certification of closure.

10. A crack is discovered in the secondary containment area (25' x 20') and three underlying soil samples must be taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH, nitrogen (ammonia), nitrogen (nitrate), and nitrogen (Kjeldahl). A single control sample is taken as well. A soil investigation report must be written.

11. No contamination of groundwater or underlying soil is found to be present at TSU-4. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

12. Certification of closure for TSU-4 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

13. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-4 is $124,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-4 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (96 hrs @ $49.33/hr)	4,736
Project Manager, (24 hrs @ $103.00/hr)	2,472
Health & Safety Coordinator (24 hrs @ $78.00/hr)	1,872
Soil Testing (8 hrs @ $65.00/hr)	520
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	10,360
Equipment: 3 persons, 4 Working Days:	
Pressure Washer (3 days @ $250/day)	750
Safety Equipment (4 days @ $125/person/day)	1,500
4-6,500 Gal Baker Tanks (4 days @ $15/day) Delivery/Pick-Up (16 hrs @ $74/hr)	240 1,184
15 Ton Crawler Crane & Operator (1 week @ $1,600/wk) Mobilization	1,600 1,255
3-20 yd^3 Roll-Offs (@$426, first 7 days)	1,278
150 Gal 30 wt% NaOH (@ $2.36/gal)	354
Acetylene Torch (3 days @ $50/day)	150
Hand Auger (1 day @ $30/day)	30
Brass Liners, Included in Soil Testing Costs	0
Subtotal	8,341
Waste Processing/Handling:	
5,000 Gal 36 wt% HCl Waste @ $2.60/gal Transportation	13,000 200
5,000 Gal 30 wt% H_2SO_4 Waste @ $2.60/gal Transportation	13,000 200

DESCRIPTION	COST, $
10,000 Gal Corrosive (D002) Organic Solution @ $3.38/gal Transportation	33,800 200
27,900 Gal Rinse Water W/ Trace Corrosive (D002) <1% v/v Constituents @ $0.50/gal	13,950
4-Stream Profiles @ $250/stream	1,000
Decontaminated Equipment (Including Three Storage Tanks & Stands) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	75,350
Testing:	
18-Rinse Water Samples @ $11.50/pH Test	207
12-Soil Samples @ $11.50/pH Test	138
12-Soil Samples @ $421.00/CAM 17 Metals Test	5,052
12-Soil Samples @ $27.60/Ammonia Test	331.20
12-Soil Samples @ $40.25/Kjeldahl Test	483
12-Soil Samples @ $28.75/Nitrate Test	345
Subtotal	6,556
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	103,607
20% Contingency	20,721
1995 Dollar Total (rounded to nearest $500)	**124,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	\$43/hr
Decontamination Supervisor	\$62/hr
Project Manager (25% time of decontamination)	\$103/hr
Health & Safety Manager (25% time of decontamination)	\$78/hr
Pressure Washer	\$250/hr
Personal Safety Equipment	\$125/man/day
Profiling Fees	\$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Corrosive (D002) Waste Water, Treatment/Disposal	\$0.50/gallon
Profiling Fees	\$200/waste stream
Hauling	Free in Santa Clara Area

3. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

36 wt% HCl, Treatment/Disposal	\$2.60/gallon
30 wt% H_2SO_4, Treatment/Disposal	\$2.60/gallon
Corrosive (D002) Organic Solution, Treatment/Disposal	\$3.38/gallon
Transportation	\$200 "Flat Rate"/Waste Stream

4. Oxychem Corporation provided the following prices:

30 wt% Sodium Hydroxide (NaOH)	\$400/ton
Blending	\$25/ton

5. Baker Tanks (Pittsburgh, California) provided the following prices:

6,500 Gallon Tank	\$15/day
Delivery (~4 hrs round-trip)	\$74/hour ("Dual Rig" rate)

6. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	\$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

7. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil/Water	\$11.50/test
CAM 17 Metals Testing, Soil	\$421.00/test
Nitrogen, Ammonia Testing, Soil	\$27.60/test
Nitrogen, Kjeldahl Testing, Soil	\$40.25/test
Nitrogen, Nitrate Testing, Soil	\$28.75/test

8. Sampson Engineering Inc. provided the following prices:

Field Technician	\$65/hr
Engineer, Report	\$95/hr
Hand Auger	\$30/day
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

9. "Building News Incorporated, General Construction 1995 Cost Book," provided the following prices:

15 Ton Crawler Crane w/ Operator	\$1,428/week
Mobilization	\$1,120

(Must include 1.12 factor for San Francisco.)

10. A Tool Shed Equipment Rentals Inc. (Santa Cruz, California) provided the following prices:

Acetylene Cutting Torch	\$50/day

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-6 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-6 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-6 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-6.

3. Closure of TSU-6 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-6 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. Where explosive ordnance is stored or otherwise handled, trace explosive contamination would normally be expected; however, the reactor serving this TSU is thoroughly cleaned after processing the waste explosive encased in silver because it is also used for production activities at Teledyne MSO. No explosive sludge is expected to be present.

6. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

7. The final batch of waste, ie. 40-55 gallon drums of reagent grade 70 wt% nitric acid and 389 pounds (gross) of silver encased explosives, must be sent off-site for treatment or disposal.

8. The adjacent wet scrubber and associated sump box are also decontaminated during closure of TSU-6 because of their use for treating vapors from the reactor. However, the wet scrubber and associated sump will not be removed as they serve other operations at Teledyne MSO as well.

9. Decontamination requires the use of 30 wt% sodium hydroxide for chemical neutralization of residual acidity during the first of three pressure washes. Decontamination pressure washing generates an estimated 4,000 gallons of rinse water that must be collected and sent off-site for treatment.

10. After decontamination, one wipe sample is taken from the reactor for CAM 17 metals analysis by an independent laboratory to verify decontamination of the reactor before the reactor is disposed of in a Class III landfill and for use in the preparation of the certification of closure. Results verify decontamination.

11. Triplicate grab samples of the liquid from the final rinse, as well as a control sample of the rinse water used, are taken for pH analysis by an independent laboratory to ensure decontamination of the equipment and for use in the preparation of the certification of closure. Results verify decontamination.

12. A crack is discovered in the concrete pad (15' x 15') and two underlying soil samples are taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH and nitrogen (nitrate) analyses. A control sample is taken as well. A soil investigation report must be written.

13. No contamination of groundwater or underlying soil is found to be present at TSU-6. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

14. An acetylene torch is required to cut reactor supports and piping. A crane is required to lift the reactor and place into a 20 yd^3 roll-off bin for disposal in a Class III landfill.

15. Certification of closure for TSU-6 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

16. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-6 is $45,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-6 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (48 hrs @ $52.50/hr)	2,520
Project Manager (12 hrs @ $103.00/hr)	1,236
Health & Safety Coordinator (12 hrs @ $78.00/hr)	936
Soil Testing (4 hrs @ $65.00/hr)	260
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	5,712
Equipment: 2 persons, 3 Working Days:	
Safety Equipment (3 days @ $125/person/day)	750
Pressure Washer (3 days @ $250/day)	750
Acetylene Torch (3 days @ $50/day)	150
15 Ton, Truck-Mounted, Hydraulic Crane & Operator (1 day @ $533/day) Mobilization	533 314
6,500 Gal Baker Tank (3 days @ $15/day) Delivery/Pick-Up (8 hrs @ $57/hr)	45 456
1-55 Gal Drum 30 wt% NaOH (@ $2.36/gal)	130
1-20 yd^3 Roll-Off (@$426, first 7 days)	426
Hand Auger (1 day @ $30/day)	30
Brass Liners, Included in Soil Testing Costs	0
Subtotal	3,584
Waste Processing/Handling:	
40-55 Gal Drums 70% HNO_3 @ $3.38/gallon Transportation	7,436 200
4,000 Gal Inorganic Acid/Base Rinse Water @ $0.50/gal	2,000

DESCRIPTION	COST, $
389 Pounds (Gross) Explosive Hardware @ $7.50/gross pound Transportation - 2,300 Miles @ $3.50/mile	2,918 8,050
2-Stream Profiles @ $250/stream	500
Decontaminated Equipment (Including Reactor, Agitator & Stand) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	21,104
Testing:	
1-Reactor Wipe Sample @ $421.00/CAM 17 Metals Test	421
4-Rinse Water Samples @ $11.50/pH Test	46
9-Soil Samples @ $11.50/pH Test	103.50
9-Soil Samples @ $28.75/Nitrate Test	258.75
9-Soil Samples @ $421/CAM 17 Metals Test	3,789
Subtotal	4,618
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	38,018
20% Contingency	7,604
1995 Dollar Total (rounded to nearest $500)	**45,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	\$43/hr
Decontamination Supervisor	\$62/hr
Project Manager (25% time of decontamination)	\$103/hr
Health & Safety Manager (25% time of decontamination)	\$78/hr
Pressure Washer	\$250/hr
Personal Safety Equipment	\$125/man/day
Profiling Fees	\$300/waste stream

2. Oxychem Corporation provided the following prices:

30 wt% sodium hydroxide (NaOH)	\$400/ton
Blending	\$25/ton

3. USPCI (San Jose, California) provided the following prices:

Inorganic Acidic/Basic Waste Water, Treatment/Disposal	\$0.50/gallon
Profiling Fees	\$200/waste stream
Hauling	Free in Santa Clara Area

4. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

70 Wt% Nitric Acid, Treatment/ Disposal	\$3.38/gallon
Transportation	\$200 "Flat Rate"

5. Baker Tanks (Pittsburgh, California) provided the following prices:

6,500 Gallon Tank	\$15/day
Delivery (~4 hrs round-trip)	\$57/hour

6. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	\$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

7. ToxScan (Watsonville, California) provided the following

prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil/Water	$11.50/test
Nitrogen, Nitrate Testing, Soil	$28.75/test
CAM 17 Metals Testing, Soil/Wipe	$421.00/test

8. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr
Engineer, Report	$95/hr
Hand Auger	$30/day
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

9. "Building News Incorporated, General Construction 1995 Cost Book," provided the following prices:

15 Ton, Truck-Mounted, Hydraulic Crane & Operator	$476/day
Mobilization	$280

(Must include 1.12 factor for San Francisco area.)

10. Laidlaw Environmental Services, Thermal Treatment Inc. (Colfax, Louisiana) provided the following prices:

Render Inert & Disposal: Cyclonite (CH6), Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Cyclotetramethylenetetranitramine (HMX), Cyclotrimethylenetrinitramine (RDX), Black Powders.	$7.50/gross pound
Transportation (~2,300 miles)	$3.50/loaded mile (Customer to Laidlaw facility)

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-7 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-7 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-7 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-7.

3. Closure of TSU-7 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-7 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment, equipment pads and secondary containment areas where explosive ordnance is stored or otherwise handled, trace explosive contamination is expected. In this case, the equipment and equipment pad will be washed with water whereby trace explosives will be inerted. The wash water (<0.1% v/v inerted explosives) will be collected and sent to the appropriate disposal facility for treatment.

6. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

7. The final batch of waste, ie. 30 gallons of water with <0.1% v/v inerted explosives and 1-2 gallons of explosive sludge (50% w/w), must be sent off-site for treatment or disposal.

8. Decontamination pressure washing generates an estimated 1,168 gallons of rinse water containing <0.1% v/v inerted explosives that must be collected and sent off-site for treatment. The 30 gallons of water with inerted explosives will be added to this volume yielding an aggregate 1,198 gallons of water containing <0.1% v/v inerted explosives for off-site treatment.

9. A crack is discovered in the concrete pad (8' x 20') and two underlying soil samples are taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH, nitrogen (nitrate), and Title 22 ignitability analyses. A control sample is taken as well. A soil investigation report must be written.

10. No contamination of groundwater or underlying soil is found to be present at TSU-7. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

11. Certification of closure for TSU-7 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

12. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-7 is $25,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-7 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (16 hrs @ $52.50/hr)	840
Project Manager (4 hrs @ $103.00/hr)	412
Health & Safety Coordinator (4 hrs @ $78.00/hr)	312
Soil Testing (4 hrs @ $65.00/hr)	260
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	2,584
Equipment: 2 persons, 1 Working Day:	
Pressure Washer (1 day @ $250/day)	250
Safety Equipment (1 day @ $125/person/day)	250
4,000 Gal Baker Tank ($14/day) Delivery/Pick-Up (8 hrs @ $57/hr)	14 456
1-20 yd^3 Roll-Off (@ $426, first 7 days)	426
Hand Auger (1 day @ $30/day)	30
23-55 Gallon D.O.T. Drums (@ $50/drum)	1,150
Brass Liners, Included in Soil Testing Costs	0
Subtotal	2,576
Waste Processing/Handling:	
1,198 Gal Water w/ <0.1% v/v Inerted Explosives @ $3.75/gal Transportation	4,493 3,831
2 Gal (20 Pounds) Sludge w/ 50% w/w Explosives @ $4.50/pound Transportation (Included Above)	90 0
2-Stream Profiles @ $250/stream	500
Decontaminated Equipment (Including 55-Gal Drum & Heater Belts) Class III Landfill Charges, Included in Roll-Off Rental	0

DESCRIPTION	COST, $
Subtotal	8,914
Testing:	
9-Soil Samples @ $11.50/pH Test	103.50
9-Soil Samples @ $28.75/Nitrate Test	258.75
9-Soil Samples @ $421.00/CAM 17 Metals Test	3,789
9-Soil Samples @ $23.00/Title 22 Ignitability Test	207
Subtotal	4,358
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	21,432
20% Contingency	4,286
1995 Dollar Total (rounded to nearest $500)	**25,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Pressure Washer	$250/hr
Personal Safety Equipment	$125/man/day
Profiling Fees	$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Profiling Fees	$200/waste stream

3. Baker Tanks (Pittsburgh, California) provided the following prices:

4,000 Gallon Tank	$14/day
Delivery (~4 hrs round-trip)	$57/hour

4. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

5. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil	$11.50/test
Nitrogen, Nitrate Testing, Soil	$28.75/test
CAM 17 Metals Testing, Soil	$421.00/test
Title 22 Ignitability Testing, Soil	$23.00/test

6. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr
Engineer, Report	$95/hr
Hand Auger	$30/day
55 Gallon D.O.T. Drum	$50 ea.
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

7. Drug & Laboratory Disposal, Inc. of (Plainwell, Michigan) provided the following prices:

Water Containing <0.1 V/V Inerted Explosives, Treatment/Disposal	\$3.75/gal
Sludge Containing 50% W/W Explosives, Treatment/Disposal (Assume 10 Pounds/Gallon)	\$4.50/pound

(Explosives include: Cyclonite (CH6), Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Cyclotetramethylenetetranitramine (HMX), Cyclotrimethylenetrinitramine (RDX), Black Powders.)

8. Tri-State Motor Transport Co. (Byron, California) provided the following prices:

Transportation, Hollister, California to Plainwell, Michigan	\$3,831.30/truckload (90-96 55 Gal. Drums)

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-8 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-8 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-8 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-8.

3. Closure of TSU-8 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-8 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment, equipment pads and secondary containment areas where explosive ordnance is stored or otherwise handled, trace explosive contamination is expected. In this case, the equipment and equipment pads will be washed with water whereby trace explosives will be inerted. The wash water (<0.1% v/v inerted explosives) will be collected and sent to the appropriate disposal facility for treatment.

6. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

7. The final batch of waste, ie. 710 gallons of water with <0.1% v/v inerted explosives and 30 gallons of explosive sludge (50% w/w), must be sent off-site for treatment or disposal.

8. Decontamination pressure washing generates an estimated 4,168 gallons of rinse water containing <0.1% v/v inerted explosives that must be collected and sent off-site for treatment. The 710 gallons of water contaminated with inert explosives will be added to this volume yielding an aggregate 4,878 gallons of water containing <0.1% v/v inerted explosives for off-site treatment.

9. A crack is discovered in the each of the two concrete pads (nominally, 16' x 16' and 17' x 17') and, for each pad, two underlying soil samples are taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH, nitrogen (nitrate), and Title 22 ignitability analyses. A single soil sample is taken halfway between the two concrete pads along the path of the suspended charge line at similar depths for similar analyses. Two control samples are taken as well. A soil investigation report must be written.

10. No contamination of groundwater or underlying soil is found to be present at TSU-8. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

11. An acetylene cutting torch is require to cut the two half-tank troughs and frame into manageable pieces before placement in a 20 yd^3 roll-off bin. A backhoe equipped with a hydraulic hammer is required to break the troughs' concrete secondary containment area into manageable pieces for use in erosion control at the site.

12. Certification of closure for TSU-8 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

13. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-8 is $60,000 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-8 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (48 hrs @ $52.50/hr)	2,520
Project Manager (12 hrs @ $103.00/hr)	1,236
Health & Safety Coordinator (12 hrs @ $78.00/hr)	936
Soil Testing (4 hrs @ $65.00/hr)	260
Soil Report (8 hrs @ $950.00/hr)	760
Subtotal	5,712
Equipment: 2 persons, 3 Working Days:	
Pressure Washer (1 day @ $250/day)	250
Safety Equipment (3 day @ $125/person/day)	750
Acetylene Torch (1 day @ $50/day)	50
6,500 Gal Baker Tank (1 day @ $15/day) Delivery/Pick-Up (8 hrs @ $57/hr)	15 456
Backhoe with Hydraulic Hammer (2 days @ $314/day) Mobilization	628 63
1-20 yd^3 Roll-Off (@ $426, first 7 days)	426
Hand Auger (1 day @ $30/day)	30
90-55 Gallon D.O.T. Drums (@ $50/drum)	4,500
Brass Liners, Included in Soil Testing Costs	0
Subtotal	7,168
Waste Processing/Handling:	
4,878 Gal Water w/ <0.1% v/v Inerted Explosives @ $3.75/gal Transportation	18,293 3,831
30 Gal (300 Pounds) Sludge w/ 50% w/w Explosives @ $4.50/pound Transportation (Included Above)	1,350 0

DESCRIPTION	COST, $
2-Stream Profiles @ $250/stream	500
Decontaminated Equipment (Including 2-Half-Tanks, & Stands) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	23,974
Testing:	
21-Soil Samples @ $11.50/pH Test	241.50
21-Soil Samples @ $28.75/Nitrate Test	603.75
21-Soil Samples @ $421.00/CAM 17 Metals Test	8,841
21-Soil Samples @ $23.00/Title 22 Ignitability Test	483
Subtotal	10,169
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	50,023
20% Contingency	10,005
1995 Dollar Total (rounded to nearest $500)	**60,000**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	\$43/hr
Decontamination Supervisor	\$62/hr
Project Manager (25% time of decontamination)	\$103/hr
Health & Safety Manager (25% time of decontamination)	\$78/hr
Pressure Washer	\$250/hr
Personal Safety Equipment	\$125/man/day
Profiling Fees	\$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Profiling Fees	\$200/waste stream

3. Baker Tanks (Pittsburgh, California) provided the following prices:

6,500 Gallon Tank	\$15/day
Delivery (~4 hrs round-trip)	\$57/hour

4. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	\$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

5. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil	\$11.50/test
Nitrogen, Nitrate Testing, Soil	\$28.75/test
CAM 17 Metals Testing, Soil	\$421.00/test
Title 22 Ignitability Testing, Soil	\$23.00/test

6. Sampson Engineering Inc. provided the following prices:

Field Technician	\$65/hr
Engineer, Report	\$95/hr
Hand Auger	\$30/day
55 Gallon D.O.T. Drum	\$50 ea.
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

7. "Building News Incorporated, General Construction 1995 Cost Book," provided the following prices:

Backhoe/Loader, Rubber Tired w/ Hydraulic Hammer & Operator	$280/day
Mobilization	$56

(Must include 1.12 factor for San Francisco area.)

8. A Tool Shed Equipment Rentals Inc. (Santa Cruz, California) provided the following prices:

Acetylene Cutting Torch	$50/day

9. Drug & Laboratory Disposal, Inc. of (Plainwell, Michigan) provided the following prices:

Water Containing <0.1 V/V Inerted Explosives, Treatment/Disposal	$3.75/gal
Sludge Containing 50% W/W Explosives, Treatment/Disposal (Assume 10 Pounds/Gallon)	$4.50/pound

(Explosives include: Cyclonite (CH6), Hexanitrobibenzyl (HNBB), Hexanitrostilbene (HNS), Cyclotetramethylenetetranitramine (HMX), Cyclotrimethylenetrinitramine (RDX), Black Powders.)

10. Tri-State Motor Transport Co. (Byron, California) provided the following prices:

Transportation, Hollister, California to Plainwell, Michigan	$3,831.30/truckload (90-96 55 Gal. Drums)

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-9 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-9 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-9 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-9.

3. Closure of TSU-9 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of two technicians and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-9 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

6. The final batch of waste, ie. 2,000 gallons of corrosive (EPA Waste Code D002) organic solution (amines, imines or nitrosos) assumed to be collected in T-5042, must be sent off-site for treatment or disposal.

7. Two wipe samples will be taken in T-5042's secondary containment area adjacent to the tank for pH analysis by an independent laboratory to verify that no contamination has occurred as a result of the operation of TSU-9. Sampling demonstrates no contamination has occurred.

8. Because the chemical processing plant's equipment pad, upon

which TSU-9 is located with other autonomous processing equipment, drains to a common trench drain and then to two catch tanks, T-780 and T-798, two wipe samples will be taken at the trench drain and triplicate water samples will be taken at each catch tank for pH analysis by an independent laboratory to verify that no contamination has occurred as a result of the operation of TSU-9. Initial sampling demonstrates no contamination has occurred.

9. Decontamination pressure washing of the 2,000 gallon reactor (triple rinsing) and the associated wet scrubber (single rinse to verify neutral pH) generate an estimated 19,700 gallons of rinse water that must be collected and sent off-site for treatment.

10. Because tank T-5042, catch tanks, T-780 and T-798, and the stainless steel scrubber associated with TSU-9 also serve other Teledyne MSO operations, they will not be removed in the context of the closure of TSU-9.

11. Because of the close proximity to autonomous equipment and the physical size of the 2,000 gallon reactor, a crane will be required for closure efforts. An acetylene torch will be required to cut reactor supports.

12. Because the DTSC procedures consider equipment to be decontaminated after triple rinsing, triplicate water samples must be taken from the final rinse of the reactor and T-5042 for pH analysis by an independent laboratory. Triplicate water samples will also be taken after the first rinse of the associated wet scrubber to verify no contamination exists due to TSU-9. A single, background sample of the rinse water used must also be taken. The laboratory results will be used to verify decontamination of the equipment and in the preparation of the certification of closure.

13. A crack is discovered in equipment pad adjacent to 2,000 gallon reactor used for TSU-9 and two underlying soil samples must be taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH, nitrogen (ammonia), nitrogen (nitrate), and nitrogen (Kjeldahl). A single sample is also taken in the trench drain for the same analyses. A single control sample is taken as well. A soil investigation report must be written.

14. No contamination of groundwater or underlying soil is found to be present at TSU-9. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

15. Certification of closure for TSU-9 is prepared by an

independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

16. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-9 is $47,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-9 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (72 hrs @ $49.33/hr)	3,552
Project Manager, (18 hrs @ $103.00/hr)	1,854
Health & Safety Coordinator (18 hrs @ $78.00/hr)	1,404
Soil Testing (8 hrs @ $65.00/hr)	520
Soil Report (8 hrs @ $95.00/hr)	760
Subtotal	8,090
Equipment: 3 persons, 3 Working Days:	
Pressure Washer (3 days @ $250/day)	750
Safety Equipment (3 days @ $125/person/day)	1,125
4,000 Gal Baker Tank (3 days @ $14/day) Deliver/Pick-Up (8 hrs @ $74/hr)	42 592
6,500 Gal Baker Tank (3 days @ $15/day) Delivery/Pick-Up Included Above	45 N/C
15 Ton, Truck-Mounted, Hydraulic Crane & Operator (1 day @ $533/day) Mobilization	533 314
1-20 yd^3 Roll-Off (@$426, first 7 days)	426
1-55 Gal Drum 30 wt% NaOH (@ $2.36/gal)	130
Acetylene Torch (1 day @ $50/day)	50
Hand Auger (1 day @ $30/day)	30
Brass Liners, Include in Soil Testing Costs	0
Subtotal	4,037
Waste Processing/Handling:	
2,000 Gal Corrosive (D002) Organic Solution @ $3.38/gal Transportation	6,760 200

DESCRIPTION	COST, $
19,700 Gal Rinse Water W/ Trace Corrosive (D002) <1% v/v Constituents @ $0.50/gal	9,850
4-Stream Profiles @ $250/stream	1,000
Decontaminated Equipment (Including 2,000 Gallon Reactor & Supports) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	17,810
Testing:	
4-Wipe Samples @ $11.50/pH Test	46
18-Rinse Water Samples @ $11.50/pH Test	207
12-Soil Samples @ $11.50/pH Test	138
12-Soil Samples @ $421.00/CAM 17 Metals Test	5,052
12-Soil Samples @ $27.60/Ammonia Test	331.20
12-Soil Samples @ $40.25/Kjeldahl Test	483
12-Soil Samples @ $28.75/Nitrate Test	345
Subtotal	6,602
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	39,539
20% Contingency	7,908
1995 Dollar Total (rounded to nearest $500)	**47,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Pressure Washer	$250/hr
Personal Safety Equipment	$125/man/day
Profiling Fees	$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Corrosive (D002) Waste Water, Treatment/Disposal	$0.50/gallon
Profiling Fees	$200/waste stream
Hauling	Free in Santa Clara Area

3. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

Corrosive (D002) Organic Solution, Treatment/Disposal	$3.38/gallon
Transportation	$200 "Flat Rate"

4. Oxychem Corporation provided the following prices:

30 wt% Sodium Hydroxide (NaOH)	$400/ton
Blending	$25/ton

5. Baker Tanks (Pittsburgh, California) provided the following prices:

4,000 Gallon Tank	$14/day
6,500 Gallon Tank	$15/day
Delivery (~4 hrs round-trip)	$74/hour ("Dual Rig" rate)

6. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

7. ToxScan (Watsonville, California) provided the following

prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Grab/Soil/Water/Wipe	$11.50/test
CAM 17 Metals Testing, Grab/Soil	$421.00/test
Nitrogen, Ammonia Testing, Soil	$27.60/test
Nitrogen, Kjeldahl Testing, Soil	$40.25/test
Nitrogen, Nitrate Testing, Soil	$28.75/test

8. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr
Engineer, Report	$95/hr
Hand Auger	$30/day
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

9. "Building News Incorporated, General Construction 1995 Cost Book," provided the following prices:

15 Ton, Truck-Mounted, Hydraulic Crane & Operator	$476/day
Mobilization	$280

(Must include 1.12 factor for San Francisco area.)

10. A Tool Shed Equipment Rentals Inc. (Santa Cruz, California) provided the following prices:

Acetylene Cutting Torch	$50/day

This closure cost estimate has been prepared for Teledyne Ryan Aeronautical, McCormick Selph Ordnance's (Teledyne MSO), TSU-10 in accordance with the requirements of California Code of Regulations (CCR), Title 22, Section 66264.142 governing closure and the associated closure cost estimate.

This associated closure cost estimate was prepared using the following assumptions:

1. This closure cost estimate is based upon the system descriptions and operating conditions described in the closure plan prepared by Teledyne MSO as presented in "Chapter IX - Closure Plan," Change 10, submitted to and accepted by the State of California, Department of Toxic Substances Control (DTSC). Any changes in operating procedures, waste stream characteristics or equipment, including auxiliary equipment, affecting TSU-10 will require an update of Teledyne MSO's closure plan and this associated closure cost estimate.

2. Closure of TSU-10 does not include the decontamination or removal of the associated process equipment, accumulation points, and other TSU's which otherwise produce or store waste for TSU-10.

3. Closure of TSU-10 is performed by a third party, independent of Teledyne MSO or its subsidiaries. A decontamination crew is comprised of one technician and one supervisor. A Project Manager and a Health and Safety Coordinator perform front-end analysis of the closure project at 25% time.

4. This closure cost estimate for TSU-10 does not incorporate any salvage value recouped from the sale of wastes, structures, equipment or other assets.

5. All equipment is assumed to be sufficiently decontaminated and disposed of in a Class III landfill.

6. The final batch of waste, ie. 73 gallons of aqueous silver halide solution (<1% v/v) and five pounds (gross) silver plated steel wool, must be sent off-site for treatment or disposal.

7. Decontamination steam cleaning and pressure washing generates an estimated 2,789 gallons of rinse water containing <1% v/v silver halide that must be collected and sent off-site for treatment. The 73 gallons of waste aqueous silver halide solution will be added to this volume yielding an aggregate 2,862 gallons of water containing <1% v/v silver halide for off-site treatment.

8. Because the DTSC procedures consider the plastic equipment to be decontaminated after steam cleaning, using trisodium phosphate (TSP), followed by a single water rinse, wipe samples must be taken from each of the two tailing tanks and the recirculation tank for silver and anion analyses by an independent laboratory. Triplicate water samples from the final rinse of the secondary containment area will also be taken for similar analyses. A single, background sample of the rinse water used must also be taken. The laboratory results will be used to verify decontamination of the equipment and in the preparation of the certification of closure.

9. A crack is discovered in the secondary containment area (20' x 10') and two underlying soil samples are taken at the surface, and at depths of 6" and 12" below the surface for CAM 17 metals, pH and EPA Method 300.0 (anions). A single control sample is taken as well. A soil investigation report must be written.

10. No contamination of groundwater or underlying soil is found to be present at TSU-10. Therefore, soil decontamination and groundwater decontamination costs are not included in the closure cost estimate.

11. Certification of closure for TSU-10 is prepared by an independent, State of California registered, Professional Engineer at a cost of $2,000 (1995).

12. As required by DTSC guidelines, a 20% contingency cost is included.

The associated closure cost estimate, detailed in Table 1, for the TSU-10 is $21,500 (1995 dollars).

Table 1: COST SUMMARY FOR CLOSURE OF TELEDYNE MSO'S TSU-10 (1995 DOLLARS)

DESCRIPTION	COST, $
Labor:	
Decontamination Crew (16 hrs @ $52.50/hr)	840
Project Manager, (4 hrs @ $103.00/hr)	412
Health & Safety Coordinator (4 hrs @ $78.00/hr)	312
Soil Testing (4 hrs @ $65.00/hr)	260
Soil Report (8 hrs @ $90.00/hr)	760
Subtotal	2,584
Equipment: 2 persons, 1 Working Day:	
Steam Cleaner (1 day @ $200/day)	200
Pressure Washer (1 day @ $250/day)	250
Safety Equipment (1 day @ $125/person/day)	250
4,000 Gal Baker Tank (1 day @ $14/day) Delivery/Pick-Up (8 hrs @ $57/hr)	14 456
1-20 yd^3 Roll-Off (@$426, first 7 days)	426
Hand Auger (1 day @ $30/day)	30
Brass Liners, Included in Soil Testing Costs	0
Subtotal	1,626
Waste Processing/Handling:	
2,862 Gal Rinse Water, <1% v/v Silver Halide @ $1.58/gal Transportation	4,522 200
5 Pounds (Gross) Silver Coated Steel Wool @ $75/"5 Gallon Bucket" Manifest @ $50	75 50
2-Stream Profiles @ $250/stream	500

DESCRIPTION	COST, $
Decontaminated Equipment (Including Two Tailing Tanks, Recirculation Tank & Stands) Class III Landfill Charges, Included in Roll-Off Rental	0
Subtotal	5,347
Testing:	
3-Wipe Samples @ $32.20/Silver Test	96.60
3-Wipe Samples @ $86.25/EPA Method 300.0 Test	258.75
4-Rinse Water Samples @ $32.20/Silver Test	128.80
4-Rinse Water Samples @ $86.25/EPA Method 300.0 Test	345
9-Soil Samples @ $11.50/pH Test	103.50
9-Soil Samples @ $421.00/CAM 17 Metals Test	3,789
9-Soil Samples @ $86.25/EPA Method 300.0 Test	776.25
Subtotal	5,498
Certification:	
Professional Engineer @ $2,000/certification	2,000
Subtotal	2,000
Miscellaneous:	
Safety Plan	500
Emergency Plan	500
Subtotal	1,000
Closure Subtotal	18,055
20% Contingency	3,611
1995 Dollar Total (rounded to nearest $500)	**21,500**

NOTES:

1. IT Corporation (San Jose, California) provided the following prices:

Decontamination Technician	$43/hr
Decontamination Supervisor	$62/hr
Project Manager (25% time of decontamination)	$103/hr
Health & Safety Manager (25% time of decontamination)	$78/hr
Steam Cleaner	$200/hr
Pressure Washer	$250/hr
Personal Safety Equipment	$125/man/day
Profiling Fees	$300/waste stream

2. USPCI (San Jose, California) provided the following prices:

Profiling Fees	$200/waste stream

3. Baker Tanks (Pittsburgh, California) provided the following prices:

4,000 Gallon Tank	$14/day
Delivery (~4 hrs round-trip)	$57/hour

4. Number One Disposal (San Jose, California) provided the following prices:

20 yd^3 Roll-Off (7 days & 3 tons included)	$426
Delivery/Hauling	Included
Class III Landfill Disposal Fees	Included

5. ToxScan (Watsonville, California) provided the following prices in November 1991 Fee Schedule, still applicable (includes 15% consultant mark-up):

pH Testing, Soil	$11.50/test
Silver Testing, Wipe	$32.20/test
CAM 17 Metals Testing, Soil	$421.00/test

6. Sequoia Analytical Services (Walnut Creek, California) provided the following prices (includes 15% consultant mark-up):

EPA Method 300.0, Soil/Wipe (Anions)	$86.25/test

7. Sampson Engineering Inc. provided the following prices:

Field Technician	$65/hr

Engineer, Report	$95/hr
Hand Auger	$30/day
Brass Liners	Free (Otherwise Included in Soil Testing Costs)

8. Drew Metals Corporation (Oakland, California) provided the following prices:

Silver Coated Steel Wool, 5# Gross, Disposal/Treatment	$75/"5 Gallon Bucket"
Manifest Fee	$50/shipment

9. Laidlaw Environmental Services (Santa Clara, California) provided the following prices:

Water w/ <1% v/v Silver Halide, Disposal/Treatment	$1.58/gal
Transportation	$200 "Flat Rate"

Attachment IX-2

D. A. Cook & Associates,

"Closure Cost Escalation Estimate", 2/23/05. 1 page

D.A. Cook & Associates
1130 Denise Drive
Calistoga, CA 94515

2005 Closure Cost Escalation Estimate

PSEMC-Hollister Operations
Hollister, California

Rev:	0
Date:	23-Feb-05
By:	DAC
DACA	0120

YEAR	GNPIPD-4Q**	% Change	TSU-1	TSU-2	TSU-3	TSU-8	$ TOTAL
1995 Estimated Cost*:	98.78	BASE	$ 270,500	$ 43,500	$ 223,500	$ 60,000	**$ 597,500**
Estimated Value 1996 $:	100.63	1.873%	$ 275,566	$ 44,315	$ 227,686	$ 61,124	**$ 608,690**
Estimated Value 1997 $:	102.46	1.819%	$ 280,577	$ 45,121	$ 231,826	$ 62,235	**$ 619,760**
Estimated Value 1998 $:	103.62	1.132%	$ 283,754	$ 45,631	$ 234,451	$ 62,940	**$ 626,776**
Estimated Value 1999 $:	105.24	1.563%	$ 288,190	$ 46,345	$ 238,116	$ 63,924	**$ 636,575**
Estimated Value 2000 $:	107.64	2.281%	$ 294,762	$ 47,402	$ 243,547	$ 65,382	**$ 651,092**
Estimated Value 2001 $:	109.74	1.951%	$ 300,513	$ 48,326	$ 248,298	$ 66,657	**$ 663,795**
Estimated Value 2002 $:	110.94	1.093%	$ 303,799	$ 48,855	$ 251,013	$ 67,386	**$ 671,053**
Estimated Value 2003*** $:	113.90	2.668%	$ 311,905	$ 50,158	$ 257,711	$ 69,184	**$ 688,958**
Estimated Value 2004*** $:	116.59	2.362%	$ 319,271	$ 51,343	$ 263,797	$ 70,818	**$ 705,229**

* 1995 (base) dollar estimates are from the individual closure cost estimates provided to Teledyne Ryan Aeronautical, McCormick Selph Ordnance (Teledyne MSO) on January 10, 1996 under Sampson Engineering Inc. (SEI) Project Number 95119. It was SEI's understanding that these cost estimates were to be included in Teledyne MSO's Closure Plan submitted to the DTSC in 1996.

** GNPIPD is the Gross National Product Implicit Price Deflator. In accordance with 22CCR 66264.142(b), the cost estimate is to be updated annually by ratio to this index. Note that data for 4Q2002 is not yet available; therefore the % change for the first three quarters has been projected to an annualized basis in this calculation for 2002.

Note: In developing the updated numbers for the 2002 estimates, errors were noted in the calculations/formulas for the years 2000 and 2001; those errors have been corrected herein. Other errors were noted in February 2005 for 2002 and 2003 estimates, and are corrected herein.

*** In the GNPIPD Tables accessed in September 2004, the base year had been adjusted to 2000 (i.e., year 2000=100.00). A ratio of GNPIPD figures for the 4th Quarter of 2003 vs. 4th Quarter 2000 was used to calculate the GNPIPD-4Q index for 2003. A similar approach was used for the GNPIPD-4Q index for 2004.

Data source: http://www.bea.doc.gov/bea/dn/nipaweb/TableViewFixed.asp#Mid

Attachment IX-3

D. A. Cook & Associates,
"Revised Updated Closure Cost Assumptions and Associated Cost Estimates",
8/20/05 (Revised 1/03/06) 8 pages

D.A. COOK & ASSOCIATES

1130 Denise Drive
Calistoga, CA 94515
P: 707-942-4911 F: 707-942-4724
Email: d_a_cook1@sbcglobal.net

August 20, 2005 (Revised January 3, 2006)

Mr. Charles F. Martin
Manager, Environment & Security
Pacific Scientific Energetic Materials Company/Hollister Division
3601 Union Road
Hollister, CA 95024

RE: Revised Updated Closure Cost Assumptions and Associated Cost Estimates
DACA Project No. 0119

Dear Charlie:

Per our recent discussions and emails, and based on my research over the past several months, D.A. Cook & Associates (DACA) has prepared this letter and attachments. These materials constitute our response to comments from the Department of Toxic Substances Control (DTSC) in their January 7, 2005 "Partial Second Notice of Deficiency..." letter regarding "Closure Related Documents". In particular, the comments related to the McCormick Selph, Inc. Part B application document, Chapters IX and X, and Table X-1 (the Estimated Closure Cost table). In response to additional questions from DTSC on December 16, 2005, this letter and the Attachments A & B have been modified slightly, and Attachment C has been added to clarify the transition from the 1996 to 2004$$ estimate.

The majority of our response has been provided by incorporating the following two documents into the August 12, 2005 DRAFT Part B and the ongoing revisions for the "Final Part B":

- Attachment IX-1 – Sampson Engineering Inc. "Closure Cost Estimate", 1/10/96, 59 pages
- Attachment IX-2 – D.A. Cook & Associates, "Closure Cost Escalation Estimate", 2/23/05, 1 page.

The current site closure cost estimates were originally developed in 1996 by Sampson Engineering Inc. using a simple closure plan and cost assumptions (unit cost estimates, etc.) that were appropriate for that time. This document answers, to a great extent, the majority of the NOD comments (especially comments 1, 2, 3, 5, 6, 7, and 9); text incorporated into the latest version of Chapter IX of the Part B further assists in response. The latest (February 23, 2005) update of the closure costs brings those costs to 2004 dollars and, with the exceptions documented herein, are the source of the numbers in Table X.

This document, to be incorporated into the Part B as Attachment IX-3, will specifically address: 1) how the above attachments are responsive to the DTSC comments; 2) remaining issues (e.g., item 4); and 3) provide the bases for updated costs where appropriate (e.g., sampling costs for wash water, reduction in costs for site decontamination at TSU-1 due to work performed in 1999, etc.). Finally, Table X-1 will be updated to include any cost revisions herein and now includes a line item ("10% Project Oversight Allowance") to address DTSC Item 8. The specific January 2005 NOD items (paraphrased herein) and responses are:

CLOSURE RELATED COMMENTS AND RESPONSES

1. Comment: "Include soil sampling at TSU-2, -3, and -8. Include basis for the soil sampling plan, and unit costs."

Response: Soil sampling at TSU-1, -2, -3, and -4 has been included in past cost estimates under the "title" of "Testing" on Table X-1; Attachment IX-1 provides all sampling assumptions and unit costs for labor, laboratory analysis, report writing, etc. and the final estimated costs based on a supportable, but relatively simple soil sampling plan. Table X-1 has been modified to show these costs as "Environmental Sampling and Analyses." A few adjustments to the "Environmental Sampling and Analysis" costs are shown in the revised assumptions below and attached tables, and incorporated into the latest version of Table X-1.

2 Comment: "Develop a closure plan with appropriate closure performance standards. Such standards may be 'non-detect' (based on specific current lab capabilities), 'background levels', or 'health risk based for unrestricted use of the property'."

Response: Based on our discussions, the text for Chapter IX has been modified to show that the closure performance standards will generally by non-detect for organics, and explosive material anions; background levels for metals and other naturally occurring chemicals (e.g., nitrates/nitrogen) or features (e.g., pH), and health risk based if required to be evaluated. Heath Risk Analyses costs have only been included for TSU-1 to allow clean-up of lead-contaminated soils at that location to unrestricted/residential levels.

3. Comment: "Include disposal of metal aspects of treatment units as either scrap metal (after remediation to appropriate levels) or disposal as hazardous waste (without decontamination)."

Response: Decontamination of metal structures and devices has been included in cost estimates to date; see Attachment IX-1. The assumptions and associated costs have been updated herein.

4. Comment: "Use 'concrete chip samples' instead of wipe samples."

Response: The revised assumptions, unit labor costs, and total costs per TSU are documented herein; the text of both Chapter IX and Table X-1 have been revised to reflect any changes.

5. Comment: "If stay with lead remediation at TSU-1 to an 'industrial standard', provisions for a 'land use covenant' must be included in closure plan."

Response: The text of Chapter IX has been revised to acknowledge that, if no change to using a "restricted use" clean-up standard is made, a land use covenant is required to be attached to the property deed. Given the potential for a revised remediation standard, and an uncertain future closure date, no specific land use covenant is provided.

6. Comment: "Closure cost estimate in Table X-1 is not sufficiently detailed. Provide basis for all assumptions and spread sheet of unit costs and numbers of items."

Response: We have provided (as Attachment IX-1) a scanned, PDF-file format version of the original 1996 detailed cost estimate, have modified the Chapter IX text to verbally describe various assumptions and details, and have provided Attachment IX-2 to demonstrate the method used to bring costs up to current time (2004$$). Other required explanation, additional items and associated costs (see items 1 through 5 and 7 through 9) are incorporated herein.

7. Comment: "Provide details for TSU-1 site decontamination."

Response: Please see the approach under number 6 above, with emphasis on the details under "Site Decontamination." Given the work completed in 1999 to remediate the old TSU-1 and detonation pit area, the majority of these costs have already been expended. See below for the approach and estimated costs for final remediation/closure at TSU-1.

8. Comment: "Include a 10% project oversight cost applied to the entire facility cost to cover 'worst case' DTSC use of subcontractor to oversee site closure if owner is unable to perform the work."

   Response: As noted before, see line item for "10% Project Oversight Allowance" in Attachment C hereto and in the latest Table X-1.

9. Comment: "Include 'worst case' scenario costs for offsite treatment of 100% of waste inventory."

   Response: Per discussions with, and with the approval of, DTSC, we will continue to assume that Explosive Hazardous Waste (EHW) will be treated (and appropriately managed) at the MSI site, using TSU-2 and TSU-1, by appropriately trained third-party contractors. The costs for that approach have been appropriately provided and detailed in Attachment IX-1.

Please note that these responses/approaches will modify the cost of closure, and the cost of insurance/bonding for closure costs on an annual basis.

REVISED ASSUMPTIONS AND COST ESTIMATES (BY TSU)

Please see Attachments A, B, and C to this document.

We have appreciated the opportunity to provide PSEMC with our services on this matter. If you have any questions regarding this document, please do not hesitate to call me at (707) 942-4911 (office) or (831) 818-0390 (cell).

Sincerely,

D. A. COOK AND ASSOCIATES

Douglas A. Cook
Principal

Attachments: A. Revised Assumptions for Closure Cost Estimate

B. Revised Closure Cost Estimates

C. Closure Cost Estimate Transition from 1996 to 2005

ATTACHMENT A – REVISED ASSUMPTIONS FOR CLOSURE COST ESTIMATE

1. SAMPLING OF CONCRETE CONTAINMENT STRUCTURES

In the 1996 Sampson Engineering Inc. Closure Cost Estimate, it was assumed that testing for residual contamination on the surfaces of concrete cylinders and containment structures at TSU-1 and TSU-3 would be performed using wipe samples. No such sampling and analyses were proposed for TSU-2 or TSU-8. Per DTSC direction, that sampling activity will be performed using "concrete chip samples" collected as described in documents provided by DTSC. A simple summary is: a) using a chiseling device or other mechanical means, collect chip samples from a 10 centimeter (cm) by 10 cm area to a depth of approximately 1 inch.

For TSU-1, we revise Assumption 7 by modifying to delete reference to "wipe samples" and substitute "concrete chip samples'. There are no changes to the number of samples (1 per pipe section and 2 from the slab), nor to the types and prices of individual laboratory analyses. The only adjustment is to increase the labor costs due to the difficulty of "chipping" concrete. In the associated cost estimate table, we suggest the addition of 15 minutes of "decontamination crew" labor for each sample, and add an electric jackhammer (at $15/day) to the Equipment/Supplies line; each of these incremental additions is brought to 2004 $$ by multiplying by 1.1803 (the consolidated increase percentage from 1996 to 2004, per Attachment IX-2.

For TSU-2, we add Assumption 9a (after decontamination pressure washing in Assumption 9), as follows: "After pressure washing for decontamination, concrete chip samples are collected at the concrete burn pad (3 samples) and at the unloading area (1 sample) for independent laboratory analysis to verify no contamination exists. The samples are analyzed for pH, nitrates, CAM 17 metals, Title 22 Ignitability, and VOCs (halogenated and aromatic). The laboratory results will be used to verify decontamination of the containment structure and in the preparation of the certification of closure. No contamination is found." In the case where no wipe samples were previously estimated, we suggest using 30 minutes of "decontamination crew" labor for each sample, inclusion of the jackhammer ($15/day) and use of per sample lab costs as described in Attachment IX-1. All costs will be brought to 2004 $$ by multiplying by 1.1803.

For TSU-3, we revise Assumption 7 by modifying to delete reference to "wipe samples" and substitute "concrete chip samples'. There are no changes to the number of samples (1 per bay), nor to the types and prices of individual laboratory analyses (by bay). The only adjustment is to increase the labor costs due to the difficulty of "chipping" concrete. In the associated cost estimate table, we suggest the addition of 15 minutes of "decontamination crew" labor for each sample, and add an electric jackhammer (at $15/day) to the Equipment/Supplies line; as above, each of these incremental additions is brought to 2004 $$ by multiplying by 1.1803.

For TSU-8, we add Assumption 8a (after decontamination pressure washing in Assumption 7), as follows: "After pressure washing for decontamination, concrete chip samples are collected at the concrete unloading pad (2 samples) and at the evaporation area (2 sample) for independent laboratory analysis to verify no contamination exists. The samples are analyzed for pH, nitrates, CAM 17 metals, and Title 22 Ignitability. The laboratory results will be used to verify decontamination of the containment structure and in the preparation of the certification of closure. No contamination is found." In the case where no wipe samples were previously estimated, we suggest using 30 minutes of "decontamination crew" labor for each sample, inclusion of the jackhammer ($15/day) and use of per sample lab costs as described in Attachment IX-1. All costs will be brought to 2004 $$ by multiplying by 1.1803

2. SUBSURFACE SOIL SAMPLING

As noted previously, subsurface sampling was included in the Closure Cost Estimate for all four (4) remaining active TSUs (see Attachment IX-1). We propose no changes to the cost estimates for TSU-2, -3, and -8. However, it should be noted here that soil sampling and analysis costs for

TSU-1 were included in the line item Site Decontamination, as "Sampling & Analytical Testing, Remaining Soil" and totaled $15,000. We propose to delete this amount and add the following new Assumption 8a: "Soil samples for CAM 17 metals analysis are collected from approximately 20 locations in the vicinity of TSU-1 for independent laboratory analysis to identify areas that may exceed the Industrial clean-up goal used previously (in 1999) or a non-restricted Residential clean-up goal yet to be determined. This data, combined with the annual verification lead sampling done every year since 1999, will determine if any additional soil remediation needs to be performed, and to assist in the preparation of the certification of closure." A new cost estimate is prepared in the tables attached hereto.

3. SITE DECONTAMINATION

As noted in the Attachment IX-3 text, significant site decontamination/soil remediation was completed in 1999 and partial closure of TSU-1 was accomplished, with annual sampling of lead contamination in soil to be performed every year before May 1. Such decontamination/remediation effectively completed the work estimated in the 1996 Closure Cost Estimate (Attachment IX-1). Therefore, we propose to delete the amounts estimated for Site Work ($30,000) and Transportation/Disposal ($145,000), each in 1996 $$ and add the following new Assumption 9: " Based on historical data, and the data to be collected in item 8a above, we have assumed that some additional soil will need remediation to the unrestricted use clean up goal. We have assumed it will only be surface soils (less than 1 foot deep) from a limited area, totaling perhaps 25 cubic yards. The soil will be removed from the site for off-site treatment. Subsequent verification sampling (estimated at $2,000) will demonstrate that no contamination of remaining soil or groundwater exists." Using similar assumptions as in 1996, a new "Site Decontamination" cost estimate is prepared in the attached tables.

4. SAMPLING/ANALYSIS AND DISPOSAL OF WASHDOWN WATER

Decontamination of the concrete pads at each of the TSUs by pressure washing and rinsing is expected to decontaminate each of those structures. We have stated as much in the concrete chip sampling discussion. Review of Attachment IX-1 indicates that not all of the TSUs included sampling and analysis of the washdown water, and disposal of same, in the closure cost estimate from 1996. Specifically, such costs were included for TSU-2, -3 and -8 (Waste Processing/ Handling only); such costs were not included for TSU-1 (both sampling/analysis & waste processing/handling), or TSU-2, -3, & -8 (sampling/analysis only), These incremental costs are developed in the Attachment B tables attached hereto.

ATTACHMENT B--REVISED COST ESTIMATES

Sampling of Concrete Containment Structures

TSU-1	Analysis	Samples	Min/Sample	Time	Rate/Unit	Incremental 1996 Added Cost	1996$ to 2004$ Ratio	Incremental 2004 Added Cost
Incremental Labor		4	15	1	$52.50	$52.50	1.1803	$62
Incremental Analytical Costs	CAM 17	0			$421.00	$0.00	1.1803	$0
Incremental Equipment				1	$15.00	$15.00	1.1803	$18
TSU-2								
Incremental Labor		4	30	2	$52.50	$105.00	1.1803	$124
Incremental Analytical Costs	CAM 17	4			$421.00	$1,684.00	1.1803	$1,988
	pH	4			$11.50	$46.00	1.1803	$54
	Nitrate	4			$28.75	$115.00	1.1803	$136
	Title 22 Ignitability	4			$23.00	$92.00	1.1803	$109
	Method 601	4			$149.50	$598.00	1.1803	$706
	Method 602	4			$126.50	$506.00	1.1803	$597
	Incremental Total							$3,589
Incremental Equipment				1	$15.00	$15.00	1.1803	$18
TSU-3								
Incremental Labor		5	15	1.25	$52.50	$65.63	1.1803	$77
Incremental Analytical Costs	CAM 17	0			$421.00	$0.00	1.1803	$0
Incremental Equipment				1	$15.00	$15.00	1.1803	$18
TSU-8								
Incremental Labor		4	30	2	$52.50	$105.00	1.1803	$124
Incremental Analytical Costs	CAM 17	4			$421.00	$1,684.00	1.1803	$1,988
	pH	4			$11.50	$46.00	1.1803	$54
	Nitrate	4			$28.75	$115.00	1.1803	$136
	Title 22 Ignitability	4			$23.00	$92.00	1.1803	$109
	Incremental Total							$2,286
Incremental Equipment				1	$15.00	$15.00	1.1803	$18

Subsurface Soil Sampling

TSU-1	Analysis	Samples	Min/Sample	Time	Rate/Unit	Incremental 1996 Added Cost	2004 to 2005 Ratio	Incremental 2004 Added Cost
Incremental Labor		20	30	10	$52.50	$525.00	1.1803	$620
Incremental Analytical Costs	CAM 17	20			$421.00	$8,420.00	1.1803	$9,938

Site Decontamination

TSU-1	Estimated	Incremental 1996 Added Cost	2004 to 2005 Ratio	Incremental 2004 Added Cost
Site Work, Including Labor & Equipment	$3,000.00	$3,000.00	1.1803	$3,541
Transportation/Disposal, 50 CY of lead contaminated soil	$15,000.00	$15,000.00	1.1803	$17,705
Sampling & Analytical Testing, Remaining Soil	$2,000.00	$2,000.00	1.1803	$2,361
Incremental Total				$23,606

Sampling/Analysis of Washdown Waters

TSU-1	Analysis	Samples	Min/Sample	Time	Rate/Unit	Incremental 1996 Added Cost	1996$ to 2004$ Ratio	Incremental 2004 Added Cost
Incremental Labor		4	15	1	$52.50	$52.50	1.1803	$62
Incremental Analytical Costs	CAM 17	4			$421.00	$1,684.00	1.1803	$1,988
TSU-2								
Incremental Labor		2	15	0.5	$52.50	$26.25	1.1803	$31
Incremental Analytical Costs	CAM 17	2			$421.00	$842.00	1.1803	$994
	pH	2			$11.50	$23.00	1.1803	$27
	Nitrate	2			$28.75	$57.50	1.1803	$68
	Title 22 Ignitability	2			$23.00	$46.00	1.1803	$54
	Method 601	2			$149.50	$299.00	1.1803	$353
	Method 602	2			$126.50	$253.00	1.1803	$299
	Incremental Total							$1,795
TSU-3								
Incremental Labor		20	15	5	$52.50	$262.50	1.1803	$310
Incremental Analytical Costs	Method 8240	20			$196.65	$3,933.00	1.1803	$4,642
	pH	20			$11.50	$230.00	1.1803	$271
	Method 6010	20			$15.18	$303.60	1.1803	$358
	Method 602	5			$126.50	$632.50	1.1803	$747
	Method 8015	10			$138.00	$1,380.00	1.1803	$1,629
	Method 601	5			$149.50	$747.50	1.1803	$882
	Method 300	5			$86.25	$431.25	1.1803	$509
	Incremental Total							$9,039
TSU-8								
Incremental Labor		5	15	1.25	$52.50	$65.63	1.1803	$77
Incremental Analytical Costs	CAM 17	5			$421.00	$2,105.00	1.1803	$2,485
	pH	5			$11.50	$57.50	1.1803	$68
	Nitrate	5			$28.75	$143.75	1.1803	$170
	Incremental Total							$2,722

Washdown Water Processing/Handling

TSU-1	Estimated	Incremental 1996 Added Cost	2004 to 2005 Ratio	Incremental 2004 Added Cost
Transportation/Disposal, 2,000 gallons water with trace lead contamination	$3,200.00	$3,200.00	1.1803	$3,777
2 Stream Profiles @ $250/stream	$500.00	$500.00	1.1803	$590
Incremental Total				$4,367

ATTACHMENT C:
CLOSURE COST ESTIMATE TRANSITION FROM 1996 TO 2005

TSU/DESCRIPTION (COST, $ 2004)	TSU-1				TSU-2				TSU-3				TSU-8				ENTIRE FACILITY	
YEAR OF ESTIMATE	1996	Incremental Change	Rationale	2005	1996	Incremental Change	Rationale	2005	1996	Incremental Change	Rationale	2005	1996	Incremental Change	Rationale	2005	1996	2005
LABOR	7,820	1,410	Incremental increase to 2004$$; multiply by 0.1803		2,584	466	Incremental increase to 2004$$; multiply by 0.1803		7,796	1,406	Incremental increase to 2004$$; multiply by 0.1803		5,712	1,030	Incremental increase to 2004$$; multiply by 0.1803		23,912	
		62	Concrete chip sampling			124	Concrete chip sampling			77	Concrete chip sampling			124	Concrete chip sampling			
		620	Subsurface soil sampling				NA				NA				NA			
		62	Washdown water	9,974		31	Washdown water	3,205		310	Washdown water	9,589		77	Washdown water	6,943		29,711
EQUIPMENT/SUPPLIES	4,782	862	Incremental increase to 2004$$; multiply by 0.1803		3,176	573	Incremental increase to 2004$$; multiply by 0.1803		3,572	644	Incremental increase to 2004$$; multiply by 0.1803		7,168	1,292	Incremental increase to 2004$$; multiply by 0.1803		18,698	
		18	Concrete chip sampling	5,662		18	Concrete chip sampling	3,767		18	Concrete chip sampling	4,234		18	Concrete chip sampling	8,478		22,141
WASTE PROCESSING/HANDLING	17,808	3,210	Incremental increase to 2004$$; multiply by 0.1803		11,659	2,102	Incremental increase to 2004$$; multiply by 0.1803		142,415	25,677	Incremental increase to 2004$$; multiply by 0.1803		23,974	4,323	Incremental increase to 2004$$; multiply by 0.1803		195,856	
		4,367	Washdown water	25,385			NA	13,761			NA	168,092			NA	28,297		235,535
TESTING/ENVIRONMENTAL SAMPLING AND ANALYSIS	2,105	380	Incremental increase to 2004$$; multiply by 0.1803		15,965	2,878	Incremental increase to 2004$$; multiply by 0.1803		29,531	5,324	Incremental increase to 2004$$; multiply by 0.1803		10,169	1,833	Incremental increase to 2004$$; multiply by 0.1803		57,770	
		-	NA			3,589	Concrete chip sampling			-	NA			2,286	Concrete chip sampling			
		9,938	Subsurface soil sampling			-	NA			-	NA			-	NA			
		1,988	Washdown water	14,411		1,795	Washdown water	24,227		9,039	Washdown water	43,894		2,722	Washdown water	17,010		99,542
CLOSURE CERTIFICATION	2,000	361	Incremental increase to 2004$$; multiply by 0.1803	2,361	2,000	361	Incremental increase to 2004$$; multiply by 0.1803	2,361	2,000	361	Incremental increase to 2004$$; multiply by 0.1803	2,361	2,000	361	Incremental increase to 2004$$; multiply by 0.1803	2,361	8,000	9,444
SAFETY PLAN	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	2,000	2,360
EMERGENCY PLAN	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	500	90	Incremental increase to 2004$$; multiply by 0.1803	590	2,000	2,360
SITE DECONTAMINATION	190,000	(15,000)	Eliminate Sampling & Analyltical testing		NA				NA				NA				190,000	
		(30,000)	Eliminate Site Work															
		(145,000)	Eliminate Transportation and Disposal															
		23,606	New estimate for site decontamination	23,606														23,606
INITIAL SUBTOTAL	225,515			82,579	36,384			48,501	186,314			229,350	50,023			64,269	498,236	424,699
10% OVERSIGHT ALLOWANCE	NA			8,258	NA			4,850	NA			22,935	NA			6,427	0	42,470
SUBTOTAL	225,515			90,837	36,384			53,351	186,314			252,285	50,023			70,696	498,236	467,169
20% CONTINGENCY	45,103			18,167	7,277			10,670	37,263			50,457	10,005			14,139	99,647	93,434
TOTAL	270,618			109,004	43,661			64,021	223,577			302,742	60,028			84,835	597,883	560,603
TOTAL, ROUNDED TO NEAREST $500	$270,500			$109,000	$43,500			$64,000	$223,500			$302,500	$60,000			$85,000	$597,500	$560,500

NA - NOT APPLICABLE
1996--Estimate from Sampson Engineering Inc, January 10, 1996 Estimate, by TSU & Category
2005--Revised Estimate by DACA (including identified Attachment B incremental changes)--in 2004$$

Chapter X - Financial Responsibility

A. Financial Assurance Mechanism for Closure

Pacific Scientific Energetic Materials Company, Inc. (PSEMC) has obtained an Environmental Closure and Liability Insurance policy in order to assure financial responsibility for closure of the multiple facilities at the PSEMC Hollister Facility.

B. Financial Assurance Mechanism for Post Closure

No post closure requirements have been established for PSEMC HW management units.

C. Liability Coverage Mechanism

As in Section X.A above, PSEMC has obtained insurance to assure liability coverage for the many facilities at PSEMC's Hollister Facility and for off-site HW hauler activity. The liability policy is available for inspection in the operational records maintained by Support Services.

Such coverage at PSEMC (per CCR Title 22, Section 66264.147) must include coverage for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

Coverage for non-sudden accidental occurrences is not required at PSEMC because there are no hazardous waste management surface impoundments, landfills, land treatment facilities, or disposal miscellaneous units at PSEMC.

D. Third Party Closure

See Table X-1 on the following page for updated third party closure cost estimates as of January 3, 2006. See Sections IX.A & IX.C for details and supporting materials underlying the current closure cost estimates.

Chapter X Attachment

Closure Cost Estimates

TABLE X-1:
CLOSURE COST ESTIMATE

TSU/DESCRIPTION (COST, $ 2004)	TSU-1	TSU-2	TSU-3	TSU-8	ENTIRE FACILITY
LABOR	9,974	3,205	9,589	6,943	29,711
EQUIPMENT/SUPPLIES	5,662	3,767	4,258	8,478	22,165
WASTE PROCESSING/HANDLING	25,386	13,761	168,092	28,297	235,536
ENVIRONMENTAL SAMPLING AND ANALYSIS	14,410	24,233	43,894	14,288	96,825
CLOSURE CERTIFICATION	2,361	2,361	2,361	2,361	9,444
SAFETY PLAN	590	590	590	590	2,360
EMERGENCY PLAN	590	590	590	590	2,360
SITE DECONTAMINATION	23,606	NA	NA	NA	23,606
INITIAL SUBTOTAL	82,579	48,507	229,374	61,547	422,007
10% OVERSIGHT ALLOWANCE	8,258	4,851	22,937	6,155	42,201
SUBTOTAL	90,837	53,358	252,311	67,702	464,208
20% CONTINGENCY	18,167	10,672	50,462	13,540	92,842
TOTAL, $ 2004 (ROUNDED TO NEAREST $500)	109,004	64,029	302,774	81,242	557,049

NA - NOT APPLICABLE

Chapter XI - Corrective Action

A. Overall Evaluation

A complete hydrogeological and chemical evaluation, as well as clean closures of three surface impoundments, were filed with and accepted by the DTSC in 1986. Because there have been no known uncontained spills or releases at the facility (except for TSU-1; see Section B below) to the date of this plan, no corrective actions (except at TSU-1) have been required.

B. RCRA Corrective Action at TSU-1

A RCRA Facility Investigation (RFI) of the vadose zone soil at TSU-1 was conducted between July 1995 and January 1996. As part of the RFI, 76 surface soil samples were collected and tested. In addition, selected soil samples were taken at 1.5 feet below ground surface (bgs), four (4) soil samples were taken at the bottom of the former detonation pit, eight (8) soil samples were taken beneath the former detonation pit up to a depth of 16 feet bgs, and groundwater samples were collected from the detonation pit before and after a detonation event.

A site-specific cleanup goal for lead was established in the human health risk assessment (Risk Science Associates, 1996). The DTSC approved the corrective action cleanup goal for lead of 5,285 milligrams per kilogram (mg/kg). Statistical sampling methods were developed as described in USEPA's Methods For Evaluating the Attainment of Cleanup Standards.

The Corrective Measure Study (CMS) prepared by PES Environmental Inc. (PES) in July, 1998 addressed lead-affected soil found at the RCRA permitted unit TSU-1. TSU-1 at that time was comprised of a burn unit and detonation pit. The lead affected soil was found in the surface soils only. The Corrective Action Plan (CAP) for groundwater at the TSU-1 unit and soil at the detonation pit has been terminated and these areas have since received closure. The corrective action addressed then existing lead-affected surface soils only.

Lead levels were present in surface soils at TSU-1 above the health risk based corrective action goal of 5,285 mg/kg. Lead concentrations ranged from 4.4 to 15,000 mg/kg in surface soils. Subsurface soil samples taken at 1.5 feet bgs had lead concentrations of 4.4 to 17 mg/kg. Non-native surface soil samples taken in the detonation pit had lead concentrations up to 1,100 mg/kg while lead concentrations in the native soils beneath the detonation pit (taken at 5 feet bgs) ranged from 6.4 to 14 mg/kg.

The vertical extent of soil requiring a CAP was less than 1.5 feet bgs. The lateral extent of this soil was roughly 60 feet by 40 feet. Based on corrective action recommended by the U.S. Environmental Protection Agency (EPA) and DTSC for lead contaminated soil, PES recommended soil excavation with off-site disposal to manage these lead contaminated soils. PES also recommended annual sampling of surrounding surface soils in the burn unit area. The depth of the excavation was 1.5 feet bgs followed by verification soil sampling. Where the verification soil samples had lead concentrations less than 5,285 mg/kg, the excavation was backfilled with fill approved by the DTSC. The soil monitoring and removal operations began in spring 1998 and were completed during summer 1998.

In an effort to reduce the potential for further releases to the environment, the structural design of the TSU-1 burn unit was modified in the following ways:

1. The concrete slab was extended from 24 feet by 30 feet to 54 feet by 50 feet;
2. The entrance was improved by installing a 15 feet by 25 feet concrete apron with a loading dock and entry gate;
3. Concrete perimeter walls were installed on all four sides of the burn unit;
4. A 24-foot high roof was installed to covering the entire structure (roof area is 66 feet by 62 feet); and,
5. The area was graded to construct concrete pad and roof.

Soil verification sampling is required to be conducted by May 1 of each year in accordance with the Corrective Measures Study Final Report for Lead Affected Soils, RCRA Unit TSU-1 (PES, July 7, 1998). The first annual soil monitoring event occurred 1 year after the DTSC approved the Corrective Measures Completion Report. The area to be monitored included soil located in areas not covered by the new burn unit modification structures (see the previous paragraph). The area was established based on the “foot print” of lead concentrations exceeding the cleanup goal and areas adjacent to the burn unit that have not had lead concentrations above the cleanup goal. Within forty-five (45) calendar days of soil collection in the vicinity of TSU-1, PSEMC must submit to DTSC a report detailing the results of the soil analysis.

The TSU-1 Annual Lead Verification Sampling has occurred each year since 1999, and was most recently performed in 2015 and reported on June 12, 2015. A copy of this report is included as Attachment XI-1 hereto. In addition, a summary table of the 69 discrete confirmation samples obtained over the last 12 years (2004-present) indicate only one sample exceeded the clean-up goal of 5,295 mg/kg. threshold. Resampling did not confirm the elevated detection. Descriptions of the annual testing program, the analytical results, and conclusions are documented in DACA’s June 12, 2015 “TSU-1 Annual Lead Verification & Background Soil Sampling for 2015” (See Attachment X1-1).

C. Other Site Assessment Activities

Groundwater and soil investigations starting in May 1999 have identified groundwater contamination by volatile organic compounds (VOCs) and perchlorate at several locations at the existing Facility. TDY Industries, LLC/Teledyne McCormick Selph, Inc. has been identified by the Regional Water Quality Control Board as the responsible party accountable for characterizing and cleaning up these historic releases. The sources of the contaminants have not specifically been identified, but the releases are not the operating TSUs that are in the Permit. The full record of investigation and cleanup reports can be found at the State GeoTracker website[11]

Previous environmental investigations have identified an area of the Site directly upgradient from the southeastern side of the lake in the vicinity of the former Thermal Destruct Facility (FTDF) area where elevated concentrations of perchlorate (greater than 1,000 micrograms per liter [μg/L]) were detected in groundwater. Arcadis U.S., Inc. (Arcadis) is currently implementing an Interim Action Work Plan to enhance in situ bioremediation of perchlorate in the vicinity of the FTDF area. Perchlorate was detected in groundwater samples collected from water supply well W-1 in January 2013 and grab groundwater samples collected near well W-1 on the western portion of the Site during a 2013 water supply well investigation. Copies of the most recent investigation reports are included at the end of this Chapter and include:

[11]: GeoTracker Link: < http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL203381276 >

- Attachment XI-2: “*Annual Cleanup Status Report*" (Arcadis, dated 2/1/2016), and
- Attachment XI-3: *"2nd Supplemental Water Supply Well Investigation Report and Updated Conceptual Site Model" (Arcadis, dated 2/26/2016).*

The larger contaminant plume is in the alluvial deposits east of Lake Teledyne in the vicinity of the TSU-3/Thermal Destruct Facility area. A "Corrective Action Plan, Soil and Groundwater Investigation (CAP)" was submitted to the Regional Water Quality Control Board (RWQCB),

Central Coast Region RWQCB is actively regulating this release and additional details can be found on the GeoTracker website.

Chapter XI Attachments

- *2015 Lead Soil Sampling for TSU-1 (6/12/2015)*
- *2016 “Annual Cleanup Status Report" (2/1/2016)*

<u>Attachment XI-1</u>

D. A. Cook & Associates,
TSU-1 Annual Lead Verification & Background Soil Sampling for 2015
6/12/2015, 7 pages

D.A. COOK & ASSOCIATES
1447 2nd Street, Calistoga, CA 94515
P: 707-321-8337 F: 707-942-5102
Email: dacook1447@gmail.com

June 12, 2015

Mr. Charles F. Martin
Manager, Environmental Health and Security
Pacific Scientific Energetic Materials Company/Hollister Division
3601 Union Road
Hollister, CA 95024

RE: TSU-1 Annual Lead Verification Sampling for 2015
DACA Project No. 0427

Dear Mr. Martin:

D. A. Cook & Associates (DACA) has completed annual verification sampling of lead concentrations in surface soil near Treatment Unit 1 (TSU-1) at the Pacific Scientific Energetic Materials Company/Hollister Division (PSEMC) facility in Hollister, California. We are pleased to provide this Summary Report and associated analytical results and findings.

TSU-1 is a permitted treatment unit and is described in the Hazardous Waste Facility Permit dated July 28, 1993 and subsequent permit and permit renewal application documents. TSU-1 is a detonation/burn unit located in the southeast portion of the site. Sampling of soil adjacent to TSU-1 is required under the modified and reissued Hazardous Waste Facility Permit (dated May 27, 1999, January 7, 2003, and most recently May 12, 2006) as an annual monitoring event to evaluate lead concentrations in soil in the vicinity of TSU-1. The area that is monitored annually, specified in the Corrective Measures Study Final Report (dated July 7, 1998), includes corrective action removal areas where lead concentrations previously exceeded the clean-up goal of 5,295 milligrams per kilogram (mg/kg) in addition to areas adjacent to TSU-1 which have not previously exhibited lead concentrations above the clean-up goal. The monitored area is shown as the shaded cells in Figure1 (attached).

SAMPLE COLLECTION AND ANALYSIS

The scope of work for sampling was consistent with the Surface Soil Monitoring Program outlined in the Corrective Measures Study Final Report and the latest Hazardous Waste Facility Permit. Those documents require that a surface soil sample be collected from each of six (6) randomly selected sampling grid cells within the sampling grid (see Figure 1), and then be analyzed for total lead.

Sample locations were selected using a random number generator software program (Segobit Random Number Generator Pro; see www.segobit.com). The sampling grid was superimposed over the specified monitoring area and each grid cell was identified by a sequential alphanumeric numbering system, as shown on Figure 1. The grid locations (e.g., C1, D7, etc.) within the shaded areas were assigned the numbers 1 through 26, starting with cell C1 and working from left to right across and from top to bottom down to H6. The cells are numbered on Figure 2 in accord with this system. The random number generator was used, with numbers from 1 to 26, to randomly select six grid cells from which surface soil samples were collected. The numbers generated (and their corresponding grid locations) were: 25 (H5), 8 (D6), 23 (H3), 24 (H4), 4 (C4), and 10 (E1). These locations are depicted on Figure 1.

The randomly selected sample locations were located on the ground using a tape measure and TSU-1 as the datum to reference the grid. The six surface samples were collected on May 8, 2015 by a DACA staff member from the approximate centroid of the accessible area in the cell. A clean metal shovel was used to collect each sample, and the shovel was decontaminated with distilled water between each sample collection activity. Samples were placed in clean four (4) ounce glass jars, capped with plastic caps with Teflon seals, and immediately placed in a sample container. The samples were submitted to Accutest Laboratories-

Northern California (Accutest, a California Department of Health Services-certified laboratory) in San Jose, California under typical chain of custody control. Accutest analyzed each of the six samples for lead by U.S. Environmental Protection Agency (EPA) Method 6010.

ANALYTICAL RESULTS

The samples were analyzed on April 18, 2014. Analytical results are presented in the following table. A complete copy of the Accutest Technical Report, including quality assurance procedures and the completed Chain of Custody form, is attached hereto.

Sample ID	Date Collected	Lead Concentration (mg/kg*)	Reporting Limit (mg/kg*)
4-C4	May 8, 2015	339	1.7
8-D6	May 8,2015	695	5.4
10-E1	May 8, 2015	34.6	1.6
23-H3	May 8, 2015	393	1.7
24-H4	May 8, 2015	886	1.7
25-H5	May 8, 2015	211	1.8

* mg/kg = milligrams per kilogram

None of the samples collected contained lead concentrations exceeding the clean-up goal of 5,295 mg/kg. All sample results were substantially less than the clean-up goal at percentages ranging from 0.65% to 16.7% of the clean-up goal concentration.

If you have any questions regarding this report, please do not hesitate to call me at (707) 321-8337.

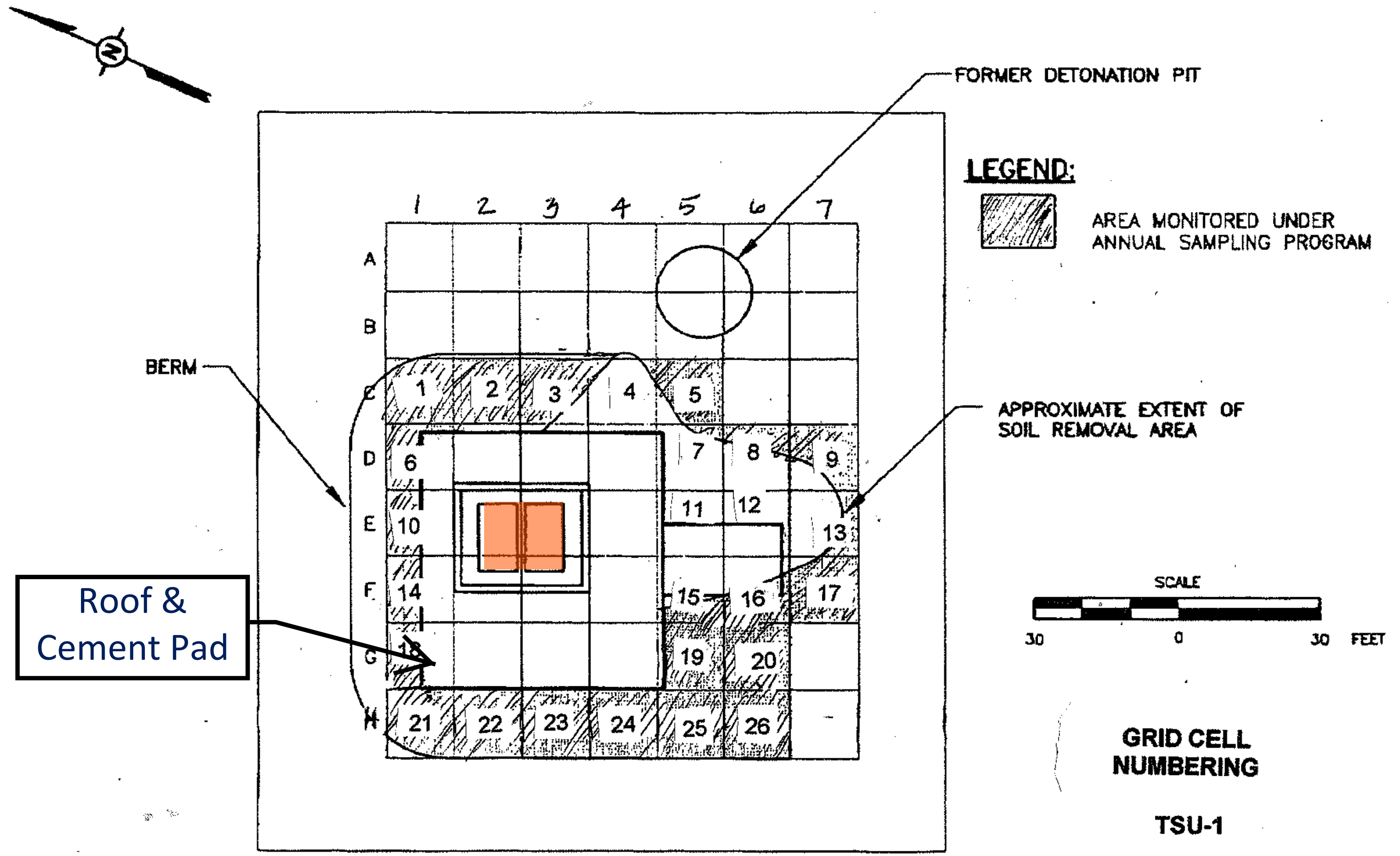
Sincerely,

D. A. COOK & ASSOCIATES

Douglas A. Cook
Principal

DAC/dc

Attachments: Figure 1—Surface Soil Sampling Locations
Figure 2—Grid Cell Numbering
Accutest Laboratories—Northern California Technical Report
Chain of Custody



GRID CELL NUMBERING

TSU-1

PSEMC/HOLLISTER DIVISION
HOLLISTER, CALIFORNIA

FIGURE 2

PROJECT 0408

May 6, 2013

DACA
D. A. COOK & ASSOCIATES
109 Wapoo Avenue, Calistoga, CA 94515
P: 707-942-4911 F: 707-942-4724
Email: d_a_cook1@sbcglobal.net

Annual Verification & Background Sampling; (2004-present).

PSEMC Hollister Lead Sample History--2004 to 2015

Lead in Soil Concentrations in milligrams per killogram (mg/Kg)

Cell Number	Grid Number	2004	2005	2005 Resample	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	C1													
2	C2										294		689	
3	C3	560						181	163		419			339
4	C4		670			1,400								
5	C5				400	440						607		
6	D1							50.1		15.4				
7	D5						640							
8	D6					100		173						695
9	D7	130											161	
10	E1						62		20		88.1	38.8		34.6
11	E5		140							681				
12	E6	350						445		607				
13	E7		6		140				140		109	73.1		
14	F1	42			93	12	54							
15	F5	41							310		3,500			
16	F6					200	350		325				192	
17	F7				4.2		45							
18	G1	73	91		15			317				23.8		
19	G5						750			662				
20	G6								52.6					
21	H1		11,000	260, 180, 76, and 210	180	460							13.5	
22	H2		210							525		1,340		
23	H3							898			973		816	393
24	H4											1,850		886
25	H5									152		545		211
26	H6													
A	BG-1	NA	NA	NA	NA	100	140	164	190	193	216	145	251	99.4
B	BG-2	NA	NA	NA	NA	19	2.6	4.7	4.7	4.9	3.4	4.3	2.3	3.4

PSEMC Hollister Lead Sample History Summary--2004 to 2015

Cell Number	Grid Number	Number of Samples	Range of Results		Averge Concentrations	Notes
			Lead in Soil Concentrations in milligrams per kilogram (mg/Kg)			
1	C1	0	N/A		N/A	
2	C2	2	294 - 689		492	
3	C3	4	163 - 560		331	
4	C4	3	339 - 1,400		803	Lowest result in 2015
5	C5	3	400 - 607		482	
6	D1	2	15.4 - 50.1		32.8	
7	D5	1	N/A		640	
8	D6	3	100 - 695		323	Highest result in 2015
9	D7	2	130 - 161		146	
10	E1	5	20 - 88.1		48.7	
11	E5	2	140 - 681		410	
12	E6	3	350 - 607		467	
13	E7	5	6 - 140		93.6	
14	F1	4	12 - 93		50.2	
15	F5	3	41 - 3,500		1,284	
16	F6	4	192 - 350		267	
17	F7	2	4.2 - 45		24.6	
18	G1	5	15 - 317		104	
19	G5	2	662 - 750		706	
20	G6	1	N/A		52.6	
21	H1	8	13.5 - 11,000		1,547	Without the 11,000, avg = 172
22	H2	3	210 - 1,340		692	
23	H3	4	393 - 973		770	Lowest result in 2015
24	H4	2	886 - 1,850		1,368	Lowest result in 2015
25	H5	3	152 - 545		303	
26	H6	0	N/A		N/A	
Background Samples only from 2007 to 2014						
A	BG-1	9	99.4 - 251		166	Lowest result in 2015
B	BG-2	9	2.3 - 19		5.5	Without the 19, avg = 3.4

D.A. COOK & ASSOCIATES

1447 2nd Street, Calistoga, CA 94515
P: 707-321-8337 F: 707-942-5102
Email: dacook1447@gmail.com

June 12, 2015

Mr. Charles F. Martin
Manager, Environmental Health and Security
Pacific Scientific Energetic Materials Company/Hollister Division
3601 Union Road
Hollister, CA 95024

RE: TSU-1 Background Soil Lead Sampling 2015
DACA Project No. 0427

Dear Mr. Martin:

D. A. Cook & Associates (DACA) has completed annual verification sampling of lead concentrations in surface soil near Treatment Unit 1 (TSU-1) at the Pacific Scientific Energetic Materials Company/Hollister Division facility in Hollister, California. In addition to that work required by the Hazardous Waste Facility Permit, we also collected background soil samples at two (2) locations for your information and for comparison with the concentrations in the specified area; this report provides the associated analytical results, sample collection techniques and locations, and associated findings.

The area monitored under the permit requirements is shown as the shaded cells in Figure 1 (attached). This figure also identifies the approximate locations where the "background samples" were collected.

SAMPLE COLLECTION AND ANALYSIS

The sample collection and analysis program was consistent with the Surface Soil Monitoring Program outlined in the Corrective Measures Study Final Report and the latest Hazardous Waste Facility Permit. Those documents require that a surface soil sample be collected and then be analyzed for total lead.

Sample locations were selected at random to reflect areas outside the monitored area. As noted previously, the sample collection locations are shown on Figure 1. The two (2) background surface soil samples were collected on May 8, 2015 by a DACA staff member. A clean metal shovel was used to collect each sample, and the shovel was decontaminated with distilled water between each sample collection activity. Samples were placed in clean four (4) ounce glass jars, capped with plastic caps with Teflon seals, and immediately placed in a sample container. The samples were submitted to Accutest Laboratories-Northern California (Accutest, a California Department of Health Services-certified laboratory) in San Jose, California under typical chain of custody control. Entech analyzed each of the six samples for lead by U.S. Environmental Protection Agency (EPA) Method 6010.

ANALYTICAL RESULTS

The samples were analyzed on June 1, 2015. Analytical results are presented in the following table. A complete copy of the Accutest Technical Report, including quality assurance procedures and the completed Chain of Custody form, is attached hereto.

Sample ID	Date Collected	Lead Concentration (mg/kg*)	Reporting Limit (mg/kg*)
BG-1	May 8, 2015	99.4	1.8
BG-2	May 8, 2015	3.4	1.7

*mg/kg=milligrams per kilogram

Neither of the samples collected contained lead concentrations exceeding the clean-up goal of 5,295 mg/kg. Both sample results were consistent with (and at BG-2, significantly less than) the range of sample concentrations obtained in the six (6) Annual Lead Monitoring Samples and, as with those samples, were substantially less than the clean-up goal of 5,295 mg/kg. The "background sample" analytical results for this sampling event were also remarkably consistent with background data collected since 2007.

If you have any questions regarding this report, please do not hesitate to call me at (707) 321-8337 (cell).

Sincerely,

D. A. COOK & ASSOCIATES

Douglas A. Cook
Principal

DAC/dc

Attachments: Figure 1—Background Surface Soil Sampling Locations
Accutest Laboratories—Northern California Technical Report
Chain of Custody

Attachment XI-2

"Annual Cleanup Status Report" (Arcadis, dated 2/1/2016), 83 pages

(for the Former Teledyne McCormick Selph, Inc. facility)

Regulated by the Central Coast Regional Water Quality Control Board

TDY Industries, LLC

ANNUAL CLEANUP STATUS REPORT

Former Teledyne McCormick Selph, Inc. Facility
Hollister, California

February 1, 2016

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ANNUAL CLEANUP STATUS REPORT

Former Teledyne McCormick Selph, Inc. Facility
Hollister, California

Prepared for:

TDY Industries, LLC

Prepared by:

Arcadis U.S., Inc.
2000 Powell Street
Suite 700
Emeryville
California 94608
Tel 510 652 4500
Fax 510 652 4906

Our Ref.:

EM011000.0002

Date:

February 1, 2016

Erica Kalve, PG
Senior Geologist

Don Bradshaw, PG
Vice President

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APPENDICES

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this Annual Cleanup Status Report (Report) on behalf of TDY Industries, LLC (TDY) for the Former Teledyne McCormick Selph, Inc., facility located at 3601 Union Road in Hollister, San Benito County, California (the Site or Facility; Figure 1). This report covers the annual reporting period from January 1, 2015, through December 31, 2015. This report presents the performance monitoring results for the annual reporting period following implementation of interim action (IA) measures conducted from 2013 through 2014 in the vicinity of and downgradient of the Former Thermal Destruct Facility (FTDF) on-site. . This report has been developed in accordance with item C.1.a and D of the Central Coast Regional Water Quality Control Board (RWQCB) Cleanup and Abatement Order (CAO) No. R3-2013-0019 issued on June 20, 2013, by the RWQCB (RWQCB 2013).

As required by the CAO (item D), this report contains the annual cleanup status report including summaries of:

1. Historical groundwater and surface water quality and elevation data (in tabular form) collected over time, including data collected in the performance monitoring of the IA perchlorate cleanup downgradient of the FTDF area.
2. The results of select trend analyses.
3. An evaluation of the adequacy of the groundwater and surface water monitoring programs, including an interpretation of chemical data.
4. A proposal for subsequent phases of cleanup, if necessary.
5. A proposal for optimization of the cleanup alternative scenario(s), if appropriate.
6. A determination of whether or not TDY should implement remedial Contingency Plan(s), and rationale that supports the determination in the event Contingency Plan implementation is warranted.

1.1 Interim Action Background Information

Arcadis, on behalf of TDY, submitted an *Interim Action Work Plan* (IAWP; ARCADIS 2013a) on February 28, 2013 and an *Addendum to the IAWP* on April 16, 2013 (Arcadis 2013b) detailing the implementation of enhanced in situ bioremediation (EISB) to address perchlorate in groundwater (Arcadis 2013a). The interim action (IA) was designed to mitigate continued downgradient migration of perchlorate exceeding 1,000 micrograms per liter (µg/L) in groundwater directly upgradient of Lake Teledyne in the vicinity of the FTDF area. The IAWP included an injection well transect that spanned the width and vertical thickness of the 1,000 µg/L perchlorate isoconcentration contour in the lower alluvium as close to the lake as possible.

Installation of the injection wells occurred over two mobilization events, one that began in April 2013 and a second that began in June of 2014. Injection and dose response well installations were described in the Supplemental Investigation Work Plan, dated December 20, 2013 (Arcadis 2013d) and Supplemental Interim Water Supply Well Investigation Report and Interim Conceptual Site Model, dated October 30, 2014 (Arcadis

2014). Post-development baseline groundwater sampling and vertical aquifer profiling confirmed that the injection well network was complete (Figure 2; Arcadis 2014).

Emulsified vegetable oil (EVO)/dye injection events were also implemented over two mobilization events, one occurred in Fall 2013 and the second in Fall 2014. The IA also included a tracer test to estimate the groundwater velocity and distribution of the injection material. A summary of injection activities is provided in Section 2, along with a summary of the single-well tracer test (SWTT) that was performed at MW-8I.

1.2 Site Description

The site is located approximately three miles west of Hollister, California, in a sparsely developed area bounded primarily by agricultural land (Figure 1). The site has operated as an ordnance manufacturing facility since 1971. The site was sold in 1999 and is currently owned and operated by the Pacific Science Energetic Materials Corporation.

- The site is approximately 270 acres and contains a 35-acre man-made lake (Lake Teledyne), which provides water supply for fire-fighting needs at the site (Figure 2). Water levels in the lake are maintained above a minimum level by pumping from two water supply wells located near the western edge of the lake (W-1 and W-2). Water is also purchased from San Benito County Water District to supplement water supplied to the lake.

1.3 Site Geology and Hydrogeology

The site is located in the Coast Range Geomorphic Province (Figure 1) near five active vertical faults, including the Flint Hills West fault (Rogers 1993; previously referred to as the “Unnamed Fault”) that trends across the northeastern corner of the site, and the additional fault that was previously inferred and is now confirmed based on lithologic data collected during implementation of the IAWP. There are two primary geologic units underlying the site: the sedimentary rock of the Purisima Formation and the overlying alluvial deposits that are likely derived from erosion of the Purisima Formation present in hills southeast and east of the site. Alluvial deposits have filled the east-west trending San Juan Valley to thicknesses ranging from 5 feet (near the hills) to greater than 150 feet. The upper 30 to 110 feet of the alluvium are predominantly comprised of low-permeability silt and clay with thin discontinuous lenses of silty sand and are referred to as the upper alluvium. The lower portions of the alluvial deposits are predominantly silty and well-graded sands with minor amounts of gravel and are referred to as the lower alluvial deposits.

The Purisima Formation is generally considered a marine sedimentary deposit, but the lack of fossils in this area makes correlation to the marine Purisima Formation west of the San Andreas uncertain (Rogers 1993). Recent state geologic maps refer to this unit as the Etchegoin Formation (Wagner et al. 2002). This report continues the historical use of Purisima Formation to refer to the unit below the alluvial deposits at the site for consistency with previous site investigation summaries. The Purisima Formation (possibly named the Etchegion Formation instead) is estimated to be approximately 3,000 feet thick and strikes northwest with a dip to the southwest. A regional geologic map of the area indicates that the hills surrounding the site are comprised of a series of anticline and syncline folds.

Previous environmental investigations have identified an area of the site directly upgradient from the lake in the vicinity of the FTDF area where elevated concentrations of perchlorate (greater than 1,000 µg/L) were detected in groundwater. Arcadis implemented the IAWP (Arcadis 2013a) to enhance in-situ bioremediation of perchlorate in the vicinity of the FTDF area (the IA Area). Perchlorate was also detected in groundwater samples collected from water supply well W-1 (Figure 2). Arcadis has also evaluated perchlorate in groundwater in the Water Supply Well Investigation Area (WSWI Area) near well W-1 (Arcadis 2014).

2 INTERIM ACTION IMPLEMENTATION

Interim remedial actions were conducted in accordance with the IAWP to address groundwater concentrations of perchlorate greater than 1,000 µg/L downgradient of the FTDF area. The IA included the injection of EVO and fluorescent tracer dyes into semi-permanent injection wells screened within the lower alluvium (Arcadis 2013a; Arcadis 2013b). Below is a summary of injection activities (which were implemented prior to the reporting period) and observations from performance monitoring.

2.1 EVO/Tracer Dye Injections

This section discusses the logistics of implementing EVO and tracer dye injections in 2013 and 2014.

2.1.1 Eastern EVO/Tracer Dye Injection – Fall 2013

The 2013 EVO injection event involved nine shallow lower alluvial zone wells (IW-2S through IW-10S; Figure 3) and nine deep lower alluvial zone wells (IW-2D through IW-10D; Figure 4). Injection water was provided from three sources: development water from well installation, extracted groundwater, and water from the lake (collectively referred to as reserve water). Reserve water was transferred from holding tanks to one of two designated 20,000-gallon mix tanks (one for shallow well injection and one for deep well injection) and mixed with EVO and tracer dye. Fluorescein tracer dye (fluorescein) was added to the shallow zone mix tank at a target concentration of 30 milligrams per liter (mg/L) and, eosine tracer dye (eosine) was added to the deep zone mix tank at a target concentration of 60 mg/L. EVO was added to both the shallow and deep zone mix tanks at a target concentration of 2 percent by volume as EVO. Injection solution from the shallow and deep zone mix tanks was delivered through dedicated piping to the respective shallow and deep injection wells.

Maximum flow rates into the shallow injection wells ranged from approximately 2 to 5 gallons per minute (gpm), with sustained well head pressures ranging from approximately 2 to 12 pounds per square inch (psi). Maximum injection flow rates into the deep injection wells ranged from approximately 2 to 8 gpm, with sustained well head pressures ranging from 2 to 12 psi. In general, injection flowrates in both the shallow and deep injection wells decreased as injections progressed. The total cumulative injection volumes are summarized in Table 1.

In order to enhance EVO distribution laterally across the transect, well-to-well recirculation was completed in three different steps. During each of these steps, groundwater was extracted from a given well and then injected into an adjacent well. No additional EVO or tracer dye was added during the recirculation. The three steps were configured to allow for recirculation between various well pairs for at least 72 hours each. Additional details of the injection activities is provided in the Interim Action Implementation Report and Annual Cleanup Status Report (Arcadis 2015).

2.1.2 Western EVO/Tracer Dye Injection – Fall 2014

The 2014 EVO injection event involved six shallow injection wells (IW-11S through IW-16S; Figure 3) and three deep injection wells (IW-11D, IW-12D, and IW-13D; Figure 4). In contrast to the 2013 injection event, groundwater recirculation was employed throughout the entirety of the event. While the 2013 event included direct well-to-well recirculation, the 2014 event utilized an extraction-amendment-injection approach. Additional details of the injection activities is provided in the Interim Action Implementation Report and Annual Cleanup Status Report (Arcadis 2015).

Groundwater pumped from extraction wells was directed to a 5,000-gallon holding tank prior to being transferred to one of two 5,000-gallon mix tanks where the extracted groundwater was mixed with EVO and rhodamine WT tracer dye (rhodamine WT). The target injection concentrations of EVO and rhodamine WT were 2 percent by volume as EVO and 40 mg/L, respectively.

Maximum injection flowrates into the shallow injection wells ranged from approximately 2 to 6 gpm, with sustained well head pressures ranging from approximately 10 to 30 psi. Maximum injection flowrates into the deep injection wells ranged from approximately 1 to 2 gpm, with sustained well head pressures ranging from 10 to 30 psi. In general, injection flowrates in both the shallow and deep injection wells decreased as injections progressed. The total cumulative injection volumes are summarized in Table 1.

2.2 Tracer Test Implementation

A tracer test was implemented during both injection events to determine an appropriate volume-to-distribution relationship (i.e., mobile fraction) and the magnitude and direction of the groundwater velocity in the vicinity of the IA area. The transect tracer test included two phases: 1) injection and active dose response monitoring to determine the groundwater mobile fraction; and 2) post-injection downgradient observation to observe the direction and quantify the magnitude of the groundwater velocity. In addition, a SWTT was completed at monitoring well location MW-8I, upgradient of the transect tracer test, to evaluate groundwater velocity in that area.

The tracer test was conducted during the EVO injection, and included the transect of injection wells and strategically placed dose response and downgradient observation monitoring wells. Two unique fluorescent tracers (fluorescein and eosine) were used during the 2013 injection event to bifurcate the groundwater velocity determination over the approximately 60 feet thick lower alluvial deposits. Fluorescein was injected into the shallow lower alluvium (and MW-8I) and eosine was injected into the deep lower alluvium. Rhodamine WT was added into the Fall 2014 EVO injection in the western transect to differentiate between the Fall 2013 transect tracer test as groundwater from the IA area migrates downgradient.

2.2.1 Transect Tracer Test: Injection and Monitoring Wells

The injection wells were arranged in a transect orientation perpendicular to the perceived groundwater flow direction spanning the width of perchlorate impacts exceeding 1,000 µg/L in the lower alluvial. The shallow and deep injection well layout is shown on Figures 3 and 4, respectively.

In conjunction with the shallow and deep injection wells, both the shallow lower alluvium and deep lower alluvium have dose response and downgradient observation monitoring wells. Dose response monitoring wells were installed within the anticipated radius of influence of the injections; while, downgradient observation monitoring wells were installed outside of that area of influence. Specifically, dose response wells within the shallow lower alluvium include AUS-1S and AUS-4S while downgradient observation wells include AUS-2S, AUS-3S, and MW-10I (Figure 3). Likewise, dose response wells within the deep lower alluvium include AUS-1D and AUS-4D while downgradient observation wells include AUS-2D and AUS-3D (Figure 4).

2.2.2 Transect Tracer Test: Injection and Dose Response Monitoring

Injection and dose response monitoring activities specific to the transect tracer test within the eastern transect were conducted between September 3, 2013 and October 16, 2013.

Field data including the injection flowrate, injection pressure, and the total cumulative volume injected was monitored and recorded throughout the injection event. During the injection, grab groundwater samples were collected from the dose response wells (using a peristaltic pump or weighted bailer) at approximately every 10 percent of the planned injection volume (i.e., every 1,300 gallons). The grab groundwater samples were visually screened against pre-made serial dilutions of the injection solution (10X, 100X, and 1,000X dilutions of the injected solution).

2.2.3 Transect Tracer Test: Downgradient Monitoring

After the injection and dose response monitoring phase of the transect tracer test had concluded, groundwater samples were collected and submitted for fluorescein and eosine analysis. The final injection analytical results for fluorescein and eosine serve as the benchmark against which ambient tracer migration is compared at downgradient observation wells that were not influenced during the injection phase of the tracer test. Fluorescein, eosine, and field parameters were monitored per the performance monitoring plan to observe the arrival and washout of the tracers to ultimately calculate the groundwater velocity. Post-injection monitoring will continue in 2016 in accordance with the revised performance monitoring plan (discussed in Section 4).

2.2.4 Single Well Tracer Test

The SWTT was completed on October 8, 2013 at monitoring well MW-8I, using fluorescein, in accordance with the procedure specified in the *Addendum to the IAWP* (Arcadis 2013b). A SWTT was proposed to address comments from the RWQCB that a groundwater velocity determination in the IA area may not be representative of the groundwater velocity at the FTDF area. MW-8I was selected for the SWTT as it is located within the FTDF area. A 40 mg/L solution of fluorescein was prepared and circulated into MW-8I without imposing a hydraulic head, using two submersible pumps. The submersible pumps were turned off after circulating approximately five well volumes and visually confirming that the circulation water appeared similar to a 40 mg/L visual standard. After the tracer was introduced, tracer washout was monitored at three distinct intervals. Groundwater samples from the shallow, middle, and deep intervals of the MW-8I water column were collected at specified time intervals between October 8, 2013 and December 24, 2013 to capture the decrease in fluorescein concentration over time. Groundwater samples were submitted to Ozark Underground Laboratory, Inc. for analysis following standard chain of custody procedures.

2.3 Groundwater Velocity Determination

This section discusses the analysis of the tracer testing conducted at the site as part of the IA.

2.3.1 Single Well Tracer Test Results

Analytical results of fluorescein concentrations from MW-8I over the course of the SWTT are presented in Table 2. Fluorescein concentrations detected in December 2013 are identified as outliers, and are not included in this evaluation. The basis for the outlier suspicion is related to the stagnant water column of fluorescein above the screened interval that may have resulted in tracer migration vertically over a longer monitoring period and unknown variability in municipal regional groundwater pumping operation.

The results indicate that the majority of the observed washout occurred within a month of implementing the SWTT. Specifically, approximately 85 to 90 percent reduction in fluorescein concentration were observed in the shallow, middle, and deep intervals at 24 elapsed days (shallow interval), 7-elapsed days (middle interval), and 2-elapsed days (deep interval) of monitoring. This implies slower washout in the shallow zone and faster washout in the deep zone. This may also be an imposed sampling bias associated with continually disturbing the stagnant water column above the screened interval resulting in some vertical migration into the shallow screen.

The calculated groundwater flux estimate based on the observed washout from the SWTT indicate a range from an estimated 0.009 feet per day (feet/day) in the shallow interval to 0.023 feet/day in the deep interval. The results of the SWTT evaluation are presented below. A normalized tracer washout calculation as a function of time for all wells investigated is presented in the *Interim Action Implementation Report and Annual Cleanup Status Report* (Arcadis 2015).

Well	Zone	Groundwater flux Q_w (feet/day)	Groundwater flux Q_a (feet/day)	Transport velocity (feet/day)	Average velocity (feet/day)
MW-8I	Shallow	0.009	0.0002	0.002-0.017	0.001-0.002
MW-8I	Middle	0.005	0.0013	0.006-0.026	0.002-0.004
MW-8I	Deep	0.023	0.0059	0.003-0.119	0.001-0.017

Notes:
Q_w = Groundwater flux in well

Q_a = Groundwater flux in aquifer

3 ANNUAL CLEANUP STATUS

This section of the report serves to comply with Task D of the CAO No. R3-2013-0019 for the monitoring period of January 1 to December 31, 2015.

3.1 Historical Groundwater and Surface Water Quality and Groundwater Elevation Data

A summary of historical groundwater and surface water quality data and historical groundwater elevation data are included as Tables 3 and 4, respectively, for wells not associated with the performance monitoring program of the IA. Recent groundwater quality data and groundwater elevations from wells included in the IA performance monitoring program are included as Table 5, with laboratory reports presented in Appendix A. Water quality trends graphs are included as Appendix B.

3.2 Trend Analysis

3.2.1 Perchlorate Trend Analysis

Baseline groundwater sampling indicated the presence of perchlorate at wells screened within both the shallow and deep lower alluvial deposit. Since implementing the IA, perchlorate concentrations have decreased in 11 of the 12 monitoring wells in the IA area (Appendix B). Specifically, AUS-1D is the only well that currently has a higher concentration of perchlorate when compared to the baseline sample result. The perchlorate degradation in each of the 12 performance monitoring wells (including AUS-1D) has been variable and for the purpose of this trend analysis, they have been generally grouped into three categories, as follows:

- A subset of monitoring wells, including AUS-1S, AUS-2D, AUS-3D, and MW-2I, generally show very low levels of perchlorate and/or decreasing perchlorate concentrations over the monitoring period. Perchlorate concentration in these wells ranged from 0.63 µg/L at monitoring well MW-2I to 462 µg/L at monitoring well AUS-2D.
- A subset of monitoring wells, including AUS-2S, AUS-3S, AUS-4S, and AUS-13S, had decreasing perchlorate concentrations but have recently started to exhibit rebound over the monitoring period. Perchlorate concentrations in these wells ranged from 75.9 µg/L at monitoring well AUS-3S to 289 µg/L at monitoring well AUS-13S.
- A subset of monitoring wells exhibited marginal decreases in perchlorate concentrations. Specifically, AUS-1D, AUS-4D, MW-2D, and MW-10I. Perchlorate concentrations in these wells ranged from 509 µg/L at monitoring well AUS-1D to 1,600 µg/L at monitoring well MW-2D.

Several factors could contribute to the limited performance observed in localized areas within the treatment area such as heterogeneity in the subsurface and unexpected localized changes in groundwater flow direction in the direct vicinity of the treatment area (as evidenced by the tracer study results). As noted previously, AUS-1D and AUS-4D were installed as dose response monitoring wells and they are located approximately 15 feet from the nearest injection well location (IW-4D and IW-7D, respectively). The other two performance monitoring wells (MW-2D and MW-10I) are also screened across the lower alluvial interval but they have different well construction from other performance monitoring wells due to the fact that they were installed prior to development of the IAWP. In fact, MW-10I may be screened too deep to provide meaningful performance monitoring data.

3.2.2 TOC and Geochemical Trend Analysis

During the baseline groundwater sampling event Total Organic Carbon (TOC) concentrations were observed to be less than 5 mg/L depicting a carbon limited aquifer. Shortly after each injection event, TOC concentrations increased for a short period of time in dose response and downgradient performance monitoring wells (e.g., AUS-4S, AUS-4D, and AUS-13S; Appendix B). This transient increase in TOC is likely attributable to the transport of the soluble fraction (i.e., lactate) of the injected EVO. Following the short dose response observations, TOC concentrations are expected to decrease as the dissolved fraction migrates through the groundwater system and stabilize below 5 mg/L within the study area as the sparingly soluble fraction (i.e., the oil) dissolves into groundwater. Over the monitoring period, TOC concentrations were below 5 mg/L in 11 of the 12 monitoring wells in the IA area with concentrations ranging from 1.4 to 3.7 mg/L. Monitoring well MW-2I has TOC concentrations above 5 mg/L that have decreased over the monitoring period from 13 to 11.6 mg/L. IW-7D is an injection well that is included in the performance monitoring program to evaluate longevity of the injection material and TOC concentrations measured at injection well IW-7D ranged from 5,340 to 5,940 mg/L.

To achieve optimal perchlorate reduction, nitrate reducing conditions are targeted. Perchlorate reduction may still occur under more strongly reducing geochemical conditions, but at slower rates. Biogeochemical samples, including dissolved iron and manganese, nitrate, and sulfate were collected to assess if reducing conditions have been achieved within the reactive zone (Table 5). In general, nitrate (as nitrogen) concentrations decreased throughout the majority of wells following the injection events and they have remained relatively low and below the baseline nitrate concentrations at monitoring wells AUS-1S, AUS-2S, AUS-2D, AUS-3S, AUS-3D, AUS-4S, and MW-2I. Nitrate concentrations at injection well IW-7D are very low with concentrations ranging from 0.02 to 0.06 mg/L. The data indicate that nitrate reduction is occurring, or has occurred, at various locations within the reactive zone. In addition, higher dissolved iron concentrations are present at IW-7D, AUS-4S, MW-2I, and AUS-13S suggesting that iron reduction is occurring at these locations.

3.2.3 Tracer Dye Trend Analysis

The tracer dye was injected as part of the EVO solution to observe the arrival and washout of the tracers at injection wells, dose response wells, and downgradient monitoring wells. Increased, and then decreased (i.e., washout), concentrations of tracer (eosine and fluorescein) have been detected at most downgradient monitoring wells (Appendix B). Tracer monitoring results at downgradient monitoring wells are reported in Table 5 and the results are included in Appendix B. As shown, over the reporting period, fluorescence (shallow alluvial tracer dye) concentrations remained elevated at AUS-2S, AUS-2D, AUS-3S, AUS-4S, and particularly MW-2I, eosine (lower alluvial tracer dye) concentrations were elevated at AUS-3S, AUS-3D, and AUS-4S and rhodamine (2014 injection event tracer dye) was elevated at AUS-13S over the reporting period. The analytical results of the tracer show a decrease of eosine at injection well IW-7D. These results are anticipated as groundwater continues to move through the injection transect, tracer concentrations at the injection wells washout and the injected tracer migrates through the aquifer under ambient conditions.

3.3 Evaluation of the Adequacy of the Monitoring Plan

The groundwater performance monitoring plan (Table 6) has provided sufficient data to continue to evaluate the effectiveness of the IA (see discussion is Section 3.2). The performance monitoring plan will be extended to continue collecting groundwater monitoring data through 2016 to continue evaluating post injection perchlorate reduction. All requested analyses by the RWQCB remain in the proposed 2016 groundwater performance monitoring plan.

3.4 Subsequent Cleanup and Optimization

Perchlorate concentration trends described in Section 3.2 are currently being evaluated to determine when an additional EVO injection event should be performed. As new data is acquired, it will be included in that evaluation. The need for additional EVO injection locations will be determined upon completion of the perchlorate degradation evaluation. No optimizations to the IA are proposed at this time.

3.5 Contingency Plan Assessment

The EVO injection and the short-term recirculation performed as part of the IA was able to distribute TOC over a large portion of the 1,000 µg/L perchlorate isoconcentration contour downgradient of the FTDF source area. Performance monitoring is ongoing. At this time there is no plan to enact a contingency plan.

3.6 Significant Cleanup System Configuration Changes

The IAWP detailed the installation of a transect of injection wells and estimated eight pairs of injection wells spanning the vertical interval of the lower alluvial deposits. The length of the transect was to be based on confirmatory analytical results for perchlorate targeting the 1,000 µg/L concentration. This resulted in 12 pairs of injection wells (shallow and deep) plus three additional shallow lower alluvium injection wells, for a total of 27 injection wells. Due to the extension of the injection transect, the EVO delivery was split into two events: 2013 and 2014. As detailed above, the injection/extraction approach taken in each of these two events was slightly different, but achieved the similar endpoint of delivering EVO to the subsurface.

4 WORK PROJECTED FOR 2016

Additional performance monitoring is planned through 2016 (Table 6). These additional data will serve to more accurately quantify perchlorate reduction, geochemical conditions, and capture tracer washout. Additionally, a summary report of additional investigation activities in the WSWI Area will be submitted for review in February 2016.

5 REFERENCES

Arcadis U.S., Inc. (Arcadis). 2013a. Interim Action Work Plan, Former Teledyne McCormick Selph, Inc. Facility. February 28.

Arcadis. 2013b. Technical Memorandum: Addendum to the Interim Action Work Plan. April 16.

Arcadis. 2013c. Water Supply Well Investigation Report and Interim Conceptual Site Model, Former Teledyne McCormick Selph, Inc. Facility. October 23.

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TABLES

Table 1
Injection Summary Table
Former McCormick Selph, Inc. Facility, Hollister, California

Well	Injection Event	Post-Development Baseline Perchlorate Concentration (µg/L)	Target EVO Concentration (volume percent)	Target Dye Concentration (mg/L)	Dye Type	Total Volume Injected (gallons)
Shallow Injection Wells						
IW-2S	2013	534	2	30	Fluorescein	31,846
IW-3S	2013	426	2	30	Fluorescein	20,043
IW-4S	2013	600	2	30	Fluorescein	13,007
IW-5S	2013	1,460	2	30	Fluorescein	11,956
IW-6S	2013	1,730	2	30	Fluorescein	7,483
IW-7S	2013	1,370	2	30	Fluorescein	13,847
IW-8S	2013	1,360	2	30	Fluorescein	3,481
IW-9S	2013	1,260	2	30	Fluorescein	15,998
IW-10S	2013	1,340	2	30	Fluorescein	6,919
IW-11S	2014 (Steps 1 & 2)	1,210	2	40	Rhodamine WT	4,774
IW-12S	2014 (Step 2)	1,140	2	40	Rhodamine WT	7,518
IW-13S	2014 (Step 1)	1,090	2	40	Rhodamine WT	12,120
IW-14S	2014 (Step 2)	1,160	2	40	Rhodamine WT	1,589
IW-15S	2014 (Step 1)	597	2	40	Rhodamine WT	10,416
IW-16S	2014 (Step 1)	505	2	40	Rhodamine WT	11,090
Deep Injection Wells						
IW-2D	2013	817	2	60	Eosine	29,074
IW-3D	2013	501	2	60	Eosine	20,700
IW-4D	2013	658	2	60	Eosine	8,769
IW-5D	2013	909	2	60	Eosine	19,069
IW-6D	2013	1,110	2	60	Eosine	13,865
IW-7D	2013	1,800	2	60	Eosine	11,525
IW-8D	2013	1,130	2	60	Eosine	12,046
IW-9D	2013	1,210	2	60	Eosine	15,266
IW-10D	2013	1,530	2	60	Eosine	7,351
IW-11D	2014 (Steps 1 & 2)	1,560	2	40	Rhodamine WT	3,143
IW-12D	2014 (Step 2)	1,260	2	40	Rhodamine WT	391
IW-13D	2014 (Step 1)	946	2	40	Rhodamine WT	4,393

Table 2

Single Well Tracer Test Results

Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Screen Interval	Sample Date	Sample Time	Fluorescein (µg/L)
MW-8I	Shallow	10/8/2013	13:04	36,700
		10/10/2013	15:40	21,500
		10/15/2013	17:50	12,900
		10/25/2013	10:00	8,870
		11/1/2013	12:15	6,200
		12/24/2013	16:20	21,100*
	Middle	10/8/2013	13:02	24,300
		10/10/2013	15:42	10,300
		10/15/2013	17:52	4,690
		10/25/2013	10:10	4,900
		11/1/2013	12:20	480
		12/24/2013	16:25	2,850*
	Deep	10/8/2013	13:00	36,100
		10/10/2013	15:44	3,950
		10/15/2013	17:54	3,590
		10/25/2013	10:20	5,950
		11/1/2013	12:25	1,170
		12/24/2013	16:30	4,140*

Notes:

µg/L = micrograms per liter

* = Data identified as outlier and not included in tracer evaluation

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters									
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
EB-2	75 to 101	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/27/1999		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/5/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	NA	2433	NA	NA	NA	NA	NA	NA
		11/5/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	115	2313	NA	NA	NA	NA	NA	NA
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/26/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.28	237	2293	NA	NA	NA	NA	NA	NA
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-118.1	2039	NA	NA	NA	NA	NA	NA
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/27/2009		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.56	97.1	2160	NA	NA	NA	NA	NA	NA
EB-3	52-80	10/27/1999	Purisima Formation	ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-7	75-101	10/28/1999	Purisima Formation	ND (<4)*	ND (0.5)*	0.66	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-8	50-91	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2009		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IB-7	40 to 50	5/21/1985	Upper Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	NA	2505	NA	NA	NA	NA	NA	NA
		11/4 -5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23 - 24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	-8	2599	0.62	ND (0.2)*	230	ND (1)*	2	630
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24 - 25/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.71	100	2429	1.4	ND (0.2)*	230	ND (1)*	2.5	580
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/25/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-149.5	2315	ND (1)*	ND (0.01)*	240	ND (1)*	1.8	560
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/27/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.37	2.9	2661	0.23	ND (0.1)*	233	ND (0.1)*	3.6	546
		6/11/2013		3.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.27	80	2,590	NA	NA	NA	NA	NA	NA
		7/15/2014		0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.61	-94.5	2,843	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.75	118	3,013	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs: 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters: pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
IB-8	50 to 60	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/5/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 20/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7	NA	2773	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 25/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	17	2623	NA	NA	NA	NA	NA	NA
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.99	192	2355	NA	NA	NA	NA	NA	NA
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22, 25/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7	-149.9	2411	NA	NA	NA	NA	NA	NA
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 27/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.81	-90.1	2672	NA	NA	NA	NA	NA	NA
		6/11/2013		3.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		7/15/2014		0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.38	-88.1	2,868	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.31	130.4	2,921	NA	NA	NA	NA	NA	NA
IB-9	35 to 45	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/27/1999		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/24, 27/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/15, 16/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		6/14, 16/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2009		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IB-10	35 to 48	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/27/1999		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	NA	3018	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	28	3106	2.8	ND (0.2)*	840	ND (1)*	1.6	500
		5/24, 27/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	234	2898	3.1	ND (0.2)*	850	ND (1)*	1.6	480
		11/15, 16/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22, 25/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	-145.8	2825	3.4	ND (.01)*	860	ND (1)*	1.5	460
		6/14, 16/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.22	4.2	2872	0.64	ND (.1)*	718	ND (.1)*	7.6	522

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs: 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters: pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
IB-12	50 to 60	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		4.2	ND (0.5)*	1.2	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	0.5	ND (0.5)*	ND (0.5)*	7.1	NA	7268	6.9	ND (0.2)*	1200	ND (1)*	11	740
		11/4, 5/2003		ND (<4)*	ND (0.5)*	2.6	ND (0.5)*	ND (0.5)*	0.62	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	19	6797	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	79	8788	ND (2.2)*	ND (0.2)*	1200	ND (1)*	21	730
		5/25, 27/2004		ND (<4)*	ND (0.5)*	1.8	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	8.1	-39	7533	NA	NA	NA	NA	NA	NA
		8/25, 26/2004		ND (<4)*	ND (0.5)*	2.8	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	253	6765	27	ND (0.2)*	1200	ND (1)*	12	600
		11/15, 16/2004		ND (<4)*	ND (0.5)*	2.3	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	95.7	6031	NA	NA	NA	NA	NA	NA
		2/22/2005		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	-85.1	6999	ND (0.1)*	0.037	1100	ND (1)*	18	780
		6/14, 16/2005		ND (<4)*	ND (0.5)*	1.4	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.6	3.9	7070	NA	NA	NA	NA	NA	NA
		8/24, 26/2009		ND (<12)*	ND (1)*	0.64	ND (1)*	ND (1)*	0.43	ND (1)*	ND (1)*	ND (1)*	ND (1)*	NA	7.49	58	6242	5.5	ND (0.1)*	975	ND (0.01)*	10.1	581
IB-14	60 to 75	10/28/1999	Purisima Formation	ND (<16)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IB-20	55 to 65	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/5/1999		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7	NA	3518	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	30	3698	NA	NA	NA	NA	NA	NA
		5/24, 27/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.68	101	3179	NA	NA	NA	NA	NA	NA
		11/15, 16/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22, 25/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.8	-145	3273	NA	NA	NA	NA	NA	NA
		6/14, 16/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/26/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.23	100.2	2320	NA	NA	NA	NA	NA	NA
IB-24	40 to 50	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		76	3.1	1.1	0.87	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20, 21/2003		64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	NA	3448	97	ND (0.2)*	360	ND (1)*	3.6	250
		11/4, 5/2003		60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.36	19	3673	NA	NA	NA	NA	NA	NA
		2/25, 26/2004		64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	113	3656	98	ND (0.2)*	360	ND (1)*	3.3	340
		5/25, 27/2004		47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-37	3605	NA	NA	NA	NA	NA	NA
		8/26/2004		50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	281	3546	110	ND (0.2)*	480	ND (1)*	5.2	330
		11/16/2004		50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	90	3395	NA	NA	NA	NA	NA	NA
		2/22/2005		34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	-84.3	3267	120	0.011	480	ND (1)*	3.2	310
		6/15, 16/2005		36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	-3.4	3718	NA	NA	NA	NA	NA	NA
		8/27/2009		66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.81	-101.7	3885	23.3	ND (0.1)*	471	ND (0.1)*	5.6	250
IB-25	35 to 45	10/28/1999	Purisima Formation	ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	1.7	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
IB-28	25 to 35	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		5.8	ND (0.5)*	97	ND (0.5)*	ND (0.5)*	7.4	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	ND (0.5)*	100	ND (0.5)*	ND (0.5)*	10	0.65	2.6	0.74	1.5	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		NA	ND (0.5)*	110	ND (0.5)*	ND (0.5)*	13	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20/2003		8.7	ND (0.5)*	160	ND (0.5)*	ND (0.5)*	20	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	NA	5917	77	ND (0.2)*	1100	ND (1)*	3.8	420
		11/4/2003		7.7	ND (0.5)*	160	ND (0.5)*	ND (0.5)*	18	0.66	2.5	0.5	1.3	1.3	7.16	6	6173	NA	NA	NA	NA	NA	NA
		2/25/2004		7.9	ND (0.5)*	90	ND (0.5)*	ND (0.5)*	10	0.52	1.3	0.63	0.52	0.52	7.3	151	6063	60	ND (0.2)*	730	ND (1)*	3.6	630
		/24, 25, 27/200		4.9	ND (0.5)*	61	ND (0.5)*	ND (0.5)*	5.6	ND (0.5)*	0.57	0.93	ND (0.5)*	ND (0.5)*	7.3	-15	6109	NA	NA	NA	NA	NA	NA
		8/24, 25/2004		9.3	ND (0.5)*	97	ND (0.5)*	ND (0.5)*	11	ND (0.5)*	1.1	1.1	0.5	0.5	7.49	236	5871	65	ND (0.2)*	870	ND (1)*	2.9	630
		11/16/2004		7.2	ND (0.5)*	120	ND (0.5)*	ND (0.5)*	17	ND (0.5)*	1.2	1.2	0.59	0.59	7.3	137.8	5582	NA	NA	NA	NA	NA	NA
		2/22/2005		8.3	ND (0.5)*	120	ND (0.5)*	ND (0.5)*	21	0.74	2	0.9	1	1	7.6	-86.6	5262	76	0.023	770	ND (1)*	3.4	650
		6/15, 16/2005		5.7	ND (0.5)*	78	ND (0.5)*	ND (0.5)*	8.4	ND (0.5)*	0.81	1.1	ND (0.5)*	ND (0.5)*	7.3	-28.1	6443	NA	NA	NA	NA	NA	NA
		8/25/2009		ND (<12)*	ND (1.3)*	79	ND (1.3)*	ND (1.3)*	10.5	0.47	0.86	0.51	0.8	NA	7.29	202	5516	18.7	ND (0.1)*	630	ND (0.1)*	3.2	532
IB-29	35 to 45	9/25/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/5/1999		310	ND (0.5)*	0.63	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	1.95	1.95	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/11/1999		280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20/2003		760	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	NA	2157	20	ND (0.2)*	210	ND (1)*	ND (2)*	420
		11/5/2003		190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.15	48	2180	NA	NA	NA	NA	NA	NA
		2/25/2004		25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	25	2240	21	ND (0.2)*	200	ND (1)*	1.5	590
		5/25/2004		630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	-8	2210	NA	NA	NA	NA	NA	NA
		8/26/2004		500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	291	2004	19	ND (0.2)*	180	ND (1)*	2.1	380
		11/16/2004		480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	61.9	1985	NA	NA	NA	NA	NA	NA
		2/24/2005		22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7	-141.8	2015	25	ND (0.1)*	220	ND (1)*	ND (1)*	510
		6/15/2005		350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	89	2385	NA	NA	NA	NA	NA	NA
		8/26/2009		125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	122.1	2029	2.8	ND (0.1)*	159	ND (0.1)*	2	421
		12/3/2010		157	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.74	82.9	1622	2.1	ND (0.1)*	132	ND (0.02)*	ND (1)*	394
		8/23/2012		48.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.54	201.8	1677	2.6	ND (0.1)*	182	NA	ND (1)*	NA
IB-30	58 to 68	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/5/1999		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/5/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/24, 27/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/26/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/15, 16/200		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		6/14, 16/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/26/2009		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
IB-31	45 to 55	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/5/1999		11	ND (0.5)*	5.16	ND (0.5)*	ND (0.5)*	1.89	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		12	ND (0.5)*	3.3	ND (0.5)*	ND (0.5)*	1.2	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20/2003		17	ND (0.5)*	2.3	ND (0.5)*	5.6	0.8	0.5	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.2	NA	4661	84	ND (0.2)*	280	ND (1)*	19	360
		11/4/2003		33	ND (0.5)*	4.1	ND (0.5)*	ND (0.5)*	1.5	0.51	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.39	6	4892	NA	NA	NA	NA	NA	NA
		2/25/2004		5.6	ND (0.5)*	0.77	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	110	3992	20	0.61	120	ND (1)*	8.4	210
		5/25/2004		4.8	ND (0.5)*	1	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	8	-30	5045	NA	NA	NA	NA	NA	NA
		8/26/2004		20	ND (0.5)*	2.8	ND (0.5)*	2.1	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	287	4591	64	ND (0.2)*	240	ND (1)*	5.2	370
		11/16/2004		45	ND (0.5)*	5.1	ND (0.5)*	0.91	1.8	0.83	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	75.1	4322	NA	NA	NA	NA	NA	NA
		2/23/2005		20	ND (0.5)*	1.9	ND (0.5)*	0.92	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	-118.1	3991	19	0.032	81	ND (1)*	6.8	240
		6/15/2005		11	ND (0.5)*	1.5	ND (0.5)*	1.5	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	94.9	5176	NA	NA	NA	NA	NA	NA
		8/25/2009		ND (<8)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	ND (1.0)*	NA	7.51	77	4688	7.4	ND (0.1)*	21.8	ND (0.1)*	19.1	162
IW-2S	17.5-21.5	5/17/2013	Upper Alluvial	821	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27.5-31.5			998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	42-46	5/20/2013		8.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	61-91	6/6/2013	Lower Alluvial	534	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	61 - 91	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-2D	100 to 130	6/6/2013	Lower Alluvial	817	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100 to 130	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-3S	47 to 51	5/22/2013	Lower Alluvial	712	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	48 to 78	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-3D	98 to 128	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-4S	56 to 86	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-4D	100 to 130	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-5S	14.5 to 15.8	5/21/2013	Upper Alluvial	797	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	42 to 62	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-5D	62 to 92	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-6S	58 to 78	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-6D	79 to 99	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-7S	15 to 19	5/15/2013	Upper Alluvial	456	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27 to 31			1510	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	55 to 59	5/16/2013		1120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 80	6/5/2013	Lower Alluvial	1370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 80	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-7D	80 to 110	6/5/2013	Lower Alluvial	1800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80 to 110	7/10/2013	Lower Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-8S	62 to 82	7/3/2013	Lower Alluvial	1360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-8D	82 to 112	7/3/2013		1130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LP-1S	2.5 to 3	8/23/2012	Lakebed	ND (<12)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.62	NA	-314.9	3564	ND (0.25)*	NA	2000	NA	NA	NA
LP-1D	5.5 to 6	8/23/2012		ND (<6)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.25)*	NA	603	NA	NA	NA
LP-2S	2.5 to 3	8/23/2012		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.18	NA	-276.1	5496	ND (0.25)*	ND (1)*	3380	NA	21.4	NA
LP-2D	5.5 to 6	8/23/2012		ND (<12)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.41	NA	-272.1	NA	NA	NA	NA	NA	17.1	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters									
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
MW-1D	88 to 98	4/5/2002	Purisima Formation	37.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/20/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.8	NA	2093	ND (1)*	ND (0.2)*	310	ND (1)*	ND (1)*	660
		11/4/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	24	2150	NA	NA	NA	NA	NA	NA
		2/23/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	128	2241	0.28	ND (0.2)*	330	ND (1)*	1.5	710
		5/25/2004		38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	-43	2236	NA	NA	NA	NA	NA	NA
		8/26/2004		27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	222	2119	ND (10)*	ND (0.2)*	3210	ND (1)*	1.4	680
		11/16/2004		28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	220.6	1954	NA	NA	NA	NA	NA	NA
		2/24/2005		37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	-101.1	1888	3.6	ND (0.01)*	310	ND (1)*	ND (1)*	560
		6/15/2005		33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	176.3	2408	NA	NA	NA	NA	NA	NA
		8/27/2009		17.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.49	-228.4	2174	0.98	ND (0.1)*	307	ND (0.1)*	1.1	611
		12/1/2010		86.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.12	97.6	2219	0.66	ND (0.1)*	247	ND (0.02)*	ND (1)*	678
		8/23/2012		73.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	-124.1	1944	0.85	ND (0.1)*	306	NA	ND (1)*	NA
MW-1I	44 to 64	4/5/2002	Lower Alluvial	2990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		5200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/21/2003		5600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	2992	70	ND (0.2)*	180	ND (1)*	3.4	440
		11/5/2003		4600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	19	3029	75	ND (0.2)*	170	ND (1)*	3.1	430
		2/26/2004		2500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	-74	3077	95	0.39	110	ND (1)*	59	540
		5/26/2004		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	-57	2847	53	ND (0.2)*	230	ND (1)*	7.8	540
		8/26/2004		1900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.19	24	2810	41	ND (0.2)*	220	ND (1)*	4.5	500
		11/17/2004		1700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7	23	2566	38	ND (0.01)*	220	ND (1)*	3.1	500
		2/24/2005		910	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	-121.9	2574	26	ND (0.01)*	210	ND (1)*	2.5	510
		6/16/2005		660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	-23	2775	25	0.8	200	ND (1)*	3.3	550
		8/27/2009		273	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.62	-92.7	2046	2.1	ND (0.1)*	177	ND (0.1)*	2.6	360
		12/1/2010		174	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.45	122.8	1880	1.5	ND (0.1)*	157	ND (0.02)*	1.6	402
		8/22/2012		77.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.44	-196.3	1520	1.3	ND (0.1)*	173	NA	1.6	NA
MW-1S	12 to 27	4/5/2002	Upper Alluvial	5280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		5500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/21/2003		5800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	2769	68	2.3	230	ND (1)*	3.6	470
		11/5/2003		3600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	20	2799	40	ND (0.2)*	250	ND (1)*	2	480
		2/26/2004		4300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-14	2651	35	ND (0.2)*	250	ND (1)*	4.4	490
		5/27/2004		2800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	86	2562	33	ND (0.2)*	250	ND (1)*	2.7	460
		8/26/2004		1300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.62	41	2455	23	ND (0.2)*	200	ND (1)*	3.5	580
		11/17/2004		770	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	46	2211	11	0.055	190	ND (1)*	3.5	630
		2/24/2005		870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-163.5	2251	18	ND (0.01)*	200	2.1	2.8	560
		6/16/2005		610	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-120.5	2477	11	1.2	150	ND (1)*	3.6	720
		8/27/2009		83.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.37	-197.6	2122	10.5	0.13	146	ND (0.1)*	2.9	520
		12/2/2010		124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.23	-86.5	1820	1.9	0.45	145	ND (0.02)*	2.8	429
		8/20/2012		36.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.18	-183	1968	2.9	ND (0.01)*	153	NA	3	NA
MW-2D	117 to 132	8/23/2012	Lower Alluvial	1320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.46	-153.3	2366	11.7	ND (0.1)*	189	NA	2	NA
MW-2I	47 to 62	4/5/2002	Lower Alluvial	359	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/21/2003		1200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	NA	2908	43	ND (0.2)*	310	ND (1)*	ND (2)*	470
		11/5/2003		1200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	18	2849	39	ND (0.2)*	310	ND (1)*	1.7	480
		2/26/2004		1800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	-66	3209	33	ND (0.2)*	300	ND (1)*	24	520
		5/26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.9	-294	3068	ND (1)*	ND (0.2)*	280	3.5	14	540
		8/26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.04	-192	2895	ND (1)*	ND (0.2)*	230	16	3	610
		11/16/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	-272.2	2660	ND (1)*	0.079	240	6.3	3.3	610
		2/25/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	-235.6	2634	ND (1)*	ND (0.01)*	160	5.3	3.1	720
		6/16/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	-190	2827	ND (1)*	2.1	190	ND (1)*	3.1	720
		8/26/2009		148	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.26	-145.9	2577	0.11	ND (0.1)*	323	ND (0.1)*	2.2	424
		12/3/2010		541	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.21	-11.1	2769	3.1	ND (0.1)*	312	ND (0.02)*	2.1	441
		8/22/2012		560	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.99	-297.7	2479	4.2	ND (0.1)*	276	NA	1.8	NA

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Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters								
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
		4/5/2002		78.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/21/2003		69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	NA	2088	19	ND (0.2)*	250	ND (1)*	ND (2)*	640
		11/5/2003		56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	33	2139	NA	NA	NA	NA	NA	NA
		2/26/2004		77	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	145	2155	18	ND (0.2)*	230	ND (1)*	1.4	660
		5/26/2004		64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	92	2192	NA	NA	NA	NA	NA	NA
MW-3I	50 to 70	8/26/2004	Purisima Formation	71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.05	261	2040	20	ND (0.2)*	220	ND (1)*	1.3	570
		11/16/2004		60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	52.8	1919	NA	NA	NA	NA	NA	NA
		2/23/2005		15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-147.5	1963	3.6	0.01	380	ND (1)*	1.5	650
		6/15/2005		10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	20.9	2476	NA	NA	NA	NA	NA	NA
		8/25/2009		79.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	-69.1	2462	4.6	ND (0.1)*	163	ND (0.1)*	ND (1)*	612
		12/3/2010		64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	74	3143	3.7	ND (0.1)*	288	ND (0.02)*	1.9	664
		8/23/2012		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	-212.3	2890	ND (0.25)*	ND (0.1)*	912	NA	3.1	NA
		4/5/2002		410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		510	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/21/2003		370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	NA	1675	19	ND (0.2)*	250	ND (1)*	ND (2)*	390
		11/5/2003		340	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.27	19	1659	NA	NA	NA	NA	NA	NA
		2/26/2004		320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	143	1685	15	ND (0.2)*	220	ND (1)*	1.7	390
		5/26/2004		690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	-64	1665	NA	NA	NA	NA	NA	NA
MW-3S	12 to 22	8/26/2004	Upper Alluvial	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.12	282	1591	17	ND (0.2)*	200	ND (1)*	1.8	330
		11/16/2004		300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	40.7	1491	NA	NA	NA	NA	NA	NA
		2/23/2005		330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	-148.2	1509	17	0.026	220	ND (1)*	1.2	380
		6/16/2005		310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	142.5	1606	NA	NA	NA	NA	NA	NA
		8/27/2009		196	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.65	-103	1588	2.6	ND (0.1)*	179	ND (0.1)*	2.2	314
		12/2/2010		132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.57	60.6	1625	2.4	ND (0.1)*	180	ND (0.02)*	1.8	349
		8/20/2012		79.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.51	-186.6	1584	2	ND (0.1)*	204	NA	1.7	NA
		5/21/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/14/2002		42.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/10/2002		44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	38 to 48	5/21/2003	Purisima Formation	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7	NA	284	29	0.75	11	ND (1)*	ND (2)*	130
		11/5/2003		25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.59	41	285	NA	NA	NA	NA	NA	NA
		2/26/2004		32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-15	740	23	ND (0.2)*	11	ND (1)*	1.4	140
		5/27/2004		26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	85	348	NA	NA	NA	NA	NA	NA
		8/26/2004		15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	37	231	25	ND (0.2)*	33	ND (1)*	1.3	54
		11/17/2004		53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	58	298	NA	NA	NA	NA	NA	NA
		2/24/2005		38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7	-148.7	499	25	ND (0.01)*	18	ND (1)*	ND (1)*	100
		6/16/2005		11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	20.2	287	NA	NA	NA	NA	NA	NA
		8/25/2009		10.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.39	-0.9	326	4.3	ND (0.1)*	7.7	ND (0.1)*	ND (1)*	106
		5/20/2003		18	ND (0.5)*	28	ND (0.5)*	ND (0.5)*	4.8	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	NA	7992	51	0.25	1400	ND (1)*	4.6	650
		11/4/2003		20	ND (0.5)*	28	ND (0.5)*	ND (0.5)*	4.7	ND (0.5)*	0.65	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.37	19	7740	NA	NA	NA	NA	NA	NA
		2/25/2004		25	ND (0.5)*	24	ND (0.5)*	ND (0.5)*	4.2	0.55	0.59	0.5	ND (0.5)*	ND (0.5)*	7.3	44	7776	66	ND (0.2)*	1300	ND (1)*	4.9	820
		5/25/2004		33	ND (0.5)*	24	ND (0.5)*	0.56	4	0.53	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	-27	7516	NA	NA	NA	NA	NA	NA
		8/25/2004		37	ND (0.5)*	29	ND (0.5)*	0.64	4.1	0.62	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.6	241	6899	100	ND (0.2)*	1400	ND (1)*	6.4	740
MW-5S	13 to 23	11/15/2004	Upper Alluvial	40	ND (0.5)*	25	ND (0.5)*	1.3	4	0.86	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	61	6197	NA	NA	NA	NA	NA	NA
		2/24/2005		39	ND (0.5)*	30	ND (0.5)*	1.6	5.2	1.4	0.67	0.53	ND (0.5)*	ND (0.5)*	7.5	-145.5	6198	120	ND (0.01)*	1400	ND (1)*	4.7	690
		6/15/2005		41	ND (0.5)*	24	ND (0.5)*	2.7	4.1	1.1	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	-25.2	7025	NA	NA	NA	NA	NA	NA
		8/25/2009		ND (<8)*	ND (1)*	4.9	ND (1)*	6	0.72	1.3	0.31	0.51	ND (1)*	NA	7.8	36.1	4054	52.3	ND (0.1)*	400	ND (0.1)*	5.5	650
		12/2/2010		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.72	109.8	4142	35.1	ND (0.1)*	396	ND (0.02)*	6.6	711
		8/21/2012		6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.37	-129.3	3445	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters								
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
MW-6S	15 to 35	5/20/2003	Upper Alluvial	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	3600	24	ND (0.2)*	470	ND (1)*	5.4	630
		11/5/2003		790	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.02	49	3576	NA	NA	NA	NA	NA	NA
		2/25/2004		1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	112	3729	59	ND (0.2)*	260	ND (1)*	3.9	550
		5/25/2004		1500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	-73	3677	NA	NA	NA	NA	NA	NA
		8/26/2004		1500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.01	289	3512	82	ND (0.2)*	280	ND (1)*	3.3	390
		11/16/2004		990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	74	3562	NA	NA	NA	NA	NA	NA
		2/23/2005		650	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	-130.1	3802	72	0.023	290	ND (1)*	3.5	470
		6/15/2005		720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	64.6	4400	NA	NA	NA	NA	NA	NA
		8/25/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.41	-132.9	2850	0.29	ND (0.1)*	311	ND (0.01)*	4.4	763
		12/2/2010		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.27	36.5	2739	ND (0.1)*	ND (0.1)*	233	ND (0.02)*	5.5	869
		8/21/2012		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.09	-272.1	2021	NA	NA	NA	NA	NA	NA
MW-7S	15 to 25	5/20/2003	Upper Alluvial	ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	NA	1591	20	ND (0.2)*	250	ND (1)*	1.8	320
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	213	1605	16	ND (0.2)*	250	ND (1)*	2.2	330
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/25/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.7	275	1518	18	ND (0.2)*	230	ND (1)*	1.5	320
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-134.9	1440	19	0.021	240	ND (1)*	1	340
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/27/2009		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.36	-71.1	1489	2.6	ND (0.1)*	213	ND (0.1)*	2.7	269
		12/2/2010		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.22	51.7	1483	2.5	ND (0.1)*	197	ND (0.02)*	1.7	324
		8/21/2012		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.25	-218.2	1373	NA	NA	NA	NA	NA	NA
MW-8S	19.5 to 29.5	8/21/2012	Upper Alluvial	221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	-250.1	1711	4.6	ND (0.1)*	152	NA	2	NA
MW-8I	82 to 92	8/22/2012	Lower Alluvial	997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.56	-157.3	2324	10.4	ND (0.1)*	191	NA	1.6	NA
MW-8	87-90	7/12/2012		888	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8D	115 to 125	8/23/2012	Purisima Formation	144	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.77	172.6	1866	3.4	ND (0.1)*	155	NA	ND (1)*	NA
MW-8	123 to 126	7/18/2012		57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-9S	15 to 25	8/21/2012	Upper Alluvial	113	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.51	-331	1501	4	ND (0.1)*	158	NA	2.3	NA
MW-9I	75 to 85	8/22/2012	Lower Alluvial	1410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.59	-207.3	2675	11.7	ND (0.1)*	163	NA	2.9	NA
MW-9	100 to 105	7/11/2012		848	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-9D	112 to 122	8/23/2012	Purisima Formation	475	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.43	89.8	2191	7.1	ND (0.1)*	215	NA	1.2	NA
MW-9	118 to 133	7/16/2012		184	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-10S	15 to 25	8/21/2012	Upper Alluvial	497	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-282.3	1860	4.4	ND (0.2)*	229	NA	2.3	NA
MW-10I	75 to 85	8/22/2012	Lower Alluvial	1680	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.55	-174.1	2703	9.9	ND (0.1)*	399	NA	2.4	NA
MW-10D	115 to 125	8/23/2012	Purisima Formation	267	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.38	68.9	2136	ND (0.25)*	ND (0.1)*	234	NA	1.4	NA
MW-10	120 to 125	7/17/2012		284	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-11S	15 to 25	8/21/2012	Upper Alluvial	264	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.63	-275.2	1750	1.2	ND (0.1)*	187	NA	1.9	NA
MW-11I	42 to 52	8/23/2012	Lower Alluvial	542	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.77	-152	1906	2.4	ND (0.1)*	185	NA	1.9	NA
MW-11	81 to 85	7/24/2012	Purisima Formation	278	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters									
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
SB-2	25 to 30	5/21/1985	Upper Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		340	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/29/2002		417	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9, 10/2002		540	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	NA	3608	41	ND (0.2)*	260	ND (1)*	ND (2)*	420
		11/4, 5/2003		610	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	29	3591	45	ND (0.2)*	230	ND (1)*	1.9	410
		2/23, 26/2004		830	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5	20	3609	47	ND (0.2)*	230	ND (1)*	2.2	380
		5/24, 27/2004		1100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	183	3752	60	ND (0.2)*	150	ND (1)*	3.1	360
		8/24, 26/2004		910	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.71	108	3289	48	ND (0.2)*	160	ND (1)*	2.2	390
		11/15, 16/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	-165	3140	39	0.017	130	ND (1)*	9.3	600
		2/22, 25/2005		55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-175.6	3401	3.2	ND (0.1)*	67	1.8	38	950
		6/14, 16/2005		740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	-138.9	3649	34	8.3	80	ND (1)*	22	960
		8/24, 26/2009		1300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.52	-40.1	2812	10.5	ND (0.1)*	179	ND (0.1)*	2.4	414
		12/1, 3/2010		319	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.37	-27	756	2.3	ND (0.1)*	187	ND (0.02)*	3.3	420
		8/20/2012		312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.46	-108.3	2360	2.2	ND (0.1)*	167	NA	2.3	NA
SB-3	15 to 20	5/21/1985	Upper Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/27/1999		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2009		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4	24 to 30	5/21/1985	Upper Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/5/1999		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	NA	3012	NA	NA	NA	NA	NA	NA
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23, 24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	30	3287	ND (0.4)*	ND (0.2)*	200	ND (1)*	4.3	770
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/25, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.63	128	3006	ND (1)*	ND (0.2)*	190	ND (1)*	4	750
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22, 25/2006		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	-141.2	2935	ND (1)*	ND (0.01)*	190	ND (1)*	3.6	740
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/27/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.29	-200.1	3455	ND (0.1)*	0.12	155	ND (0.1)*	3.6	847
		6/11/2013		3.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.00	-76	3,950	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.75	92.8	5,076	NA	NA	NA	NA	NA	NA

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					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
SB-5	25 to 30	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		ND (<15)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	NA	5051	NA	NA	NA	NA	NA	NA
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	11	5699	4.9	ND (0.2)*	1600	ND (1)*	3.4	520
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/25, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.69	255	5087	6.5	ND (0.2)*	1700	ND (1)*	3	500
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/22, 24/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-118	6089	5.8	ND (0.01)*	1800	ND (1)*	3.2	430
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2009		ND (<12)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.34	-17	4742	1.1	ND (0.1)*	1540	ND (0.1)*	2.6	463
SB-6	25 to 30	5/21/1985	Upper Alluvial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		ND (<16)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	ND (2.5)*	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		NA	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.5	NA	2922	20	ND (0.2)*	2400	ND (1)*	12	400
		11/4/2003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		/22, 24, 25/200		ND (<4)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.3	94	6685	12	ND (0.2)*	1800	ND (1)*	8.9	580
		5/24/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 26/2004		NA	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.7	215	6009	18	ND (0.2)*	2400	ND (1)*	9.5	510
		11/15/2004		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		2/23/2005		NA	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	ND (0.5)*	7.4	-41.1	6875	18	0.11	2500	ND (1)*	7	500
		6/14/2005		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		8/24, 25/2009		NA	ND (1)*	ND (1)*	ND (1)*	ND (1)*	ND (1)*	ND (1)*	ND (1)*	ND (1)*	ND (1)*	NA	7.75	-36.1	7229	3.4	ND (0.1)*	2740	ND (0.1)*	9.6	579
W-1*	60 to 160	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	NA	2517	NA	NA	NA	NA	NA	NA
		11/5/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.13	140	2471	NA	NA	NA	NA	NA	NA
		2/23/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	102	2483	NA	NA	NA	NA	NA	NA
		5/24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	188	2514	NA	NA	NA	NA	NA	NA
		8/24/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	59	2344	NA	NA	NA	NA	NA	NA
		11/15/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	184.5	2479	NA	NA	NA	NA	NA	NA
		2/22/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.3	185	2267	NA	NA	NA	NA	NA	NA
		6/14/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.9	182	2646	NA	NA	NA	NA	NA	NA
		8/27/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.69	42.1	2817	NA	NA	NA	NA	NA	NA
		7/12/2014		**11.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
W-2*	50 to 110	5/21/1985	Purisima Formation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		9/25/1985		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/28/1999		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		11/19/1999		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4/4/2002		ND (<3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/9/2002		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		5/19, 21/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.3	NA	2955	NA	NA	NA	NA	NA	NA
		11/4, 5/2003		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.12	29	2547	NA	NA	NA	NA	NA	NA
		2/23, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	51	2689	NA	NA	NA	NA	NA	NA
		5/24, 27/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	174	2750	NA	NA	NA	NA	NA	NA
		8/24, 26/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.22	26	2506	NA	NA	NA	NA	NA	NA
		11/15, 16/2004		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	221	2445	NA	NA	NA	NA	NA	NA
		2/22/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2	67	2594	NA	NA	NA	NA	NA	NA
		6/14, 16/2005		ND (<4)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	195.8	3055	NA	NA	NA	NA	NA	NA
		8/26, 27/2009		ND (<8)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.62	0.2	2960	NA	NA	NA	NA	NA	NA
		6/5/2014		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA
107-13	5	3/12/2001	Purisima Formation	ND (<4)	ND	6.3	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
109-17	15	3/29/2001	Upper Alluvial	19	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
109-18	15	3/29/2001	Upper Alluvial	5000	ND	0.78	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
TSU3-20	3	3/8/2001	Upper Alluvial	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	3/29/2001		3500	4.2	ND	ND	ND	1.8	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Z5-31	5	3/9/2001	Purisima Formation (landslide)	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
TSU5-34	--	3/8/2001	--	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF-35	25	3/29/2001	Purisima Formation	40	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
SF-36	20	3/29/2001	Purisima Formation	ND (<4)	ND	10	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-37	41.5	3/28/2001	Purisima Formation	160	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-37D	41.5	3/28/2001	Purisima Formation	170	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-1- 46.5	42 to 46.5	9/5/2001	Lower Alluvial	3400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-1- 53.5	51.5 to 53.5	9/4/2001		2280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-1D	51.5 to 53.5	9/4/2001	Lower Alluvial	2400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-2	57.5 to 60.5	9/6/2001	Purisima Formation	3190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-2D	57.5 to 60.5	9/6/2001		3040	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-3	52 to 53.5	9/6/2001	Purisima Formation	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-4	15 to 20	9/4/2001	Upper Alluvial	588	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-5-60	55 to 60	9/6/2001	Purisima Formation	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-5-78.5	72.5 to 78.5	9/7/2001		ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-6	40 to 45	10/19/2001	Purisima Formation	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-7-25	20 to 25	9/5/2001	Alluvial Deposits	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-7-43	38.5 to 43	9/4/2001	Purisima Formation	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-9	80 to 85	10/19/2001	Purisima Formation	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-10	50 to 55	10/19/2001	Purisima Formation	19.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-10D	50 to 55	10/19/2001		18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-11	70 to 80	9/6/2001	Purisima Formation	10.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-12	70.5 to 80	9/5/2001	Purisima Formation	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-12D	70.5 to 80	9/5/2001		ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-13	10.0 to 20	9/5/2001	--	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
HP-FB	NA	9/7/2001	--	ND (<3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-1	55 to 60	10/2/2000	Purisima Formation	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-3	72 to 75	9/29/2000	Purisima Formation	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-4	35 to 40	10/2/2000	Purisima Formation	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-5	35 to 40	10/2/2000	Purisima Formation	ND (<4)	ND	3.2	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-6	13 to 18	9/29/2000	Upper Alluvial	4700	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 42	9/28/2000		5200	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters								
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
CPT-7	7 to 12	10/2/2000	--	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39 to 48	9/28/2000	--	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-8	10 to 20	10/2/2000	Upper Alluvial	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45 to 55	9/29/2000		ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-9	37 to 48	9/29/2000	--	ND (<4)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CPT-10	55 to 60	9/28/2000	Purisima Formation	55	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-01	15 to 20	12/10/2010	Upper Alluvial	868	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39 to 44		Lower Alluvial	807	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	64 to 84		Purisima Formation	123	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-03	12 to 22.0	12/8/2010	Upper Alluvial	67.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12 to 22.0			72.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45 to 48		Lower Alluvial	55.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-04	16 to 26	12/10/2010	Upper Alluvial	716	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	46 to 56		Lower Alluvial	293	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-05	31 to 41	12/9/2010	Lower Alluvial	ND (3)*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-06	27 to 37	12/10/2010	Upper Alluvial	50.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	50 to 60		Lower Alluvial	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-07	22 to 27	12/1/2010	Upper Alluvial	344	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	45 to 50		Lower Alluvial	722	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	85 to 90		Purisima Formation	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-08	17 to 22	12/2/2010	Upper Alluvial	572	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	38 to 48		Lower Alluvial	1180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 69			1470	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-09	19 to 24	12/3/2010	Upper Alluvial	1600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	59 to 64		Lower Alluvial	126	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-10	32 to 37	12/6/2010	Upper Alluvial	931	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	63 to 70		Lower Alluvial	690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-11	39 to 49	12/7/2010	Upper Alluvial	417	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 65		Lower Alluvial	542	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-12	9 to 19.0	12/7/2010	Upper Alluvial	272	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	56 to 61		Lower Alluvial	756	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-13	20 to 25	12/7/2010	Upper Alluvial	136	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	35 to 50	12/8/2010	Lower Alluvial	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-14	12 to 22.0	12/8/2010	Upper Alluvial	57.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	51 to 61		Lower Alluvial	276	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TDCPT-15	23 to 38	12/9/2010	Upper Alluvial	65.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	72 to 79		Lower Alluvial	562	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TD-16	112 to 113	7/9/2012	Purisima Formation	ND (1.6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TD-17	55 to 60	7/10/2012	Lower Alluvial	57.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	85 to 87	7/18/2012	Purisima Formation	ND (1.6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TD-18	113 to 115	7/25/20012	Lower Alluvial	710	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	133 to 137	7/27/20012	Purisima Formation	7.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring A	40 to 44	7/9-15/2013	Purisima Formation	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	50 to 54			<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	70 to 74			Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	90 to 94			4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110 to 114			9.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	130 to 134			12.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	150 to 154			<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	170 to 174			6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 184			2.7 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	190 to 194			1.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters								
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
Boring B	40 to 44	7/19-30/2013	Purisima Formation	1.9 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 64			2.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	70 to 74			1.9 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	90 to 94			1.9 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110 to 114			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	130 to 134			2.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	150 to 154			8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	170 to 174			2.7 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 184			1.2 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	190 to 194			2.2 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring C	40 to 44	8/14 to 8/16/2013	Purisima Formation	163*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 64			3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	70 to 74			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	90 to 94			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110 to 114			1.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	150 to 154			1.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	170 to 174			1.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 184			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Broing D	40 to 44	8/23-28/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 64			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	70 to 74			1.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	90 to 94			1.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110 to 114			0.99 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	130 to 134			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	150 to 154			1.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	170 to 174			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 184			<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring E	40 to 45	5/5/2014	Purisima Formation	0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	63 to 65			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80 to 82			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100 to 102			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120 to 122			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	147 to 149			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring F	20 to 21	5/20-21/2014	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 43			**23.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60.8 to 61			**10.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	82 to 84			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102 to 104			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120 to 121			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	142 to 143			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	162 to 163			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring G	23 to 25	5/7-12/2014	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	42.5 to 45			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	62.5 to 63			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	82.5 to 83			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103 to 105			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	122 to 125			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	142 to 142.5			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160.5 to 161			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring H	20 to 24	4/29/2014	Purisima Formation	0.63 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 45			0.63 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 63			0.31U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
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Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs 1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	Additional Parameters pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
Boring I	20 to 22	8/3-5/2015	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 42			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 62			3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80 to 82			**25.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100 to 102			**20.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120 to 122			1.3J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	140 to 142			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160 to 162			**9.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 182			**7.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	200 to 202			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring J	20 to 22	9/16-18/2015	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 42			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 62			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80 to 82			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100 to 102			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120 to 122			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	140 to 142			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160 to 162			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 182			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring K	20 to 22	8/24-28/2015	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40 to 42			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60 to 62			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80 to 82			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100 to 102			**10.7**[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120 to 122			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	140 to 142			4.4[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160 to 162			4.2J[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 to 182			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	200 to 202			1.0J[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	220 to 222			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	240 to 242			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	260 to 262			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	280 to 282			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	290 to 292			0.75U[d]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boring L	20-22	9/22-24/2015	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40-42			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-62			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80-82			5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100-102			**21.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-122			**20.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	140 - 142			**22.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160 - 162			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 - 182			1.8J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	200 - 202			**21.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3
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Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters									
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
Boring M	20-22	10/29 to 11/3/2015	Purisima Formation	dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40-42			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	60-62			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	80-82			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100-102			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-122			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	140 - 142			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	160 - 162			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	180 - 182			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	200 - 202			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	220 - 222			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	240 - 242			dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	260 - 262			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	280 - 282			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	300 - 302			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	320 - 322			1.5J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	340 - 342			3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	360 - 362			0.65U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AUS-5A	40 - 50	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.95	-1	3,700	0.12 J	<200	NA	NA	3.5	NA
		7/15/2014		7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.05	-133.8	3,636	NA	NA	NA	NA	NA	NA
		7/17/2015		16.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.87	0.8	3,519	NA	NA	NA	NA	NA	NA
		12/8/2015		**11.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA
AUS-5B	120 - 140	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.36	-174	1,900	<0.058	4150	NA	NA	3.3	NA
		10/4/2013 (dup		<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	1.0	3,871	<0.058	4940	NA	NA	3.4	NA
		7/17/2015		6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.18	72.8	3,180	NA	NA	NA	NA	NA	NA
		12/8/2015		**3.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA
AUS-5C	180 - 195	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.35	-78	1,300	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.98	-71.4	1,090	NA	NA	NA	NA	NA	NA
AUS-6B	140 - 160	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	-166	3,300	<0.058	1850	NA	NA	4.9	NA
		7/15/2014		0.80 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.62	-24.1	4,031	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.13	-153.1	3,674	NA	NA	NA	NA	NA	NA
AUS-6C	180 - 195	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.37	-153.5	1,480	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.226	-125.7	1,849	NA	NA	NA	NA	NA	NA
AUS-7A	40 - 50	9/11/2013	Purisima Formation	3.3*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		10/4/2013		<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,500	<0.058	662	NA	NA	6.6	NA
		7/14/2014		0.63 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA
AUS-7B	90 - 110	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.58	-208	4,000	NA	NA	NA	NA	NA	NA
		7/14/2014		0.63 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.35	-169.8	4,891	NA	NA	NA	NA	NA	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.46	-272.3	4,354	NA	NA	NA	NA	NA	NA
AUS-7C	165 - 180	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.34	-115	1,900	0.18 J	<200	NA	NA	1.8	NA
		7/14/2014		0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	-195	1,855	NA	NA	NA	NA	NA	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.88	17.0	1,910	NA	NA	NA	NA	NA	NA
AUS-8A	50 - 60	10/4/2013	Purisima Formation	<0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.13	-193	3,700	NA	NA	NA	NA	NA	NA
		7/14/2014		0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.15	-107.3	3,997	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.74	-4.0	3,330	NA	NA	NA	NA	NA	NA
AUS-8C	165 - 180	10/4/2013	Purisima Formation	0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.98	-96	3,400	NA	NA	NA	NA	NA	NA
		7/14/2014		0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.24	-221.7	3,477	NA	NA	NA	NA	NA	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.87	-85.7	3,933	NA	NA	NA	NA	NA	NA
AUS-9A	50.4 - 60.4	7/15/2014	Purisima Formation	0.63 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.59	-154.4	4,533	NA	NA	NA	NA	NA	NA
		10/15/2015		1.3 U[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.35	-70.8	3,654	NA	NA	NA	NA	NA	NA
AUS-10B	100 - 120	7/15/2014	Purisima Formation	0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.77	-94.2	1,566	NA	NA	NA	NA	NA	NA
		7/17/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.93	136.8	1,676	NA	NA	NA	NA	NA	NA
AUS-11B	59 - 79	7/14/2014	Purisima Formation	0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.38	2.6	2,800	2.9	<200	NA	NA	1.6	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.38	122.0	2,850	NA	NA	NA	NA	NA	NA
AUS-11C	164 - 184	7/14/2014	Purisima Formation	0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.38	64.1	1,456	NA	NA	NA	NA	NA	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.73	337.3	1,346	NA	NA	NA	NA	NA	NA

Table 3
Historical Groundwater and Surface Water Quality Data
Former McCormick Selph Inc. Facility, Hollister, California

Sample Location	Well Screen Interval (ft bgs)	Sample Date	Groundwater Zone[1]	Perchlorate (µg/L)	VOCs										Additional Parameters								
					1,1,1 - TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	Chloroform (µg/L)	cis-1,2-DCE (µg/L)	Freon 11 (µg/L)	Freon 13 (µg/L)	pH s.u.	ORP (mV)	SC (µS/cm)	Nitrate (mg/L)	Iron (II) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Total Alkalinity (mg/L)
AUS-12A	40 - 50	7/15/2014	Purisima Formation	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.58	-168.8	3,829	0.33	267	NA	NA	4.3	NA
		7/17/2015		**24.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.36	17.9	3,550	NA	NA	NA	NA	NA	NA
AUS-12B	60 - 70	7/14/2014	Purisima Formation	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.34	-97.3	3,102	0.21	266	NA	NA	3.7	NA
		7/16/2015		**19.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.88	11.1	4,397	NA	NA	NA	NA	NA	NA
AUS-12C	130 - 150	7/14/2014	Purisima Formation	0.31 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.19	-52.9	2,823	NA	NA	NA	NA	NA	NA
		7/15/2015		0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.67	119.7	2,506	NA	NA	NA	NA	NA	NA
AUS-14A	75 - 85	10/15/2015	Purisima Formation	**8.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.52	-104.3	3,201	NA	NA	NA	NA	NA	NA
AUS-14B	100 - 110	10/19/2015	Purisima Formation	**2.6 J/2.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.52	-117.2	2,903	1.8	912	NA	NA	3.9	NA
AUS-14C	160 - 180	10/19/2015	Purisima Formation	**2.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8	29.9	1,550	1.9	1700	NA	NA	21.3	NA
AUS-15A	80 - 90	10/15/2015	Purisima Formation	**2.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.58	-8.0	2,367	NA	NA	NA	NA	NA	NA
AUS-15B	140 - 150	10/15/2015	Purisima Formation	**1.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.46	100.8	2,761	2.2	5060	NA	NA	2.1	NA
AUS-15C	200 - 220	10/19/2015	Purisima Formation	**2.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.29	71.8	587	2.6	1221	NA	NA	3.5	NA
AUS-16B	160 - 180	10/19/2015	Purisima Formation	**1.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.91	95.4	799	4.1	881	NA	NA	2.0	NA
AUS-17B	110 - 130	10/19/2015	Purisima Formation	**21.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.40	19.7	4,281	3.8	<200	NA	NA	3.6	NA
AUS-17C	205 - 225	10/19/2015	Purisima Formation	**0.89 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.15	80.9	1,216	1.2	<200	NA	NA	1.1	NA
AUS-18A	280 - 300	12/2/2015	Purisima Formation	0.65 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.81	-152.6	1,654	NA	NA	NA	NA	NA	NA
AUS-18B	340 - 360	12/2/2015	Purisima Formation	**1.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.38	-207.4	3,068	NA	NA	NA	NA	NA	NA

Notes:

ft bgs	feet below ground surface
s.u.	standard unit
SC	specific conductivity
µg/L	microgram(s) per liter
µS/cm	microsiemens per centimeter
mg/L	milligram(s) per liter
mV	millivolt(s)
VOC	volatile organic carbon
USEPA	United States Environmental Protection Agency
RWQCB	Regional Water Quality Control Board
HP-12D	duplicate sample analyzed at location
ND (3)	non detect reported at half the detection limit
ND (3)*	non-detects reported at the detection limit (not half the detection limit)
ND	non detect
NA	not analyzed
--	not established
ft amsl	feet above mean sea level
1.3 J	estimated value, detected below laboratory reporting level

[1] Groundwater zone not established due to boring located close to Purisima-alluvium boundary; soil origin cannot be determined from the description

All data collected prior to 2013 obtained from PES reports provided to ARCADIS in 2012.

** = W-1 and W-2 are sampled on a frequent basis in accordance with the water treatment permit.

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
LP-1D	8/23/2012	Lakebed	NA	NA	238.32
LP-1S	8/23/2012	Lakebed	NA	NA	233.06
LP-2D	8/23/2012	Lakebed	NA	NA	235.12
LP-2S	8/23/2012	Lakebed	NA	NA	237.63
MW-10S	10/9/2013	Upper Alluvial	246.59	0.77	245.82
MW-11S	10/9/2013	Upper Alluvial	250.54	2.34	248.20
MW-1S	4/5/2002	Upper Alluvial	NA	NA	240.38
	10/10/2002	Upper Alluvial	NA	NA	239.55
	5/21/2003	Upper Alluvial	NA	NA	241.03
	11/5/2003	Upper Alluvial	NA	NA	240.13
	2/26/2004	Upper Alluvial	NA	NA	242.15
	5/27/2004	Upper Alluvial	NA	NA	242.12
	8/26/2004	Upper Alluvial	NA	NA	241.80
	11/17/2004	Upper Alluvial	NA	NA	242.16
	2/24/2005	Upper Alluvial	NA	NA	243.85
	6/16/2005	Upper Alluvial	NA	NA	243.56
	8/27/2009	Upper Alluvial	NA	NA	245.05
	12/2/2010	Upper Alluvial	NA	NA	245.93
	8/20/2012	Upper Alluvial	NA	NA	247.77
	10/9/2013	Upper Alluvial	250.64	5.62	245.02
MW-3S	4/5/2002	Upper Alluvial	NA	NA	240.35
	10/10/2002	Upper Alluvial	NA	NA	240.04
	5/21/2003	Upper Alluvial	NA	NA	240.51
	11/5/2003	Upper Alluvial	NA	NA	240.04
	2/26/2004	Upper Alluvial	NA	NA	240.89
	5/26/2004	Upper Alluvial	NA	NA	240.77
	8/26/2004	Upper Alluvial	NA	NA	240.41
	11/16/2004	Upper Alluvial	NA	NA	240.63
	2/23/2005	Upper Alluvial	NA	NA	241.43
	6/16/2005	Upper Alluvial	NA	NA	241.20
	8/27/2009	Upper Alluvial	NA	NA	241.33
	12/2/2010	Upper Alluvial	NA	NA	241.51
	8/20/2012	Upper Alluvial	NA	NA	244.04
	10/9/2013	Upper Alluvial	247.14	2.98	244.16

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
MW-5S	5/20/2003	Upper Alluvial	NA	NA	239.15
	11/4/2003	Upper Alluvial	NA	NA	238.05
	2/25/2004	Upper Alluvial	NA	NA	240.65
	5/25/2004	Upper Alluvial	NA	NA	239.42
	8/25/2004	Upper Alluvial	NA	NA	238.25
	11/15/2004	Upper Alluvial	NA	NA	239.00
	2/24/2005	Upper Alluvial	NA	NA	240.85
	6/15/2005	Upper Alluvial	NA	NA	240.05
	8/25/2009	Upper Alluvial	NA	NA	239.23
	12/2/2010	Upper Alluvial	NA	NA	240.38
	8/21/2012	Upper Alluvial	NA	NA	242.43
	10/9/2013	Upper Alluvial	248.21	5.62	242.59
MW-6S	5/20/2003	Upper Alluvial	NA	NA	241.31
	11/5/2003	Upper Alluvial	NA	NA	240.46
	2/25/2004	Upper Alluvial	NA	NA	242.44
	5/25/2004	Upper Alluvial	NA	NA	242.63
	8/26/2004	Upper Alluvial	NA	NA	241.56
	11/16/2004	Upper Alluvial	NA	NA	242.11
	2/23/2005	Upper Alluvial	NA	NA	243.81
	6/15/2005	Upper Alluvial	NA	NA	243.71
	8/25/2009	Upper Alluvial	NA	NA	246.15
	12/2/2010	Upper Alluvial	NA	NA	247.11
	8/21/2012	Upper Alluvial	NA	NA	249.94
	10/9/2013	Upper Alluvial	257.47	6.99	250.48
MW-7S	5/20/2003	Upper Alluvial	NA	NA	240.62
	11/4/2003	Upper Alluvial	NA	NA	240.07
	2/24/2004	Upper Alluvial	NA	NA	240.88
	5/24/2004	Upper Alluvial	NA	NA	240.77
	8/25/2004	Upper Alluvial	NA	NA	240.10
	11/15/2004	Upper Alluvial	NA	NA	240.38
	2/23/2005	Upper Alluvial	NA	NA	241.26
	6/14/2005	Upper Alluvial	NA	NA	241.15
	8/27/2009	Upper Alluvial	NA	NA	240.72
	12/2/2010	Upper Alluvial	NA	NA	240.97
	8/21/2012	Upper Alluvial	NA	NA	243.11
	10/9/2013	Upper Alluvial	248.02	5.02	243.00
MW-8S	10/9/2013	Upper Alluvial	254.58	1.53	253.05
MW-9S	10/9/2013	Upper Alluvial	250.96	2.05	248.91

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
SB-2	5/21/1985	Upper Alluvial	NA	NA	Dry
	9/25/1985	Upper Alluvial	NA	NA	Dry
	11/19/1999	Upper Alluvial	NA	NA	234.34
	4/4/2002	Upper Alluvial	NA	NA	238.81
	8/20/2012	Upper Alluvial	NA	NA	244.84
	10/9/2013	Upper Alluvial	247.39	2.25	245.14
	10/9, 10/2002	Upper Alluvial	NA	NA	238.08
	11/15, 16/2004	Upper Alluvial	NA	NA	240.16
	11/4, 5/2003	Upper Alluvial	NA	NA	238.43
	12/1, 3/2010	Upper Alluvial	NA	NA	242.31
	2/22, 25/2005	Upper Alluvial	NA	NA	241.54
	2/23, 26/2004	Upper Alluvial	NA	NA	240.52
	5/19, 21/2003	Upper Alluvial	NA	NA	239.41
	5/24, 27/2004	Upper Alluvial	NA	NA	240.10
	6/14, 16/2005	Upper Alluvial	NA	NA	241.34
	8/24, 26/2004	Upper Alluvial	NA	NA	239.66
	8/24, 26/2009	Upper Alluvial	NA	NA	241.70
	10/9/2013	Upper Alluvial	*	2.25	-2.25
SB-3	5/21/1985	Upper Alluvial	NA	NA	229.26
	9/25/1985	Upper Alluvial	NA	NA	228.58
	11/19/1999	Upper Alluvial	NA	NA	234.90
	4/4/2002	Upper Alluvial	NA	NA	235.93
	10/9/2002	Upper Alluvial	NA	NA	235.59
	5/19/2003	Upper Alluvial	NA	NA	236.67
	11/4/2003	Upper Alluvial	NA	NA	235.57
	2/23/2004	Upper Alluvial	NA	NA	237.54
	5/24/2004	Upper Alluvial	NA	NA	236.88
	8/24/2004	Upper Alluvial	NA	NA	235.55
	11/15/2004	Upper Alluvial	NA	NA	235.39
	2/22/2005	Upper Alluvial	NA	NA	237.99
	6/14/2005	Upper Alluvial	NA	NA	237.52
	8/24/2009	Upper Alluvial	NA	NA	232.79
	10/9/2013	Upper Alluvial	245 *	9.48	235.52

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
SB-4	5/21/1985	Upper Alluvial	NA	NA	223.34
	9/25/1985	Upper Alluvial	NA	NA	221.93
	11/19/1999	Upper Alluvial	NA	NA	228.04
	4/4/2002	Upper Alluvial	NA	NA	232.44
	10/9/2002	Upper Alluvial	NA	NA	229.79
	5/19/2003	Upper Alluvial	NA	NA	232.69
	11/4/2003	Upper Alluvial	NA	NA	231.55
	5/24/2004	Upper Alluvial	NA	NA	232.81
	8/24/2004	Upper Alluvial	NA	NA	231.79
	11/15/2004	Upper Alluvial	NA	NA	232.14
	6/14/2005	Upper Alluvial	NA	NA	233.34
	8/27/2009	Upper Alluvial	NA	NA	225.69
	2/22, 25/2006	Upper Alluvial	NA	NA	234.52
	2/23, 24/2004	Upper Alluvial	NA	NA	233.03
	8/25, 26/2004	Upper Alluvial	NA	NA	231.79
	10/9/2013	Upper Alluvial	239.8 *	11.45	-11.45
SB-6	5/21/1985	Upper Alluvial	NA	NA	226.22
	9/25/1985	Upper Alluvial	NA	NA	227.07
	11/19/1999	Upper Alluvial	NA	NA	234.00
	4/4/2002	Upper Alluvial	NA	NA	239.41
	10/9/2002	Upper Alluvial	NA	NA	236.82
	11/4/2003	Upper Alluvial	NA	NA	236.76
	5/24/2004	Upper Alluvial	NA	NA	238.40
	11/15/2004	Upper Alluvial	NA	NA	237.16
	2/23/2005	Upper Alluvial	NA	NA	239.26
	6/14/2005	Upper Alluvial	NA	NA	239.20
	2/22, 24, 25/2004	Upper Alluvial	NA	NA	238.66
	5/19, 21/2003	Upper Alluvial	NA	NA	238.41
	8/24, 25/2009	Upper Alluvial	NA	NA	237.45
	8/24, 26/2004	Upper Alluvial	NA	NA	237.11
	10/9/2013	Upper Alluvial	247.47 *	6.72	240.75
IW-2D	7/10/2013	Lower Alluvial	246.98	0.21	246.77
IW-2S	7/10/2013	Lower Alluvial	247.1	-0.23	247.33
IW-3D	7/10/2013	Lower Alluvial	247	0.20	246.80
IW-3S	7/10/2013	Lower Alluvial	246.95	-0.23	247.18
IW-4D	7/10/2013	Lower Alluvial	246.91	0.20	246.71
IW-4S	7/10/2013	Lower Alluvial	246.94	-0.23	247.17
IW-5D	7/10/2013	Lower Alluvial	246.18	-0.92	247.10
IW-5S	7/10/2013	Lower Alluvial	246.41	-0.92	247.33

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IW-6D	7/10/2013	Lower Alluvial	246.35	-0.92	247.27
IW-6S	7/10/2013	Lower Alluvial	246.34	-0.92	247.26
IW-7S	7/10/2013	Lower Alluvial	246.4339	-0.92	247.35
MW-10I	10/9/2013	Lower Alluvial	247.16	FLOWING	>247.16
MW-11I	10/9/2013	Lower Alluvial	250.35	2.03	248.32
MW-1I	4/5/2002	Lower Alluvial	NA	NA	240.00
	10/10/2002	Lower Alluvial	NA	NA	239.35
	5/21/2003	Lower Alluvial	NA	NA	240.75
	11/5/2003	Lower Alluvial	NA	NA	239.90
	2/26/2004	Lower Alluvial	NA	NA	241.88
	5/26/2004	Lower Alluvial	NA	NA	241.87
	8/26/2004	Lower Alluvial	NA	NA	241.59
	11/17/2004	Lower Alluvial	NA	NA	241.85
	2/24/2005	Lower Alluvial	NA	NA	243.40
	6/16/2005	Lower Alluvial	NA	NA	243.30
	8/27/2009	Lower Alluvial	NA	NA	244.88
	12/1/2010	Lower Alluvial	NA	NA	245.70
	8/22/2012	Lower Alluvial	NA	NA	248.41
	10/9/2013	Lower Alluvial	250.45	1.02	249.43
MW-2D	8/23/2012	Lower Alluvial	NA	NA	246.56
	10/9/2013	Lower Alluvial	247.54	0.21	247.33
MW-2I	4/5/2002	Lower Alluvial	NA	NA	239.26
	10/10/2002	Lower Alluvial	NA	NA	238.67
	5/21/2003	Lower Alluvial	NA	NA	240.29
	11/5/2003	Lower Alluvial	NA	NA	239.10
	2/26/2004	Lower Alluvial	NA	NA	240.94
	5/26/2004	Lower Alluvial	NA	NA	240.84
	8/26/2004	Lower Alluvial	NA	NA	240.53
	11/16/2004	Lower Alluvial	NA	NA	240.88
	2/25/2005	Lower Alluvial	NA	NA	242.23
	6/16/2005	Lower Alluvial	NA	NA	242.28
	8/26/2009	Lower Alluvial	NA	NA	243.37
	12/3/2010	Lower Alluvial	NA	NA	243.88
	8/22/2012	Lower Alluvial	NA	NA	246.65
	10/9/2013	Lower Alluvial	246.65	FLOWING	>246.65
MW-8I	10/9/2013	Lower Alluvial	254.45	4.37	250.08
MW-9I	10/9/2013	Lower Alluvial	251.06	1.77	249.29

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
AUS-5A	10/9/2013	Purisima Formation	241.17	28.04	213.13
	7/9/2014	Purisima Formation	241.17	30.92	210.25
	10/14/2015	Purisima Formation	241.17	35.62	205.55
	12/11/2015	Purisima Formation	241.17	37.05	204.12
AUS-5B	10/9/2013	Purisima Formation	240.36	25.93	214.43
	7/9/2014	Purisima Formation	240.36	29.40	210.96
	10/14/2015	Purisima Formation	240.36	34.14	206.22
	12/11/2015	Purisima Formation	240.36	36.17	204.19
AUS-5C	10/9/2013	Purisima Formation	240.83	21.17	219.66
	7/9/2014	Purisima Formation	240.83	22.42	218.41
	10/14/2015	Purisima Formation	240.83	25.02	215.81
	12/11/2015	Purisima Formation	240.83	25.03	215.80
AUS-6B	10/9/2013	Purisima Formation	240.36	25.82	214.54
	7/9/2014	Purisima Formation	240.36	29.01	211.46
	10/14/2015	Purisima Formation	240.36	34.04	206.43
	12/11/2015	Purisima Formation	240.36	35.24	205.23
AUS-6C	10/9/2013	Purisima Formation	240.47	25.81	214.66
	7/9/2014	Purisima Formation	240.47	29.07	211.29
	10/14/2015	Purisima Formation	240.47	34.56	205.80
	12/1/2015	Purisima Formation	240.47	34.14	206.22
	12/11/2015	Purisima Formation	240.47	35.22	205.14
AUS-7A	10/9/2013	Purisima Formation	240.54	26.42	214.12
	7/9/2014	Purisima Formation	240.54	29.31	211.23
	10/14/2015	Purisima Formation	240.54	34.25	206.29
	12/11/2015	Purisima Formation	240.54	35.33	205.21
AUS-7B	10/9/2013	Purisima Formation	240.43	26.31	214.12
	7/9/2014	Purisima Formation	240.43	29.12	211.29
	10/14/2015	Purisima Formation	240.43	34.02	206.39
	12/11/2015	Purisima Formation	240.43	35.37	205.04
AUS-7C	10/9/2013	Purisima Formation	240.41	15.62	224.79
	7/9/2014	Purisima Formation	240.41	18.58	221.85
	10/14/2015	Purisima Formation	240.41	21.99	218.44
	12/11/2015	Purisima Formation	240.41	21.73	218.70
AUS-8A	10/9/2013	Purisima Formation	241.51	27.46	214.05
	7/9/2014	Purisima Formation	241.51	30.14	211.36
	10/14/2015	Purisima Formation	241.51	35.01	206.49
	12/11/2015	Purisima Formation	241.51	35.97	205.53

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
AUS-8C	10/9/2013	Purisima Formation	241.5	17.20	224.30
	7/9/2014	Purisima Formation	241.5	20.20	221.31
	10/14/2015	Purisima Formation	241.5	23.85	217.66
	12/11/2015	Purisima Formation	241.5	23.66	217.85
AUS-9A	7/9/2014	Purisima Formation	239.56	15.80	223.76
	10/15/2015	Purisima Formation		18.80	220.76
	12/11/2015	Purisima Formation		18.05	221.51
AUS-10B	7/9/2014	Purisima Formation	239.06	9.64	229.42
	10/14/2015	Purisima Formation		12.02	227.04
	12/1/2015	Purisima Formation		10.39	228.67
	12/11/2015	Purisima Formation		9.93	229.13
AUS-11B	7/9/2014	Purisima Formation	240.39	14.89	225.50
	10/14/2015	Purisima Formation		17.49	222.90
	12/11/2015	Purisima Formation		16.65	223.74
AUS-11C	7/9/2014	Purisima Formation	240.38	9.75	230.63
	10/14/2015	Purisima Formation		12.21	228.17
	12/11/2015	Purisima Formation		10.11	230.27
AUS-12A	7/9/2014	Purisima Formation	244.04	32.28	211.76
	10/14/2015	Purisima Formation		37.59	206.45
	12/11/2015	Purisima Formation		38.27	205.77
AUS-12B	7/9/2014	Purisima Formation	243.89	32.12	211.77
	10/14/2015	Purisima Formation		37.43	206.46
	12/11/2015	Purisima Formation		38.11	205.78
AUS-12C	7/9/2014	Purisima Formation	243.79	17.69	226.10
	10/14/2015	Purisima Formation		20.21	223.58
	12/1/2015	Purisima Formation		20.03	223.76
	12/11/2015	Purisima Formation		19.83	223.96
AUS-14A	10/14/2015	Purisima Formation	243.24	36.73	206.51
	12/11/2015	Purisima Formation		37.46	205.78
AUS-14B	10/14/2015	Purisima Formation	244.41	37.86	206.55
	12/11/2015	Purisima Formation		38.57	205.84
AUS-14C	10/14/2015	Purisima Formation	244.45	20.52	223.93
	12/1/2015	Purisima Formation		20.37	224.08
	12/11/2015	Purisima Formation		20.21	224.24
AUS-15A	10/14/2015	Purisima Formation	253.61	47.08	206.53
	12/11/2015	Purisima Formation		47.77	205.84
AUS-15B	10/14/2015	Purisima Formation	252.95	46.36	206.59
	12/11/2015	Purisima Formation		47.12	205.83

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
AUS-15C	10/14/2015	Purisima Formation	254.61	30.46	224.15
	12/11/2015	Purisima Formation		30.25	224.36
AUS-16B	10/14/2015	Purisima Formation	245.17	38.62	206.55
	12/11/2015	Purisima Formation		39.50	205.67
AUS-17B	10/14/2015	Purisima Formation	242.09	35.56	206.53
	12/11/2015	Purisima Formation		36.29	205.80
AUS-17C	10/14/2015	Purisima Formation	242.21	18.52	223.69
	12/11/2015	Purisima Formation		18.16	224.05
AUS-18A	12/2/2015	Purisima Formation	238.67	33.63	205.04
	12/11/2015	Purisima Formation		34.51	204.16
AUS-18B	12/2/2015	Purisima Formation	237.74	33.64	204.10
	12/11/2015	Purisima Formation		34.43	203.31
EB-2	5/21/1985	Purisima Formation	NA	NA	233.71
	9/25/1985	Purisima Formation	NA	NA	233.03
	11/19/1999	Purisima Formation	NA	NA	239.07
	4/5/2002	Purisima Formation	NA	NA	239.89
	10/9/2002	Purisima Formation	NA	NA	238.97
	5/20/2003	Purisima Formation	NA	NA	240.87
	11/5/2003	Purisima Formation	NA	NA	239.82
	2/23/2004	Purisima Formation	NA	NA	241.97
	5/24/2004	Purisima Formation	NA	NA	240.91
	8/26/2004	Purisima Formation	NA	NA	239.97
	11/15/2004	Purisima Formation	NA	NA	241.00
	2/23/2005	Purisima Formation	NA	NA	242.47
	6/14/2005	Purisima Formation	NA	NA	241.88
	8/27/2009	Purisima Formation	NA	NA	238.23
EB-8	4/4/2002	Purisima Formation	NA	NA	235.93
	10/9/2002	Purisima Formation	NA	NA	235.13
	5/19/2003	Purisima Formation	NA	NA	236.43
	11/4/2003	Purisima Formation	NA	NA	235.38
	2/23/2004	Purisima Formation	NA	NA	237.74
	5/24/2004	Purisima Formation	NA	NA	236.55
	8/24/2004	Purisima Formation	NA	NA	235.38
	11/15/2004	Purisima Formation	NA	NA	236.16
	2/22/2005	Purisima Formation	NA	NA	238.18
	6/14/2005	Purisima Formation	NA	NA	237.23
	8/24/2009	Purisima Formation	NA	NA	231.99

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IB-7	5/21/1985	Upper Alluvial	NA	NA	223.33
	9/25/1985	Upper Alluvial	NA	NA	221.67
	11/19/1999	Upper Alluvial	NA	NA	231.13
	4/4/2002	Upper Alluvial	NA	NA	232.22
	10/9/2002	Upper Alluvial	NA	NA	229.20
	5/24/2004	Upper Alluvial	NA	NA	232.62
	11/15/2004	Upper Alluvial	NA	NA	231.89
	2/25/2005	Upper Alluvial	NA	NA	233.25
	6/14/2005	Upper Alluvial	NA	NA	233.09
	8/27/2009	Upper Alluvial	NA	NA	225.30
	10/9/2013	Upper Alluvial	240.53 *	12.62	227.91
	11/4 -5/2003	Upper Alluvial	NA	NA	231.31
	2/23 - 24/2004	Upper Alluvial	NA	NA	232.77
	5/19, 21/2003	Upper Alluvial	NA	NA	232.42
	8/24 - 25/2004	Upper Alluvial	NA	NA	231.57
	10/9/2013	Upper Alluvial	240.53	12.62	-12.62
	7/9/2014	Upper Alluvial	240.53	15.25	225.28
	10/14/2015	Upper Alluvial	240.53	18.88	221.65
	12/1/2015	Upper Alluvial	240.53	16.92	223.61
	12/11/2015	Upper Alluvial	240.53	16.68	223.85
IB-8	10/9/2013	Purisima Formation	239.14 *	10.02	229.12
	7/9/2014	Purisima Formation	239.14	12.65	226.49
	10/14/2015	Purisima Formation	239.14	15.12	224.02
	12/11/2015	Purisima Formation	239.14	13.65	225.49
IB-9	5/21/1985	Purisima Formation	NA	NA	229.15
	9/25/1985	Purisima Formation	NA	NA	228.59
	11/19/1999	Purisima Formation	NA	NA	235.09
	4/4/2002	Purisima Formation	NA	NA	235.90
	10/9/2002	Purisima Formation	NA	NA	235.60
	2/22/2005	Purisima Formation	NA	NA	237.96
	8/24/2009	Purisima Formation	NA	NA	232.89
	10/9/2013	Purisima Formation	245.51 *	9.97	235.54
	11/15, 16/2004	Purisima Formation	NA	NA	236.30
	11/4, 5/2003	Purisima Formation	NA	NA	235.58
	2/23, 26/2004	Purisima Formation	NA	NA	237.56
	5/19, 21/2003	Purisima Formation	NA	NA	236.65
	5/24, 27/2004	Purisima Formation	NA	NA	236.84
	6/14, 16/2005	Purisima Formation	NA	NA	237.53
	8/24, 26/2004	Purisima Formation	NA	NA	235.55

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IB-10	5/21/1985	Purisima Formation	NA	NA	229.74
	9/25/1985	Purisima Formation	NA	NA	230.03
	11/19/1999	Purisima Formation	NA	NA	235.01
	4/4/2002	Purisima Formation	NA	NA	236.19
	10/9/2002	Purisima Formation	NA	NA	236.16
	10/9/2013	Purisima Formation	246.95 *	8.54	238.41
	11/15, 16/2004	Purisima Formation	NA	NA	236.76
	11/4, 5/2003	Purisima Formation	NA	NA	235.96
	2/22, 25/2005	Purisima Formation	NA	NA	238.14
	2/23, 26/2004	Purisima Formation	NA	NA	237.60
	5/19, 21/2003	Purisima Formation	NA	NA	237.04
	5/24, 27/2004	Purisima Formation	NA	NA	237.35
	6/14, 16/2005	Purisima Formation	NA	NA	238.09
	8/24, 26/2004	Purisima Formation	NA	NA	236.16
	8/24, 26/2009	Purisima Formation	NA	NA	235.55
IB-12	5/21/1985	Purisima Formation	NA	NA	225.72
	9/25/1985	Purisima Formation	NA	NA	228.67
	11/19/1999	Purisima Formation	NA	NA	236.83
	4/4/2002	Purisima Formation	NA	NA	237.66
	10/9/2002	Purisima Formation	NA	NA	237.07
	2/22/2005	Purisima Formation	NA	NA	238.18
	10/9/2013	Purisima Formation	248.82 *	7.74	241.08
	11/15, 16/2004	Purisima Formation	NA	NA	237.96
	11/4, 5/2003	Purisima Formation	NA	NA	237.10
	2/23, 26/2004	Purisima Formation	NA	NA	238.89
	5/19, 21/2003	Purisima Formation	NA	NA	238.09
	5/25, 27/2004	Purisima Formation	NA	NA	238.49
	6/14, 16/2005	Purisima Formation	NA	NA	239.13
	8/24, 26/2009	Purisima Formation	NA	NA	237.80
	8/25, 26/2004	Purisima Formation	NA	NA	237.21

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IB-20	5/21/1985	Purisima Formation	NA	NA	220.08
	9/25/1985	Purisima Formation	NA	NA	220.23
	11/19/1999	Purisima Formation	NA	NA	236.38
	4/4/2002	Purisima Formation	NA	NA	237.98
	10/9/2002	Purisima Formation	NA	NA	238.04
	8/26/2009	Purisima Formation	NA	NA	238.60
	10/9/2013	Purisima Formation	264.51 *	23.08	241.43
	11/15, 16/2004	Purisima Formation	NA	NA	238.75
	11/4, 5/2003	Purisima Formation	NA	NA	237.91
	2/22, 25/2005	Purisima Formation	NA	NA	239.85
	2/23, 26/2004	Purisima Formation	NA	NA	239.25
	5/19, 21/2003	Purisima Formation	NA	NA	238.72
	5/24, 27/2004	Purisima Formation	NA	NA	239.35
	6/14, 16/2005	Purisima Formation	NA	NA	240.16
	8/24, 26/2004	Purisima Formation	NA	NA	238.47
IB-24	5/21/1985	Purisima Formation	NA	NA	232.95
	9/25/1985	Purisima Formation	NA	NA	233.11
	11/19/1999	Purisima Formation	NA	NA	241.92
	4/4/2002	Purisima Formation	NA	NA	241.18
	10/9/2002	Purisima Formation	NA	NA	240.77
	8/26/2004	Purisima Formation	NA	NA	241.30
	11/16/2004	Purisima Formation	NA	NA	241.21
	2/22/2005	Purisima Formation	NA	NA	242.14
	8/27/2009	Purisima Formation	NA	NA	242.47
	10/9/2013	Purisima Formation	263.29 *	11.93	251.36
	11/4, 5/2003	Purisima Formation	NA	NA	240.84
	2/25, 26/2004	Purisima Formation	NA	NA	241.78
	5/20, 21/2003	Purisima Formation	NA	NA	241.39
	5/25, 27/2004	Purisima Formation	NA	NA	241.60
	6/15, 16/2005	Purisima Formation	NA	NA	242.20

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IB-28	9/25/1985	Purisima Formation	NA	NA	233.73
	11/19/1999	Purisima Formation	NA	NA	240.43
	4/4/2002	Purisima Formation	NA	NA	240.97
	10/10/2002	Purisima Formation	NA	NA	239.88
	5/20/2003	Purisima Formation	NA	NA	241.06
	11/4/2003	Purisima Formation	NA	NA	239.91
	2/25/2004	Purisima Formation	NA	NA	241.86
	11/16/2004	Purisima Formation	NA	NA	240.49
	2/22/2005	Purisima Formation	NA	NA	242.46
	8/25/2009	Purisima Formation	NA	NA	241.07
	10/9/2013	Purisima Formation	261.57 *	16.92	244.65
	5/24, 25, 27/2004	Purisima Formation	NA	NA	241.18
	6/15, 16/2005	Purisima Formation	NA	NA	241.72
	8/24, 25/2004	Purisima Formation	NA	NA	240.26
IB-29	9/25/1985	Purisima Formation	NA	NA	229.24
	11/19/1999	Purisima Formation	NA	NA	248.97
	4/4/2002	Purisima Formation	NA	NA	248.53
	10/10/2002	Purisima Formation	NA	NA	247.27
	5/20/2003	Purisima Formation	NA	NA	248.57
	11/5/2003	Purisima Formation	NA	NA	247.53
	2/25/2004	Purisima Formation	NA	NA	249.75
	5/25/2004	Purisima Formation	NA	NA	249.36
	8/26/2004	Purisima Formation	NA	NA	248.70
	11/16/2004	Purisima Formation	NA	NA	248.81
	2/24/2005	Purisima Formation	NA	NA	250.33
	6/15/2005	Purisima Formation	NA	NA	249.51
	8/26/2009	Purisima Formation	NA	NA	250.21
	12/3/2010	Purisima Formation	NA	NA	250.14
	8/23/2012	Purisima Formation	NA	NA	252.99
	10/9/2013	Purisima Formation	259.61	6.33	253.28

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
IB-30	9/25/1985	Purisima Formation	NA	NA	225.97
	11/19/1999	Purisima Formation	NA	NA	238.52
	4/5/2002	Purisima Formation	NA	NA	239.51
	10/9/2002	Purisima Formation	NA	NA	238.65
	8/26/2004	Purisima Formation	NA	NA	239.19
	2/22/2005	Purisima Formation	NA	NA	241.25
	8/26/2009	Purisima Formation	NA	NA	237.62
	10/9/2013	Purisima Formation	250.01 *	8.98	241.03
	11/15, 16/2004	Purisima Formation	NA	NA	239.42
	11/4, 5/2003	Purisima Formation	NA	NA	238.85
	2/23, 26/2004	Purisima Formation	NA	NA	241.01
	5/19, 21/2003	Purisima Formation	NA	NA	239.79
	5/24, 27/2004	Purisima Formation	NA	NA	239.79
	6/14, 16/2005	Purisima Formation	NA	NA	240.55
IB-31	9/25/1985	Purisima Formation	NA	NA	222.88
	11/19/1999	Purisima Formation	NA	NA	236.79
	4/4/2002	Purisima Formation	NA	NA	239.18
	10/9/2002	Purisima Formation	NA	NA	238.23
	5/20/2003	Purisima Formation	NA	NA	239.49
	11/4/2003	Purisima Formation	NA	NA	238.44
	2/25/2004	Purisima Formation	NA	NA	240.67
	5/25/2004	Purisima Formation	NA	NA	239.80
	8/26/2004	Purisima Formation	NA	NA	238.91
	11/16/2004	Purisima Formation	NA	NA	239.46
	2/23/2005	Purisima Formation	NA	NA	241.23
	6/15/2005	Purisima Formation	NA	NA	240.64
	8/25/2009	Purisima Formation	NA	NA	240.26
	10/9/2013	Purisima Formation	257.45 *	13.53	243.92
MW-10D	10/9/2013	Purisima Formation	246.12	FLOWING	>246.12

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
MW-1D	4/5/2002	Purisima Formation	NA	NA	239.72
	10/10/2002	Purisima Formation	NA	NA	239.24
	5/20/2003	Purisima Formation	NA	NA	240.60
	11/4/2003	Purisima Formation	NA	NA	239.77
	2/23/2004	Purisima Formation	NA	NA	241.65
	5/25/2004	Purisima Formation	NA	NA	241.74
	8/26/2004	Purisima Formation	NA	NA	241.43
	11/16/2004	Purisima Formation	NA	NA	240.72
	2/24/2005	Purisima Formation	NA	NA	243.37
	6/15/2005	Purisima Formation	NA	NA	243.07
	8/27/2009	Purisima Formation	NA	NA	244.71
	12/1/2010	Purisima Formation	NA	NA	245.30
	8/23/2012	Purisima Formation	NA	NA	247.50
	10/9/2013	Purisima Formation	250.36	6.03	244.33
MW-3I	4/5/2002	Purisima Formation	NA	NA	240.41
	10/10/2002	Purisima Formation	NA	NA	240.44
	5/21/2003	Purisima Formation	NA	NA	241.26
	11/5/2003	Purisima Formation	NA	NA	240.55
	2/26/2004	Purisima Formation	NA	NA	241.72
	5/26/2004	Purisima Formation	NA	NA	241.65
	8/26/2004	Purisima Formation	NA	NA	241.20
	11/16/2004	Purisima Formation	NA	NA	241.51
	2/23/2005	Purisima Formation	NA	NA	242.17
	6/15/2005	Purisima Formation	NA	NA	242.21
	8/25/2009	Purisima Formation	NA	NA	242.40
	12/3/2010	Purisima Formation	NA	NA	242.72
	8/23/2012	Purisima Formation	NA	NA	245.17
	10/9/2013	Purisima Formation	246.05	0.82	245.23

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
MW-4	4/4/2002	Purisima Formation	NA	NA	288.51
	10/10/2002	Purisima Formation	NA	NA	288.70
	5/21/2003	Purisima Formation	NA	NA	288.88
	11/5/2003	Purisima Formation	NA	NA	288.21
	2/26/2004	Purisima Formation	NA	NA	288.58
	5/27/2004	Purisima Formation	NA	NA	288.89
	8/26/2004	Purisima Formation	NA	NA	288.53
	11/17/2004	Purisima Formation	NA	NA	288.26
	2/24/2005	Purisima Formation	NA	NA	288.73
	6/16/2005	Purisima Formation	NA	NA	289.36
	8/25/2009	Purisima Formation	NA	NA	286.51
	10/9/2013	Purisima Formation	331.99 *	44.23	287.76
MW-8D	10/9/2013	Purisima Formation	254.76	4.85	249.91
MW-9D	10/9/2013	Purisima Formation	251.48	3.21	248.27
SB-4	7/9/2014	Purisima Formation	239.80	14.1	225.70
	10/14/2015	Purisima Formation	239.80	16.74	223.06
	12/11/2015	Purisima Formation	239.80	15.39	224.41
SB-5	5/21/1985	Purisima Formation	NA	NA	229.98
	9/25/1985	Purisima Formation	NA	NA	230.32
	11/19/1999	Purisima Formation	NA	NA	234.99
	4/4/2002	Purisima Formation	NA	NA	235.96
	10/9/2002	Purisima Formation	NA	NA	235.94
	5/19/2003	Purisima Formation	NA	NA	236.84
	11/4/2003	Purisima Formation	NA	NA	235.71
	2/24/2004	Purisima Formation	NA	NA	237.35
	5/24/2004	Purisima Formation	NA	NA	237.19
	11/15/2004	Purisima Formation	NA	NA	236.51
	6/14/2005	Purisima Formation	NA	NA	237.84
	10/9/2013	Purisima Formation	246.92 *	9.01	237.91
	2/22, 24/2005	Purisima Formation	NA	NA	237.86
	8/24, 26/2009	Purisima Formation	NA	NA	235.17
	8/25, 26/2004	Purisima Formation	NA	NA	235.83

Table 4
Historical Groundwater and Surface Water Elevations
Former McCormick Selph, Inc. Facility, Hollister, California

Location ID	Date	Monitoring Zone	Reference Point Elevation (feet NAVD 88)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet)
W-1	5/21/1985	Purisima Formation	NA	NA	212.75
	9/25/1985	Purisima Formation	NA	NA	213.15
	11/19/1999	Purisima Formation	NA	NA	225.39
	4/4/2002	Purisima Formation	NA	NA	224.66
	10/9/2002	Purisima Formation	NA	NA	170.82
	11/5/2003	Purisima Formation	NA	NA	225.07
	2/23/2004	Purisima Formation	NA	NA	226.56
	5/24/2004	Purisima Formation	NA	NA	227.24
	8/24/2004	Purisima Formation	NA	NA	226.42
	11/15/2004	Purisima Formation	NA	NA	226.09
	2/22/2005	Purisima Formation	NA	NA	227.22
	6/14/2005	Purisima Formation	NA	NA	227.32
	8/27/2009	Purisima Formation	NA	NA	208.72
	5/19, 21/2003	Purisima Formation	NA	NA	228.07
W-2	5/21/1985	Purisima Formation	NA	NA	215.96
	9/25/1985	Purisima Formation	NA	NA	210.74
	11/19/1999	Purisima Formation	NA	NA	224.95
	4/4/2002	Purisima Formation	NA	NA	228.70
	10/9/2002	Purisima Formation	NA	NA	214.24
	2/22/2005	Purisima Formation	NA	NA	225.39
	11/15, 16/2004	Purisima Formation	NA	NA	224.97
	11/4, 5/2003	Purisima Formation	NA	NA	224.04
	2/23, 26/2004	Purisima Formation	NA	NA	224.46
	5/19, 21/2003	Purisima Formation	NA	NA	225.64
	5/24, 27/2004	Purisima Formation	NA	NA	226.52
	6/14, 16/2005	Purisima Formation	NA	NA	227.19
	8/24, 26/2004	Purisima Formation	NA	NA	224.79
	8/26, 27/2009	Purisima Formation	NA	NA	208.92

Notes

* = wells surveyed from U.S. Geological Survey NAD 27 benchmark in March 2002 (elevations reported in feet msl) were corrected to feet NAVD 88 by adding 2.71 feet to the NAD 27 reference elevation point.

feet msl = feet relative to mean sea level
feet btoc = feet below top of casing
NA = not available (historical source)
FLOWING = flowing groundwater conditions
> = groundwater elevation is greater than the reference point elevation.

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
IW-7D	6/5/2013	80 - 110	Lower Alluvial	Baseline	246.34	--	1,800	--	--	--	--	--	--	--	--	--	--	--
IW-7D	7/12/2013	80 - 110	Lower Alluvial	Baseline	246.34	Flowing	--	10.2	1,430	--	232	1.5	<10	<200	85.3	ND	ND	--
IW-7D	10/22/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	13,000	--
IW-7D	10/25/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	35,600	--
IW-7D	10/28/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	21,300	--
IW-7D	11/1/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	17,300	--
IW-7D	11/4/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	11,100	--
IW-7D	11/8/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	8,390	--
IW-7D	11/15/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	5,030	--
IW-7D	11/21/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	--	--	--
IW-7D	12/24/2013	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	ND	5,050	--
IW-7D	1/16/2014	80 - 110	Lower Alluvial	Post-Injection/Q1	246.34	Flowing	<6.3	<0.058	6,640	6,350	1.1J	3,490	<10	406,000	61,600	1.5	91	--
IW-7D	2/18/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	2.5	40	--
IW-7D	3/20/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	--	--	--	--	--	--	--	--	--	2.3	24	--
IW-7D	4/14/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	1.6 U a	0.12 U	10,400	8,310	2.1 J	--	<50 a	1,040,000	89,300	ND	216	--
IW-7D	5/28/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	---	--	--	--	--	--	4,300	--	--	--	--	--	--
IW-7D	7/10/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	1.6 U a	0.12 U	7,770	8,260	2.3 J	4,090	<50 a	702,000	53,800	ND	54.8	ND
IW-7D	10/15/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	7.8 U a	1.2 U	9,910	7,060	3.2	5,990	<10	952,000	64,200	1.7	31.4	ND
IW-7D	12/16/2014	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	7.8	0.08	10,300	7,550	9.8	5,150	<50	1,120,000	72,000	3.7	34.7	ND
IW-7D	4/1/2015	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	1.3	0.06	8,210	7,780	0.1	5,340	<50	2,370,000	155,000	0.0	0.3	ND
IW-7D	7/16/2015	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	16	0	9,740	7,870	2	5,940	<100	1,320,000	75,900	4.2	13.5	ND
IW-7D	10/13/2015	80 - 110	Lower Alluvial	Post-Injection	246.34	Flowing	3	0	10,100	8,100	0	5,650	<30	1,390,000	79,500	19.1	ND	ND
AUS-1S	7/11/2013	73 - 103	Lower Alluvial	Baseline	247.78	246.70	625	7.2	1,330	2,180	216	1.2	<10	<200	632	ND	ND	--
AUS-1S	9/23/2013	73 - 103	Lower Alluvial	Injection	247.78	--	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-1S	9/24/2013	73 - 103	Lower Alluvial	Injection	247.78	--	--	--	--	--	--	1.4	--	--	--	ND	ND	--
AUS-1S	9/25/2013	73 - 103	Lower Alluvial	Injection	247.78	--	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-1S	9/26/2013	73 - 103	Lower Alluvial	Injection	247.78	--	--	--	--	--	--	1.8	--	--	--	--	--	--
AUS-1S	10/22/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	14.8	--	--	--	1,220	ND	--
AUS-1S	10/25/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	741	ND	--
AUS-1S	10/28/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	4,070	ND	--
AUS-1S	11/1/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	18.4	--	--	--	3,300	ND	--
AUS-1S	11/4/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	1,590	ND	--
AUS-1S	11/8/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	3,310	ND	--
AUS-1S	11/15/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	2,350	ND	--
AUS-1S	11/21/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	--	--	--	--	1,820	ND	--
AUS-1S	12/24/2013	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	1.5	--	--	--	351	ND	--
AUS-1S	1/16/2014	73 - 103	Lower Alluvial	Post-Injection/Q1	247.78	Flowing	375	4.0	1,140	1,970	208	2.2	<10	<200	208	176	ND	--
AUS-1S	2/18/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	1.7	--	--	--	71	ND	--
AUS-1S	3/20/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	--	--	--	--	--	1.5	--	--	--	21	ND	--
AUS-1S	4/14/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	350	4.6	1,180	1,900	208	1.6	<10	<200	106	14	ND	--
AUS-1S	7/10/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	679	8.2	1,310	2,330	202	1.7	<10	<200	289	38.6	67.1	ND
AUS-1S	10/15/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	408	4.3	1,230	1,780	221	1.4	<10	<200	<15	2	ND	ND
AUS-1S	12/16/2014	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	441	4.5	1,360	1,850	229	1.1	<10	<200	53.3	2.61	ND	ND
AUS-1S	4/1/2015	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	396	4.2	1,200	1,830	1830	1	<10	<200	<15	1.0	ND	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
AUS-1S	7/16/2015	73 - 103	Lower Alluvial	Post-Injection	247.78	Flowing	371	3.6	1,200	1,710	221	1.8	<10	<200	31.2	0.86	ND	ND
AUS-1S	10/13/2015	73-103	Lower Alluvial	Post-Injection	247.78	Flowing	358	3.7	1,200	2,000	235	1.4	<10	<200	22.1	0.766	ND	ND
AUS-1D	7/11/2013	105 - 135	Lower Alluvial	Baseline	247.97	247.47	466	6.2	1,180	1,960	197	1.2	<10	<200	<15	ND	ND	--
AUS-1D	9/23/2013	105 - 135	Lower Alluvial	Injection	247.97	--	--	--	--	--	--	--	--	--	--	ND	29.0	--
AUS-1D	9/24/2013	105 - 135	Lower Alluvial	Injection	247.97	--	--	--	--	--	--	10.7	--	--	--	ND	1,210	--
AUS-1D	9/25/2013	105 - 135	Lower Alluvial	Injection	247.97	--	--	--	--	--	--	--	--	--	--	ND	2,470	--
AUS-1D	9/26/2013	105 - 135	Lower Alluvial	Injection	247.97	--	--	--	--	--	--	13.7	--	--	--	--	--	--
AUS-1D	10/22/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	18.6	--	--	--	ND	4,790	--
AUS-1D	10/25/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	269	--
AUS-1D	10/28/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	3,360	--
AUS-1D	11/1/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	2.3	--	--	--	ND	2,250	--
AUS-1D	11/4/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	1,590	--
AUS-1D	11/8/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	3,250	--
AUS-1D	11/15/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	1,160	--
AUS-1D	11/21/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	--	--	--	--	ND	2,250	--
AUS-1D	12/24/2013	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	1.6	--	--	--	58.2	2,130	--
AUS-1D	1/16/2014	105 - 135	Lower Alluvial	Post-Injection/Q1	247.97	Flowing	707	10.5	1,420	2,280	226	1.6	<10	<200	129	18.8	538	--
AUS-1D	2/18/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	1.8	--	--	--	27.0	416	--
AUS-1D	3/20/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	--	--	--	--	--	1.6	--	--	--	24.7	92	--
AUS-1D	4/14/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	515	9.2	1,210	2,060	210	1.6	<10	<200	212	30.7	102	--
AUS-1D	7/10/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	444	4.2	1,210	2,080	211	1.5	<10	<200	47.3	4.39	ND	ND
AUS-1D	10/15/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	560	6.6	1,280	1,920	200	1.6	<10	<200	329	19.7	15	ND
AUS-1D	12/16/2014	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	625	8.6	1,300	1,990	205	1.4	<10	<200	56.6	14.0	7.32	ND
AUS-1D	4/15/2015	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	550	6.2	1,240	1,950	214	2	<10	<200	219	15.4	21.3	ND
AUS-1D	7/16/2015	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	530	6.1	1,240	1,810	193	1.5	<10	<200	120	10.4	8.76	ND
AUS-1D	10/13/2015	105 - 135	Lower Alluvial	Post-Injection	247.97	Flowing	509	7.7	1,300	2,150	212	1.5	<10	<200	<15	2.93	1.90	ND
AUS-2S	7/11/2013	70 - 100	Lower Alluvial	Baseline	247.81	247.48	502	5.6	1,250	2,040	202	3.6	<10	<200	<15	ND	ND	--
AUS-2S	10/22/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	265	ND	--
AUS-2S	10/25/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	10.5	ND	--
AUS-2S	10/28/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	166	ND	--
AUS-2S	11/1/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	37.7	ND	--
AUS-2S	11/4/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	752	ND	--
AUS-2S	11/8/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	1,130	ND	--
AUS-2S	11/15/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	804	ND	--
AUS-2S	11/21/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	2,270	ND	--
AUS-2S	12/24/2013	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	2,840	ND	--
AUS-2S	1/16/2014	70 - 100	Lower Alluvial	Post-Injection/Q1	247.81	Flowing	350	5.3	1,400	2,330	155	9.2	<10	231	668	3,830	ND	--
AUS-2S	2/18/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	6,060	ND	--
AUS-2S	3/20/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	--	--	--	--	--	--	--	--	--	4,730	ND	--
AUS-2S	4/14/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	153	2.4	1,270	2,150	176	--	<10	<200	782	4,010	ND	--
AUS-2S	5/28/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	--	--	--	--	--	--	6.7	--	--	--	--	--	--
AUS-2S	7/10/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	133	1.2	1,280	2,170	207	3.4	<10	<200	456	1,510	ND	ND
AUS-2S	10/15/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	79.0	0.89	1,200	1,950	224	1.7	<10	<200	556	283	ND	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
AUS-2S	12/16/2014	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	158.0	1.8	1,250	1,930	228	2.5	<10	<200	420	1,280	ND	ND
AUS-2S	4/15/2015	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	152	2.1	1,220	1,930	222	3	<10	<200	635	1,820.0	ND	ND
AUS-2S	7/16/2015	70 - 100	Lower Alluvial	Post-Injection	247.81	Flowing	167.0	2.5	1,220	1,780	195	2.4	<10	<200	552	1,610	ND	ND
AUS-2S	10/13/2015	70-100	Lower Alluvial	Post-Injection	247.81	Flowing	176	2.9	1,260	2,300	214	2.1	<10	<200	511	1,300	ND	ND
AUS-2D	7/11/2013	100 - 135	Lower Alluvial	Baseline	247.69	246.86	550	6.1	1,240	2,120	237	1.4	<10	<200	<15	ND	ND	--
AUS-2D	10/22/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	1.61	1.53	--
AUS-2D	10/25/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	1.26	ND	--
AUS-2D	10/28/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	8.37	ND	--
AUS-2D	11/1/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	28.0	ND	--
AUS-2D	11/4/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	19.3	ND	--
AUS-2D	11/8/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	42.3	ND	--
AUS-2D	11/15/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	45.2	ND	--
AUS-2D	11/21/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	161	ND	--
AUS-2D	12/24/2013	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	404	ND	--
AUS-2D	1/16/2014	100 - 135	Lower Alluvial	Post-Injection/Q1	247.69	Flowing	504	6.1	1,330	2,180	227	2.3	<10	<200	<15	286	ND	--
AUS-2D	2/18/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	314	ND	--
AUS-2D	3/20/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	--	--	--	--	--	--	--	--	--	179	ND	--
AUS-2D	4/14/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	1,020	10	1,270	2,050	179	--	<10	<200	<15	244	ND	--
AUS-2D	5/28/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	--	--	--	--	--	--	1.3	--	--	--	--	--	--
AUS-2D	7/10/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	511	5.3	1,340	2,360	225	1.7	<10	<200	<15	119	ND	ND
AUS-2D	10/15/2014	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	476	9.8	1,390	2,070	225	1.5	<10	<200	<15	123	ND	ND
AUS-2D	12/16/2014	100 - 135	Lower Alluvial	Post-Injection	247.02	Flowing	462.0	4.6	1,410	2,140	241	1.9	<10	<200	<15	217	ND	ND
AUS-2D	4/15/2015	100 - 135	Lower Alluvial	Post-Injection	247.02	Flowing	358	3.5	1,370	2,090	226	2	<10	<200	<15	556.0	ND	ND
AUS-2D	7/16/2015	100 - 135	Lower Alluvial	Post-Injection	247.02	Flowing	290.0	2.8	1,300	1,940	209	2.1	<10	<200	<15	591	ND	ND
AUS-2D	10/13/2015	100 - 135	Lower Alluvial	Post-Injection	247.69	Flowing	255	3.1	1,320	2,230	217	1.9	<10	<200	<15	655	ND	ND
AUS-3S	7/11/2013	40 - 60	Lower Alluvial	Baseline	247.02	Flowing	1,680	20.2	3,270	2,650	216	2.1	<10	<200	<15	ND	ND	--
AUS-3S	10/22/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	0.010	0.053	--
AUS-3S	10/25/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	10/28/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	11/1/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	11/4/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	11/8/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	11/15/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-3S	11/21/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	0.034	ND	--
AUS-3S	12/24/2013	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	0.196	ND	--
AUS-3S	1/16/2014	40 - 60	Lower Alluvial	Post-Injection/Q1	247.02	Flowing	1,420	18.4	1,600	2,590	229	2.3	<10	<200	<15	2.59	ND	--
AUS-3S	2/18/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	10.1	ND	--
AUS-3S	3/20/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	--	--	--	--	--	--	--	--	--	25.9	167	--
AUS-3S	4/14/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	895	11	1,570	2,410	222	--	<10	<200	<15	44.9	749	--
AUS-3S	5/28/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	--	--	--	--	--	--	2.1	--	--	--	--	--	--
AUS-3S	7/10/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	436	3.9	1,620	2,870	190	2.9	<10	<200	<15	135	6,600**	ND
AUS-3S	10/15/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	129	0.89	1,640	2,550	154	3.0	<10	<200	386	ND	7,370	ND
AUS-3S	12/16/2014	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	77.7	0.51	1,710	2,610	155	3.0	<10	282	428	204	9,360	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
AUS-3S	4/15/2015	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	75.9	0.38	1,580	2,600	179	2.8	<10	<200	383	131.0	5,100.0	ND
AUS-3S	7/16/2015	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	112.0	0.65	1,670	2,380	177	2.8	<10	<200	496	287	3,000	ND
AUS-3S	10/13/2015	40 - 60	Lower Alluvial	Post-Injection	247.02	Flowing	162	1.1	1,650	2,810	212	2.3	<10	<200	391	175	2,150	ND
AUS-3D	7/11/2013	61 - 91	Lower Alluvial	Baseline	247.52	247.50	571	8.4	1,350	1,830	216	1.3	<10	<200	<15	ND	ND	--
AUS-3D	10/22/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	42.6	--
AUS-3D	10/25/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	18.0	--
AUS-3D	10/28/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	104	--
AUS-3D	11/1/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	149	--
AUS-3D	11/4/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	137	--
AUS-3D	11/8/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	737	--
AUS-3D	11/15/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	1,670	--
AUS-3D	11/21/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	3,700	--
AUS-3D	12/24/2013	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	15,900	--
AUS-3D	1/16/2014	61 - 91	Lower Alluvial	Post-Injection/Q1	247.52	Flowing	195	3.4	1,550	2,530	181	3.0	<10	<200	213	ND	16,500	--
AUS-3D	2/18/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	16,500	--
AUS-3D	3/20/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	--	--	--	--	--	--	--	--	--	ND	11,400	--
AUS-3D	4/14/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	52.6	0.92	1,620	2,500	124	--	<10	<200	437	ND	12,300	--
AUS-3D	5/28/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	--	--	--	--	--	--	3.0	--	--	--	--	--	--
AUS-3D	7/10/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	27.8	0.22 J	1,480	2,590	119	2.6	<10	<200	476	ND	5,650	ND
AUS-3D	10/15/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	49.6	0.41	1,440	2,130	136	2.1	<10	<200	498	ND	1,330	ND
AUS-3D	12/16/2014	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	61.3	0.63	1,450	2,220	169	2.0	<10	<200	690	0	2,080	ND
AUS-3D	4/15/2015	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	41.3	0.27	1,470	2,170	161	2	<10	<200	896	0.0	984.0	ND
AUS-3D	7/16/2015	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	30.6	0.17	1,390	1,990	153	2.3	<10	<200	973	0	1,890	ND
AUS-3D	10/13/2015	61 - 91	Lower Alluvial	Post-Injection	247.52	Flowing	36.5	0.29	1,400	2,100	173	1.9	<10	<200	869	ND	1,210	ND
AUS-4S	7/12/2013	60 - 80	Lower Alluvial	Baseline	247.32	Flowing	1,490	11.1	1,460	1,930	293	1.7	<10	<200	<15	ND	ND	--
AUS-4S	9/10/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	--	--	--	--	0.527	ND	--
AUS-4S	9/11/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	3.7	--	--	--	85.5	ND	--
AUS-4S	9/12/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	--	--	--	--	245	ND	--
AUS-4S	9/16/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	2.9	--	--	--	261	ND	--
AUS-4S	9/17/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	--	--	--	--	451	ND	--
AUS-4S	9/18/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	2.3	--	--	--	131	ND	--
AUS-4S	9/19/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	29.8	--	--	--	1,380	ND	--
AUS-4S	9/20/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	30.3	--	--	--	1,330	ND	--
AUS-4S	9/23/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	40.5	--	--	--	2,010	ND	--
AUS-4S	9/24/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	26.9	--	--	--	1,390	ND	--
AUS-4S	9/25/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	--	--	--	--	1,250	ND	--
AUS-4S	9/26/2013	60 - 80	Lower Alluvial	Injection	247.32	--	--	--	--	--	--	38.5	--	--	--	--	--	--
AUS-4S	10/22/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	41.4	--	--	--	3,720	ND	--
AUS-4S	10/25/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	6,810	ND	--
AUS-4S	10/28/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	7,310	ND	--
AUS-4S	11/1/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	3,440	3,200	--
AUS-4S	11/4/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	2,610	1,940	--
AUS-4S	11/8/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	2,670	4,840	--

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
AUS-4S	11/15/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	2,670	2,440	--
AUS-4S	11/21/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	--	--	--	--	2,770	5,010	--
AUS-4S	12/24/2013	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	5.7	--	--	--	2,190	7,960	--
AUS-4S	1/16/2014	60 - 80	Lower Alluvial	Post-Injection/Q1	247.32	Flowing	91.9	0.32J	1,670	2,720	143	13.5	<10	1,110	2,330	3,490	13,100	--
AUS-4S	2/18/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	10.4	--	--	--	2,120	12,400	--
AUS-4S	3/20/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	22.4	--	--	--	2,990	10,200	--
AUS-4S	3/20/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	--	--	--	--	--	22.4	--	--	--	2,990	10,200	--
AUS-4S	4/14/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	0.31 U	1.1	1,630	2,600	82.1	45.7	<10	1,560	2,860	2,220	9,820	--
AUS-4S	7/10/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	82.8	0.57	1,830	3,090	64.1	37.2	<10	9,940	2,970	3,220	8,520**	ND
AUS-4S	10/15/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	104	0.77	1,650	2,510	73.3	18.6	<10	6,510	2,250	3,240	ND	ND
AUS-4S	12/16/2014	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	106	0.82	1,730	2,560	109	5.3	<10	4,300	2,590	2,740	4,770	ND
AUS-4S	4/15/2015	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	83.2	0.69	1,100	2,510	110	4	<10	6,730	2,640	1,760.0	3,550.0	ND
AUS-4S	7/16/2015	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	225	1.8	1,610	2,270	139	3.5	<10	5,890	2,450	1,100	2,270	ND
AUS-4S	10/13/2015	60 - 80	Lower Alluvial	Post-Injection	247.32	Flowing	177	1.3	1,640	2,690	157	2.8	<10	5,560	2,560	826	1,770	ND
AUS-4D	7/12/2013	80 - 110	Lower Alluvial	Baseline	247.18	Flowing	1,090	10.7	1,460	2,040	277	1.6	<10	<200	<15	ND	ND	--
AUS-4D	9/10/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	--	--	--	--	ND	ND	--
AUS-4D	9/11/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	2.3	--	--	--	ND	ND	--
AUS-4D	9/12/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	--	--	--	--	ND	3.78	--
AUS-4D	9/16/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	2.1	--	--	--	ND	12.9	--
AUS-4D	9/17/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	--	--	--	--	--	--	--
AUS-4D	9/18/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	2.6	--	--	--	ND	145	--
AUS-4D	9/19/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	2.8	--	--	--	ND	111	--
AUS-4D	9/20/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	2.2	--	--	--	ND	97.9	--
AUS-4D	9/23/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	12.6	--	--	--	ND	1,640	--
AUS-4D	9/24/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	4.4	--	--	--	ND	1,350	--
AUS-4D	9/25/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	--	--	--	--	ND	3,430	--
AUS-4D	9/26/2013	80 - 110	Lower Alluvial	Injection	247.18	--	--	--	--	--	--	9.6	--	--	--	--	--	--
AUS-4D	10/22/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	1,130	--	--	--	ND	5,330	--
AUS-4D	10/25/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	3,630	--
AUS-4D	10/28/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	4,020	--
AUS-4D	11/1/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	2,530	--
AUS-4D	11/4/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	869	--
AUS-4D	11/8/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	1,910	--
AUS-4D	11/15/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	747	--
AUS-4D	11/21/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	--	--	--	--	ND	1,110	--
AUS-4D	12/24/2013	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	1.4	--	--	--	ND	1,070	--
AUS-4D	1/16/2014	80 - 110	Lower Alluvial	Post-Injection/Q1	247.18	Flowing	1,070	8.4	1,460	2,360	242	3.2	<10	<200	590	ND	735	--
AUS-4D	2/18/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	2.5	--	--	--	ND	111	--
AUS-4D	3/20/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	--	--	--	--	--	1.6	--	--	--	ND	116	--
AUS-4D	4/14/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	907	9.7	1,310	2,240	227	1.8	<10	<200	203	ND	89	--
AUS-4D	7/10/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	45.3	8.3	1,440	2,120	216	1.8	<10	<200	38.1	ND	31.5	ND
AUS-4D	10/15/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	1,040	9.2	1,440	2,090	225	1.2	<10	<200	<15	ND	9	ND
AUS-4D	12/16/2014	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	1,060	10	1,400	2,130	244	1.4	<10	<200	<15	0	34.9	ND
AUS-4D	4/15/2015	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	1020	9.4	1,350	2,110	213	1.8	<10	<200	<15	0.0	9.7	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
AUS-4D	7/16/2015	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	977	9.6	1,380	1,940	178	2.4	<10	<200	<15	0	4.1	ND
AUS-4D	10/13/2015	80 - 110	Lower Alluvial	Post-Injection	247.18	Flowing	952	9.7	1,390	2,320	185	1.4	<10	<200	<15	ND	3.16	ND
MW-2I	7/12/2013	47 - 62	Lower Alluvial	Baseline	246.65	Flowing	293	4.5	1,380	1,930	251	1.6	<10	<200	<15	ND	ND	--
MW-2I	10/22/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	245.98	--	--	--	--	--	1.3	--	--	--	0.018	ND	--
MW-2I	10/25/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	25.0	ND	--
MW-2I	10/28/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	805	ND	--
MW-2I	11/1/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	919	ND	--
MW-2I	11/4/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	1,020	ND	--
MW-2I	11/8/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	1,330	ND	--
MW-2I	11/15/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	1,740	ND	--
MW-2I	11/21/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	1,900	ND	--
MW-2I	12/24/2013	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	2,010	ND	--
MW-2I	1/16/2014	47 - 62	Lower Alluvial	Post-Injection/Q1	246.65	Flowing	16.7	0.16J	1,700	2,900	134	5.4	39.4	9,390	2,430	2,060	ND	--
MW-2I	2/18/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	4,160	ND	--
MW-2I	3/20/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	--	--	--	--	--	--	--	--	--	5,800	ND	--
MW-2I	4/14/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	0.31 U	0.12 J	2,070	3,500	66.6	--	<10	639	738	6,700	ND	--
MW-2I	5/28/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	--	--	--	--	--	--	10.5	--	--	--	--	--	--
MW-2I	7/10/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	0.63 U a	0.23 U	2,430	4,640	18.6	14.3	35.1	17,500	2,580	9,070	ND	ND
MW-2I	10/15/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	0.63 U a	0.23 U	2,210	3,470	38.9	14.0	12.3	8,650	2,290	12,600	ND	ND
MW-2I	12/16/2014	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	0.63	0.58	2,000	3,110	21	12.9	11.3	8,820	2,020	16,600	ND	ND
MW-2I	4/15/2015	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	2.1	0.023	1,700	2,890	104	13	13.3	7,210	1,750	17,500	ND	ND
MW-2I	7/16/2015	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	0.65	0.023	1,630	2,540	114	12.6	12.2	6,630	1,600	17,700	ND	ND
MW-2I	10/13/2015	47 - 62	Lower Alluvial	Post-Injection	246.65	Flowing	1.3	0.06	1,700	2,860	149	11.6	13.8	5,090	1,570	12,400	ND	ND
MW-2D	7/12/2013	112.5 - 127.5	Lower Alluvial	Baseline	247.54	246.54	1,370	12.3	1,370	1,880	185	2.3	<10	<200	<15	ND	ND	--
MW-2D	10/22/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	Flowing	--	--	--	--	--	1.5	--	--	--	ND	ND	--
MW-2D	10/25/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.58	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	10/28/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.75	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	11/1/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	--	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	11/4/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.83	--	--	0/14	--	--	--	--	--	--	ND	ND	--
MW-2D	11/8/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54		--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	11/15/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.93	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	11/21/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	--	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	12/24/2013	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.87	--	--	--	--	--	--	--	--	--	0.026	ND	--
MW-2D	1/16/2014	112.5 - 127.5	Lower Alluvial	Post-Injection/Q1	247.54	246.89	1,190	11.3	1,310	2,180	168	2.6	<10	<200	<15	ND	ND	--
MW-2D	2/18/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.85	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	3/20/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.87	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-2D	4/14/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.89	491	6.3	1,260	2,090	229	--	<10	<200	<15	ND	ND	--
MW-2D	5/28/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	--	--	--	--	--	--	1.3	--	--	--	--	--	--
MW-2D	7/10/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.86	1,050	9.8	1,280	2,260	192	1.7	<10	<200	<15	ND	ND	ND
MW-2D	10/15/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	246.87	1,080	9.2	1,300	1,940	182	1.8	<10	<200	<15	ND	ND	ND
MW-2D	12/16/2014	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	Flowing	972	8.6	1,280	1,960	209	1.6	<10	<200	<15	ND	ND	ND
MW-2D	4/15/2015	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	Flowing	1060	9	1,210	1,970	215	2	<10	<200	<15	ND	ND	ND
MW-2D	7/16/2015	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	Flowing	927	7.8	1,260	2,600	184	1.7	<10	<200	<15	ND	ND	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
MW-2D	10/13/2015	112.5 - 127.5	Lower Alluvial	Post-Injection	247.54	Flowing	856	8.0	1,270	2,120	185	1.5	<10	<200	<15	ND	ND	ND
MW-10I	7/12/2013	75 - 85	Lower Alluvial	Baseline	247.16	--	1,830	12.5	1,680	2,140	392	1.8	<10	<200	<15	ND	ND	--
MW-10I	10/22/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	3.2	--	--	--	0.031	ND	--
MW-10I	10/25/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	10/28/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	11/1/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	11/4/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	11/8/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	11/15/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	ND	--
MW-10I	11/21/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	0.102	0.868	--
MW-10I	12/24/2013	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	185	--
MW-10I	1/16/2014	75 - 85	Lower Alluvial	Post-Injection/Q1	247.16	Flowing	1,520	10.0	1,580	2,420	293	1.7	<10	<200	<15	ND	420	--
MW-10I	2/18/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	1,840	--
MW-10I	3/20/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	--	--	--	--	--	--	--	--	--	ND	2,080	--
MW-10I	4/14/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,110	9.3	1,420	2,340	258	--	<10	<200	<15	ND	1,920	--
MW-10I	5/28/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	--	--	--	--	--	--	2.1	--	--	--	--	--	--
MW-10I	7/10/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,330	8.8	1,580	2,560	244	1.9	<10	<200	<15	ND	2,980	ND
MW-10I	10/15/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,460	9.9	1,560	2,180	261	1.4	<10	<200	<15	ND	798	ND
MW-10I	12/16/2014	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,600	10.3	1,550	2,200	271	1.3	<10	<200	<15	ND	497	ND
MW-10I	4/15/2015	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1430	10.2	1,380	2,190	249	2	<10	<200	<15	ND	77.9	ND
MW-10I	7/16/2015	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,450	9.5	1,450	1,800	221	1.7	<10	<200	<15	ND	58	ND
MW-10I	10/13/2015	75 - 85	Lower Alluvial	Post-Injection	247.16	Flowing	1,470	10	1,460	2,380	237	1.4	<10	<200	<15	ND	51.8	ND
IW-9S	7/11/2014	58 - 88	Lower Alluvial	Post-Injection	245.96	243.86	--	--	--	--	--	--	1,490	--	--	--	--	ND
IW-9D	7/11/2014	88 - 118	Lower Alluvial	Post-Injection	(1)	243.82	--	--	--	--	--	--	1,720	--	--	--	--	ND
IW-10S	7/11/2014	65 - 95	Lower Alluvial	Post-Injection	(1)	244.33	--	--	--	--	--	--	2,750	--	--	--	--	ND
IW-10S	11/12/2014	65 - 95	Lower Alluvial	Post-Injection	(1)	244.33	--	--	--	--	--	--	--	--	--	1,100	ND	6,040
IW-10D	7/11/2014	95 - 125	Lower Alluvial	Post-Injection	(1)	244.36	--	--	--	--	--	--	3,550	--	--	--	--	ND
IW-10D	11/12/2014	95 - 125	Lower Alluvial	Post-Injection	(1)	244.36	--	--	--	--	--	--	--	--	--	ND	1,620	ND
IW-11S	6/16/2014	71.5' - 101.5	Lower Alluvial	Baseline	246.63	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
IW-11D	6/16/2014	103.5 - 133.5	Lower Alluvial	Baseline	246.18	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
IW-12S	6/16/2014	77 - 107	Lower Alluvial	Baseline	245.52	--		--	--	--	--	--	--	--	--	ND	ND	ND
IW-12S	9/4/2014	77 - 107	Lower Alluvial	Post-Injection	245.52	--		--	--	--	--	--	--	--	--	0.330	9.43	ND
IW-12S	9/11/2014	77 - 107	Lower Alluvial	Post-Injection	245.52	--		--	--	--	--	--	--	--	--	ND	0.325	ND
IW-12S	9/15/2014	77 - 107	Lower Alluvial	Post-Injection	245.52	--		--	--	--	--	--	--	--	--	0.112	1.290	ND
IW-12S	9/23/2014	77 - 107	Lower Alluvial	Post-Injection	245.52	--		--	--	--	--	--	--	--	--	ND	ND	142
IW-12S	11/12/2014	77 - 107	Lower Alluvial	Post-Injection	245.52	--		--	--	--	--	--	--	--	--	ND	ND	28,200
IW-12D	6/16/2014	110 - 140	Lower Alluvial	Baseline	245.50	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
IW-12D	9/4/2014	110 - 140	Lower Alluvial	Post-Injection	245.50	--	--	--	--	--	--	--	--	--	--	15.2	ND	ND
IW-12D	9/11/2014	110 - 140	Lower Alluvial	Post-Injection	245.50	--	--	--	--	--	--	--	--	--	--	0.095	0.089	ND
IW-12D	9/15/2014	110 - 140	Lower Alluvial	Post-Injection	245.50	--	--	--	--	--	--	--	--	--	--	0.488	0.998	ND

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)
IW-12D	9/23/2014	110 - 140	Lower Alluvial	Post-Injection	245.50	--	--	--	--	--	--	--	--	--	--	0.030	0.045	0.015
IW-12D	11/12/2014	110 - 140	Lower Alluvial	Post-Injection	245.50	--	--	--	--	--	--	--	--	--	--	4.09	ND	16,400
IW-13S	10/8/2014	86 - 116	Lower Alluvial	Post-Injection	246.04	--	--	--	--	--	--	--	--	--	--	6.570	ND	8,870
IW-13D	10/8/2014	116 - 146	Lower Alluvial	Post-Injection	246.01	--	--	--	--	--	--	--	--	--	--	13.800	ND	5,940
IW-14S	6/27/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	1,160	--	--	2,660	--	--	--	--	--	--	--	--
IW-14S	9/4/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	--	--	--	--	--	--	--	--	--	ND	11.0*	ND
IW-14S	9/11/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	--	--	--	--	--	--	--	--	--	ND	0.030	0.073
IW-14S	9/15/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	--	--	--	--	--	--	--	--	--	1.17	ND	388
IW-14S	9/23/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	--	--	--	--	--	--	--	--	--	0.189	ND	494
IW-14S	9/29/2014	86 - 116	Lower Alluvial	Post-Injection	246.23	--	--	--	--	--	--	66.6	--	--	--	--	--	--
IW-15S	7/1/2014	104 - 134	Lower Alluvial	Post-Injection	244.62	--	597	--	--	1,810	--	--	--	--	--	--	--	--
IW-15S	10/8/2014	104 - 134	Lower Alluvial	Post-Injection	244.62	--	--	--	--	--	--	--	--	--	--	6.710	ND	5,390
IW-16S	7/8/2014	113 - 143	Lower Alluvial	Post-Injection	246.95	--	505	--	--	1,670	--	--	--	--	--	--	--	--
AUS-13S	7/11/2014	98-128	Lower Alluvial	Baseline	246.04	Flowing	788	3	1,440	2,462	283	4.2	<10	<200	17.1	--	--	ND
AUS-13S	9/23/2014	98-128	Lower Alluvial	Post-Injection	246.04		--	--	--	--	--	--	--	--	--	ND	ND	1.36
AUS-13S	10/8/2014	98-128	Lower Alluvial	Post-Injection	246.04		--	--	--	--	--	--	--	--	--	0.706	ND	1,470
AUS-13S	10/13/2014	98-128	Lower Alluvial	Post-Injection	246.04		--	--	--	--	--	--	--	--	--	1.26	ND	2,260
AUS-13S	10/15/2014	98-128	Lower Alluvial	Post-Injection	246.04	Flowing	1.6 U a	0.23 U	2,170	2,640	500	106	21.9	946	2,330	2.34	ND	2,380
AUS-13S	11/12/2014	98-128	Lower Alluvial	Post-Injection	246.04		38.7	--	--	2,460	--	--	--	--	--	4.27	ND	2,830
AUS-13S	12/16/2014	98-128	Lower Alluvial	Post-Injection	246.04	Flowing	254	1.0	1530	2,340	293	13.30	10.50	1,690.00	1,940.00	3.01	ND	1,440
AUS-13S	4/15/2015	98-128	Lower Alluvial	Post-Injection	246.04	Flowing	94	0.33	1,380	2,220	372	2	15.6	1,670	1,820	3.9	ND	453.0
AUS-13S	7/16/2015	98-128	Lower Alluvial	Post-Injection	246.04	Flowing	279	1.2	1,460	2,090	325.0	1.8	12	10,700	1,180	1	ND	132.0
AUS-13S	10/13/2015	98-128	Lower Alluvial	Post-Injection	246.04	Flowing	289	1.3	1,570	2,470	363	1.4	<10	659	1,170	0.870	ND	83.4
SB-2	11/12/2014	25 - 30	Alluvial	Post-Injection	247.39	--	309	--	--	2,220	--	--	--	--	--	0.859	ND	ND
MW-3I	11/13/2014	50 - 70	Purisma	Post-Injection	246.39	--	--	--	--	2,900	--	--	--	--	--	ND	ND	ND
MW-9I	11/13/2014	75 - 85	Purisma	Post-Injection	251.06	--	1,300	--	--	2,160	--	--	--	--	--	0.016	0.150	ND
MW-10D	11/12/2014	115 - 125.5	Purisma	Post-Injection	246.41	--	116	--	--	1,730	--	--	--	--	--	0.119	ND	0.208
MW-11I	11/12/2014	42 - 52	Purisma	Post-Injection	250.35	--	358	--	--	1,480	--	--	--	--	--	ND	ND	ND
MW-10S	11/12/2014	15 - 25	Upper Alluvial	Post-Injection	247.47	--	292	--	--	1,550	--	--	--	--	--	0.055	0.056	ND
Equipment Blank	7/11/2013	--	--	Baseline	--	--	<0.31	<0.25	<10	<1.0	<1.3	0.43 B	<10	<200	<15	ND	ND	--
Equipment Blank	7/12/2013	--	--	Baseline	--	--	<3.0	<0.23	<10	<1.0	<0.10	<0.43	<10	<200	<15	--	--	--
Equipment Blank	10/22/2013	--	--	Post-Injection	--	--	--	--	--	--	--	0.56 J	--	--	--	--	--	--
Equipment Blank	11/4/2013	--	--	Post-Injection	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--
Equipment Blank	4/14/2014	--	--	Post-Injection	--	--	0.31 U	0.023 U	4.0 J	2.6	0.10 U	0.86 J	<10	<200	<15	--	--	--
Equipment Blank	7/10/2014	--	--	Post-Injection	--	--	0.31 U	0.023 U	59.0	2,550	0.10 U	9.1	<10	<200	<15	--	--	--
Equipment Blank	10/15/2014	--	--	Post-Injection	--	--	0.31 U	0.023 U	10.0	1.0 U	1.6	0.50 J	<10	<200	<15	--	--	--
Equipment Blank	7/16/2015	--	--	Post-Injection	--	--	0.65U	0.023 U	6.0 J	1.0 U	0.10 U	0.65 J	<10	<200	<15			

Table 5
Interim Action Baseline and Performance Monitoring Results
Former McCormick Selph, Inc. Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Groundwater Zone	Sample Type	Top of Casing (ft NAVD 88)	Groundwater Elevation (ft NAVD 88)	Perchlorate (µg/L)	Nitrogen, Nitrate (mg/L)	TDS (mg/L)	SC (µS/cm)	Sulfate (mg/L)	TOC (mg/L) (mg/L)	Dissolved Arsenic (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Fluorescein (SHALLOW) (µg/L)	Eosine (DEEP) (µg/L)	Rhodomine (DEEP & SHALLOW) (µg/L)

Notes:
ft amsl = feet above mean sea level
ft bTOC = feet below top of casing
TDS = total dissolved solids
SC = specific conductivity
TOC = total organic carbon
bgs = below ground surface
mg/L = milligrams per liter
µg/L = micrograms per liter
< = not detected above the laboratory reporting limit
-- = not applicable
B = Also detected in method blank
J = Estimated value, result below reporting limit but above method detection limit
U = result below method detection limit
a = elevated detection limit due to matrix interference
ND = Not detected, no reporting limit provided
** = Does not meet all criteria, but calculated as positive

Note (1): Top of casing heights were cut down after the well survey to accommodate injection wellheads. Post injection elevations cannot be determined due to presence of injection wellheads.

Table 6
Performance Monitoring Plan
Former McCormick Selph, Inc. Facility, Hollister, California

Site Activity	Frequency of Sampling	Elapsed Time (Days) Since End of First Injection	Approximate Date	Well Sample Method	Injection Well										
					IW-7D	**IW-9S**	**IW-9D**	**IW-10S**	**IW-10D**	**IW-12S**	**IW-12D**	**IW-13S**	**IW-13D**	**IW-14S**	**IW-15S**
Baseline Sampling	One-Time Event	0	Various*	Low-Flow Sampling	A,B,C,D,E,F,G	A,C,D,E,H	A,C,D,E,H	A,C,D,E,H	A,C,D,E,H	A,C,D,E,H	A,C,D,E,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	C,D,E,H	C,D,E,H
Performance Monitoring #1	Quarterly	90	16-Jan-14	Discrete Interval/Composite Grab[3]	A,B,C,D,E,F,G	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #2	Quarterly	180	14-Apr-14	Discrete Interval/Composite Grab[3]	A*,B,C,D,E,F,G	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #3	Quarterly	270	15-Jul-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,H	A,C,D,H	C,D,H	C,D,H	--	--	--	--	--	--
Performance Monitoring #4	Quarterly	360	13-Oct-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	--	--	C,D,E,H	C,D,E,H	C,D,H	C,D,H	C,D,H	C,D,H
Performance Monitroing #4A	Monthly	390	12-Nov-14	Discrete Interval/Composite Grab[2]	--	--	--	C,D,H	C,D,H	C,D,E,H	C,D,E,H	--	--	--	--
Performance Monitoring #4B	Monthly	420	15-Dec-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	--	--	--	--	--	--	--	--
Performnace Monitoring #5	Quarterly	450	11-Jan-15	Discrete Interval/Composite Grab[2]	D	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #6	Quarterly	540	11-Apr-15	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #7	Quarterly	630	10-Jul-15	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #8	Quarterly	720	08-Oct-15	Discrete Interval/Composite Grab[3]	A,C,D,E,F,G,H	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #9	Quarterly	810	05-Feb-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	A,C,D,E,H	--	--	--	--	--	--	--
Performance Monitoring #10	Quarterly	900	30-Apr-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	A,C,D,E,H	--	--	--	--	--	--	--
Performance Monitoring #11	Quarterly	990	29-Jul-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	A,C,D,E,H	--	--	--	--	--	--	--
Performance Monitoring #12	Quarterly	1080	27-Oct-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	--	--	A,C,D,E,H	--	--	--	--	--	--	--

Table 6
Performance Monitoring Plan
Former McCormick Selph, Inc. Facility, Hollister, California

Site Activity	Frequency of Sampling	Elapsed Time (Days) Since End of First Injection	Approximate Date	Well Sample Method	Dose Response Wells							Observation Wells				
					AUS-1S	AUS-1D	AUS-4S	AUS-4D	MW-2I	MW-2D	MW-10I	AUS-2S	AUS-2D	AUS-3S	AUS-3D	AIS-13S
Baseline Sampling	One-Time Event	0	Various*	Low-Flow Sampling	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,C,D,E,F,G,H
Performance Monitoring #1	Quarterly	90	16-Jan-14	Discrete Interval/Composite Grab[3]	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	--
Performance Monitoring #2	Quarterly	180	14-Apr-14	Discrete Interval/Composite Grab[3]	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	A,B,C,D,E,F,G	--
Performance Monitoring #3	Quarterly	270	15-Jul-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	--
Performance Monitoring #4	Quarterly	360	13-Oct-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,H
Performance Monitroing #4A	Monthly	390	12-Nov-14	Discrete Interval/Composite Grab[2]	--	--	--	--	--	--	--	--	--	--	--	A,C,D,E,H
Performance Monitoring #4B	Monthly	420	15-Dec-14	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performnace Monitoring #5	Quarterly	450	11-Jan-15	Discrete Interval/Composite Grab[2]	D	D	D	D	D	D	D	D	D	D	D	D
Performance Monitoring #6	Quarterly	540	11-Apr-15	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #7	Quarterly	630	10-Jul-15	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #8	Quarterly	720	08-Oct-15	Discrete Interval/Composite Grab[3]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #9	Quarterly	810	05-Feb-16	Discrete Interval/Composite Grab[2]	--	--	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #10	Quarterly	900	30-Apr-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	--	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #11	Quarterly	990	29-Jul-16	Discrete Interval/Composite Grab[2]	--	--	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H
Performance Monitoring #12	Quarterly	1080	27-Oct-16	Discrete Interval/Composite Grab[2]	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	--	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H	A,C,D,E,F,G,H

Table 6
Performance Monitoring Plan
Former McCormick Selph, Inc. Facility, Hollister, California

Site Activity	Frequency of Sampling	Elapsed Time (Days) Since End of First Injection	Approximate Date	Well Sample Method	SWWT	Additional Monitoring Wells										
					MW-8I	MW-3S	MW-9S	MW-9D	MW-10I	MW-11S	MW-3I	MW-9I	MW-10S	MW-10D	MW-11I	SB-2
Baseline Sampling	One-Time Event	0	Various*	Low-Flow Sampling	--	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #1	Quarterly	90	16-Jan-14	Discrete Interval/Composite Grab[3]	C,D,E	C,D,E	C,D,E	C,D,E	C,D,E	C,D,E	--	--	--	--	--	--
Performance Monitoring #2	Quarterly	180	14-Apr-14	Discrete Interval/Composite Grab[3]	C,D,E	C,D,E	C,D,E	C,D,E	C,D,E	C,D,E	--	--	--	--	--	--
Performance Monitoring #3	Quarterly	270	15-Jul-14	Discrete Interval/Composite Grab[2]	C,D,E	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #4	Quarterly	360	13-Oct-14	Discrete Interval/Composite Grab[2]	C,D,E	--	--	--	--	--	--	--	--	--	--	--
Performance Monitroing #4A	Monthly	390	12-Nov-14	Discrete Interval/Composite Grab[2]	--	D	D	D	D	D	C,D,E,H	C,D,E,H	C,D,E,H	C,D,E,H	C,D,E,H	C,D,E,H
Performance Monitoring #4B	Monthly	420	15-Dec-14	Discrete Interval/Composite Grab[2]	C,D,E	D	D	D	D	D	D	D	D	D	D	D
Performnace Monitoring #5	Quarterly	450	11-Jan-15	Discrete Interval/Composite Grab[2]	D	D	D	D	D	D	D	D	D	D	D	D
Performance Monitoring #6	Quarterly	540	11-Apr-15	Discrete Interval/Composite Grab[2]	--	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #7	Quarterly	630	10-Jul-15	Discrete Interval/Composite Grab[2]	--	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #8	Quarterly	720	08-Oct-15	Discrete Interval/Composite Grab[3]	C,D,E	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #9	Quarterly	810	05-Feb-16	Discrete Interval/Composite Grab[2]	--	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #10	Quarterly	900	30-Apr-16	Discrete Interval/Composite Grab[2]	C,D,E	--	--	--	--	--	--	C,D,E,H	C,D,E,H	C,D,E,H	C,D,E,H	--
Performance Monitoring #11	Quarterly	990	29-Jul-16	Discrete Interval/Composite Grab[2]	--	--	--	--	--	--	--	--	--	--	--	--
Performance Monitoring #12	Quarterly	1080	27-Oct-16	Discrete Interval/Composite Grab[2]	C,D,E	--	--	--	--	--	--	C,D,E,H	--	--	--	--

Table 6
Performance Monitoring Plan
Former McCormick Selph, Inc. Facility, Hollister, California

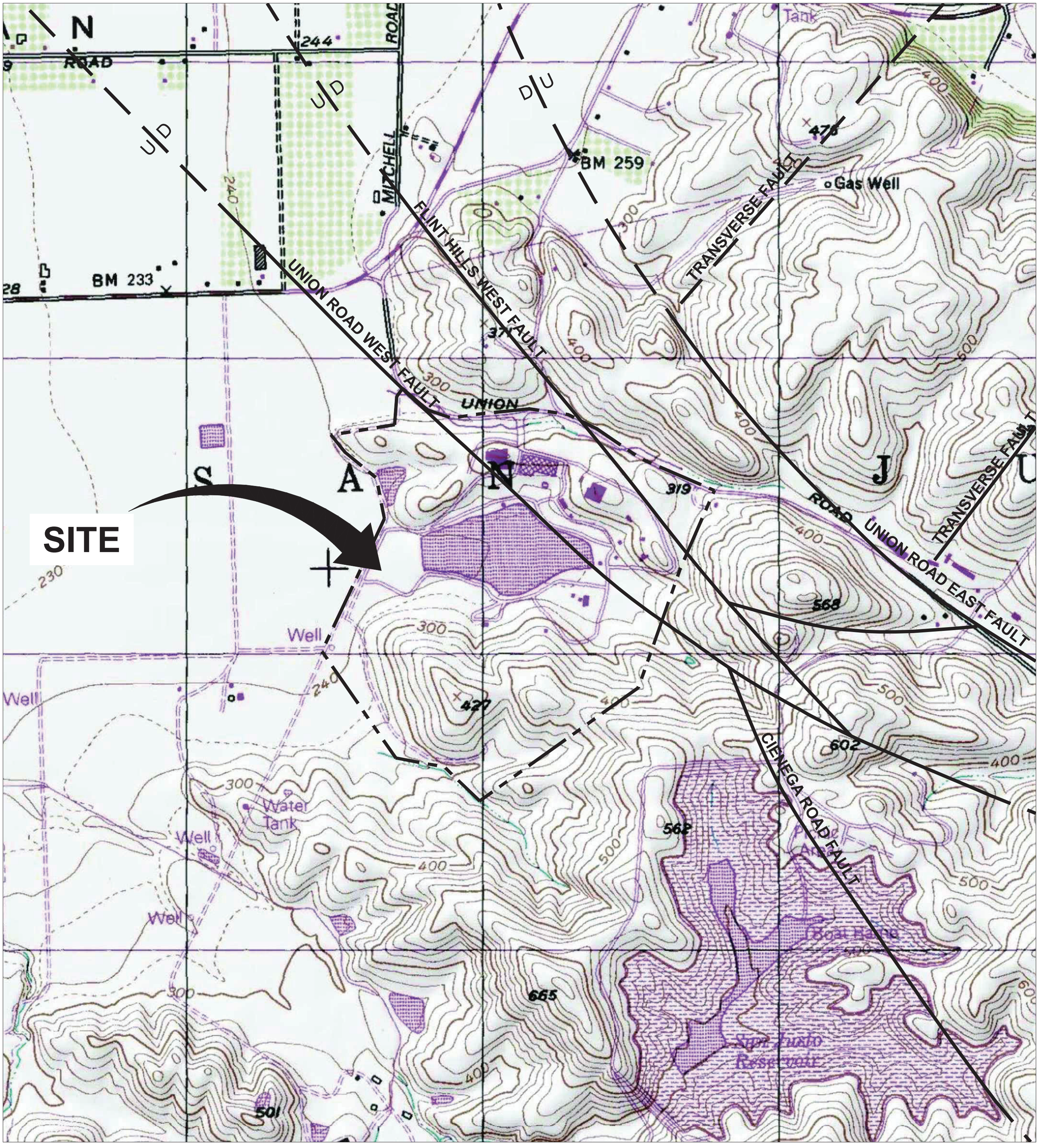
Notes:
Additional wells or analyses included in performance monitoring program as needed based on performance monitoring results

A = Total Organic Carbon
B = Fluorescein and Eosine Dye
C = Field parameters (turbidity, pH, oxidation-reduction potential, temperature, specific conductivity, and dissolved oxygen)
D = Depth to Water
E = Perchlorate
F = Biogeochemical indicator parameters (dissolved iron and manganese, nitrate, and sulfate).
G = General Waiver [R3-2008-0010] parameters (total dissolved solids; dissolved arsenic)
H = All fluorescent dyes (fluorescein, eosine, rhodamine WT)

* = baseline sampling occurred following well installation and development and prior to initiating 2013/2014 injection events.

Samples are collected using a submersible or peristaltic pump to purge one screen volume and calibrated YSI 600XL or equivalent.

FIGURES



U|D FAULT (RELATIVE DISPLACEMENT INDICATED BY U/D)

SOURCES:
TOPO REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., HOLLISTER, CA

FAULT LOCATIONS TAKEN FROM ROGERS (1993)

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LOCATION

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

LEGEND

- 15-FT ROI NESTED INJECTION WELL LOCATION
- CPT & GROUNDWATER SAMPLING LOCATION (PES, 2000)
- CPT & GROUNDWATER SAMPLE LOCATION (PES, 2001)
- LOCATION OF CPT & GROUNDWATER SAMPLE COLLECTED WITHIN THE ALLUVIAL DEPOSITS (PES, 2010)
- CPT & GROUNDWATER SAMPLES WITHIN THE ALLUVIAL DEPOSITS AND PURISIMA FORMATION (PES,2010)
- DEEP GRAB GROUNDWATER SAMPLE LOCATION (PES, 2012)
- MONITORING WELL SCREENED PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE LOWER ALLUVIAL DEPOSITS
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- PRIMARY LOCATIONS OF PROPOSED MONITORING WELL CLUSTER
- SOIL BORING /GRAB GROUNDWATER SAMPLING LOCATION (PES, 2001)
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA
- FAULT

0 300 600 Feet

N W E S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LAYOUT

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

Path: C:\Users\msmiller\Desktop\McCormick\GIS\MXD\20140918\2014\SiteLayout.mxd Date Saved: 9/19/2014 2:25:57 PM Author: M Miller

LEGEND

- Injection Well
- Monitoring Well

0 40 80 Feet

N W E S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

SHALLOW INJECTION WELLS
INTERIM ACTION AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

Path: C:\Users\msmiller\Desktop\McCormick\GIS\MXD\2014\Zoom\Updates\Updates 2\UPDATES 3\Updates 5\Figure 3 Zoom_InterminAction_AreaShallow.mxd Date Saved: 1/13/2015 10:36:10 AM Author: M Miller

LEGEND

- Injection Well
- Monitoring Well

0 35 70 Feet

N S E W

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

DEEP INJECTION WELLS
INTERIM ACTION AREA

ARCADIS Design & Consultancy for natural and built assets

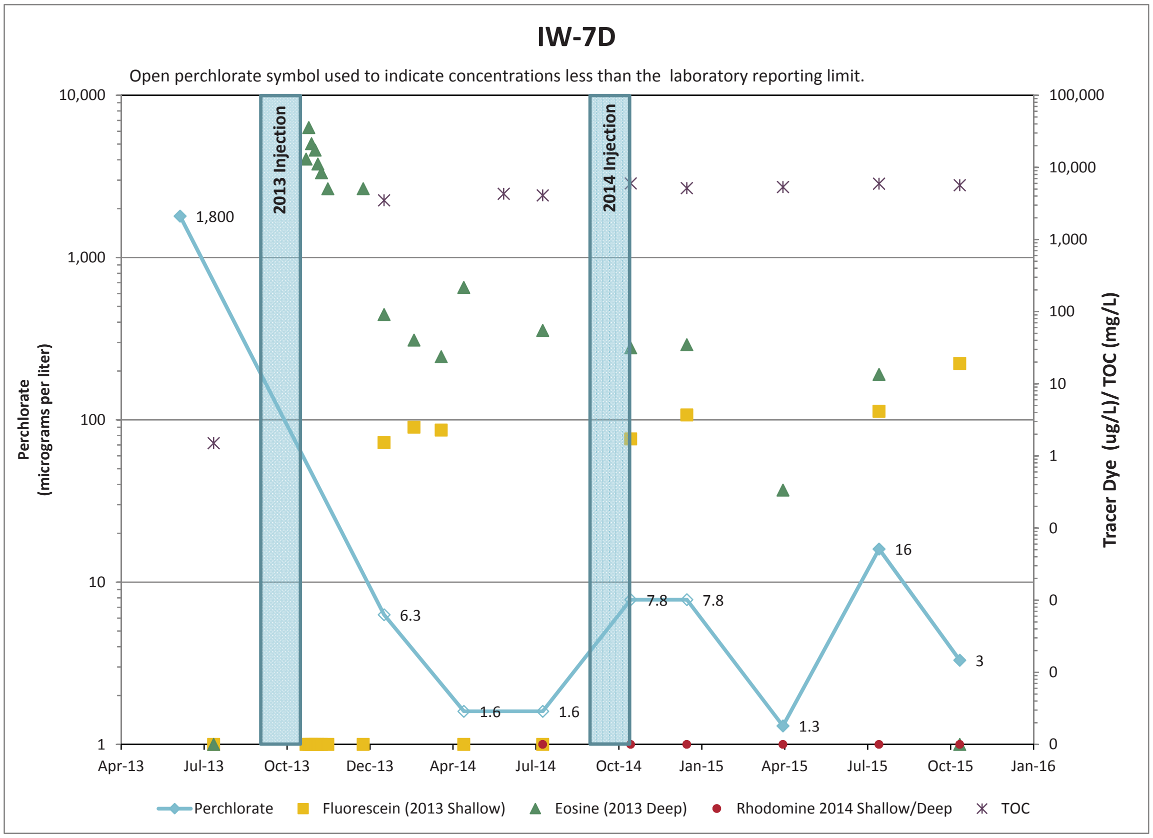
FIGURE 4

APPENDIX A

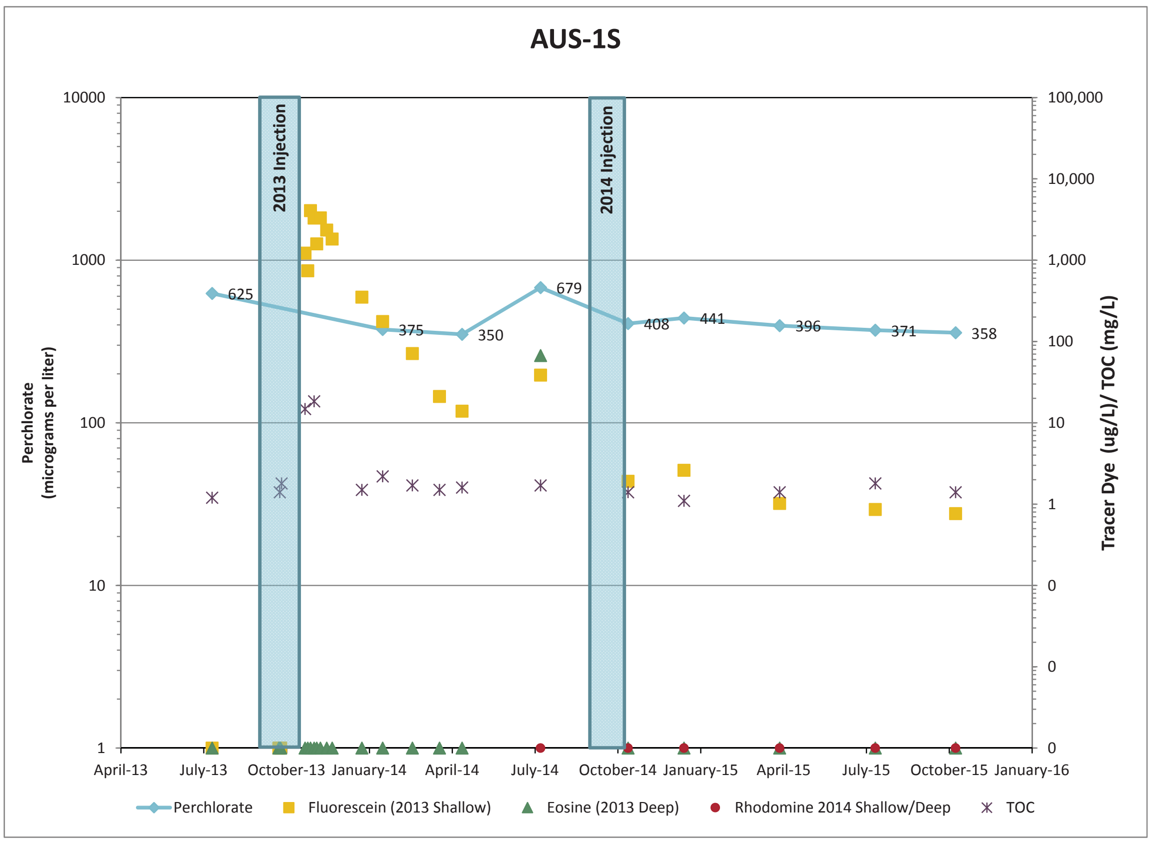
Laboratory Analytical Results (electronic only)

APPENDIX B

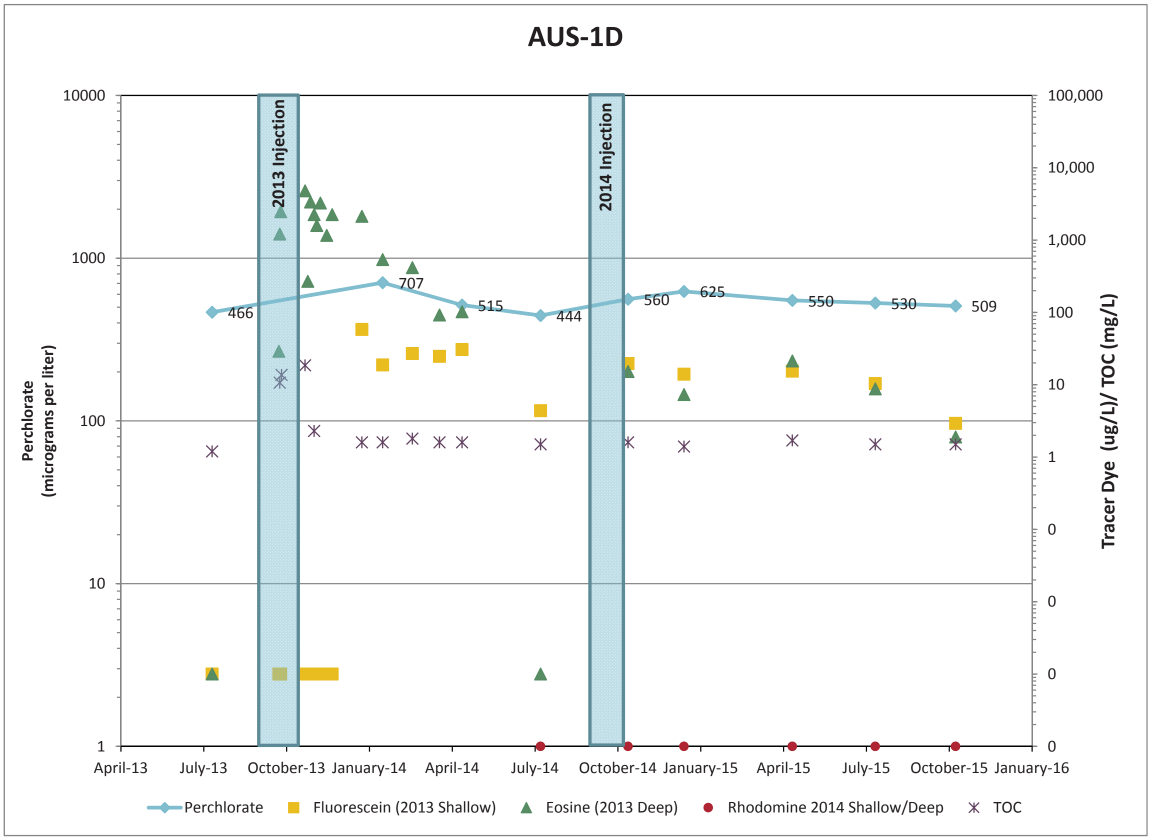
Water Quality Trend Graphs



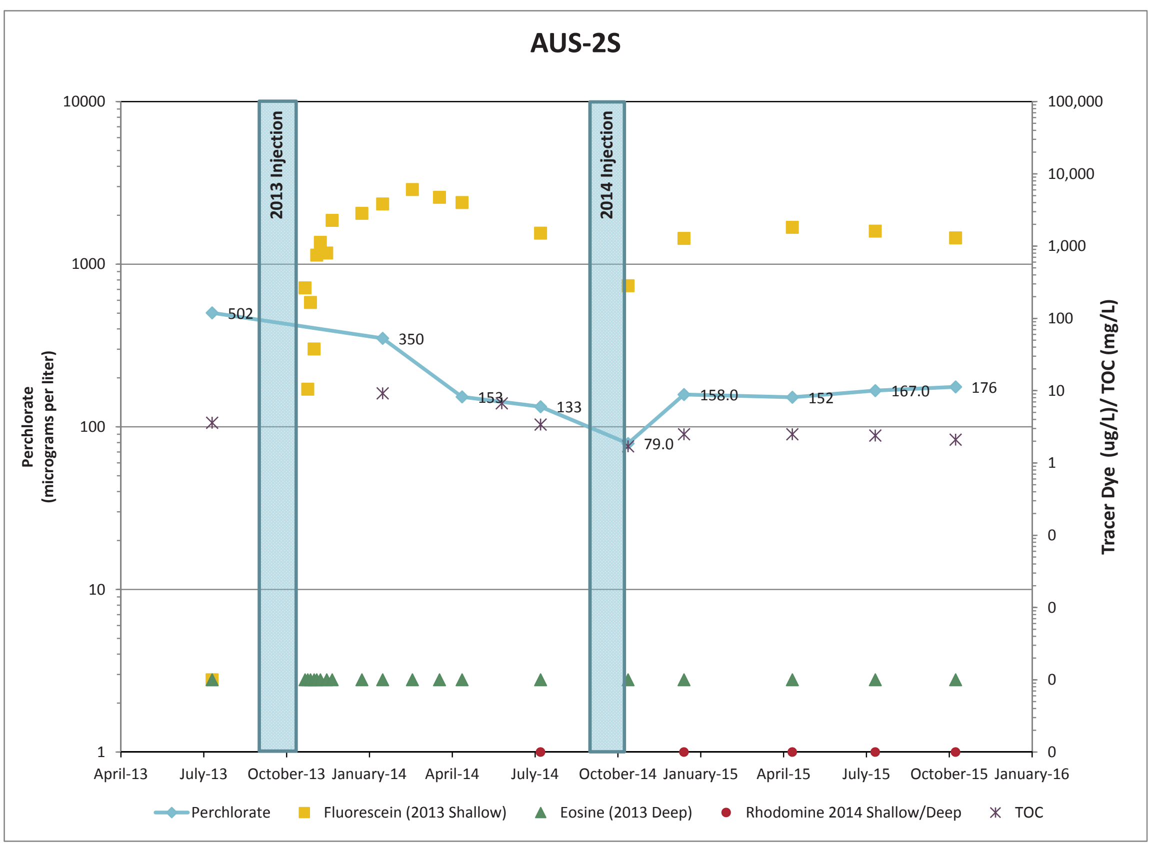
IW-7D
Open perchlorate symbol used to indicate concentrations less than the laboratory reporting limit.
Perchlorate (micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
1,800
6.3
1.6
1.6
7.8
7.8
1.3
16
3
10,000
1,000
100
10
1
100,000
10,000
1,000
100
10
1
0
Apr-13
Jul-13
Oct-13
Dec-13
Apr-14
Jul-14
Oct-14
Jan-15
Apr-15
Jul-15
Oct-15
Jan-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC



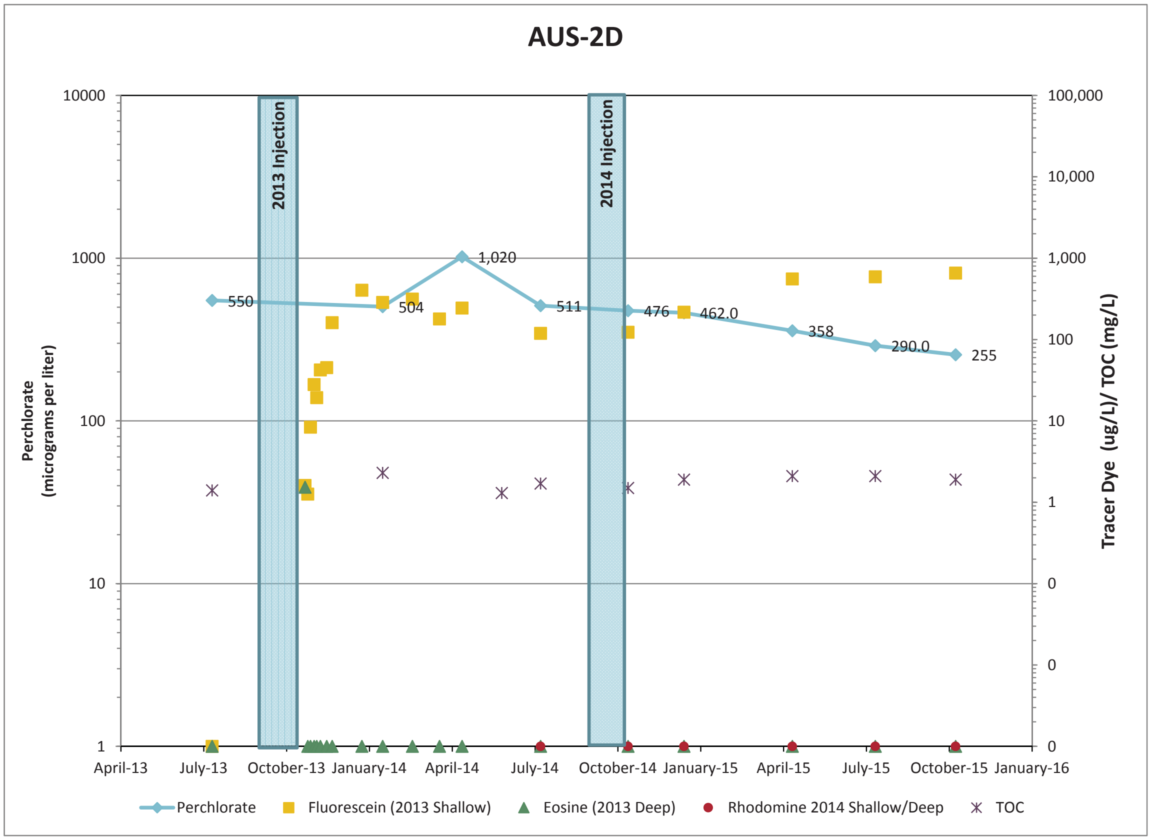
AUS-1S
Perchlorate (micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
625
375
350
679
408
441
396
371
358
10000
1000
100
10
1
100,000
10,000
1,000
100
10
1
0
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

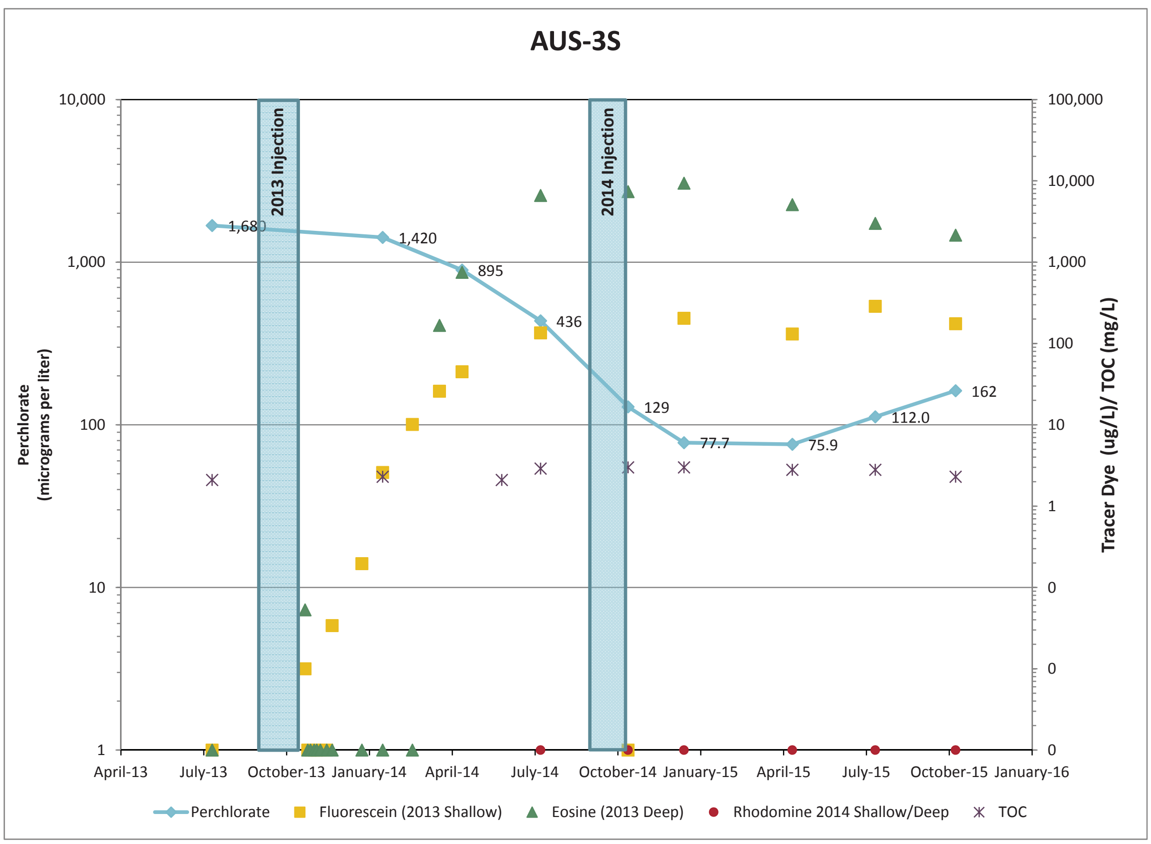


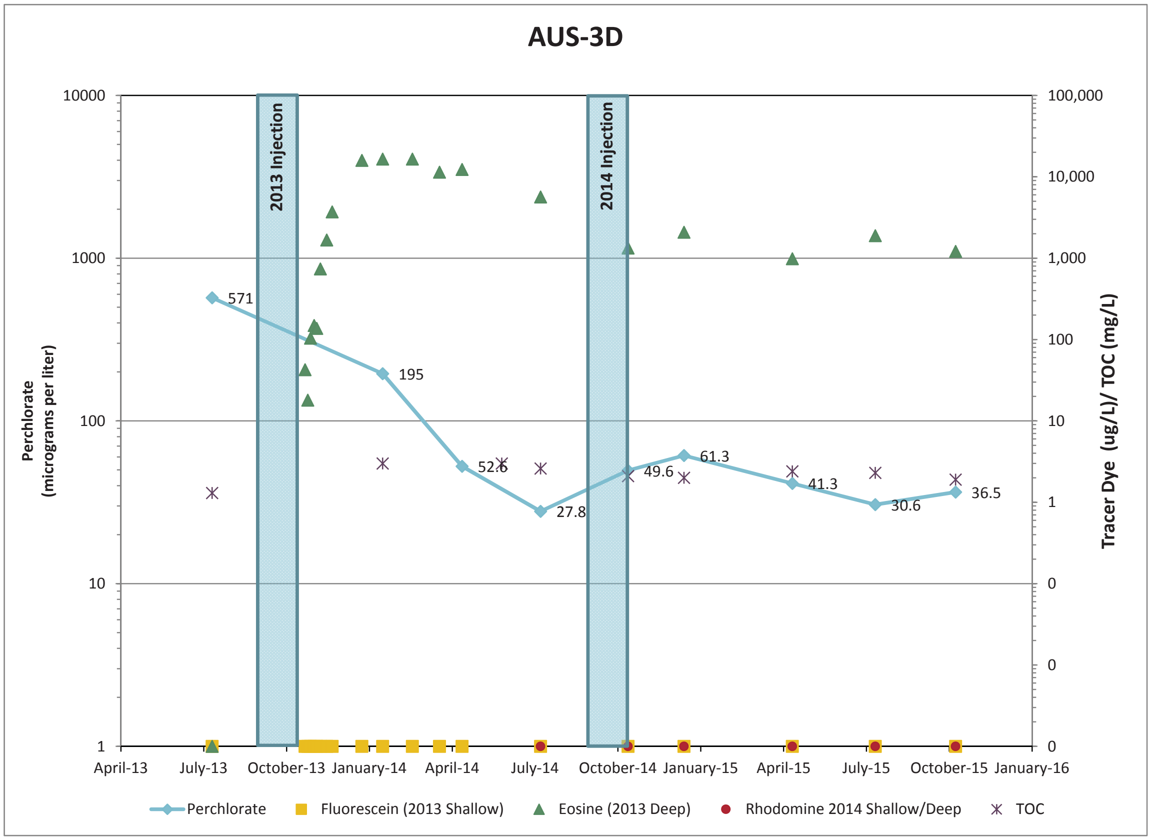
AUS-1D
10000
1000
100
10
1
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
466
707
515
444
560
625
550
530
509
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

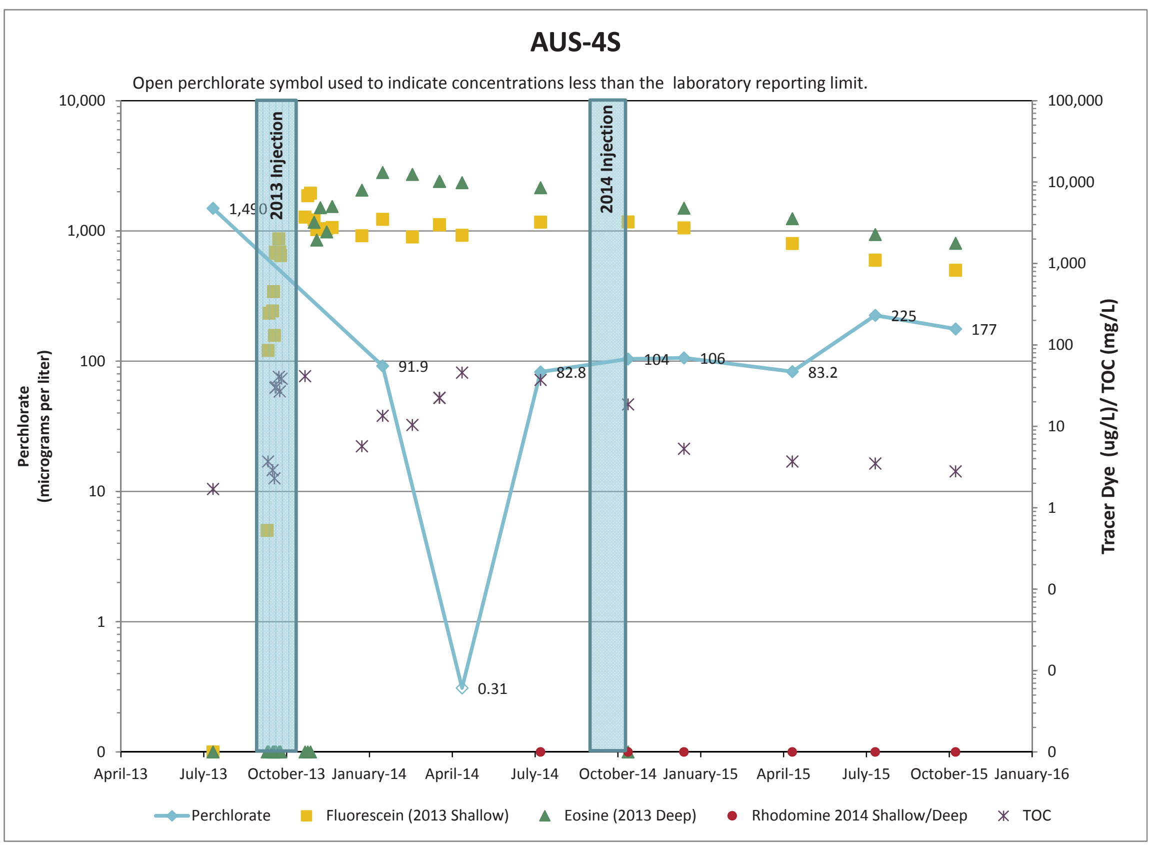


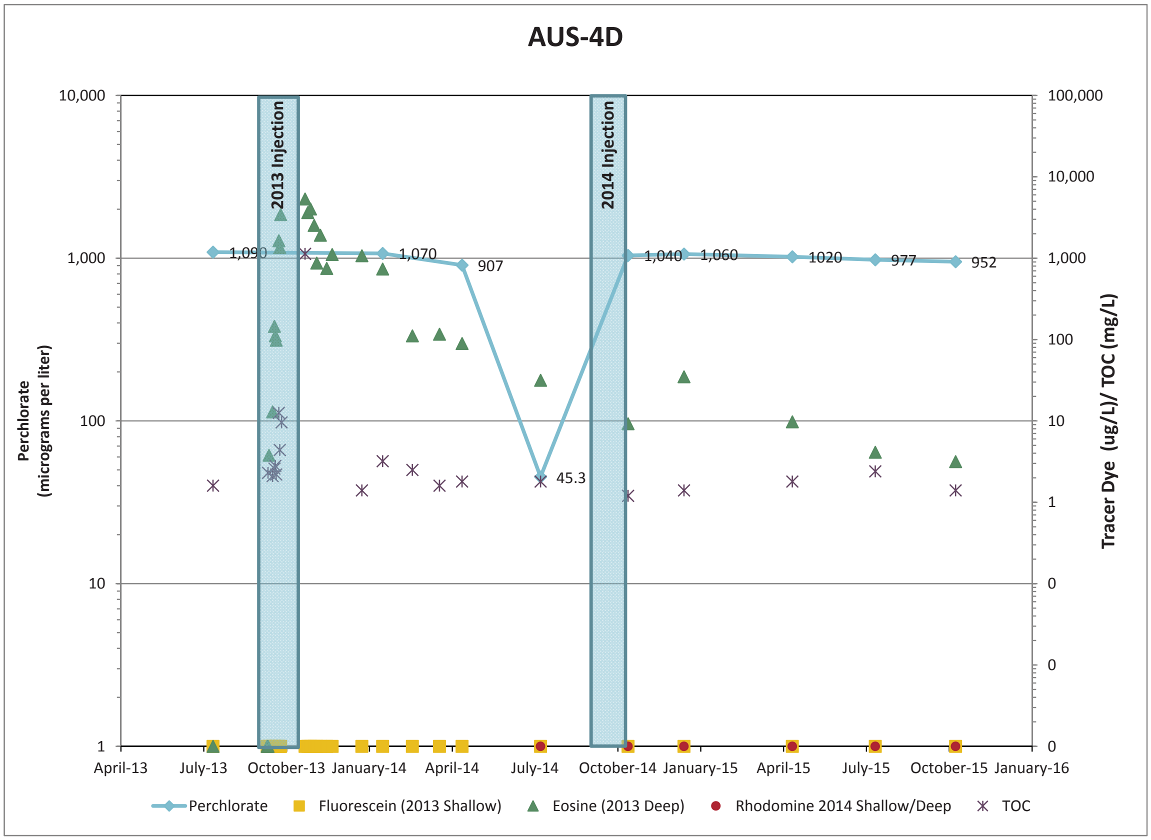
AUS-2S
10000
1000
100
10
1
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
502
350
153
133
79.0
158.0
152
167.0
176
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

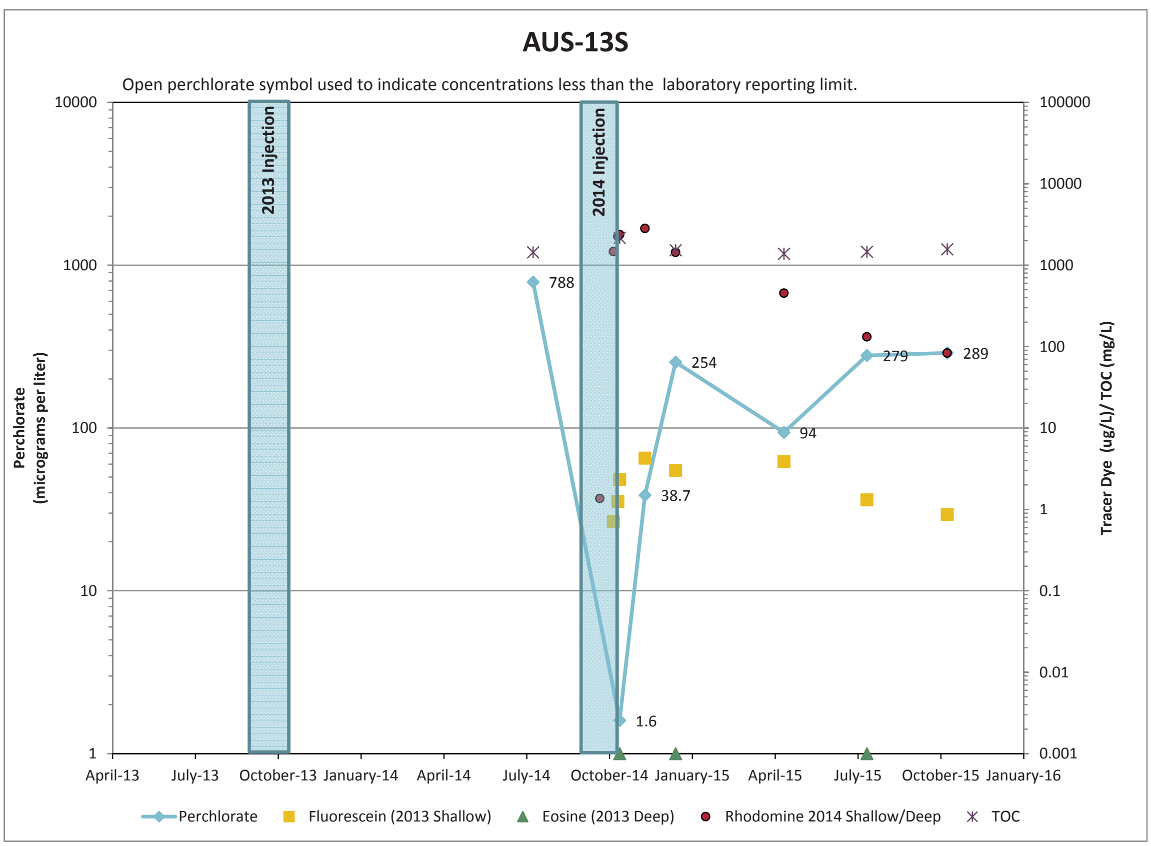

AUS-2D
10000
1000
100
10
1
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
550
504
1,020
511
476
462.0
358
290.0
255
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

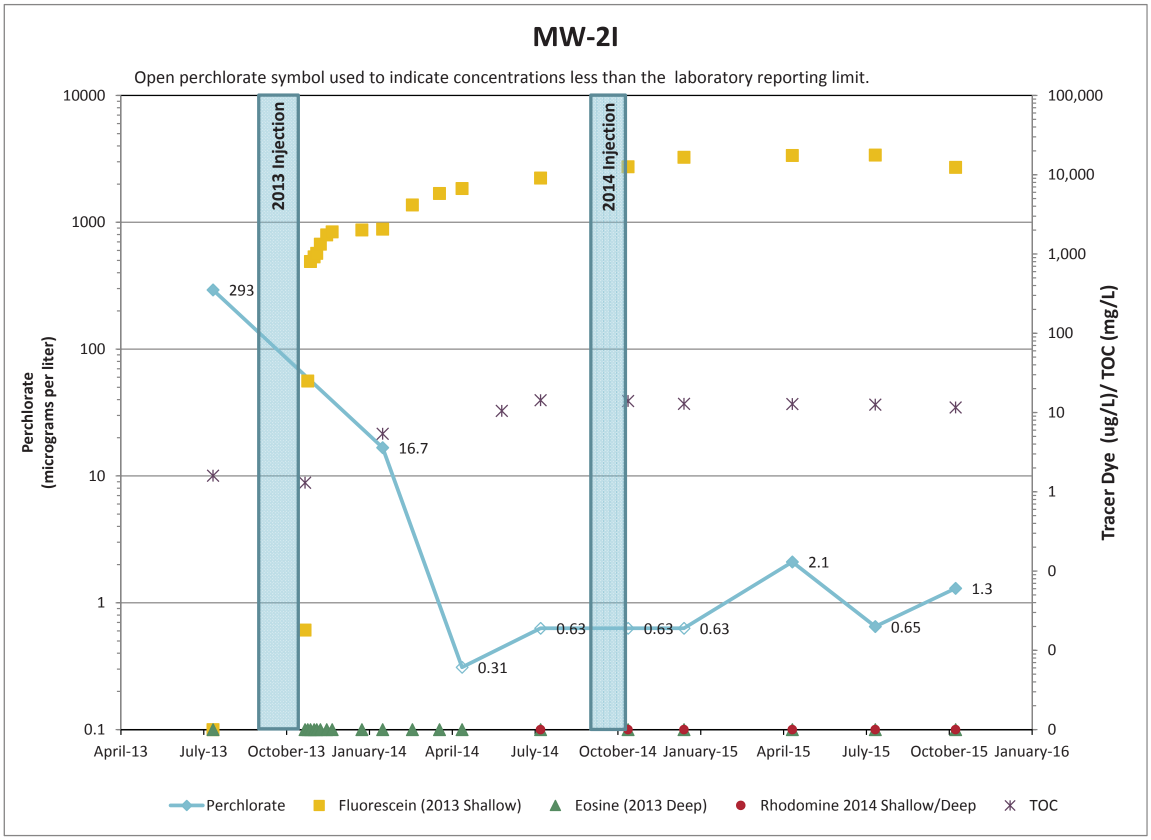

AUS-3S
10,000
1,000
100
10
1
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
1,680
1,420
895
436
129
77.7
75.9
112.0
162
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC


AUS-3D
10000
1000
100
10
1
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
571
195
52.6
27.8
49.6
61.3
41.3
30.6
36.5
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

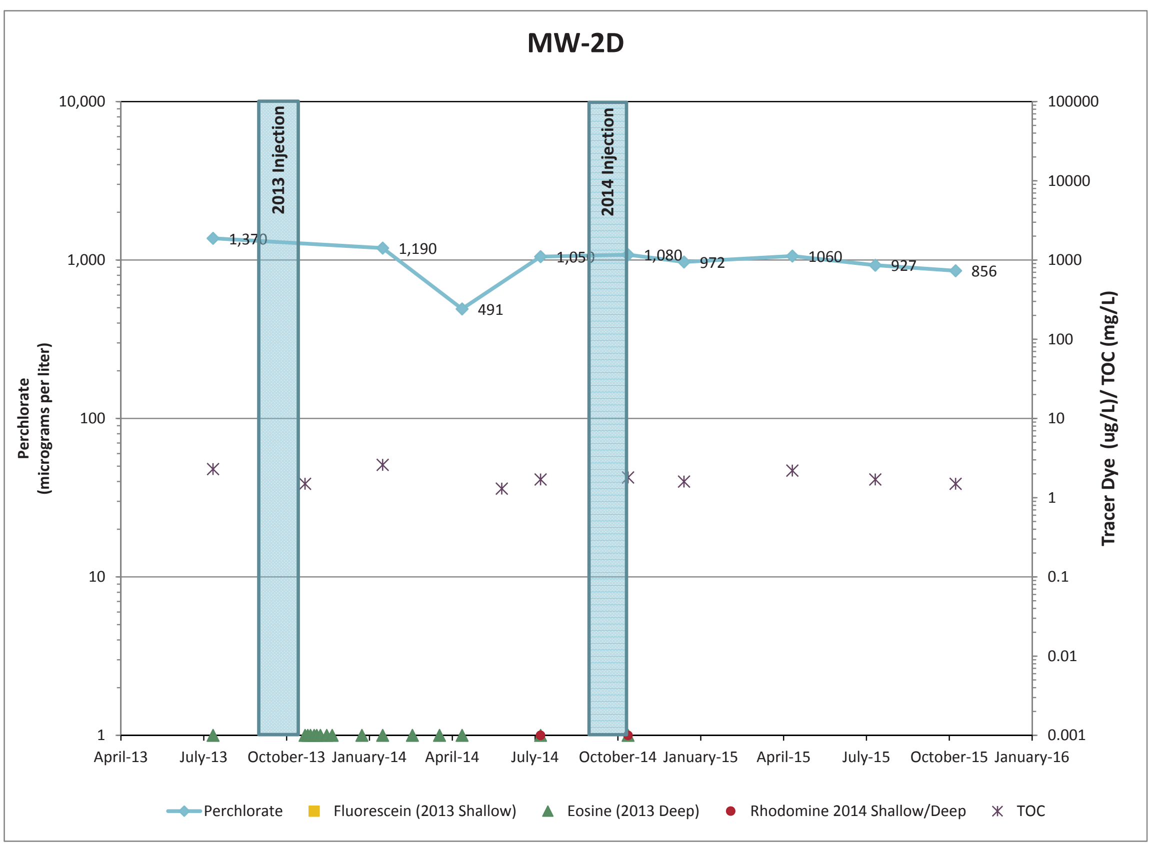

AUS-4S
Open perchlorate symbol used to indicate concentrations less than the laboratory reporting limit.
10,000
1,000
100
10
1
0
Perchlorate (micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
1,490
91.9
0.31
82.8
104
106
83.2
225
177
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC


AUS-4D
2013 Injection
2014 Injection
Perchlorate
(micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
10,000
1,000
100
10
1
100,000
10,000
1,000
100
10
1
0
0
0
1,090
1,070
907
45.3
1,040
1,060
1020
977
952
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

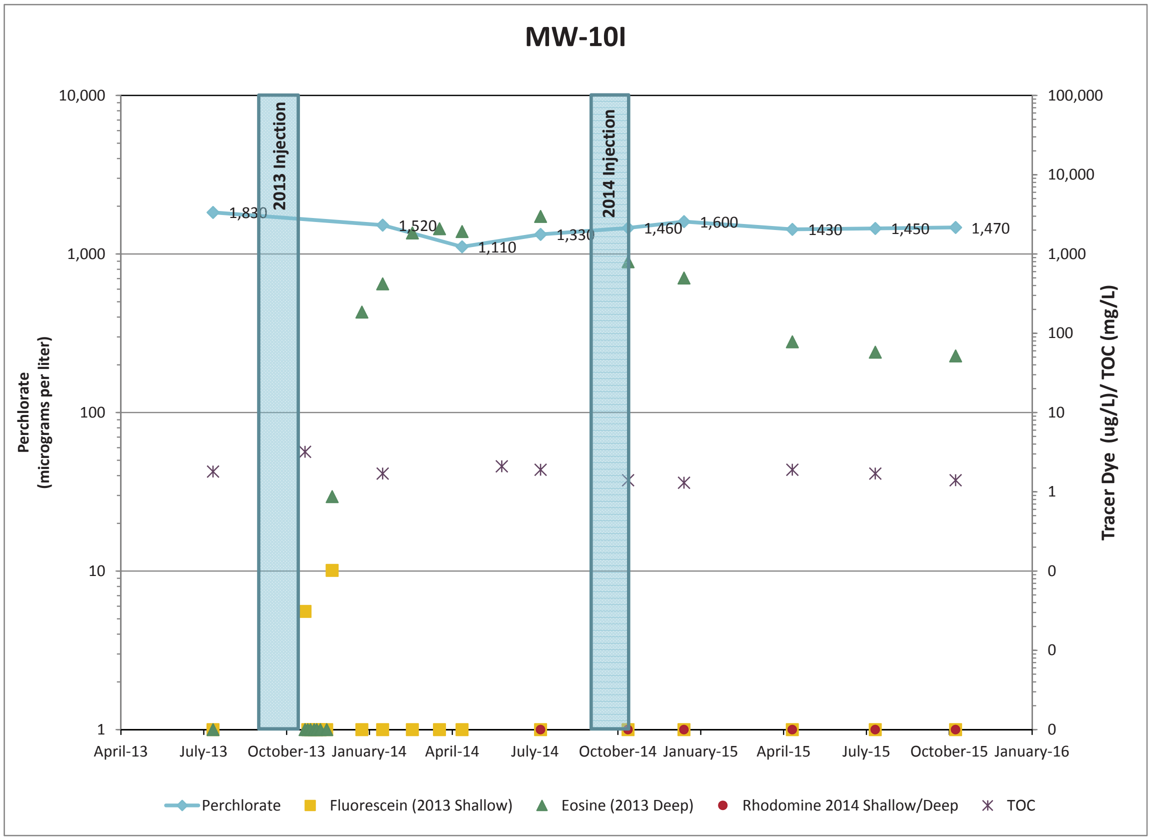

AUS-13S
Open perchlorate symbol used to indicate concentrations less than the laboratory reporting limit.
2013 Injection
2014 Injection
Perchlorate
(micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
10000
1000
100
10
1
100000
10000
1000
100
10
1
0.1
0.01
0.001
788
254
94
279
289
38.7
1.6
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC



MW-2I
Open perchlorate symbol used to indicate concentrations less than the laboratory reporting limit.
Perchlorate (micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
10000
1000
100
10
1
0.1
100,000
10,000
1,000
100
10
1
0
0
0
2013 Injection
2014 Injection
293
16.7
0.31
0.63
0.63
0.63
2.1
0.65
1.3
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC



MW-2D
Perchlorate (micrograms per liter)
Tracer Dye (ug/L)/ TOC (mg/L)
10,000
1,000
100
10
1
100000
10000
1000
100
10
1
0.1
0.01
0.001
2013 Injection
2014 Injection
1,370
1,190
491
1,050
1,080
972
1060
927
856
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC



MW-10I
10,000
1,000
100
10
1
Perchlorate
(micrograms per liter)
100,000
10,000
1,000
100
10
1
0
0
0
Tracer Dye (ug/L)/ TOC (mg/L)
2013 Injection
2014 Injection
1,830
1,520
1,110
1,330
1,460
1,600
1430
1,450
1,470
April-13
July-13
October-13
January-14
April-14
July-14
October-14
January-15
April-15
July-15
October-15
January-16
Perchlorate
Fluorescein (2013 Shallow)
Eosine (2013 Deep)
Rhodomine 2014 Shallow/Deep
TOC

Attachment XI-3

"*2nd Supplemental Water Supply Well Investigation Report and Updated Conceptual Site Model*" (Arcadis, dated 2/26/2016), (for the Water Board regulated, Former Teledyne McCormick Selph, Inc. facility), 59 pages

ARCADIS Design & Consultancy for natural and built assets

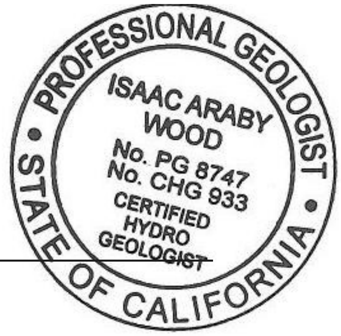
TDY Industries, LLC

SECOND SUPPLEMENTAL WATER SUPPLY WELL INVESTIGATION REPORT AND UPDATED CONCEPTUAL SITE MODEL

Former Teledyne McCormick
Selph, Inc., Facility

February 26, 2016

SECOND SUPPLEMENTAL WATER SUPPLY WELL INVESTIGATION REPORT AND UPDATED CONCEPTUAL SITE MODEL



Isaac Wood, P.G.
Principal Hydrogeologist

Erica Kalve, P.G.
Senior Geologist

Don Bradshaw, P.G.
Vice President

Prepared for:

TDY Industries, LLC

Prepared by:

Arcadis U.S., Inc.
2000 Powell Street
Suite 700
Emeryville
California 94608
Tel 510 652 4500
Fax 510 652 4906

Our Ref.:

EM011000.0005

Date:

February 26, 2016

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TABLES

FIGURES

APPENDICES *(appendices are provided on CD)*

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this report on behalf of TDY Industries, LLC for the former Teledyne McCormick Selph, Inc., facility located at 3601 Union Road in Hollister, San Benito County, California (the Site; **Figure 1**). As discussed during a meeting with TDY Industries, LLC and the California Regional Water Quality Control Board, Central Coast Region (RWQCB) on December 11, 2014, after completing the scope of work described in the December 20, 2013 "Supplemental Work Plan for Additional Activities in Support of the Interim Action and Water Supply Well Investigation" (Arcadis 2013b), which was summarized in the "Supplemental Interim Water Supply Well Investigation Report and Interim Conceptual Site Model" (Arcadis 2014), additional data gaps were identified that needed to be filled to satisfy the Water Supply Well Investigation (WSWI) objectives and support a future water supply feasibility study for the Site. This report content has been developed in accordance with the RWQCB Cleanup and Abatement Order (CAO) No. R3-2013-0019 requirement C.2.a (RWQCB 2013), and the "Water Supply Well Investigation Area Supplemental Investigation Work Plan" (Supplemental Work Plan; Arcadis 2015), which was approved by the RWQCB via email dated July 16, 2015 (RWQCB 2015).

1.1 Background

The Site is located approximately 3 miles west of Hollister, California, in a sparsely developed area bounded primarily by agricultural land (**Figure 1**). The Site has operated as an ordnance manufacturing facility since 1971. The facility was sold in 1999 and is currently owned and operated by the Pacific Scientific Energetic Materials Company (PSEMC).

The Site is approximately 270 acres and contains a 35-acre man-made lake named Lake Teledyne (the lake), which provides a water supply for fire-fighting needs at the facility. Water levels in the lake are maintained above a minimum level with water supplied from the San Justo Reservoir and, if needed, pumping from two water supply wells located near the western edge of the lake (W-1 and W-2; **Figure 2**).

From a hydrogeological perspective, the Site is located in the Coast Range Geomorphic Province near four active vertical faults (**Figure 1**), including the Flint Hills West fault (Rogers 1993; previously referred to as the "Unnamed Fault") that trends across the northeastern corner of the Site. An additional fault that was previously inferred has also been identified and confirmed based on lithologic data collected during implementation of the Interim Action Work Plan (IAWP; Arcadis 2013b).

Two primary geologic units underlie the Site: the semi-consolidated sedimentary rock of the "Purisima Formation" and the overlying alluvial deposits that are likely derived from erosion of the "Purisima Formation" present in hills north, south, and west of the Site. Alluvial deposits have filled the east-west trending San Juan Valley to thicknesses ranging from 5 feet (near the hills) to greater than 100 feet in the vicinity of the lake. The upper 30 to 150 feet of the alluvium are predominantly comprised of low-permeability silt and clay with thin discontinuous lenses of silty sand and are referred to as the upper alluvium. The lower portions of the alluvial deposits are predominantly silty and well-graded sands with minor amounts of gravel and are referred to as the lower alluvial deposits.

The "Purisima Formation" is generally considered a marine sedimentary deposit, but lack of fossils in this area makes correlation to the marine Purisima Formation west of the San Andreas uncertain (Rogers

1993). Recent state geologic maps refer to this unit as the Etchegoin Formation (Wagner et al. 2002). This report continues the historical use of “Purisima Formation” to refer to the unit below the alluvial deposits at the Site for consistency with previous site investigation summaries. The Purisima Formation (more recently called the Etchegoin Formation) is estimated to be approximately 3,000 feet thick and strikes northwest with a dip to the southwest. A regional geologic map of the area indicates that the hills surrounding the Site are comprised of a series of anticline and syncline folds.

Previous environmental investigations have identified an area of the Site directly upgradient from the southeastern side of the lake in the vicinity of the former Thermal Destruct Facility (FTDF) area where elevated concentrations of perchlorate (greater than 1,000 micrograms per liter [µg/L]) were detected in groundwater. Arcadis is implementing the IAWP (Arcadis 2013a) to enhance in situ bioremediation of perchlorate in the vicinity of the FTDF area (the Interim Action Area). Perchlorate was detected in groundwater samples collected from water supply well W-1 in January 2013 and grab groundwater samples collected near well W-1 on the western portion of the Site during the 2013 WSWI investigation (Arcadis 2014) (**Figure 2**). Additional WSWI investigation activities were conducted in 2014 and 2015 to address identified data gaps. As summarized in this report, Arcadis recently completed the proposed scope of work included in the (2015) Supplemental Investigation Work Plan (Arcadis 2015) and the results satisfy the WSWI investigation objectives.

1.2 Objectives

The specific objectives detailed in the Supplemental Work Plan for the WSWI Area are as follows:

- Further delineate the extent of perchlorate detected at AUS-12A and AUS-12B (Boring F)
- Further delineate the extent of N-Nitrosodimethylamine (NDMA) detected in WSWI Area monitoring wells
- Assess groundwater gradients and influence of pumping of well W-1 in the western portion of the WSWI Area (transducer study)
- Conduct an off-site water supply well survey.

As described in Section 2, these objectives were achieved.

2 SUPPLEMENTAL WSWI AREA INVESTIGATION ACTIVITIES

Arcadis conducted WSWI activities in accordance with the Supplemental Work Plan (Arcadis 2015), which was approved by the RWQCB in an email dated July 16, 2015 (RWQCB 2015). Following work plan approval, Arcadis installed and developed monitoring wells and conducted groundwater sampling. Additional activities conducted included a transducer study and an off-site water supply well survey.

Groundwater monitoring wells were installed and developed between August 3 and November 20, 2015; groundwater sampling activities were completed by December 2, 2015. Final laboratory analytical results were received on December 28, 2015.

2.1 Pre-Field Activities

Arcadis obtained well permits from the San Benito County Water District (SBCWD). No additional permits were required to perform the subsurface investigation. Because the investigation area was within the property boundary of the Site, no access agreements were required. Arcadis coordinated with PSEMC personnel regarding access to the investigation area.

Arcadis prepared a site-specific Health and Safety Plan in accordance with Occupational Safety and Health Administration requirements (29 CFR 1910.120) and amended the plan as needed to address health and safety hazards identified during field implementation activities. Prior to subsurface investigation, Arcadis called Underground Service Alert (USA) and worked with a private utility locator to identify any potential subsurface obstructions at the proposed borehole locations. Additionally, a hand auger was advanced into the top 5 feet of soil at each borehole location prior to drilling to avoid damaging any unknown underground utilities, if present.

2.2 Supplemental Work Plan Implementation

Field activities included drilling and well installation activities, geologic logging, well installation, well development, groundwater sampling, a transducer study, and an off-site well survey. Vertical aquifer profiling was conducted and monitoring well clusters were installed at five locations in the WSWI Area. The boring and well cluster installation locations are shown on **Figure 3**. Prior to well installation, depth-discrete grab groundwater sampling was conducted during drilling to identify target screen intervals. Well construction information is summarized in **Table 1**.

2.2.1 Vertical Aquifer Profiling in the WSWI Area

In August 2015, Arcadis subcontracted Cascade Drilling, LP, a California-licensed drilling company, to advance exploratory soil borings at five locations and install five groundwater monitoring well clusters. All soil borings were advanced using rotosonic drilling technology. Geologic logs (presented in **Appendix A**) were prepared in the field from 4-inch-diameter soil cores collected continuously. A 6 7/8-inch sonic casing was advanced to the top of each coring interval to isolate the interval sampled and limit potential cross-contamination for grab groundwater sampling. Arcadis advanced soil borings at five locations (borings I, J, K, L, and M, which were converted to monitoring well clusters AUS-14 through AUS-18, respectively; see **Figure 3**) upgradient and cross-gradient from water supply well W-1. Selection of subsequent boring locations was informed by grab groundwater sample results obtained from the previously advanced exploratory boring. The total depths for borings I through M and well screen intervals for monitoring wells located at AUS-14 through AUS-18 were determined based on grab groundwater sample results and inspection of the soil cores as the investigation progressed. Well completion reports for the wells at locations AUS-14 through AUS-18 are included in **Appendix B**.

During the 2015 investigation, Arcadis collected a total of 30 depth-discrete grab groundwater samples (out of 62 attempts) at approximately 20-foot intervals. At many sample depths within the upper alluvial deposits groundwater samples could not be obtained because the formation was too impermeable to yield sufficient (if any) water for sample collection. Grab groundwater samples were submitted to Accutest Laboratories, a California-certified laboratory, for perchlorate analysis using United States Environmental Protection Agency (USEPA) Method 314.0 to assist with well design. Grab groundwater sampling depths and analytical results are summarized in **Table 2**. Grab groundwater sampling forms are included in **Appendix C**.

2.2.2 Monitoring Well Installation and Development

Eleven monitoring wells were installed in the WSWI Area; all new monitoring wells were constructed with screens within the Purisima Formation due to the dry conditions encountered in the alluvial deposits. Monitoring wells were constructed using 2-inch schedule 80 polyvinyl chloride (PVC) riser with slotted PVC screen. Appropriate screen intervals for monitoring well clusters were identified based on the perchlorate concentrations in the grab groundwater sampling results. Two nested wells were installed in exploratory boring AUS-14, and a third well was installed within 10 feet of the nested well pair at AUS-14. Well clusters at AUS-15, AUS-16, AUS-17, and AUS-18 were installed as single wells within separate boreholes.

Typical construction details for the single completion and double completion monitoring wells are illustrated on **Figure 4** and **Figure 5**, respectively. Monitoring well construction details are summarized in **Table 1**. Boring logs for new borings advanced during the 2015 investigation are presented as **Appendix A**. Boring and field grab sample collection, well development, and groundwater sampling logs from previous investigation were previously provided in the Water Supply Well Investigation Summary Report and Interim Conceptual Site Model (Arcadis 2013a) and Supplemental Interim Water Supply Well Investigation Report and Interim Conceptual Site Model (Arcadis 2014) reports.

Each well was developed to remove fine-grained material, drilling water added to the formation during drilling and well installation activities, and over purged until field parameter stabilization. Well development logs are presented in **Appendix D**.

All investigation-derived soil waste was placed in bins and stored in a designated area for characterization and off-site disposal. All well installation and development water was placed in 6,500-gallon storage tanks and stored in a designated area for characterization and off-site disposal and solidification.

2.2.3 Groundwater Sampling

Prior to implementation of drilling activities, Arcadis conducted groundwater sampling to further characterize the distribution of perchlorate in all existing WSWI Area monitoring wells and of NDMA at existing monitoring wells located in the WSWI Area that had not been previously analyzed for NDMA. Additionally, following installation and development of the newly installed wells, Arcadis conducted sampling of the new monitoring wells to characterize perchlorate and NDMA concentrations. Two samples from AUS-5C and AUS-6B were also submitted for analysis of unsymmetrical dimethylhydrazine (UDMH). Further, a subset of the newly installed wells was selected for analysis of natural attenuation parameters (AUS-12A/B, AUS-14B/C, AUS-15B/C, AUS-16B, and AUS-17B/C). Groundwater sampling logs are provided in **Appendix E**.

Low-flow groundwater sampling techniques were used to purge and sample the existing and the newly installed shallow groundwater monitoring wells. A modified 3-volume purge method utilizing a submersible pump was used to purge and sample the deeper groundwater monitoring wells (i.e., AUS-

14B, AUS-14C, AUS-15C, AUS-16B, AUS-17B, and AUS-17C). Because perchlorate is non-volatile, this deviation from the Supplemental Work Plan will not influence perchlorate sampling results.

Low-flow purging was conducted at a rate of 100 to 500 milliliters per minute (mL/min) and a water quality meter was used to monitor the following groundwater parameters: temperature, pH, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. The values of these parameters were documented every 3 to 5 minutes, and low-flow purging was continued until three successive readings were within ± 0.1 for pH, ± 3 percent for conductivity, ± 10 millivolts for ORP, and ± 10 percent for turbidity and DO.

During modified 3-volume purging, three times a pre-calculated screen volume was purged. A water quality meter was used to monitor the following groundwater parameters: temperature, pH, conductivity, DO, ORP, and turbidity. The values of these parameters were documented after each purge volume. The well was sampled after three (well screen) purge volumes were removed.

All water samples were collected in laboratory-supplied sample containers, preserved as appropriate per the analysis, stored on ice, and shipped under chain-of-custody protocol to Accutest Laboratories. Groundwater samples from each monitoring well were analyzed for perchlorate using USEPA Method 314.0, NDMA using USEPA Method 1625B, and UDMH using USEPA Method 8315A. Groundwater samples from AUS-14B, AUS-14C, AUS-15B, AUS-15C, AUS-16B, AUS-17B, and AUS-17C were also analyzed for natural attenuation parameters, including chloride, nitrate (as nitrogen), total iron, and total organic carbon. Additionally, groundwater samples from the same subset of locations were field analyzed for nitrite and ferrous iron using Hach® field test kits. Analytical methods and reporting levels are summarized in **Table 3**. Analytical results are summarized in **Table 4**. Laboratory analytical reports are provided in **Appendix F**.

Groundwater produced during well sampling was placed in 6,500-gallon storage tanks and stored in a designated area for characterization and off-site disposal and solidification.

2.2.4 Well Survey

Each newly installed groundwater monitoring well was surveyed by Muir Consulting, Inc., a California-licensed surveying company, to document the horizontal and vertical location of the top of the monitoring well casing. Survey information is provided on the geologic logs and presented in **Table 1**.

2.2.5 Transducer Deployment

Arcadis conducted an evaluation of the hydraulic influence of water supply well W-1 operations in the WSWI Area through implementation of a transducer study. The transducer study included deploying Solinst Level Logger© transducers in 10 selected wells to monitor changes in groundwater levels generated by the pumping of W-1 by PSEMC. Prior to deploying the transducers, water levels were collected at the 10 selected wells to determine at what depth the transducers would be installed. Each of the transducers was deployed approximately 15 feet below the recorded depth to water and set to record data every minute for a 2-week period. The transducers were deployed on July 24, 2015. The transducers were removed and recordings ceased on August 11, 2015. PSEMC provided metered flow volumes after the transducer study was completed in the field. The results of the hydraulic influence evaluation based on the transducer study are discussed in Section 2.3.3.

2.2.6 Investigative-Derived Waste Management

Investigation-derived soil waste was placed in soil bins and characterized for off-site disposal at an appropriate landfill. Similarly, investigation-derived liquid waste was placed in storage tanks in a designated area for proper waste characterization and off-site solidification and disposal at an appropriate landfill.

2.2.7 Off-site Well Survey

The neighboring Whittaker Ordnance Facility (Whittaker site) recently completed a water supply well survey that included areas up to an approximately 2-mile radius from the former Whittaker site (Trinity Source Group, Inc. 2014). The survey covered properties that are located in the vicinity of the Site, particularly to the north and northwest. Arcadis conducted a well survey, building off of the work conducted for the Whittaker site by expanding the area to include areas within a 2-mile radius of the Site and particularly to cover the areas to the west and southwest of the Site. The well survey included a search of various databases including the California Department of Water Resources Well Completion Reports, U.S. Geological Survey web-based National Water Information System Mapper, and SBCWD for water supply well information. The well survey results were summarized in a separate submittal (Arcadis 2016).

2.3 Results

2.3.1 Geologic Conditions in the WSWI Area

2.3.1.1 Descriptions of Geologic Units

Geologic logging was conducted at borings AUS-14 through AUS-18 (borings I through M). The subsurface geology at the Site is very complex, which makes correlating hydrostratigraphic units across the Site challenging. In general, the subsurface is comprised of unconsolidated to semi-consolidated gravel, sand, silt, and clay. To maintain consistency with previous site investigations, Arcadis divided the subsurface materials into alluvial deposits (or basin fill) and the “Purisima” Formation. “Purisima” is placed in quotes following the usage in Rogers (1993), who questioned the correlation of bedrock formations in the site vicinity to Purisima exposures west of the San Andreas Fault.

Geologic cross sections were constructed to show geologic correlations between the newly constructed wells and existing wells. Cross-section lines are illustrated on **Figure 6a**. The cross sections include:

- I-I’ – extends north to south on the western boundary of the lake between AUS-09 to AUS-10 to AUS-11 to AUS-12 to AUS-14 to AUS-15 (**Figure 6b**)
- J-J’ – extends west to east between AUS-18 to AUS-16 to AUS-17 to AUS-14 (**Figure 6c**)
- K-K’ – extends north-northeast to south-southwest between AUS-7 to W-1 to AUS-5 to AUS-18 (**Figure 6d**)
- L-L’ – extends between north-northeast to south-southwest between AUS-7 to W-1 to AUS-6, and bends southeast to AUS-16 (**Figure 6e**)

As noted in the Supplemental Work Plan (Arcadis 2015), the three-unit geologic conceptual model applied to the Interim Action Area (Upper Alluvium, Lower Alluvium, and Purisima Formation) is difficult to apply in the WSWI Area. A preliminary division of geologic units for the WSWI Area, as presented in the October 2013 WSWI Report (Arcadis 2013a), is as follows:

- Units 1 and 2 are Post-"Purisima" basin fill, comprised of sand and silt (Unit 1) and clay (Unit 2).
- Unit 3 is "Purisima" sand with variable degrees of consolidation between layers. Unit 3 is mostly sand, and is characterized by stratification and the presence of siltstone fragments on the north side of the concealed fault, and has a much higher silt content on the south side of the inferred concealed fault.
- Unit 4 is "Purisima" sand with variable degrees of consolidation observed in different borings. Unit 4 is predominantly a brown sand with occasional claystone. A similar unit named Unit 4a is defined south of the inferred concealed fault (see **Figure 7** and Section 2.3.1.2).
- Unit 5 is highly reduced clay, claystone, or silt, ranging from greenish-gray to black in color. Drill breaks and bedding planes commonly have a glossy surface. Cores are very hard with unconfined compressive strength greater than 4.5 tons per square foot (measured in the field with a pocket penetrometer). Water levels in wells screened below Unit 5 have higher water levels than wells screened above Unit 5, indicating that Unit 5 is an effective aquitard. A similar unit named Unit 5a is defined south of the inferred concealed fault (see Section 2.3.1.2).
- Unit 6 includes water-bearing silt, sand, and sandstone and is encountered below Unit 5. This is generally a brown, relatively, dense, silty sand. A similar unit named Unit 6a is defined south of the inferred concealed fault (see Section 2.3.1.2).

In general, geologic logs constructed for AUS-14 through AUS-18 can be interpreted within the six-unit geologic conceptual model identified above. Cross-sections I-I' and J-J' shown on **Figures 6b** and **6c**, respectively, illustrate the extent of Unit 4a, Unit 5a, and Unit 6a south of the concealed fault (see **Figure 7**). It is uncertain how far the concealed fault extends west of Boring J (AUS-16). In general, on the north-south cross-section I-I', Unit 4a increases in thickness south of AUS-12 and appears to increase in relative hydraulic conductivity, as evidenced by very loose consistency, very low pocket penetrometer readings, and visual estimates of increasing grain size. Unit 5a decreases in thickness south of AUS-12, dipping strongly to the south, while the thickness of Unit 6a is relatively consistent in thickness, but also dips strongly to the south.

Figure 6c shows cross-section J-J' positioned approximately perpendicular to the southern half of cross-section I-I'. Moving from east (AUS-14) to west (AUS-18) along cross-section J-J', Units 4a, 5a, and 6a dip sharply into the subsurface, with Unit 4a present from 250 to approximately 300 feet below ground surface. At Boring J (AUS-16B) and Boring M (AUS-18), a thick greenish-gray silt (Unit 3) similar in description to Unit 5a is present above Unit 4a. This large wedge of low permeability silt is likely a barrier to groundwater (and perchlorate) transport and may divert groundwater above Unit 4a from flowing toward the west.

Figure 6d shows cross-section K-K' positioned approximately north to south in the W-1 supply well area, extending south to new Boring M containing AUS-18A and AUS-18B. Moving from north (AUS-7) to south (AUS-18) along cross-section K-K', Units 4 and 5 dip sharply into the subsurface, with Unit 4 present from 250 to approximately 300 feet below ground surface at AUS-18, in comparison to being present approximately 80 feet shallower at AUS-6 approximately 350 feet to the north. At AUS-5 and AUS-6, greenish-gray silt similar in description to Unit 5a is present above Unit 4a, and this silt unit thickens to the south to almost 200 feet thick at Boring M. This silt layer is consistent with the silt layer observed in cross-section J-J’ (**Figure 6c**). As noted above, this large wedge of low-permeability silt is likely a barrier to groundwater flow above Unit 4a, and may inhibit groundwater from flowing toward the west.

Figure 6e shows cross-section L-L’, which runs north to south in the W-1 supply well area, before curving east and extending to AUS-16B. This cross-section shows the change in elevation of Units 4 and 4a observed on both sides of the inferred concealed fault. Presumably these stratigraphic discontinuities indicate the presence of a concealed fault crossing beneath the WSWI Area as previously discussed in the Supplemental Interim Water Supply Well Investigation Report and Interim Conceptual Site Model (Arcadis 2014). The inferred location of the concealed fault is shown on **Figure 7** and discussed below.

2.3.1.2 Subsurface Structure

Figure 7 illustrates structure contours on top of Unit 5. Unit 5 strikes 80° west and dips 22° south. Unit 5a strikes 37° northwest and dips 33° southwest. The presence of a concealed fault is inferred from these distinct orientations and is supported by the geologic data illustrated in cross-sections B-B’ and D-D’ (Arcadis 2014), and I-I’ (**Figure 6b**) and K-K’ (**Figure 6e**) of this report which cross the inferred fault. Cross-section I-I’ crosses the concealed fault and also suggests the presence of a fold in Unit 5a. South of AUS-12, the top of Unit 5a dips to the south; north of AUS-12, Unit 5a dips to the north. The axis of the fold is likely parallel to the strike of Unit 5a. The Unit 5a structure appears to extend across most of the subsurface of the WSWI Area south of the concealed fault. Contours were not developed for the Unit 5a elevations south of the interpreted concealed fault due the complexity of the geologic conditions in this area.

2.3.2 Groundwater Elevations in the WSWI Area

The depths to groundwater in the 17 existing and new WSWI monitoring wells were measured on December 11, 2015 to obtain a near contemporaneous snapshot of groundwater elevations. Groundwater level measurements were converted to groundwater elevations and are presented in **Table 5** and on **Figures 8** and **9** for the A- and B-zone wells and C-zone wells, respectively. W-1 was in operation on the day the water level measurements were collected.

The hydraulic gradients between wells installed in Units 4 and 4a on either side of the inferred concealed fault are relatively flat at approximately 0.002 foot per foot (AUS-12B to AUS-6B; AUS-12A to AUS-6B). Wells AUS-5A/5B, AUS-6B, AUS-7A/7B, and AUS-8A, on the north (W-1 well) side of the inferred concealed fault have comparable groundwater elevations ranging between 204.12 feet above mean sea level (feet amsl) to 205.53 feet amsl, with the lowest groundwater elevations measured at wells AUS-5A/5B located nearest to supply well W-1 showing that operation of W-1 results in about 1-foot of drawdown at AUS-5A and AUS-5B. Wells on the south side of the inferred fault (AUS-12A/12B, AUS-14A/14B, AUS-15A/15B, AUS-16B, and AUS-17A/17B) have groundwater elevations comparable to wells in the vicinity of W-1 (except for AUS-5A and AUS-5B which are influenced by W-1 pumping), with lower groundwater elevations at AUS-18A/B indicating a westerly groundwater flow direction toward AUS-18A/B.

Conversely, the hydraulic gradient between the shallow wells near the lake and the shallow wells near W-1 have a relatively high gradient (approximately 0.05 foot per foot), indicating that the lake is likely influencing shallow groundwater conditions near the lake. The groundwater contours near the lake indicate a westerly groundwater flow direction toward W-1. Groundwater contours south of the lake's influence (AUS-12A/B and other wells south of the concealed fault) indicate a westerly groundwater flow direction toward AUS-18A/B. The groundwater measurements from December 11, 2015 show W-1 to be located cross-gradient from the wells containing perchlorate (AUS-12A/B, AUS-14A, and AUS-17B) to the southeast, and while there is no obvious flow path for groundwater at these wells to reach W-1, it is likely that pumping at W-1 draws perchlorate from this area toward this well. The low hydraulic gradient between the Unit 4 and Unit 4a wells spans both sides of the concealed fault. This suggests that the fault is not a barrier to groundwater flow where Units 4 and 4a are in contact, and that the hydraulic conductivity of Units 4 and 4a is relatively high. Despite the relatively high hydraulic conductivity of Units 4 and 4a, the low hydraulic gradient indicates a low rate of groundwater flow and a relatively low rate of perchlorate migration.

Groundwater elevations in the new C-zone wells (AUS-12C, AUS-14C, AUS15C, and AUS-17C) located below Unit 5a in Unit 6a are approximately 18 feet higher than the water levels measured in the A- and B-zone wells located above Unit 5a. Additionally, groundwater elevations in the previously constructed C-zone wells (AUS-5C, AUS-7C, AUS-8C, and AUS-11C) located below Unit 5 are approximately 6 feet higher than the water levels measured in the A- and B-zone wells located above Unit 5. These data show that there is a consistent upward hydraulic gradient from Units 6 and 6a, and that Units 5 and 5a are an effective aquitard[1].

2.3.3 Hydraulic Influence Evaluation

PSEMC measures the discharge from W-1 (in gallons) and the instantaneous flow in gallons per minute (gpm). Thus, the duration of pumping can be calculated for any given day. During July and August 2015, the daily duration of pumping at W-1 during the work week (Monday to Friday) ranged from 1.5 to 11.3 hours. The average duration of pumping was 6.3 hours. On Saturday and Sunday, the record indicates that some pumping occurred, but at a reduced rate.

The transducer data were challenging to interpret due to responses that are likely not directly related to changes in water level in the well. On **Figures 10** and **11**, the data have been filtered to remove some of this noise to better illustrate actual changes in water levels. Possible causes of noise in the pre-filtered transducer data include cavitation in the W-1 pump and air leaks in the PSEMC pressure tank causing the W-1 pump to operate erratically.

Review of the transducer data demonstrated that the daily operation of W-1 causes a water level response throughout the WSWI Area. **Figure 10** presents the transducer data for AUS-5B (nearest to

[1] An exception to these observations are the groundwater elevations at AUS-6B and AUC-6C, where groundwater levels are comparable. Upon further review of lithologic data and based on the consistently comparable groundwater elevations at these two wells, AUS-6C is considered to be more representative of Unit 4 than the Unit 6 groundwater conditions. Detailed review of the boring log and groundwater level data indicate that the AUS-6B well is partially screened across Unit 4 and within the Unit 5 aquitard.

W-1) and all other wells monitored during the transducer study. **Figure 11** presents the transducer data only for wells AUS-5B, AUS-6B, and AUS-7B, which are located nearest to W-1. Changes in water level at AUS-5B, AUS-6B, and AUS-7B, the wells closest to W-1, were on the order of 0.5 to 1.0 foot in response to W-1 pumping or not pumping.

The water levels in wells farther away (IB-7, IB-8, AUS-10B, AUS-12B/12C, and AUS-11B/11C) also exhibited measurable drawdown due to pumping, however, at reduced levels consistent with the distance from W-1. The wells responded nearly simultaneously to the onset of pumping each day, and recovered shortly to non-pumping levels after pumping ended each day. These observations suggest that the storativity of the aquifer is representative of confined conditions, and that the basin fill clay described as Unit 2 is likely acting as an aquitard to create these confined conditions.

A capture zone for W-1 was estimated using the response data recorded by pressure transducers. The width of the capture zone of a single well pumping from a naturally sloping homogeneous aquifer is directly proportional to the extraction rate and inversely proportional to the natural gradient and the transmissivity of the aquifer (Todd 1980). The method of calculating the width of the capture zone presented by Todd (1980) calculates the downgradient limit and lateral limit of the capture zone based on one well pumping under uniform flow conditions in a regionally sloped confined aquifer with a constant thickness. An average flow rate of 6 gpm at W-1 was calculated as the average rate of extraction at W-1 for July and August 2015 based on totalizer readings, including periods of operation and downtime. Assumptions to estimate the capture zone included a hydraulic conductivity of 50 feet per day (common for well sorted sand and gravel; Bear 1972), an aquifer thickness of 73 feet (average estimate for Units 4 and 4a), and a hydraulic gradient of 0.002. Given these estimates, a lateral capture width of approximately 150 feet and a downgradient capture zone transgradient from W-1 of approximately 75 feet was estimated assuming that W-1 operates similarly to the average July and August 2015 flow rate of 6 gpm. As discussed in Section 2.3.4, a capture zone of this magnitude is estimated to be large enough to prevent off-site migration of perchlorate in the vicinity of W-1 and AUS-5A.

2.3.4 Perchlorate Distribution in WSWI Area

Figure 12 presents perchlorate sampling results for recent (July, October, and December 2015) sampling events in the WSWI Area where existing and newly constructed wells were sampled. Wells with perchlorate concentrations greater than 6 µg/L were contoured to illustrate the estimated current distribution of perchlorate above the California maximum contaminant level (MCL) of 6 µg/L. The wells within this isoconcentration contour are all screened within the Purisima Formation and above the Unit 5 and Unit 5a aquitards. As identified in the Supplemental Work Plan, the objective of further delineating the extent of perchlorate detected at AUS-12A and AUS-12B (Boring F) was achieved.

The extent of perchlorate has been delineated to the south and north. The western limits of perchlorate greater than 6 µg/L are inferred to end and be contained near AUS-5A/B and active supply well W-1 due to the regular pumping of W-1, as well as the low hydraulic gradient discussed in Section 2.3.2. Non-detect concentrations of perchlorate were reported for wells north and south of AUS-5A (at AUS-7A/B/C and AUS-6B/C), indicating the western limits of perchlorate in the vicinity of AUS-5A and W-1 are limited to a width of approximately 150 feet or less.

As shown in the summary of grab groundwater sampling in **Table 2** (and on cross-section **Figures 6b** through **6e**), the alluvial deposits are generally dry in the WSWI Area, with only two monitoring wells (IB-7 and SB-4) screened within this interval; therefore a separate isoconcentration contour map of perchlorate results for samples from within the alluvial deposits in the WSWI Area was not developed.

2.3.5 NDMA Distribution in WSWI Area

Arcadis also performed groundwater sampling for NDMA at wells in the WSWI Area. The distribution of NDMA detections is illustrated on **Figure 13** and listed in **Table 4**. In the WSWI Area, NDMA was detected at concentrations up to 790 nanograms per liter (ng/L) in AUS-6C and 885 ng/L in AUS-12C. Unlike perchlorate, concentrations of NDMA were detected in wells screened above and below the Unit 5 or Unit 5a aquitards and in many monitoring wells in the WSWI Area.

2.3.6 Perchlorate Distribution in Former Thermal Destruct Facility Area (Interim Action Area)

To aid in the visual presentation of the current distribution of perchlorate on site, and to support the Conceptual Site Model described in Section 3, Arcadis has included **Figures 14, 15,** and **16** showing the distribution of perchlorate in the Interim Action Area in this report. Perchlorate samples were collected in the Interim Action Area at different times than wells in the WSWI Area, the Interim Action Area is almost 2,000 feet from the WSWI Area, and perchlorate concentrations above the MCL of 6 µg/L are limited to only the Purisima Formation within the WSWI Area; therefore, these perchlorate isoconcentration contour maps for the Interim Action Area were prepared and are being presented separately from the isoconcentration contour map for the WSWI Area (**Figure 12**).

Figures 14 and **15** present perchlorate sampling results for recent (2012-2015) sampling events in the Interim Action Area upper and lower alluvium wells, respectively. The approximate perchlorate isoconcentration contours presented on these two figures are generally comparable with a slightly larger 100 µg/L isoconcentration contour estimated for the lower alluvium than the upper alluvium. **Figure 16** shows isoconcentration contours for the Purisima Formation in the Interim Action Area, which is inferred to be the same hydrostratigraphic unit with perchlorate above 6 µg/L in the WSWI Area. Both the 6 µg/L and 100 µg/L isoconcentration contours in the Purisima Formation within the WSWI Area are smaller in extent than these same isoconcentration contours for the upper and lower alluvium in the Interim Action Area.

2.3.7 Natural Attenuation Parameters

Low flow groundwater field parameters are summarized in **Table 6** and monitored natural attenuation parameters are summarized in **Table 7**. Inspection of the data in **Table 6** indicates that groundwater near the water supply wells (W-1 and W-2) is generally characteristic of mildly reducing to reducing (DO less than 1 milligram per liter (mg/L) and negative ORP below -100 millivolts) conditions. Reducing (or anaerobic) conditions support the natural biodegradation of perchlorate.

Natural attenuation data in **Table 7** support the general observations of reducing conditions in the field parameter data in that nitrate (as nitrogen) is generally non-detect, and ferrous iron is generally detected at higher concentrations in monitoring wells near the supply wells, indicating suboxic to anaerobic conditions are present. Nitrate (as nitrogen) was detected in some monitoring wells east of the supply well area, indicating aerobic conditions. Some of the wells with significant (greater than 1 mg/L) nitrate (as nitrogen) contain perchlorate (for example, AUS-17B with nitrate as nitrogen of 3.8 mg/L and a perchlorate concentration of 21.5 µg/L). These data may indicate that, in addition to the slow movement of groundwater in the WSIA Area due to the low hydraulic gradient, natural attenuation is degrading perchlorate as it moves towards the supply well area.

3 UPDATED CONCEPTUAL SITE MODEL

An interim CSM was presented in the *Water Supply Well Investigation Report and Interim Conceptual Site Model* report, dated October 23, 2013 (Arcadis 2013a). This document should be referenced for more detailed information on the nature and extent, fate and transport and sources of perchlorate. The updated conceptual site model presented in this section is focused on updated information relevant to the WSWI Area. Key elements of the interim CSM are summarized below:

- A historical surface release of perchlorate occurred in the vicinity of the FTDF. No substantive concentrations of separate-phase or residual perchlorate remain in soil or groundwater.
- Former vadose zone soil in the historical release area at the FTDF has become saturated due to rising site-wide groundwater levels.
- The center of the perchlorate mass downgradient from the suspected release area has moved from the upper alluvial deposits to the lower alluvial deposits.
- Geologic units impacted by the release in the FTDF area include the upper alluvium, lower alluvium, and Purisima Formation.
- Groundwater generally has low DO and ORP values (i.e., less than 1 mg/L for DO and less than 100 mV) and sufficient TOC greater than 3 mg/L to support intrinsic perchlorate biodegradation.
- Downgradient from the western portion of the lake in the WSWI Area (nearly 2,000 feet from the FTDF area), perchlorate is present in discrete zones and the leading edge of the perchlorate plume is present within the Purisima Formation. The upper and lower alluvial deposits are generally dry in this area, and detections of perchlorate are limited to wells screened within the Purisima Formation.

The key elements of the interim CSM above are still judged to be accurate. New key elements from the 2015 investigation presented herein that have refined the CSM include the following:

- Wells AUS-5A and W-1 define the western extent of perchlorate greater than 6 µg/L and perchlorate has been delineated both north and south of W-1. Perchlorate present in wells up and cross-gradient of AUS-5A and W-1 have a complex hydrostratigraphic pathway to reach W-1. It appears that W-1 is located in a cross-gradient groundwater flow direction to upgradient wells containing perchlorate above 6 µg/L.
- At the current average flow rate of approximately 6 gpm that well W-1 is operated, including periods of operation and downtime, it is estimated that well W-1 captures water from the entire width of the perchlorate plume in the vicinity of W-1.
- Field parameter and natural attenuation data continue to suggest that natural attenuation of perchlorate is occurring as it migrates towards W-1.

- The origin of NDMA at the Site is believed to be the degradation of UDMH. UDMH was stored near the FTDF and process waste containing it was burned at the FTDF.
- NDMA was detected above the notification level (10 ng/L) at a number of wells in the WSWI area, including those both above and below the Unit 5 and Unit 5a aquitards.

These new key elements as they relate to the WSWI Area are discussed in greater detail below.

3.1 Perchlorate in the WSWI Area

As of December 2015, the maximum concentration of perchlorate reported in the WSWI Area was 24.4 µg/L at well AUS-12A, which is located a few hundred feet south of the western edge of the lake (and east of W-1). Perchlorate was also reported at a concentration of 11.5 µg/L at AUS-5A near supply well W-1. The concentration of perchlorate at AUS-5B was 6.3 µg/L in July 2015 sampling, but yielded a result of 3.0 µg/L in December 2015 sampling. Non-detect concentrations of perchlorate were reported for wells north and south of AUS-5A (at AUS-7A/B/C and AUS-6B/C), indicating the western limits of perchlorate in the vicinity of AUS-5A and W-1 are limited to a width of approximately 150 feet or less within the Purisima Formation.

The alluvial deposits are generally dry in the WSWI area, as indicated by numerous dry grab groundwater sampling attempts (**Table 2**). Two alluvial monitoring wells were constructed in this area (SB-4 and IB-7), but they are located near the western edge of the lake where recharge is estimated to be occurring. Both of these alluvial monitoring wells have non-detect concentrations of perchlorate.

Due to the low hydraulic gradient discussed in Section 2.3.2, and the hydraulic influence of W-1 on monitoring wells AUS-5A and AUS-5B (nearest monitoring wells to W-1) and other nearby monitoring wells, it is estimated that perchlorate concentrations are limited in extent west of AUS-5A and supply well W-1. At the current average flow rate of approximately 6 gpm that well W-1 is operated, including periods of operation and downtime, it is estimated that well W-1 captures water from the entire width of the perchlorate plume (approximately 150 feet wide and 75 feet downgradient) in the vicinity of W-1.

Additionally, the groundwater elevation data and geologic information show that wells with the highest perchlorate concentrations southeast of the supply well area have a complex hydrostratigraphic pathway to reach the supply well area. The groundwater elevation contours show that the lake is recharging groundwater east of the supply well area, and that wells containing the highest concentrations of perchlorate east of the supply well area (AUS-12A/B and AUS-17B) are located in a cross-gradient groundwater flow direction to the supply well area. The groundwater flow direction in the vicinity of AUS-12A/B and AUS-17B appears to primarily be westerly towards the lower groundwater elevations measured at newly constructed wells AUS-18A and AUS-18B located south of the supply well area, rather than northwest toward the supply well area. However the presence of a massive silt layer located south and east of the water supply well area (**Figures 6c, 6d,** and **6e**), above the rapidly dipping Unit 4a hydrostratigraphic unit that contains perchlorate above 6 µg/L at monitoring wells AUS-12A, AUS-12B, and AUS-17B to the east, may be significantly complicating groundwater flow from these wells towards the west and W-1. Perchlorate concentrations at AUS-18A and AUS-18B were non-detect and an estimated 1.9 µg/L, respectively. Perchlorate concentrations were also non-detect at AUS-6B located approximately 100 feet south of AUS-5A and W-1 where perchlorate was detected at 11.5 µg/L.

Furthermore, natural attenuation parameter data suggest that some natural attenuation of perchlorate may be occurring. Nitrate (as nitrogen) was non-detect at monitoring wells in the supply well area, but detectable at concentrations of up to a few mg/L in monitoring wells east of the supply well area that also contain perchlorate at concentrations more than double those observed in the supply well area. The low hydraulic gradient and naturally occurring reducing conditions near W-1 and W-2 may be working to naturally degrade perchlorate as it moves toward the supply well area.

3.2 NDMA in the WSWI Area

The origin of NDMA at the Interim Action Area of the Site is believed to be from the degradation of UDMH. Oxidation of methylated hydrazine results in the formation of nitrosamines and specifically NDMA from UDMH oxidation (Brubaker et al. 1989). Based on information in the 1991 RCRA Facility Assessment (California Department of Health Services 1991), UDMH was produced at the former Teledyne McCormick Selph facility between 1977 and 1979. Process waste from UDMH production was burned in the FTDF. UDMH was stored in two 13,000-gallon tanks. Historical site photographs provided by PSEMC show the location of two aboveground storage tanks near the FTDF. There are no records of UDMH spills near the FTDF; however, the original release area of UDMH is suspected to be in the vicinity of former UDMH storage or destruction facilities in the Interim Action Area. As noted above for perchlorate, this potential source is approximately 2,000 feet east of the WSWI Area; it is uncertain if NDMA from Interim Action Area is the source for NDMA observed in the WSWI Area.

Monitoring results from the subset of wells that were sampled for NDMA demonstrate that NDMA is present in the WSWI Area. NDMA was detected in samples collected from both water supply wells (W-1 and W-2) at concentrations above the notification level for sources of drinking water (10 ng/L), but below the response level (300 ng/L) at which the State Water Resources Control Board Division of Drinking Water recommends a supply well should be taken out of service. In 2015 sampling, concentrations at all but two monitoring well locations (AUS-6C and AUS-12C) were less than the response level of 300 ng/L.

Concentrations of NDMA were frequently detected in samples collected from wells screened both below the Unit 5 and Unit 5a aquitards, and wells screened above the Unit 5 and Unit 5a aquitards at levels greater than the notification level of 10 ng/L. The vertical distribution of NDMA in the WSWI Area is more extensive than perchlorate. NDMA is present above the notification level at several monitoring wells that have non-detect concentrations of perchlorate.

4 SUMMARY

As described in the previous sections, investigation of the WSWI Area has been completed. In accordance with the CAO, Task 2.a., this Water Supply Well Investigation Report includes:

- Soil boring/lithologic logs for new borings and grab groundwater samples, and well construction information for new and existing monitoring wells.
- Historic and new analytical results for groundwater and water elevation data.
- Perchlorate concentration contour maps for groundwater in all water bearing zones.
- Geologic cross-sections, including stratigraphy and perchlorate concentrations.

- An updated conceptual site model as supported by new and existing data

Now that Investigation at the WSWI Area has been completed, upon RWQCB approval of this Report, the CAO, Task 2.b Supply Well Feasibility Study will be initiated.

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TABLES

Table 1
Well Construction Details
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	Monitoring Zone	Start Date	End Date	Latitude (NAD 83)	Longitude (NAD 83)	TOC Elevation (NAD 88)	Ground Surface Elevation (NAD 88)	Northing	Easting	Well Type	Boring Diameter	Well Diameter	Screen Type	Blank Type	Total Boring Depth	Total Well Depth	Screen Interval	Blank Interval	Filter Pack	Filter Pack Interval	Transition Seal	Grout Interval	Comments
Injection Wells																							
IW-2S	Lower Alluvial	5/17/2013	5/21/2013	36.83306899	121.4500289	**246.64**	244.91	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	93	91	61 - 91	+3 - 61	#2/16 Sand	59 - 91	#0/30 Choker: 56 - 59'	3 - 56	
IW-2D	Lower Alluvial	4/22/2013	4/24/2013	36.83307886	121.450011	(1)	244.78	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	140	130	100 - 130	+4 - 100	#2/16 Sand	98 - 130	Bentonite: 95 - 98'	3 - 95	Bentonite plug: 130-140'
IW-3S	Lower Alluvial	5/22/2013	5/28/2013	36.83303131	121.4501011	**246.58**	244.78	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	87	78	48 - 78	+2.5 - 48	#2/16 Sand	47 - 78	#0/30 Choker: 44 - 47'	3 - 44	Bentonite Plug: 78 - 87'
IW-3D	Lower Alluvial	5/9/2013	5/13/2013	36.83304337	121.4500788	**246.48**	244.75	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	128.5	128	98 - 128	+3 - 98	#2/16 Sand	98 - 128	#0/30 Choker: 95-97'	3 - 95	
IW-4S	Lower Alluvial	5/28/2013	5/30/2013	36.83298209	121.4501968	**246.42**	244.64	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	100	86	56 - 86	+3 - 56	#2/16 Sand	54 - 100	#0/30 Choker: 51 - 54'	3 - 51	Formation collapse??/Bentonite Plug??: 86 - 100'
IW-4D	Lower Alluvial	4/30/2013	5/2/2013	36.8329919	121.450179	**246.56**	244.73	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	134.5	130	100 - 130	+4 - 100	#2/16 Sand	98 - 130	Bentonite: 95 - 98'	3 - 95	Bentonite plug: 130 - 134.5'
IW-5S	Lower Alluvial	5/21/2013	5/22/2013	36.83293937	121.450283	**245.63**	244.12	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	62	62	42 - 62	+1.8 - 42	#2/16 Sand	40 - 62	#0/30 Choker: 37 - 40'	3 - 37	
IW-5D	Lower Alluvial	5/8/2013	5/9/2013	36.83294615	121.4502624	**246.09**	244.30	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	92.5	92	62 - 92	+3 - 62	#2/16 Sand	61 - 92	#0/30 Choker: 59-61'	3 - 59	
IW-6S	Lower Alluvial	5/31/2013	6/6/2013	36.83289406	121.4503689	**245.89**	243.99	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	78	78	58 - 78	+3 - 58	#2/16 Sand	56 - 78	#0/30 Choker: 53-56'	3 - 56	
IW-6D	Lower Alluvial	5/14/2013	5/15/2013	36.83290242	121.4503485	**245.85**	244.08	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	100	99	79 - 99	+3 - 79	#2/16 Sand	78 - 99	#0/30 Choker: 75-78'	3 - 75	
IW-7S	Lower Alluvial	5/15/2013	5/17/2013	36.83284729	121.450455	**245.95**	244.22	--	--	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	80	80	60 - 80	+3.5 - 60	#2/16 Sand	58 - 80	#0/30 Choker: 55 - 58'	3 - 55	
IW-7D	Lower Alluvial	5/6/2013	5/8/2013	36.83285812	121.4504394	**246.09**	244.22	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	110.5	110	80 - 110	+3.5 - 80	#2/16 Sand	79 - 110	#0/30 Choker: 77-79'	3 - 77	
IW-8S	Lower Alluvial	6/19/2013	6/20/2013	36.83284033	121.4505586	**245.86**	244.26	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	82	82	62 - 82	+3.5 - 62	#2/16 Sand	60 - 82	#0/30 Choker: 57-60'	3 - 57	
IW-8D	Lower Alluvial	6/11/2013	6/19/2013	36.83285509	121.4505355	**245.99**	244.28	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	115	112	82 - 112	+3.5 - 82	#2/16 Sand	80 - 82	#0/30 Choker: 77-80'	3 - 77	Bentonite Plug: 112 - 115'
IW-9S	Lower Alluvial	8/13/2013	8/14/2013	36.83279972	121.4506323	**245.96**	243.86	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	88	88	58 - 88	+ 2 - 58	#2/16 Sand	55 - 58	52 - 55'	0 - 52	
IW-9D	Lower Alluvial	8/22/2013	8/25/2013	36.83281415	121.4506098	(1)	243.82	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	120	118	88 - 118	+2 - 88	#2/16 Sand	85 - 118	82 - 85'	0 - 82	Bentonite plug from 118 - 120'
IW-10S	Lower Alluvial	9/6/2013	9/7/2013	36.83278763	121.4507119	(1)	244.33	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	95	95	65 - 95	+2 - 65	#2/16 Sand	62 - 95	59 - 62'	0 - 59	
IW-10D	Lower Alluvial	9/3/2013	9/5/2013	36.83278032	121.4507258	(1)	244.36	--	--	Injection	8	4	0.020" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	135	125	95 - 125	+2 - 95	#2/16 Sand	92 - 125.5	89 - 92'	0 - 89	Bentonite plug from 135 - 125'
IW-11S	Lower Alluvial	4/28/2014	4/29/2014	36.8326899	-121.4507137	246.63	--	2195404.89	5844529.33	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	102	101.5	71.5' - 101.5	+3 - 71.5	#2/16 Sand	69.5' - 102	#0-/30 Choker Sand: 66.5 - 69.5'	0 - 66.5	
IW-11D	Lower Alluvial	4/23/2014	4/25/2014	36.8326849	-121.4507316	246.18	--	2195403.18	5844524.07	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	136	133.5	103.5 - 133.5	+3 - 103.5	#2/16 Sand	101.5 - 136	#0-/30 Choker Sand: 98.5 - 101.5'	0 - 98.5	
IW-12S	Lower Alluvial	5/28/2014	5/30/2014	36.8326503	-121.4508223	245.52	--	2195391.27	5844497.21	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	107	107	77 - 107	+3 - 77	#2/16 Sand	74 - 107	#0-/30 Choker Sand: 71 - 74'	0 - 71	
IW-12D	Lower Alluvial	5/15/2014	5/16/2014	36.832643	-121.4508305	245.50	--	2195388.67	5844494.74	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	147	140	110 - 140	+3 - 110	#2/16 Sand	108 - 147	#0-/30 Choker Sand: 105 - 108'	0 - 105	
IW-13S	Lower Alluvial	6/12/2014	6/16/2014	36.8325929	-121.4508941	246.04	--	2195370.93	5844475.66	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	116	116	86 - 116	+3 - 86	#2/16 Sand	83 - 116	#0-/30 Choker Sand: 80 - 83'	0 - 80	
IW-13D	Lower Alluvial	5/30/2014	6/5/2014	36.8325831	-121.4508994	246.01	--	2195367.41	5844474.03	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	151	146	116 - 146	+3 - 116	#2/16 Sand	113 - 151	#0-/30 Choker Sand: 110 - 113'	0 - 110	

Table 1
Well Construction Details
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	Monitoring Zone	Start Date	End Date	Latitude (NAD 83)	Longitude (NAD 83)	TOC Elevation (NAD 88)	Ground Surface Elevation (NAD 88)	Northing	Easting	Well Type	Boring Diameter	Well Diameter	Screen Type	Blank Type	Total Boring Depth	Total Well Depth	Screen Interval	Blank Interval	Filter Pack	Filter Pack Interval	Transition Seal	Grout Interval	Comments
IW-14S	Lower Alluvial	6/16/2014	6/17/2014	36.8325357	-121.4509674	246.23	--	2195350.64	5844453.68	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	116	116	86 - 116	+3 - 86	#2/16 Sand	83 - 116	#0-/30 Choker Sand: 80 - 83'	0 - 80	
IW-15S	Lower Alluvial	6/17/2014	6/25/2014	36.8324781	-121.4510392	244.62	--	2195330.23	5844432.15	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	136.5	134	104 - 134	+3 - 104	#2/16 Sand	101 - 104	#0-/30 Choker Sand: 98 - 101'	0 - 98	
IW-16S	Lower Alluvial	6/27/2014	7/1/2014	36.8324178	-121.4510978	246.95	--	2195308.7	5844414.44	Injection	8	4	0.010" Stainless Steel Continuous Wire Wrapped	Schd 80 PVC	143	134	113 - 143	+3 - 113	#2/16 Sand	111 - 143	#0-/30 Choker Sand: 108 - 111'	0 - 108	
Monitoring Wells																							
AUS-1S	Lower Alluvial	4/24/2013	4/30/2013	36.83300979	121.4501438	247.78	244.72	--	--	Monitoring	6	2	0.010" Schedule 80 PVC	Schd 80 PVC	103	103	73 - 103	0 - 73	#2/12 Sand	70 - 103	Bentonite: 67 - 70'	3 - 67	
AUS-1D	Lower Alluvial	4/24/2013	4/26/2013	36.83300301	121.4501569	247.97	244.91	--	--	Monitoring	6	2	0.010" Schedule 80 PVC	Schd 80 PVC	138	135	105 - 135	+4 - 105	#2/12 Sand	103 - 135	Bentonite: 100 - 103'	3 - 100	
AUS-2S	Lower Alluvial	5/23/2013	5/23/2013	36.83303354	121.4502468	247.81	244.52	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	100	100	70 - 100	+3 - 70	#2/16 Sand	66.5 - 100	Bentonite: 63.5 - 66.5'	3 - 63.5	
AUS-2D	Lower Alluvial	5/2/2013	5/3/2013	36.83304605	121.4502595	247.69	244.52	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	138	135	100 - 135	+4 - 100	#2/16 Sand	98 - 135	Bentonite: 95-98	3 - 95	
AUS-3S	Lower Alluvial	5/31/2013	5/31/2013	36.83298482	121.4503229	247.02	244.33	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	60	60	40 - 60	+2.5 - 40	#2/16 Sand	38 - 60	Bentonite: 35 - 38'	3 - 35	
AUS-3D	Lower Alluvial	5/23/2013	5/24/2013	36.83300096	121.4503364	247.52	244.45	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	91.4	91	61 - 91	+4 - 61	#2/16 Sand	59 - 91	Bentonite: 56 - 59'	3 - 56'	
AUS-4S	Lower Alluvial	6/6/2013	6/7/2013	36.83286425	121.4504771	247.32	244.26	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	80		60 - 80	+3 - 60	#2/16 Sand	58 - 80	Bentonite: 55 - 80'	3 - 55	
AUS-4D	Lower Alluvial	6/7/2013	6/10/2013	36.83287893	121.4504574	247.18	244.25	--	--	Monitoring	6	2	0.020" Schedule 80 PVC	Schd 80 PVC	100	110	80 - 110	+3 - 80	#2/16 Sand	78 - 110	Bentonite: 76 - 78'	3 - 76	
AUS-5A (Boring A)	Purisima Formation	9/2/2013	9/3/2013	36.83363631	121.4574276	241.17	237.73	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	50	50	40 - 50	+2 - 40	#2/16 Sand	42 - 50	Bentonite: 36 - 38'	0 - 36	
AUS-5B (Boring A)	Purisima Formation	7/9/2013	7/13/2013	36.83364019	121.4574573	240.36	237.69	--	--	Monitoring	10	2	0.020" Schd 80 PVC	Schd 80 PVC	140	140	120 - 140	2 - 120	#2/16 Sand	118 - 140	Time Release Bentonite: 100 - 118'	0 - 100	Nested with deep zone well AUS-5C; centralizers every 40'.
AUS-5C (Boring A)		7/9/2013	7/13/2013	36.83363946	121.4574568	240.83	237.69	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	195	195	180 - 195	+2 - 180	#2/16 Sand	178 - 195	Time Release Bentonite: 140.5 - 178'		Nested with Intermediate zone well AUS-5B; centralizers every 40'.
AUS-6B (Boring B)	Purisima Formation	7/18/2013	8/2/2013	36.83341674	121.4574679	240.47	237.64	--	--	Monitoring	10	2	0.020" Schd 80 PVC	Schd 80 PVC	160	160	140 - 160	+2 - 140	#2/16 Sand	138 - 160	Time Release Bentonite: 100 - 137'	0 - 100	Nested with deep zone well AUS-6C; centralizers every 40'.
AUS-6C (Boring B)		7/18/2013	8/2/2013	36.83341739	121.4574673	240.36	237.64	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	195	195	180 - 195	177 - 195	#2/16 Sand	178 - 195	Time Release Bentonite: 161 - 177'		Nested with intermediate zone well AUS-6B; centralizers every 40'
AUS-7A (Boring C)	Purisima Formation	8/14/2013	8/22/2013	36.8339809	121.4571952	240.54	237.70	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	50	50	40 - 50	+3 - 40	#2/16 Sand	38 - 50	Bentonite: 35 - 38'	0 - 35	
AUS-7B (Boring C)	Purisima Formation	8/14/2013	8/22/2013	36.83399052	121.457217	240.41	237.69	--	--	Monitoring	10	2	0.020" Schd 80 PVC	Schd 80 PVC	110	110	90 - 110	+3 - 90	#2/16 Sand	88 - 110	Bentonite: 85 - 88'	0 - 85	
AUS-7C (Boring C)		8/14/2013	8/22/2013	36.83399092	121.4572176	240.43	237.69	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	184	180	165 - 180	+3 - 165	#2/16 Sand	163 - 180	Time Release Bentonite: 110 - 163'		
AUS-8A (Boring D)	Purisima Formation	8/22/2014	9/1/2013	36.83421896	121.4570308	241.50	238.27	--	--	Monitoring	10	2	0.020" Schd 80 PVC	Schd 80 PVC	60	60	50 - 60	+3 - 50	#2/16 Sand	48 - 60	Bentonite: 45 - 48'	0 - 45'	
AUS-8C (Boring D)		8/22/2014	9/1/2013	36.83421924	121.4570314	241.51	238.27	--	--	Monitoring	6	2	0.020" Schd 80 PVC	Schd 80 PVC	180	180	165 - 180	+3 - 165	#2/16 Sand	163 - 180	Tim Release Bentonite: 60 - 163'		
AUS-9A (Boring H)	Purisima Formation	4/29/2014	5/2/2014	36.8338481	-121.4562034	239.56	--	2195867.45	5842934.07	Monitoring	6	2	0.010" Schd 80 PVC	Schd 80 PVC	61	60.4	50.4 - 60.4'	+3 - 50.4	#2/16 Sand	47.5 - 61	Bentonite: 44.5 - 47.5'	0 - 44.5	Borehole backfilled from 61-86' w/ bentonite chips
AUS-10B (Boring E)	Purisima Formation	5/2/2014	5/7/2014	36.8334675	-121.4561830	239.06	--	2195728.78	5842936.47	Monitoring	6	2	0.010" Schd 80 PVC	Schd 80 PVC	147	120	100 - 120'	+3 - 100	#2/16 Sand	97 - 121	Bentonite: 94 - 97'	0 - 94	Borehole backfilled with time-release bentonite from 121 to 147'
AUS-11B (Boring G)	Purisima Formation	5/7/2014	5/19/2014	36.8330551	-121.4561559	240.39	--	2195578.47	5842940.58	Nested Monitoring	80' (9 7/8")	2	0.010" Schd 80 PVC	Schd 80 PVC	80' (9 7/8")	79	59 - 79'	+3 - 59	#2/16 Sand	56 - 80	Bentonite: 53 - 56'	0 - 53	Phase II
AUS-11C (Boring G)				36.8330545	-121.4561561	240.38	--	2195578.24	5842940.51		184' (6")	2	0.010" Schd 80 PVC	Schd 80 PVC	184' (6")	184	164 - 184'	+3 - 164	#2/16 Sand	161 - 184.5	Bentonite: 158 - 161'		
AUS-12A (Boring F)	Purisima Formation	6/11/2014	6/12/2014	36.8326506	-1214561784	244.04	--	2195431.41	5842930.21	Monitoring	50' (6")	2	0.010" Schd 80 PVC	Schd 80 PVC	50'	50	40 - 50'	+3 - 164	#2/16 Sand	37 - 50	Bentonite: 34 - 37'	0 - 34	Phase II
AUS-12B (Boring F)	Purisima Formation	5/19/2014	5/27/2014	36.8326423	-121.4561533	243.89	--	2195428.21	5842937.48	Nested Monitoring	71' (9 7/8")	2	0.010" Schd 80 PVC	Schd 80 PVC	71' (9 7/8")	70	60 - 70'	+3 - 164	#2/16 Sand	57 - 71	Bentonite: 54 - 57'	0 - 54	Phase II
AUS-12C (Boring F)				36.83326419	-121.456142	243.79	--	2195428.09	5842937.23		180' (6")	2	0.010" Schd 80 PVC	Schd 80 PVC	180' (6")	150	130 - 150	+3 - 164	#2/16 Sand	127 - 151	Slow release Bentonite: 71 - 127'		
AUS-13S	Lower Alluvial	6/3/2014	6/11/2014	36.8325341	-121.450995	246.07	--	2195350.28	5844445.59	Nested Monitoring	127' (9 7/8")	2	0.010" Schd 80 PVC	Schd 80 PVC	127' (9 7/8")	126	96 - 126'	+3 - 164	#2/16 Sand	93 - 127	Bentonite: 90 - 93'	0 - 90	Phase I: Borehole backfilled from 181 to 215' with time-release bentonite
AUS-13C	Purisima Formation			36.832534	-121.4509942	246.09	--	2195350.25	5844445.82		215' (6")	2	0.010" Schd 80 PVC	Schd 80 PVC	215' (6")	180	165 - 180'	+3 - 164	#2/16 Sand	162 - 180	Slow release bentonite: 127 - 159'		

Table 1
Well Construction Details
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	Monitoring Zone	Start Date	End Date	Latitude (NAD 83)	Longitude (NAD 83)	TOC Elevation (NAD 88)	Ground Surface Elevation (NAD 88)	Northing	Easting	Well Type	Boring Diameter	Well Diameter	Screen Type	Blank Type	Total Boring Depth	Total Well Depth	Screen Interval	Blank Interval	Filter Pack	Filter Pack Interval	Transition Seal	Grout Interval	Comments
AUS-14A (Boring I)	Purisima Formation	8/13/2015	8/14/2015	36.8322946	-121.4561629	243.24	241.05	2195301.729	5842931.441	Monitoring	85' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	85' (6.375")	85	75 - 85	+3 - 0 - 75	#2/16 Sand	72 - 85	Bentonite: 69 - 72	0 - 69	
AUS-14B (Boring I)	Purisima Formation	8/3/2015	8/13/2015	36.832282	-121.4561295	244.41	241.49	2195296.91	5842941.1	Monitoring	111' (9 7/8")	2	0.010" Schd 80 PVC	Schd 80 PVC	111' (9 7/8")	110	100 - 110	+3 - 100	#2/16 Sand	97 - 111	Bentonite: 94 - 97	0 - 94	Backfilled from 81 to 210 with bentonite chips
AUS-14C (Boring I)				36.8322819	-121.4561288	244.45		2195296.878	5842941.291		180' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	210' (6.375")	160	160 - 180	+3 - 160	#2/16 Sand	157 - 181	Time Release Bentonite: 111 - 157		
AUS-15A (Boring K)	Purisima Formation	9/10/2015	9/10/2015	36.8319948	-121.4561798	253.61	250.96	2195192.741	5842923.721	Monitoring	106' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	106' (6.375")	105	95 - 105	+3 - 95	#2/16 Sand	92 - 106	Bentonite: 89 - 92	0 - 89	
AUS-15B (Boring K)	Purisima Formation	10/6/2015	10/6/2015	36.8320139	-121.4561384	252.95	250.02	2195199.393	5842935.99	Monitoring	156 (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	156 (6.375")	155	145 - 155	+3 - 145	#2/16 Sand	142 - 156	Bentonite: 138 - 142	0 - 138	
AUS-15C (Boring K)	Purisima Formation	9/30/2015	10/5/2015	36.8319831	-121.4561139	254.61	251.91	2195187.996	5842942.885	Monitoring	211 (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	211 (6.375")	210	195-210	+3 - 195	#2/16 Sand	192 - 211	Bentonite: 188 - 192'	0 - 188	
AUS-16B (Boring J)	Purisima Formation	9/21/2015	9/22/2015	36.8322678	-121.4570096	245.17	242.27	2195298.336	5842683.496	Monitoring	180' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	180' (6.375")	180	160 - 180	+3 - 160	#2/16 Sand	157 - 180	Bentonite: 154 - 157	0 - 154	
AUS-17B	Purisima Formation	9/29/2015	9/29/2015	36.8324144	-121.4564717	242.09	239.12	2195347.667	5842842.206	Monitoring	131' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	131' (6.375")	130	110 - 130	+3 - 110	#2/16 Sand	107 - 131	Bentonite: 103 - 107	0 - 103	
AUS-17C	Purisima Formation	9/23/2015	9/28/2015	36.8324011	-121.4564391	242.21	239.22	2195342.557	5842851.64	Monitoring	226' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	226' (6.375")	225	205 - 225	+3 - 205	#2/16 Sand	203 - 226	Bentonite: 199 - 203	0 - 199	
AUS-18A	Purisima Formation	10/26/2015	11/9/2015	36.8325397	-121.4579012	238.67	237.36	2195413.607	5842429.911	Monitoring	301' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	301' (6.375")	300	280 - 300	+3 - 280	#2/16 Sand	277 - 301	Bentonite: 274 - 277	0 - 274	
AUS-18B	Purisima Formation	11/9/2015	11/13/2015	36.8325665	-121.4578858	237.74	237.20	2195403.956	5842425.16	Monitoring	380' (6.375")	2	0.010" Schd 80 PVC	Schd 80 PVC	380' (6.375")	360	340 - 360	+3 - 340	#2/16 Sand	337 - 361	Bentonite: 334 - 337	0 - 334	Backfilled from 361 to 380' with bentonite chips
LP-1S	Lake Bed	--	--	--	--	241.60	--	--	--	Piezometer	--	--	1 1/2-in Steel	1 1/2-in Steel	--	3	2.5 - 3.0	0 - 2.5	--	--	--	--	
LP-1D	Lake Bed	--	--	--	--	241.55	--	--	--	Piezometer	--	--	1 1/2-in Steel	1 1/2-in Steel	--	6	5.5 - 6.0	0 - 5.5	--	--	--	--	
LP-2S	Lake Bed	--	--	--	--	241.91	--	--	--	Piezometer	--	--	1 1/2-in Steel	1 1/2-in Steel	--	3	2.5 - 3.0	0 - 2.5	--	--	--	--	
LP-2D	Lake Bed	--	--	--	--	242.17	--	--	--	Piezometer	--	--	1 1/2-in Steel	1 1/2-in Steel	--	6	5.5 - 6.0	0 - 5.5	--	--	--	--	
MW-1S	Upper Alluvial	--	--	--	--	250.64	--	--	--	Monitoring	8	2	--	PVC	--	29	12 - 27	0 - 12	--	--	--	--	
MW-1I	Purisima Formation	--	--	--	--	250.45	--	--	--	Monitoring	10	2	--	PVC	--	68	44 - 64	0 - 44	--	--	--	--	
MW-1D	Purisima Formation	--	--	--	--	250.36	--	--	--	Monitoring	10	2	--	PVC	--	98	88 - 98	0 - 88	--	--	--	--	
MW-2I	Purisima Formation	--	--	--	--	246.65	--	--	--	Monitoring	10	2	--	PVC	--	65	47 - 62	0 - 47	--	--	--	--	
MW-2D	Lower Alluvial	--	--	--	--	247.54	--	--	--	Monitoring	6 1/4	2	--	PVC	--	128	112.5 - 127.5	0 - 112.5	--	--	--	--	
MW-3S	Upper Alluvial	--	--	--	--	247.47	--	--	--	Monitoring	8	2	--	PVC	--	23	12 - 22	0 - 12	--	--	--	--	
MW-3I	Purisima Formation	--	--	--	--	246.39	--	--	--	Monitoring	10	2	--	PVC	--	71	50 - 70	0 - 50	--	--	--	--	
MW-4	Purisima Formation	--	--	--	--	331.99*	--	--	--	Monitoring	8	2	--	PVC	--	49	38 - 48	0 - 38	--	--	--	--	
MW-5S	Upper Alluvial	--	--	--	--	248.21	--	--	--	Monitoring	8	2	--	PVC	--	23	13 - 23	0 - 13	--	--	--	--	
MW-6S	Upper Alluvial	--	--	--	--	257.47	--	--	--	Monitoring	8	2	--	PVC	--	35	15 - 35	0 - 15	--	--	--	--	
MW-7S	Upper Alluvial	--	--	--	--	248.02	--	--	--	Monitoring	8	2	--	PVC	--	25	15 - 25	0 - 15	--	--	--	--	
MW-8S	Upper Alluvial	--	--	--	--	254.58	--	--	--	Monitoring	6 1/4	2	--	PVC	--	30	19.5 - 29.5	0 - 19.5	--	--	--	--	
MW-8I	Purisima Formation	--	--	--	--	254.45	--	--	--	Monitoring	6 1/4	2	--	PVC	--	93	82 - 92	0 - 82	--	--	--	--	
MW-8D	Purisima Formation	--	--	--	--	254.76	--	--	--	Monitoring	6 1/4 - 7 5/8	2	--	PVC	--	125.5	115 - 125	0 - 115	--	--	--	--	
MW-9S	Purisima Formation	--	--	--	--	250.96	--	--	--	Monitoring	6 1/4	2	--	PVC	--	25.5	15 - 25	0 - 15	--	--	--	--	
MW-9I	Purisima Formation	--	--	--	--	251.06	--	--	--	Monitoring	6 1/4	2	--	PVC	--	85.5	75 - 85	0 - 75	--	--	--	--	
MW-9D	Purisima Formation	--	--	--	--	251.48	--	--	--	Monitoring	6 1/4 - 7 5/8	2	--	PVC	--	122.5	112 - 122	0 - 112	--	--	--	--	
MW-10S	Upper Alluvial	--	--	36.83289041	121.4504866	247.47	244.27	--	--	Monitoring	6 1/4	2	--	PVC	--	25.5	15 - 25	0 - 15	--	--	--	--	
MW-10I	Purisima Formation	--	--	36.83289034	121.4504866	247.48	244.27	--	--	Monitoring	6 1/4	2	--	PVC	--	85.5	75 - 85	0 - 75	--	--	--	--	
MW-10D	Purisima Formation	--	--	36.83290384	121.4504807	246.41	244.42	--	--	Monitoring	6 1/4 - 7 5/8	2	--	PVC	--	125.5	115 - 125.5	0 - 115	--	--	--	--	
MW-11S	Upper Alluvial	--	--	--	--	250.54	--	--	--	Monitoring	6 1/4	2	--	PVC	--	25.5	15 - 25	0 - 15	--	--	--	--	
MW-11I	Purisima Formation	--	--	--	--	250.35	--	--	--	Monitoring	6 1/4	2	--	PVC	--	53	42 - 52	0 - 42	--	--	--	--	
IB-7	Alluvial	--	--	--	--	240.53 *	--	--	--	Monitoring	--	2	--	PVC	--	50	40 - 50	0 - 40	--	--	--	--	
IB-8	Purisima Formation	--	--	--	--	239.14 *	--	--	--	Monitoring	--	2	--	PVC	--	60	50 - 60	0 - 50	--	--	--	--	
IB-9	Purisima Formation	--	--	--	--	245.51 *	--	--	--	Monitoring	--	2	--	PVC	--	45	33 - 45	0 - 33	--	--	--	--	

Table 1
Well Construction Details
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	Monitoring Zone	Start Date	End Date	Latitude (NAD 83)	Longitude (NAD 83)	TOC Elevation (NAD 88)	Ground Surface Elevation (NAD 88)	Northing	Easting	Well Type	Boring Diameter	Well Diameter	Screen Type	Blank Type	Total Boring Depth	Total Well Depth	Screen Interval	Blank Interval	Filter Pack	Filter Pack Interval	Transition Seal	Grout Interval	Comments
IB-10	Purisima Formation	--	--	--	--	246.95 *	--	--	--	Monitoring	--	2	--	PVC	--	48	35 - 48	0 - 35	--	--	--	--	
IB-12	Purisima Formation	--	--	--	--	248.82 *	--	--	--	Monitoring	--	2	--	PVC	--	60	50 - 60	0 - 50	--	--	--	--	
IB-20	Purisima Formation	--	--	--	--	264.51 *	--	--	--	Monitoring	--	2	--	PVC	--	65	55 - 65	0 - 50	--	--	--	--	
IB-24	Purisima Formation	--	--	--	--	263.29 *	--	--	--	Monitoring	--	2	--	PVC	--	50	40 - 50	0 - 40	--	--	--	--	
IB-28	Purisima Formation	--	--	--	--	261.57 *	--	--	--	Monitoring	--	2	--	PVC	--	35	25 - 35	0 - 35	--	--	--	--	
IB-29	Purisima Formation	--	--	--	--	259.61	--	--	--	Monitoring	--	2	--	PVC	--	45	35 - 45	0 - 35	--	--	--	--	
IB-30	Purisima Formation	--	--	--	--	250.01 *	--	--	--	Monitoring	--	2	--	PVC	--	68	58 - 68	0 - 58	--	--	--	--	
IB-31	Purisima Formation	--	--	--	--	257.45 *	--	--	--	Monitoring	--	2	--	PVC	--	55	45 - 55	0 - 45	--	--	--	--	
SB-2	Alluvial	--	--	--	--	247.39	--	--	--	Monitoring	--	2	--	PVC	--	30	25 - 30	0 - 25	--	--	--	--	
SB-3	Alluvial	--	--	--	--	245 *	--	--	--	Monitoring	--	2	--	PVC	--	20	15 - 20	0 - 15	--	--	--	--	
SB-4	Alluvial	--	--	--	--	239.8 *	--	--	--	Monitoring	--	2	--	PVC	--	30	24 - 30	0 - 24	--	--	--	--	
SB-5	Purisima Formation	--	--	--	--	246.92 *	--	--	--	Monitoring	--	2	--	PVC	--	30	25 - 30	0 - 25	--	--	--	--	
SB-6	Alluvial	--	--	--	--	247.47 *	--	--	--	Monitoring	--	2	--	PVC	--	30	25 - 30	0 - 25	--	--	--	--	

Notes:

(1): Top of casing heights were cut down after the well survey to accommodate injection wellheads. Post-injection elevations cannot be determined due to presence of injection wellheads.

Bold = Reference point elevations cut down after well survey to accommodate injection wellheads. Revised reference point elevations determined by measuring from the surveyed elevations of the concrete pad.

* = wells surveyed from U.S. Geological Survey NAD 27 benchmark in March 2002 (elevations reported in feet mean sea level were corrected to feet NAVD 88 by adding 2.71 feet to the NAD 27 reference elevation point).

PVC = polyvinyl chloride

TOC = top of casing

Table 2
Analytical Results for Grab Groundwater Samples
Collected Near Water Supply Well W-1
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

(concentrations reported in micrograms per liter)

AUS-8 (Boring D)		AUS-7 (Boring C)		AUS-5 (Boring A)		AUS-6 (Boring B)	
Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate
40-44	<0.31	40-44	**163***	40-44	<3	40-44	1.9 J
---	---	---	---	50-54	<3	---	---
60-64	<0.31	60-64	3.3	---	---	60-64	2.0 J
70-74	1.0 J	70-74	<0.31	70-74	Dry	70-74	1.9 J
90-94	1.1 J	90-94	<0.31	90-94	4.4	90-94	1.9 J
110-114	0.99 J	110-114	1.4 J	110-114	**9.4**	110-114	<0.31
130-134	<0.31	---	---	130-134	**12.4**	130-134	2.4 J
150-154	1.3 J	150-154	1.6 J	150-154	<3	150-154	**8.3**
170-174	<0.31	170-174	1.4 J	170-174	**6**	170-174	2.7 J
180-184	<0.31	180-184	<0.31	180-184	2.7 J	180-184	1.2 J
---	---	---	---	190-194	1.0 J	190-194	2.2 J

AUS-9 (Boring H)		AUS-10 (Boring E)		AUS-11 (Boring G)		AUS-12 (Boring F)	
Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate
20-24	0.63 U[a]	---	---	23-25	dry	20-21	dry
40-45	0.63 U[a]	40-45	0.31U	42.5-45	0.31U	40-43	**23.7**
60-63	0.31U	63-65	dry	62.5-63	0.31U	60.8-61	**10.2**
---	---	80-82	dry	82.5-83	0.31U	82-84	dry
---	---	100-102	0.31U	103-105	dry	102-104	0.31U
---	---	120-122	dry	122-125	dry	120-121	0.31U
---	---	147-149	dry	142-142.5	dry	142-143	0.31U
---	---	---	---	160.5-161	dry	162-163	0.31U

AUS-14 (Boring I)		AUS-15 (Boring K)		AUS-16 (Boring J)		AUS-17 (Boring L)		AUS-18 (Boring M)	
Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate	Depth	Perchlorate
20-22	dry	20-22	dry	20-22	dry	20-22	dry	20-22	dry
40-42	dry	40-42	dry	40-42	dry	40-42	dry	40-42	dry
60-62	3.2	60-62	dry	60-62	dry	60-62	dry	60-62	dry
80-82	**25.2**	80-82	0.75U[a]	80-82	dry	80-82	5.5	80-82	dry
100-102	**20.1**	100-102	**10.7**[a]	100-102	dry	100-102	**21.7**	100-102	dry
120-122	1.3J	120-122	0.75U[a]	120-122	dry	120-122	**20.8**	120-122	dry
140 - 142	dry	140 - 142	4.4[a]	140 - 142	dry	140 - 142	**22.3**	140 - 142	dry
160 - 162	**9.0**	160 - 162	4.2J[a]	160 - 162	dry	160 - 162	dry	160 - 162	dry
180 - 182	**7.7**	180 - 182	dry	180 - 182	0.65U	180 - 182	1.8J	180 - 182	dry
200 - 202	0.65U	200 - 202	1.0J[a]	200 - 202	--	200 - 202	**21.6**	200 - 202	dry
220 - 222	--	220 - 222	0.75U[a]	220 - 222	--	220 - 222	--	220 - 222	dry
240 - 242	--	240 - 242	0.75U[a]	240 - 242	--	240 - 242	--	240 - 242	dry
260 - 262	--	260 - 262	dry	260 - 262	--	260 - 262	--	260 - 262	0.65U
280 - 282	--	280 - 282	0.75U[a]	280 - 282	--	280 - 282	--	280 - 282	0.65U
290 - 292	--	290 - 292	0.75U[a]	290 - 292	--	290 - 292	--	290 - 292	--
300 - 302	--	300 - 302	--	300 - 302	--	300 - 302	--	300 - 302	0.65U
320 - 322	--	320 - 322	--	320 - 322	--	320 - 322	--	320 - 322	1.5J
340 - 342	--	340 - 342	--	340 - 342	--	340 - 342	--	340 - 342	3.6
360 - 362	--	360 - 362	--	360 - 362	--	360 - 362	--	360 - 362	0.65U

Table 2
Analytical Results for Grab Groundwater Samples
Collected Near Water Supply Well W-1
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Notes:

Bold values exceed or equal the CA MCL
< = not detected above the laboratory method detection limit
CA MCL = California Maximum Contaminant Level
depth = feet below grade surface
U = a result less than the laboratory method detection limit
J = estimated value, detected below laboratory reporting level
a = Analysis performed at Accutest Laboratories, Dayton, NJ
--- = not sampled

Grab groundwater samples were collected on the following dates:
Boring A was sampled between July 9 through 15, 2013.
Boring B was sampled between July 19 through 30, 2013.
Boring C was sampled between August 14 through 16, 2013.
Boring D was sampled between August 23 through 28, 2013.
Boring E was sampled on May 5, 2014.
Boring F was sampled between May 20 through 21, 2014.
Boring G was sampled between May 7 through 12, 2014.
Boring H was sampled on April 29, 2014.
Boring I was sampled on August 3 through 5, 2015.
Boring K was sampled between August 24 through 28, 2015.
Boring J was sampled between September 16 through 18, 2015.
Boring L was sampled on September 22 through 24, 2015.

* = groundwater sample collected after well installation does not validate this result; additional groundwater monitoring is necessary to evaluate the discrepancy between grab groundwater sample result and groundwater monitoring well result.

Table 3
Groundwater Monitoring Analytical Program
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Parameter	Units	Analytical Method	Reporting Level	Method Detection Limit
Perchlorate	µg/L	EPA 314	3.0	0.31
NDMA	ng/L	EPA 1625B	2.0	0.28
UDMH	µg/L	EPA 8315A	0.25	0.25
Chloride	mg/L	EPA 300	---	---
Nitrate as Nitrogen	mg/L	EPA 300	0.1	0.023
Nitrite	mg/L	Hach Field Test	---	---
Total Organic Carbon	mg/L	SM5310 C-00	1.0	0.43
Total Iron	ug/L	200.7 or 6010	200	---
Ferrous Iron	mg/L	Hach Field Test	---	---
Chlorate	µg/L	EPA 300.1	10	---

Notes:
EPA = United States Environmental Protection Agency
NDMA = Nitrosodimethylamine
UDMH = unsymmetrical dimethylhydrazine
µg/L = micrograms per liter
mg/L = milligrams per liter
ng/L = nanograms per liter

Table 4
Analytical Results for Monitoring and Water Supply Wells
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	Sample Date	Monitoring Zone	Screen Interval (feet bgs)	Perchlorate (µg/L)	NDMA (ng/L)	UDMH (µg/L)
WSWI Area						
SB-4	6/11/2013	Alluvial Deposits	24 - 30	3.0 U	--	--
	7/17/2015			0.65 U	**1.25 J**	--
IB-7	6/11/2013	Alluvial Deposits	40 - 50	3.0 U	--	--
	7/15/2014			0.31 U	--	--
	7/17/2015			0.65 U	**79.7**	--
IB-8	6/11/2013	Purisima Formation - Unit 3	50 - 60	3.0 U	--	--
	7/15/2014			0.31 U	--	--
	7/17/2015			0.65 U	**0.216 J**	--
AUS-5A	10/4/2013	Purisima Formation - Unit 4	40 - 50	0.31 U	--	--
	7/15/2014			7.4	--	--
	7/17/2015			16.8	**44.3**	--
	12/8/2015			**11.5**	--	--
AUS-5B	10/4/2013	Purisima Formation - Unit 4	120 - 140	0.31 U	--	--
	7/17/2015			6.3	**61.3**	--
	12/8/2015			**3.0**	--	--
AUS-5C	10/4/2013	Purisima Formation - Unit 6	180 - 195	0.31 U	--	--
	7/17/2015			0.65 U	**1.92**	<0.25
AUS-6B	10/4/2013	Purisima Formation - Unit 4	140 - 160	0.31 U	--	--
	7/15/2014			0.80 J	--	--
	7/17/2015			0.65 U	**38.3**	<0.25
AUS-6C	10/4/2013	Purisima Formation - Unit 4	180 - 195	0.31 U	--	--
	7/17/2015			0.65 U	**885**	--
AUS-7A	9/11/2013	Purisima Formation - Unit 4	40 - 50	3.3*	--	--
	10/4/2013			0.31 U	--	--
	7/14/2014			0.63 U[a]	--	--
	7/17/2015			0.65 U	**1.47 J**	--
AUS-7B	10/4/2013	Purisima Formation - Unit 4	90 - 110	0.31 U	--	--
	7/14/2014			0.63 U[a]	**1.5 J**	--
	7/15/2015			0.65 U	--	--
AUS-7C	10/4/2013	Purisima Formation n- Unit 6	165 - 180	0.31 U	--	--
	7/14/2014			0.31 U	**94**	--
	7/15/2015			0.65 U	--	--
AUS-8A	10/4/2013	Purisima Formation - Unit 4	50 - 60	0.31 U	--	--
	7/14/2014			0.31 U	--	--
	7/17/2015			0.65 U	**56.3**	--
AUS-8C	10/4/2013	Purisima Formation - Unit 6	165 - 180	0.31 U	--	--
	7/14/2014			0.31 U	**30**	--
	7/15/2015			0.65 U	--	--
AUS-9A	7/15/2014	Purisima Formation - Unit 4	50.4 - 60.4	0.63 U[a]	--	--
	10/15/2015			1.3 U[a]	**0.189 J**	--
AUS-10B	7/15/2014	Purisima Formation - Unit 4 (?)	100 - 120	0.31 U	--	--
	7/17/2015			0.65 U	**278**	--
AUS-11B	7/14/2014	Purisima Formation - Unit 4a (?)	59 - 79	0.31 U	**7.4**	--
	7/15/2015			0.65 U	--	--
AUS-11C	7/14/2014	Purisima Formation - Unit 6a	164 - 184	0.31 U	**0.59 J**	--
	7/15/2015			0.65 U	--	--
AUS-12A	7/15/2014	Purisima Formation - Unit 4a	40 - 50	3.6	--	--
	7/17/2015			**24.4**	**0.680 J**	--
AUS-12B	7/14/2014	Purisima Formation - Unit 4a	60 - 70	5.5	**110**	--
	7/16/2015			**19.3**	--	--

Table 4
Analytical Results for Monitoring and Water Supply Wells
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well ID	**Sample Date**	**Monitoring Zone**	**Screen Interval** (feet bgs)	**Perchlorate** (μg/L)	**NDMA** (ng/L)	**UDMH** (μg/L)
WSWI Area						
AUS-12C	7/14/2014	Purisima Formation - Unit 6a	130 - 150	0.31 U	**790**	--
	7/15/2015			0.65 U	--	--
AUS-14A	10/15/2015	Purisima Formation - Unit 4a	75 - 85	**8.6**	**0.372 J**	--
AUS-14B	10/19/2015	Purisima Formation - Unit 4a	100 - 110	**2.6 J/2.3 J**	**18.0/15.9**	--
AUS-14C	10/19/2015	Purisima Formation - Unit 6a	160 - 180	**2.2 J**	**71.2**	--
AUS-15A	10/15/2015	Purisima Formation - Unit 4a	80 - 90	**2.7 J**	**45.2**	--
AUS-15B	10/14/2015	Purisima Formation - Unit 4a	140 - 150	**1.4 J**	**11.2**	--
AUS-15C	10/19/2015	Purisima Formation - Unit 6a	195-210	**2.1 J**	**2.23**	--
AUS-16B	10/19/2015	Purisima Formation - Unit 4a	160 - 180	**1.7 J**	**0.923 J**	--
AUS-17B	10/19/2015	Purisima Formation - Unit 4a	110 - 130	**21.5**	**2.14**	--
AUS-17C	10/19/2015	Purisima Formation - Unit 6a	205 - 225	**0.89 J**	**0.967 J**	--
AUS-18A	12/2/2015	Purisima Formation - Unit 4a	280 - 300	0.65 U	**87.6**	--
AUS-18B	12/2/2015	Purisima Formation - Unit 4a	340 - 360	**1.9 J**	**148**	--
W-1	7/12/2014	Purisima Formation	--	**11.5**	**60**	--
W-2	6/5/2014	Purisima Formation	--	0.65 U	**30**	--
IXU-EFF-072214	7/22/2014	IX Treated Effluent	--	--	**41**	--
EB06052014	6/5/2014	--	--	0.31 U	**2.0**	--
FB07012014	7/1/2014	--	--	0.31 U	**2.8**	--
EB071414	7/14/2014	--	--	0.31 U	**1.3 J**	--
EB08012014	8/1/2014	--	--	--	**3.8**	--
Equipment Blank	10/4/2013	--	--	0.31 U	--	--
EB-071715	7/17/2015	--	--	0.65 U	--	--

Notes:
bgs = below ground surface
μg/L = microgram per liter
ng/L = nanogram per liter
U = not detected above the method detection limit
* = sample collected prior to completing monitoring well development activities
J = estimated value, detected below laboratory reporting level
-- = not analyzed
WSWI = Water Supply Well Investigation
NDMA = Nitrosodimethylamine
UDMH = unsymmetrical dimethylhydrazine

Table 5
Groundwater Elevations
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well Name	Date	Time	TOC Elev. (ft amsl)	Depth to Water (ft below TOC)	Water Elev. (ft amsl)	Measured Well Depth (ft below TOC)
AUS-5A	7/9/2014	9:42	241.17	30.92	210.25	52.97
	10/14/2015	11:39		35.62	205.55	--
	12/11/2015	9:53		37.05	204.12	--
AUS-5B	7/9/2014	9:48	240.36	29.40	210.96	141.53
	10/14/2015	11:44		34.14	206.22	--
	12/11/2015	9:55		36.17	204.19	--
AUS-5C	7/9/2014	9:42	240.83	22.42	218.41	197.27
	10/14/2015	11:45		25.02	215.81	--
	12/11/2015	9:57		25.03	215.80	--
AUS-6B	7/9/2014	9:53	240.47	29.01	211.46	159.93
	10/14/2015	11:48		34.04	206.43	--
	12/11/2015	9:45		35.24	205.23	--
AUS-6C	7/9/2014	9:51	240.36	29.07	211.29	186.58
	10/14/2015	11:49		34.56	205.80	--
	12/1/2015	10:30		34.14	206.22	--
	12/11/2015	9:47		35.22	205.14	--
AUS-7A	7/9/2014	9:34	240.54	29.31	211.23	52.85
	10/14/2015	11:30		34.25	206.29	--
	12/11/2015	10:05		35.33	205.21	--
AUS-7B	7/9/2014	9:38	240.41	29.12	211.29	113.86
	10/14/2015	11:33		34.02	206.39	--
	12/11/2015	10:01		35.37	205.04	--
AUS-7C	7/9/2014	9:36	240.43	18.58	221.85	182.72
	10/14/2015	11:34		21.99	218.44	--
	12/11/2015	10:03		21.73	218.70	--
AUS-8A	7/9/2014	9:31	241.50	30.14	211.36	64.7
	10/14/2015	11:25		35.01	206.49	--
	12/11/2015	10:09		35.97	205.53	--
AUS-8C	7/9/2014	9:28	241.51	20.20	221.31	184.27
	10/14/2015	11:26		23.85	217.66	--
	12/11/2015	10:11		23.66	217.85	--
AUS-9A	7/9/2014	9:19	239.56	15.80	223.76	62.16
	10/15/2015	16:50		18.80	220.76	62.02
	12/11/2015	10:40		18.05	221.51	--
AUS-10B	7/9/2014	9:09	239.06	9.64	229.42	122.32
	10/14/2015	12:32		12.02	227.04	--
	12/1/2015	14:24		10.39	228.67	--
	12/11/2015	10:31		9.93	229.13	--
AUS-11B	7/9/2014	9:03	240.39	14.89	225.50	81.31
	10/14/2015	12:24		17.49	222.90	--
	12/11/2015	10:23		16.65	223.74	--

Table 5
Groundwater Elevations
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well Name	Date	Time	TOC Elev. (ft amsl)	Depth to Water (ft below TOC)	Water Elev. (ft amsl)	Measured Well Depth (ft below TOC)
AUS-11C	7/9/2014	9:00	240.38	9.75	230.63	187.28
	10/14/2015	12:25		12.21	228.17	--
	12/11/2015	10:25		10.11	230.27	--
AUS-12A	7/9/2014	8:48	244.04	32.28	211.76	52.81
	10/14/2015	12:13		37.59	206.45	--
	12/11/2015	8:47		38.27	205.77	--
AUS-12B	7/9/2014	8:50	243.89	32.12	211.77	71.21
	10/14/2015	12:16		37.43	206.46	--
	12/11/2015	8:43		38.11	205.78	--
AUS-12C	7/9/2014	8:52	243.79	17.69	226.10	151.15
	10/14/2015	12:17		20.21	223.58	--
	12/1/2015	12:22		20.03	223.76	--
	12/11/2015	8:45		19.83	223.96	--
AUS-14A	10/14/2015	12:08	243.24	36.73	206.51	--
	12/11/2015	8:31		37.46	205.78	--
AUS-14B	10/14/2015	12:09	244.41	37.86	206.55	--
	12/11/2015	8:25		38.57	205.84	--
AUS-14C	10/14/2015	12:10	244.45	20.52	223.93	--
	12/1/2015	11:36		20.37	224.08	--
	12/11/2015	5:02		20.21	224.24	--
AUS-15A	10/14/2015	11:56	253.61	47.08	206.53	--
	12/11/2015	9:25		47.77	205.84	
AUS-15B	10/14/2015	11:57	252.95	46.36	206.59	--
	12/11/2015	9:27		47.12	205.83	--
AUS-15C	10/14/2015	11:58	254.61	30.46	224.15	--
	12/11/2015	9:29		30.25	224.36	--
AUS-16B	10/14/2015	11:53	245.17	38.62	206.55	--
	12/11/2015	9:19		39.50	205.67	--
AUS-17B	10/14/2015	12:05	242.09	35.56	206.53	--
	12/11/2015	8:39		36.29	205.80	--
AUS-17C	10/14/2015	12:06	242.21	18.52	223.69	--
	12/11/2015	8:35		18.16	224.05	--
AUS-18A	12/2/2015	10:21	238.67	33.63	205.04	--
	12/11/2015	9:13		34.51	204.16	--
AUS-18B	12/2/2015	12:29	237.74	33.64	204.10	--
	12/11/2015	9:11		34.43	203.31	--
IB-7	7/9/2014	9:14	240.53	15.25	225.28	50.79
	10/14/2015	12:37		18.88	221.65	--
	12/1/2015	13:30		16.92	223.61	--
	12/11/2015	10:37		16.68	223.85	--

Table 5
Groundwater Elevations
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Well Name	Date	Time	TOC Elev. (ft amsl)	Depth to Water (ft below TOC)	Water Elev. (ft amsl)	Measured Well Depth (ft below TOC)
IB-8	7/9/2014	9:06	239.14	12.65	226.49	59.52
	10/14/2015	12:30		15.12	224.02	--
	12/11/2015	10:29		13.65	225.49	--
SB-4	7/9/2014	9:11	239.80	14.1	225.70	32
	10/14/2015	12:35		16.74	223.06	--
	12/11/2015	10:34		15.39	224.41	

Notes:

ft amsl = feet above mean sea level

TOC = top of casing

DTW = depth to water

-- = Not applicable

Bold = Reference point elevations cut down after well survey to accommodate injection wellheads. Revised reference point elevations determined by measuring from the surveyed elevations of the concrete pad.

Note (1): For flowing wells, water levels were measured in tubing set at the midpoint of the screen (Screen tubing), and represent the water level at that portion of the 30-foot screen interval. For some wells, an additional water level was measured in tubing set in the casing above the screen (Shallow tubing), and represents the average water level across the 30-foot screen interval. Where the shallow and screen tubing water levels are different, variable hydraulic head levels are indicated within the 30-foot screen interval.

Note (2): These injection wells are impacted by EVO. Water levels are not consistent with water levels measured in nearby monitoring wells that do not indicate the presence of EVO. Therefore, these data are not considered representative of Lower Alluvium water levels.

Note (3): Top of casing heights were altered after the well survey to accommodate injection wellheads. Post-injection elevations cannot be determined due to presence of injection wellheads.

Table 6
Low Flow Groundwater Monitoring Field Parameters
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Monitoring Zone	Turbidity (NTU)	ORP (mV)	pH	SC (µS/cm)	T (°C)	DO (mg/L)
SB-4	7/17/2015	20 - 30	Alluvial Deposits	2.08	92.8	6.75	5,076	18.0	0.43
IB-7	7/15/2014	40 - 50	Alluvial Deposits	30.7	-94.5	7.61	2,843	20.1	2.5
	7/17/2015			0.49	118	6.75	3,013	18.4	0.18
	12/1/2015			4.3	-121.2	8.20	3,107	17.7	0.29
IB-8	7/15/2014	50 - 60	Purisima Formation	75.9	-88.1	7.38	2,868	19.7	3.37
	7/17/2015			3.23	130.4	7.31	2,921	20.1	5.43
AUS-5A	9/16/2013	40 - 50		---	-30.7	7.17	3,140	18.39	3.9
	10/4/2013			150	-1	6.95	3,700	19.07	0.6
	7/14/2014			1.03	-133.8	7.05	3,636	17.7	0.8
	7/14/2014			1.03	-133.8	7.05	3,636	17.7	0.8
	7/17/2015			5.13	0.8	6.87	3,519	17.4	0.29
	12/8/2015			5	-185	8	3,281	16.6	5.18
AUS-5B	10/4/2013	120 - 140	Purisima Formation	75	-174	7.36	1,900	19.6	0.8
	7/14/2014			11.7	1.0	7.14	3,871	19.1	2.07
	7/17/2015			9.2	72.8	7.18	3,180	20.1	1.02
	12/8/2015			3.8	-187.4	8.89	3,126	16.6	9.93
AUS-5C	10/4/2013	180-195	Purisima Formation	52	-78	7.35	1,300	20.2	1.3
	7/17/2015			2.92	-71.4	7.98	1,090	18.5	10.58
AUS-6B	10/4/2013	140 - 160	Purisima Formation	100	-166	7.14	3,300	18.3	0.7
	7/14/2014			30.6	-24.1	6.62	4,031	19.5	0.25
	7/17/2015			16.7	-153.1	7.13	3,674	20.4	0.69
AUS-6C	7/17/2015	180 - 195	Purisima Formation	38.5	-153.5	7.37	1,480	20.5	2.1
	12/1/2015			4.7	-125.7	8.226	1,849	16.5	1.83
AUS-7A	9/11/2013	40 - 50	Purisima Formation	--	-162.9	6.28	4,174	18.56	5.16
	7/14/2014			4.1	-184	7.11	4,726	17.4	0.19
	7/17/2015			12.4	-75.9	6.94	5,040	16.7	1.96
AUS-7B	10/4/2013	90 - 110	Purisima Formation	89	-208	7.58	4,000	17.6	0.7
	7/14/2014			14.2	-169.8	7.35	4,891	19.5	1.86
	7/15/2015			6.88	-272.3	7.46	4,354	21.5	1.53
AUS-7C	10/4/2013	165 - 180	Purisima Formation	60	-115	7.34	1,900	17.8	0.5
	7/14/2014			4.06	-195	7.4	1,855	18.1	0.18
	7/15/2015			0.70	17.0	5.88	1,910	18.6	0.20
AUS-8A	10/4/2013	50 - 60	Purisima Formation	90	-193	7.13	3,700	16.2	0.7
	7/14/2014			12.9	-107.3	7.15	3,997	19.1	1.96
	7/17/2015			>1,000	-4.0	7.74	3,330	18.1	10.29
AUS-8C	10/4/2013	165 - 180	Purisima Formation	65	-96	6.98	3,400	16.4	0.8
	7/14/2014			2.56	-221.7	7.24	3,477	18.2	0.17
	7/15/2015			1.24	-85.7	6.87	3,933	19.1	0.09
AUS-9A	7/15/2014	50.4 - 60.4	Purisima Formation	3.55	-154.4	7.59	4,533	17.6	2.71
	10/15/2015			33.0	-70.8	7.35	3,654	17.7	0.25
AUS-10B	7/15/2014	100 - 120	Purisima Formation	1.69	-94.2	7.77	1,566	19.7	3.15
	7/17/2015			2.23	136.8	6.93	1,676	19.1	0.12
	12/1/2015			3.6	-156.1	8.71	1,606	16.7	0.45
AUS-11B	7/14/2014	59 - 79	Purisima Formation	12.1	2.6	7.38	2,800	18.3	0.23
	7/15/2015			2.21	122.0	5.38	2,850	18.1	0.87
AUS-11C	7/14/2014	164 - 184	Purisima Formation	1.54	64.1	7.38	1,456	18.7	3.43
	7/15/2015			0.98	337.3	5.73	1,346	18.9	0.14
AUS-12A	7/15/2014	40 - 50	Purisima Formation	2.88	-168.8	7.58	3,829	19.5	2.85
	7/15/2015			4.91	17.9	7.36	3,550	19.9	6.80
AUS-12B	7/15/2014	60 - 70	Purisima Formation	2.78	-97.3	8.34	3,102	19.6	3.09
	7/16/2015			11.3	11.1	7.88	4,397	25.6	3.48
AUS-12C	7/14/2014	130 - 150	Purisima Formation	1.19	-52.9	7.19	2,823	19.5	1.93
	7/15/2015			1.66	119.7	5.67	2,506	20.4	0.18
	7/17/2015			2.6	-163.7	8.43	2,409	19.5	0.53

Table 6
Low Flow Groundwater Monitoring Field Parameters
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Monitoring Zone	Turbidity (NTU)	ORP (mV)	pH	SC (µS/cm)	T (°C)	DO (mg/L)
AUS-14A	10/15/2015	75 - 85	Purisima Formation	11.5	-104.3	7.52	3,201	20.4	0.22
AUS-14B	10/19/2015	100 - 110	Purisima Formation	25.3	-117.2	7.52	2,903	19.8	1.64
AUS-14C	10/19/2015	160 - 180	Purisima Formation	29.7	29.9	7.8	1,550	21.7	2.32
	12/1/2015			3.9	-201.6	8.75	852	18.8	0.37
AUS-15A	10/15/2015	80 - 90	Purisima Formation	9.74	-8.0	7.58	2,367	20.4	3.17
AUS-15B	10/15/2015	140 - 150	Purisima Formation	52.3	100.8	7.46	2,761	22.9	2.6
AUS-15C	10/19/2015	200 - 220	Purisima Formation	15.5	71.8	7.29	587	18.8	6.07
AUS-16B	10/19/2015	160 - 180	Purisima Formation	9.93	95.4	7.91	799	19.6	2.34
AUS-17B	10/19/2015	110 - 130	Purisima Formation	5.32	19.7	7.40	4,281	20.4	2.79
AUS-17C	10/19/2015	205 - 225	Purisima Formation	7.42	80.9	8.15	1,216	20.4	3.13
AUS-18A	12/2/2015	280 - 300	Purisima Formation	0.93	-152.6	8.81	1,654	16.1	3.18
AUS-18B	12/2/2015	340 - 360	Purisima Formation	4.86	-207.4	8.38	3,068	21.4	3.21

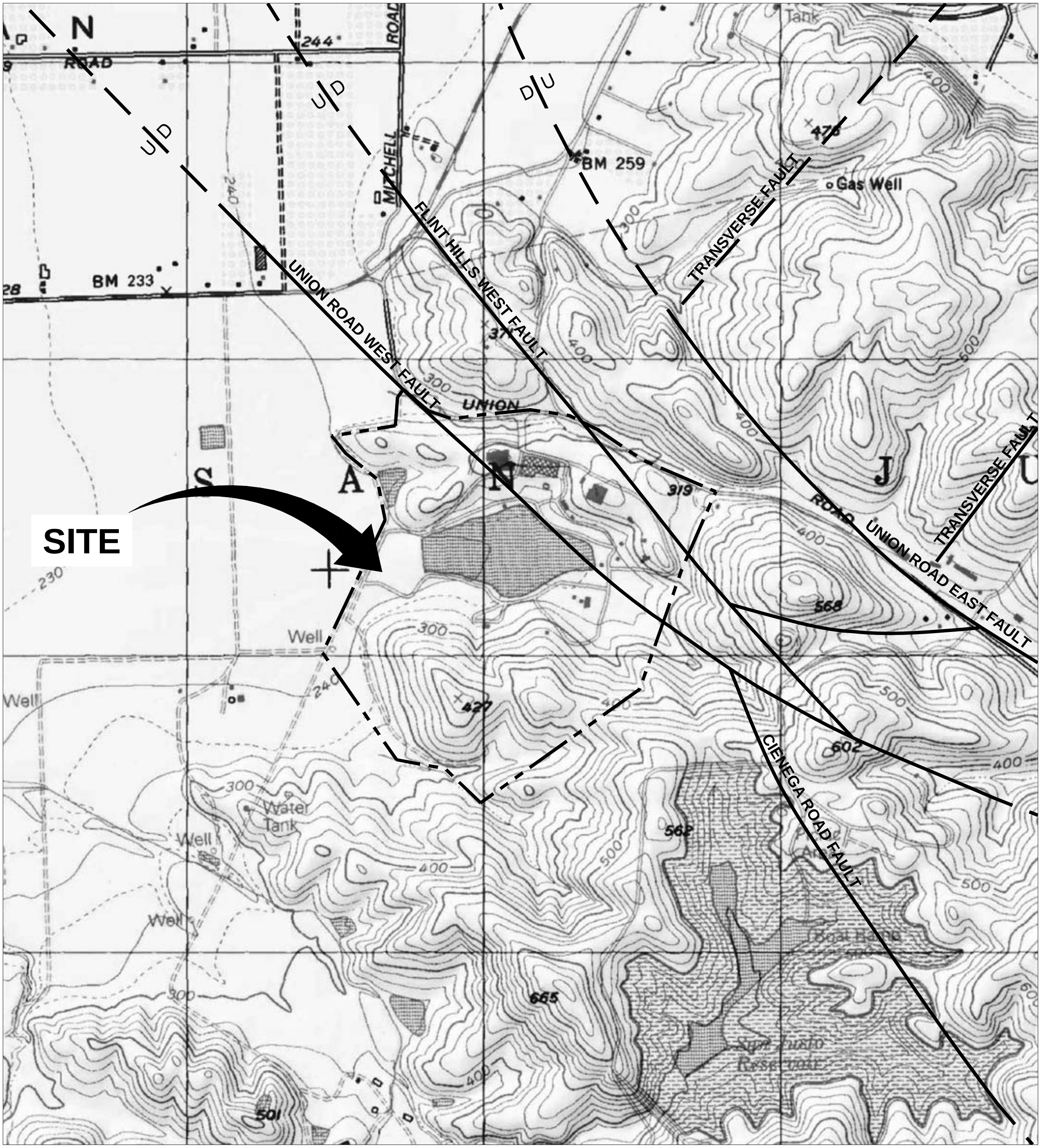
Notes:
°C = degrees Celsius
bgs = below ground surface
DO = dissolved oxygen
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolt
nm = not measured
NTU = nephelometric turbidity unit
ORP = oxidation-reduction potential
SC = specific conductivity
T = temperature

Table 7
Natural Attenuation Monitoring Parameters
Water Supply Well Investigation
Former McCormick Selph, Inc., Facility, Hollister, California

Sample Location	Sample Date	Screen Interval (feet bgs)	Monitoring Zone	Nitrate (mg/L)	Nitrite (mg/L)	Total Iron (μg/L)	Ferrous Iron (mg/L)	Chloride (mg/L)	TOC (mg/L)
AUS-5A	10/4/2013	40 - 50	Purisima Formation	0.12 J	0.01	<200	0.05	699	3.5
AUS-5B	10/4/2013	120 - 140	Purisima Formation	<0.058	0.036	4150	0.46	244	3.3
AUS-5B (duplicate)	10/4/2013	180 - 195	Purisima Formation	<0.058	0.033	4940	0.58	270	3.4
AUS-6B	10/4/2013	140 - 160	Purisima Formation	<0.058	0.023	1850	0.75	475	4.9
AUS-7A	10/4/2013	40 - 50	Purisima Formation	<0.058	0.007	662	0.40	793	6.6
AUS-7C	10/4/2013	165 - 180	Purisima Formation	0.18 J	0.011	<200	0.14	247	1.8
AUS-11B	7/14/2014	59 - 79	Purisima Formation	2.9	0.019	<200	0.02	306	1.6
AUS-12A	7/15/2014	40 - 50	Purisima Formation	0.33	0.022	267	0.32	486	4.3
AUS-12B	7/15/2014	60 - 70	Purisima Formation	0.21	0.015	266	0.11	403	3.7
AUS-14B	10/19/2015	100 - 110	Purisima Formation	1.8	0.009	912	0.11	98.7	3.9
AUS-14B (duplicate)	10/19/2015	100 - 110	Purisima Formation	1.8	--	783	--	102	4
AUS-14C	10/19/2015	160 - 180	Purisima Formation	1.9	0.135	1700	2.24	83.2	21.3
AUS-15B	10/14/2015	140 - 150	Purisima Formation	2.2	0.38	5060	under range	380	2.1
AUS-15C	10/19/2015	200 - 220	Purisima Formation	2.6	0.023	1221	0.15	47.3	3.5
AUS-16B	10/19/2015	160 - 180	Purisima Formation	4.1	0.013	881	0.19	68.0	2.0
AUS-17B	10/19/2015	110 - 130	Purisima Formation	3.8	0.025	<200	under range	716	3.6
AUS-17C	10/19/2015	205 - 225	Purisima Formation	1.2	0.027	<200	under range	90.0	1.1

Notes:
< = indicates a result less than the method detection limit
J = indicates a result greater than the method detection limit but less than the laboratory reporting limit
bgs = below ground surface
μg/L = microgram per liter
mg/L = milligrams per liter
nm = not measured
TOC = total organic carbon

FIGURES



U|D FAULT (RELATIVE DISPLACEMENT INDICATED BY U/D)

SOURCES:
TOPO REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., HOLLISTER, CA

FAULT LOCATIONS TAKEN FROM ROGERS (1993)

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LOCATION

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\ENVCAD\Emeryville\ACT\EM011000\0005\00003\DWG\EM011000 N01.dwg LAYOUT: 1 SAVED: 12/11/2013 12:15 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/11/2016 9:19 AM BY: REYES, ALEC

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- 15-FT ROI NESTED INJECTION WELL LOCATION
- CPT & GROUNDWATER SAMPLING LOCATION (PES, 2000)
- CPT & GROUNDWATER SAMPLE LOCATION (PES, 2001)
- LOCATION OF CPT & GROUNDWATER SAMPLE COLLECTED WITHIN THE ALLUVIAL DEPOSITS (PES, 2010)
- CPT & GROUNDWATER SAMPLES WITHIN THE ALLUVIAL DEPOSITS AND PURISIMA FORMATION (PES,2010)
- DEEP GRAB GROUNDWATER SAMPLE LOCATION (PES, 2012)
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE LOWER ALLUVIAL DEPOSITS
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- SOIL BORING /GRAB GROUNDWATER SAMPLING LOCATION (PES, 2001)
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA
- FAULT

0 300 600 Feet

N S W E

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LAYOUT

ARCADIS

FIGURE 2

Path: Z:\GISPROJECTS_ENV\McCormick\McCormick\GIS\MXD\2016\Isaac Report\UPDATED\Figure 2 SiteLayout.mxd Date Saved: 2/23/2016 2:11:13 PM Author: M Miller

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)

0 75 150 Feet

N W E S

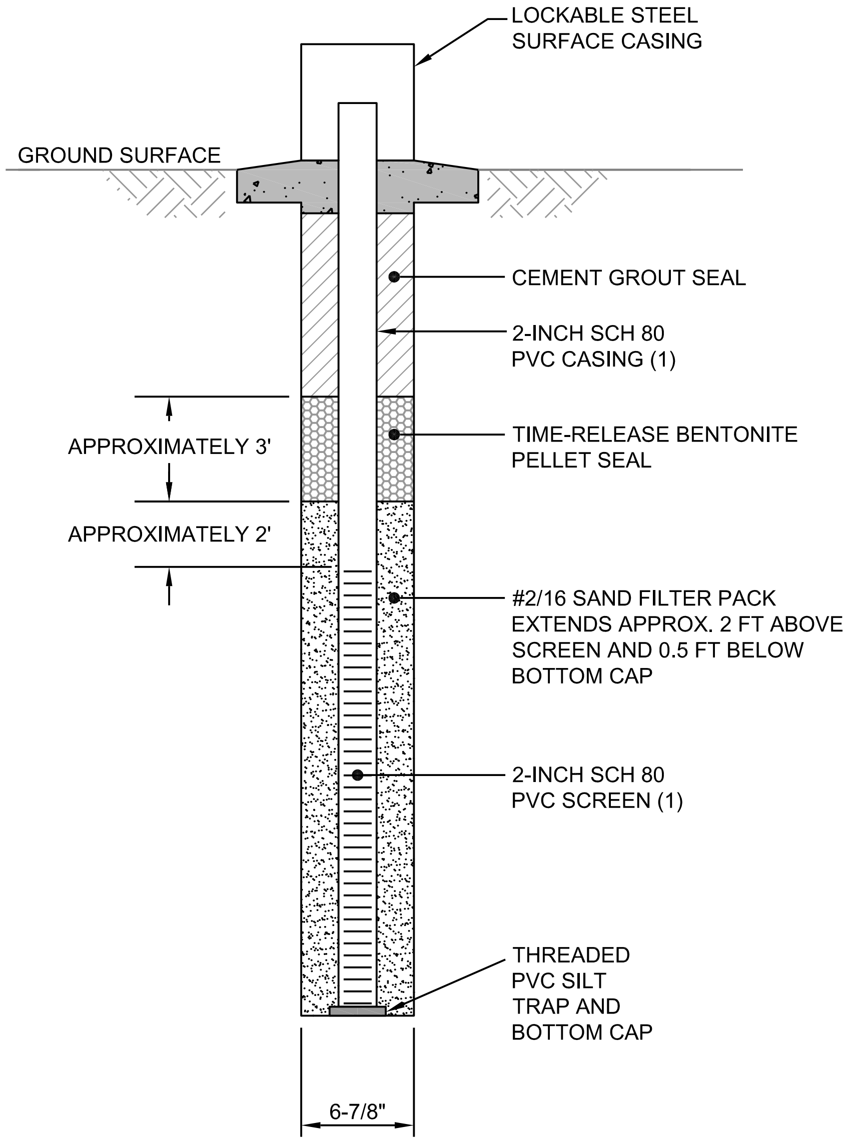
TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LAYOUT
WSWI AREA

ARCADIS

FIGURE 3

Path: Z:\GISPROJECTS_ENV\McCormick\McCormick\GIS\MXD\2016\Isaac Report\UPDATED\Figure 3 SiteLayout_WSWI_AreaCrossSectLines.mxd Date Saved: 2/23/2016 2:11:47 PM Author: M Miller



NOTES:

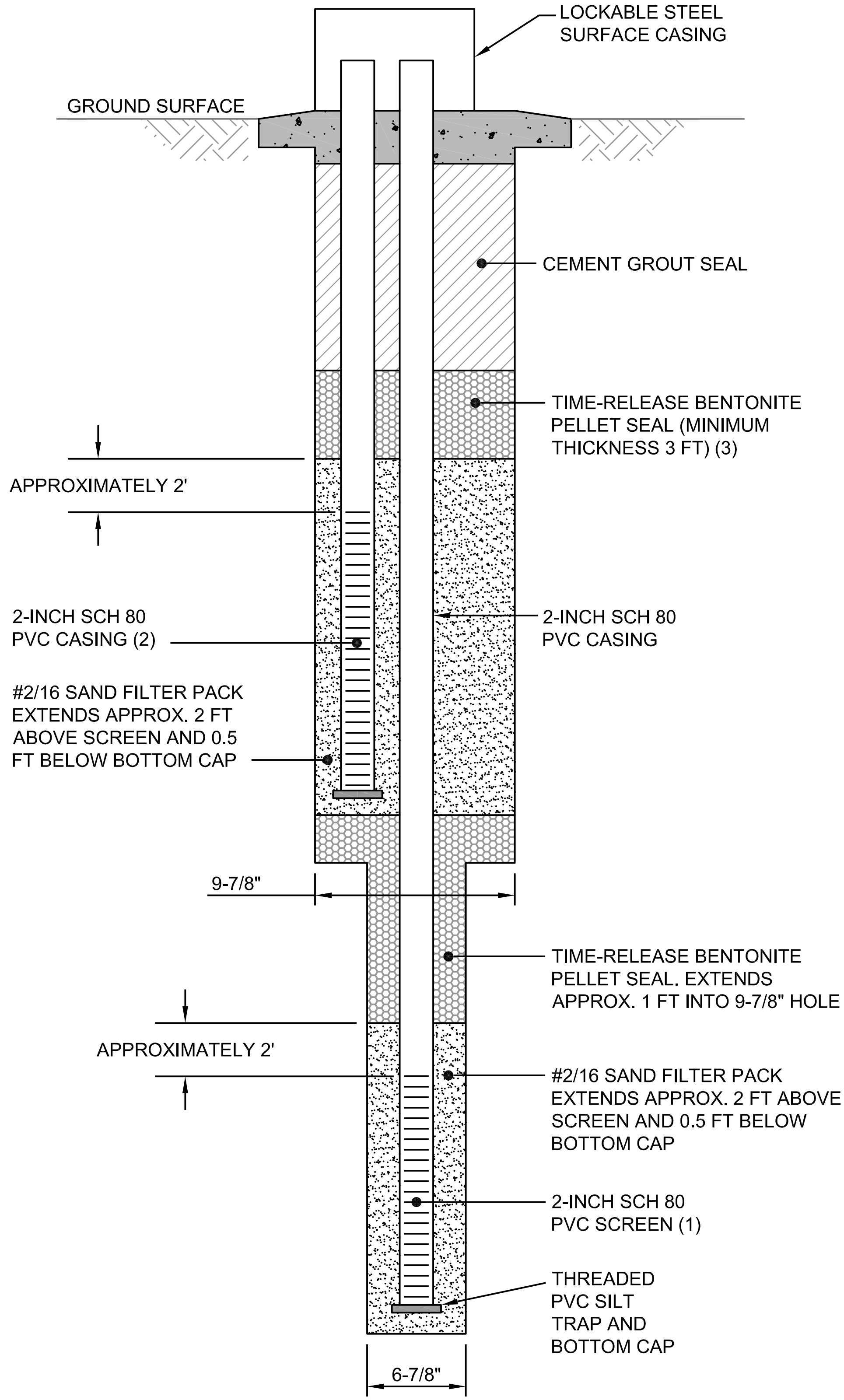
1. SCREEN LENGTH: 10 FEET
2. DRAWING NOT TO SCALE

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

CONSTRUCTION DETAILS FOR SINGLE COMPLETION MONITORING WELL

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4



NOTES:

1. LOWER SCREEN LENGTH: 15 OR 20 FEET
2. UPPER SCREEN LENGTH: 10 OR 20 FEET
3. BENTONITE SEAL THICKNESS ADJUSTED SO THAT NO MORE THAN 100 FEET OF CEMENT-BENTONITE GROUT SEAL REQUIRED IN ORDER TO REDUCE HEAT OF HYDRATION.
4. DRAWING NOT TO SCALE

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

CONSTRUCTION DETAILS FOR DOUBLE COMPLETION MONITORING WELL

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)
- I,-I' CROSS-SECTION
- J-J' CROSS-SECTION
- K-K' CROSS-SECTION
- L-L' CROSS-SECTION
- CHANGE IN ELEVATION ON TOP OF UNIT 5. HACHURES ON LOWER SIDE.

0 75 150 Feet

N W E S

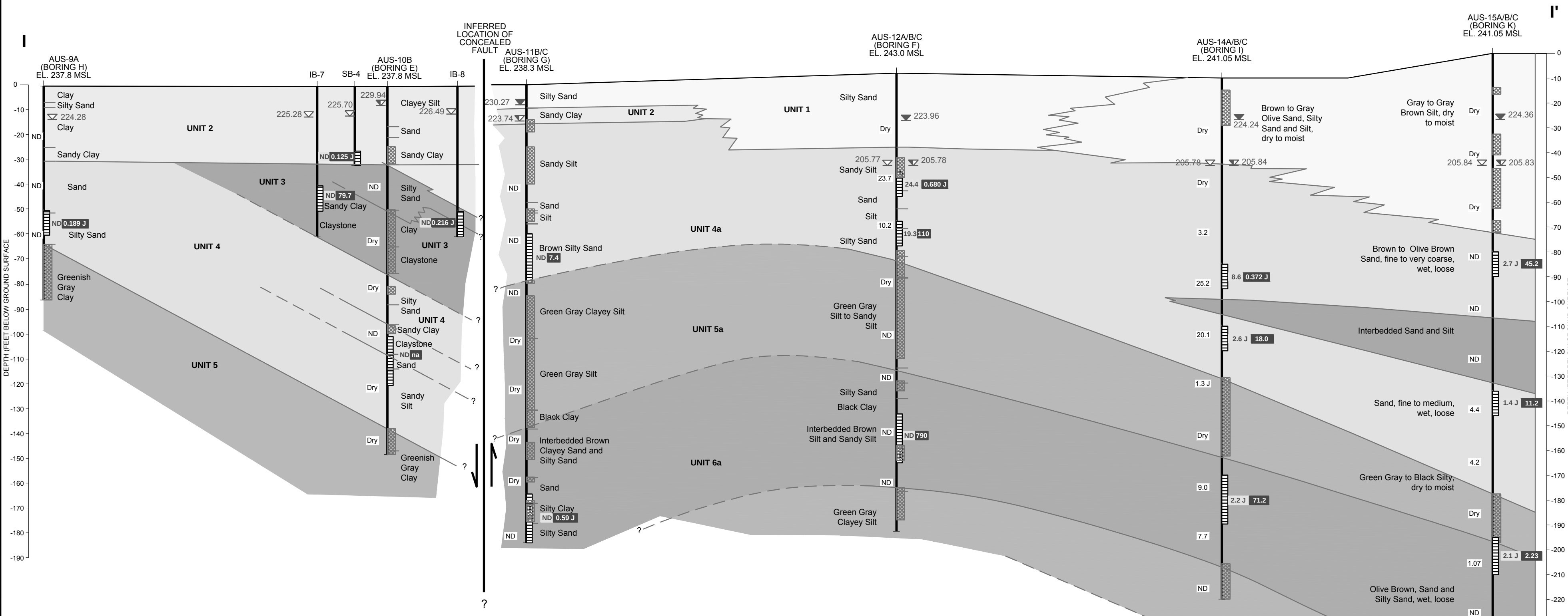
TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

SITE LAYOUT WITH CROSS SECTIONS WSWI AREA

ARCADIS

FIGURE 6a

Path: Z:\GISPROJECTS_ENV\McCormick\McCormick\GIS\MXD\2016\Isaac Report\UPDATED\Figure 6A SiteLayout_WSWI_AreaCrossSectLines.mxd Date Saved: 2/23/2016 1:07:25 PM Author: M Miller



EXPLANATION:

AUS-6 — BORING IDENTIFICATION
EL. 237.7 MSL — GROUND SURFACE ELEVATION

GEOLOGICAL CONTACT

SCREENED INTERVAL

7.4 na — NDMA CONCENTRATION IN WELL SAMPLE (ng/L)
PERCHLORATE CONCENTRATION IN WELL SAMPLE (µg/L)

1.9 J — PERCHLORATE CONCENTRATION IN GRAB SAMPLE

BOTTOM OF BORING

ND — NOT DETECTED AT LABORATORY REPORTING LIMIT
J — ESTIMATED CONCENTRATION
ng/L — NANOGRAMS PER LITER
µg/L — MICROGRAMS PER LITER

GROUNDWATER ELEVATION - A WELLS (MEASURED 12/11/2015)
GROUNDWATER ELEVATION - B WELLS (MEASURED 12/11/2015)
GROUNDWATER ELEVATION - C WELLS (MEASURED 12/11/2015)

SOIL CLASSIFICATION:

UNIT 1 — BASIN FILL; SAND AND SILT

UNIT 2 — BASIN FILL; CLAY, HARD GENERALLY BLACK

UNIT 3 — "PURISIMA"; SAND WITH INCLUSIONS OF SANDSTONES AND SILTSTONES; LAMINATED TO THIN BEDDED, FRIABLE, SEMI-CONSOLIDATED; GRADING TO WEAKLY CONSOLIDATED SILTSTONE AND SANDSTONE

UNIT 4/4a — "PURISIMA"; SILTY SAND AND SAND, VERY FINE TO VERY COARSE GRAINED, LOOSE; GRADES INTO SEMI-CONSOLIDATED SANDSTONE DOWN DIP; CONTAINS CLAY CLASTS AND OCCASIONAL PEBBLES NEAR THE BASE

POCKET PENETROMETER READINGS > 4.5 TONS/SQUARE FT

UNIT 5/5a — "PURISIMA"; CLAY, HARD, VARIABLE COLORS INDICATING REDUCED OXIDATION STATES, INCLUDING BLACK, GRAY, BLUE OR GREEN; HARD, OCCASIONALLY PLATY, BIOTURBATION FEATURES, LAMINATED SILT OR FINE SAND; LOWER THIRD TO HALF CONTAINS BLACK RESINOUS HARD MATERIAL OF SUSPECTED ORGANIC ORIGIN, POSSIBLY DIATOMACEOUS MATERIAL

UNIT 6/6a — "PURISIMA"; SANDY CLAY, SILTY CLAY (YELLOW BROWN), FINE SAND, SANDSTONE

NOTE: UNITS 4a, 5a, AND 6a ARE DESIGNATED WITH AN "**a**" DUE TO DIFFERENCES IN THICKNESS, TEXTURE, AND ORIENTATION IN COMPARISON TO UNITS 4, 5, AND 6.

VERTICAL SCALE IN FEET (0–40)

HORIZONTAL SCALE IN FEET (0–40)

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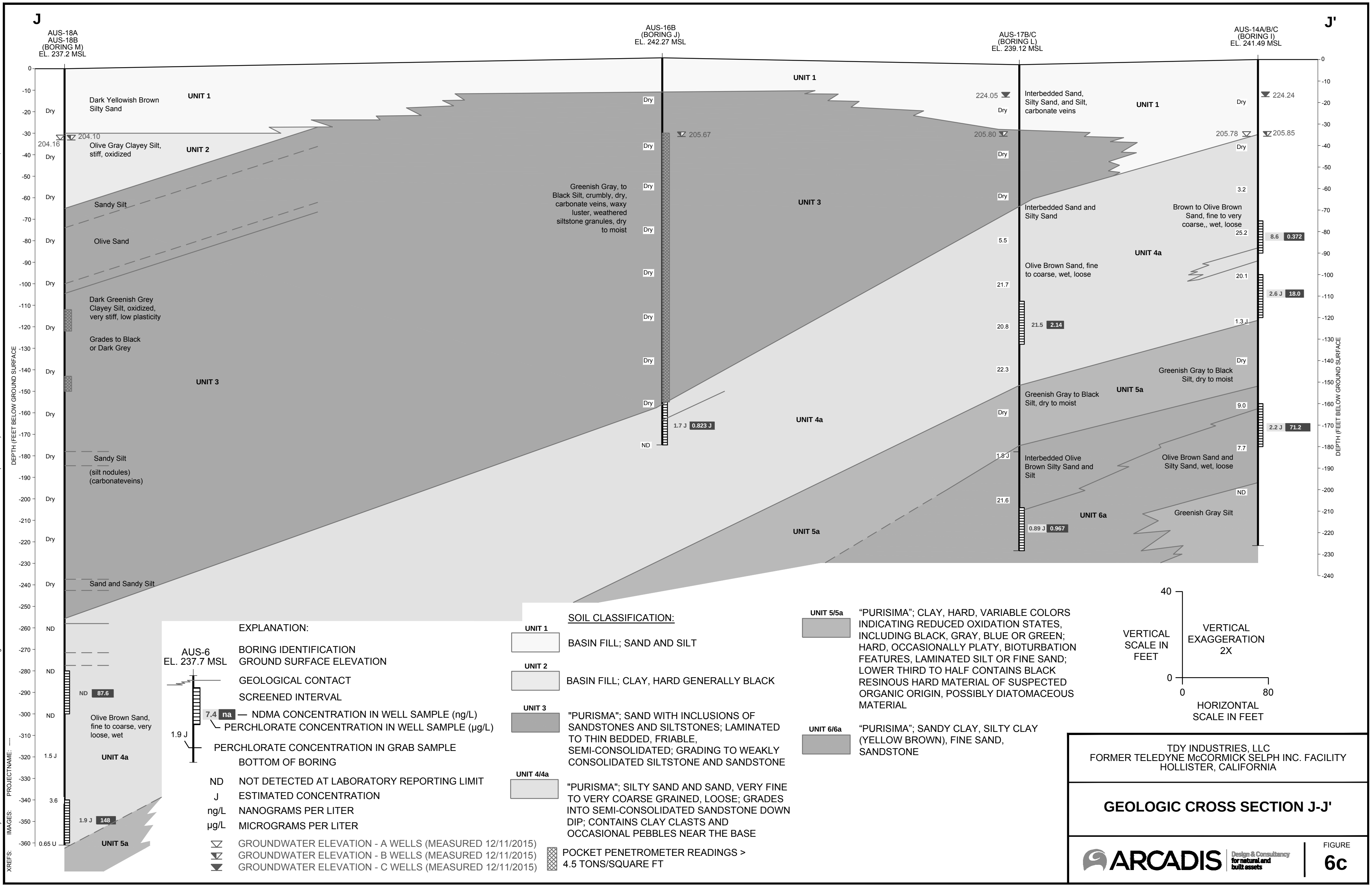
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

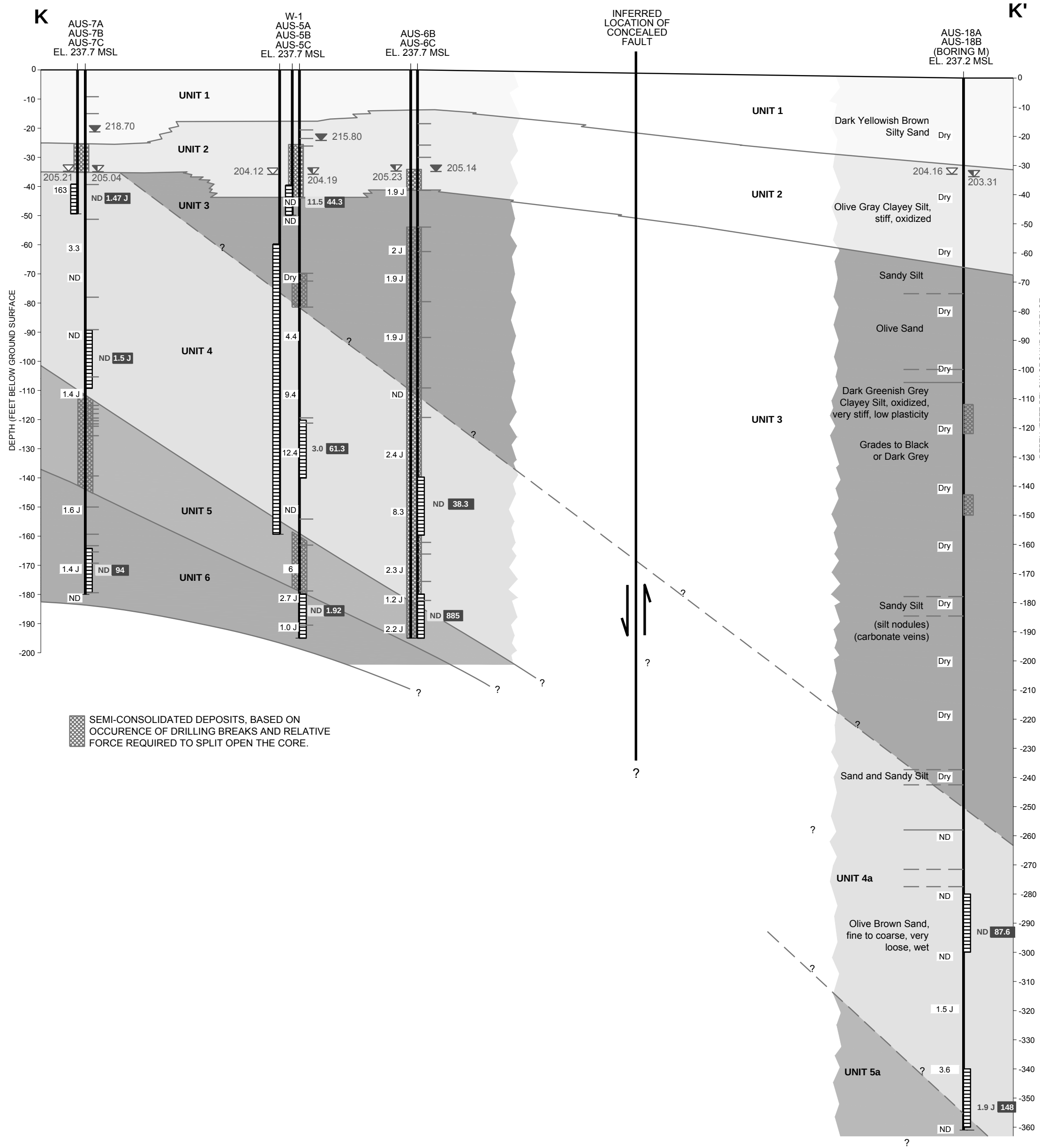
GEOLOGIC CROSS SECTION I-I'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6b



J
J'
AUS-18A
AUS-18B
(BORING M)
EL. 237.2 MSL
AUS-16B
(BORING J)
EL. 242.27 MSL
AUS-17B/C
(BORING L)
EL. 239.12 MSL
AUS-14A/B/C
(BORING I)
EL. 241.49 MSL
DEPTH (FEET BELOW GROUND SURFACE)
UNIT 1
UNIT 2
UNIT 3
UNIT 4a
UNIT 5a
UNIT 6a
Dark Yellowish Brown Silty Sand
Olive Gray Clayey Silt, stiff, oxidized
Sandy Silt
Olive Sand
Dark Greenish Grey Clayey Silt, oxidized, very stiff, low plasticity
Grades to Black or Dark Grey
Sandy Silt
(silt nodules) (carbonateveins)
Sand and Sandy Silt
Olive Brown Sand, fine to coarse, very loose, wet
Greenish Gray, to Black Silt, crumbly, dry, carbonate veins, waxy luster, weathered siltstone granules, dry to moist
Interbedded Sand, Silty Sand, and Silt, carbonate veins
Interbedded Sand and Silty Sand
Olive Brown Sand, fine to coarse, wet, loose
Greenish Gray to Black Silt, dry to moist
Interbedded Olive Brown Silty Sand and Silt
Brown to Olive Brown Sand, fine to very coarse,, wet, loose
Greenish Gray to Black Silt, dry to moist
Olive Brown Sand and Silty Sand, wet, loose
Greenish Gray Silt
204.16
204.10
205.67
224.05
205.80
224.24
205.78
205.85
ND 87.6
1.9 J 148
1.7 J 0.823 J
21.5 2.14
0.89 J 0.967
8.6 0.372
2.6 J 18.0
2.2 J 71.2
EXPLANATION:
AUS-6
EL. 237.7 MSL
BORING IDENTIFICATION
GROUND SURFACE ELEVATION
GEOLOGICAL CONTACT
SCREENED INTERVAL
7.4 na — NDMA CONCENTRATION IN WELL SAMPLE (ng/L)
PERCHLORATE CONCENTRATION IN WELL SAMPLE (µg/L)
1.9 J
PERCHLORATE CONCENTRATION IN GRAB SAMPLE
BOTTOM OF BORING
ND NOT DETECTED AT LABORATORY REPORTING LIMIT
J ESTIMATED CONCENTRATION
ng/L NANOGRAMS PER LITER
µg/L MICROGRAMS PER LITER
GROUNDWATER ELEVATION - A WELLS (MEASURED 12/11/2015)
GROUNDWATER ELEVATION - B WELLS (MEASURED 12/11/2015)
GROUNDWATER ELEVATION - C WELLS (MEASURED 12/11/2015)
POCKET PENETROMETER READINGS > 4.5 TONS/SQUARE FT
SOIL CLASSIFICATION:
UNIT 1 BASIN FILL; SAND AND SILT
UNIT 2 BASIN FILL; CLAY, HARD GENERALLY BLACK
UNIT 3 "PURISMA"; SAND WITH INCLUSIONS OF SANDSTONES AND SILTSTONES; LAMINATED TO THIN BEDDED, FRIABLE, SEMI-CONSOLIDATED; GRADING TO WEAKLY CONSOLIDATED SILTSTONE AND SANDSTONE
UNIT 4/4a "PURISMA"; SILTY SAND AND SAND, VERY FINE TO VERY COARSE GRAINED, LOOSE; GRADES INTO SEMI-CONSOLIDATED SANDSTONE DOWN DIP; CONTAINS CLAY CLASTS AND OCCASIONAL PEBBLES NEAR THE BASE
UNIT 5/5a "PURISMA"; CLAY, HARD, VARIABLE COLORS INDICATING REDUCED OXIDATION STATES, INCLUDING BLACK, GRAY, BLUE OR GREEN; HARD, OCCASIONALLY PLATY, BIOTURBATION FEATURES, LAMINATED SILT OR FINE SAND; LOWER THIRD TO HALF CONTAINS BLACK RESINOUS HARD MATERIAL OF SUSPECTED ORGANIC ORIGIN, POSSIBLY DIATOMACEOUS MATERIAL
UNIT 6/6a "PURISMA"; SANDY CLAY, SILTY CLAY (YELLOW BROWN), FINE SAND, SANDSTONE
VERTICAL SCALE IN FEET
VERTICAL EXAGGERATION 2X
HORIZONTAL SCALE IN FEET
TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA
GEOLOGIC CROSS SECTION J-J'
ARCADIS
Design & Consultancy for natural and built assets
FIGURE
6c



EXPLANATION:

AUS-6 — BORING IDENTIFICATION
EL. 237.7 MSL — GROUND SURFACE ELEVATION

GEOLOGICAL CONTACT

SCREENED INTERVAL

7.4 na — NDMA CONCENTRATION IN WELL SAMPLE (ng/L)
PERCHLORATE CONCENTRATION IN WELL SAMPLE (µg/L)

1.9 J — PERCHLORATE CONCENTRATION IN GRAB SAMPLE

BOTTOM OF BORING

ND	NOT DETECTED AT LABORATORY REPORTING LIMIT
J	ESTIMATED CONCENTRATION
ng/L	NANOGRAMS PER LITER
µg/L	MICROGRAMS PER LITER

GROUNDWATER ELEVATION - A WELLS (MEASURED 12/11/2015)

GROUNDWATER ELEVATION - B WELLS (MEASURED 12/11/2015)

GROUNDWATER ELEVATION - C WELLS (MEASURED 12/11/2015)

POCKET PENETROMETER READINGS > 4.5 TONS/SQUARE FT

SOIL CLASSIFICATION:

UNIT 1	BASIN FILL; SAND AND SILT
UNIT 2	BASIN FILL; CLAY, HARD GENERALLY BLACK
UNIT 3	"PURISMA"; SAND WITH INCLUSIONS OF SANDSTONES AND SILTSTONES; LAMINATED TO THIN BEDDED, FRIABLE, SEMI-CONSOLIDATED; GRADING TO WEAKLY CONSOLIDATED SILTSTONE AND SANDSTONE
UNIT 4/4a	"PURISMA"; SILTY SAND AND SAND, VERY FINE TO VERY COARSE GRAINED, LOOSE; GRADES INTO SEMI-CONSOLIDATED SANDSTONE DOWN DIP; CONTAINS CLAY CLASTS AND OCCASIONAL PEBBLES NEAR THE BASE
UNIT 5/5a	"PURISMA"; CLAY, HARD, VARIABLE COLORS INDICATING REDUCED OXIDATION STATES, INCLUDING BLACK, GRAY, BLUE OR GREEN; HARD, OCCASIONALLY PLATY, BIOTURBATION FEATURES, LAMINATED SILT OR FINE SAND; LOWER THIRD TO HALF CONTAINS BLACK RESINOUS HARD MATERIAL OF SUSPECTED ORGANIC ORIGIN, POSSIBLY DIATOMACEOUS MATERIAL
UNIT 6	"PURISMA"; SANDY CLAY, SILTY CLAY (YELLOW BROWN), FINE SAND, SANDSTONE

VERTICAL SCALE IN FEET: 0 – 40

HORIZONTAL SCALE IN FEET: 0 – 80

VERTICAL EXAGGERATION 2X

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

GEOLOGIC CROSS SECTION K-K'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6d

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF* ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/25/2016 12:49 PM BY: REYES, ALEC
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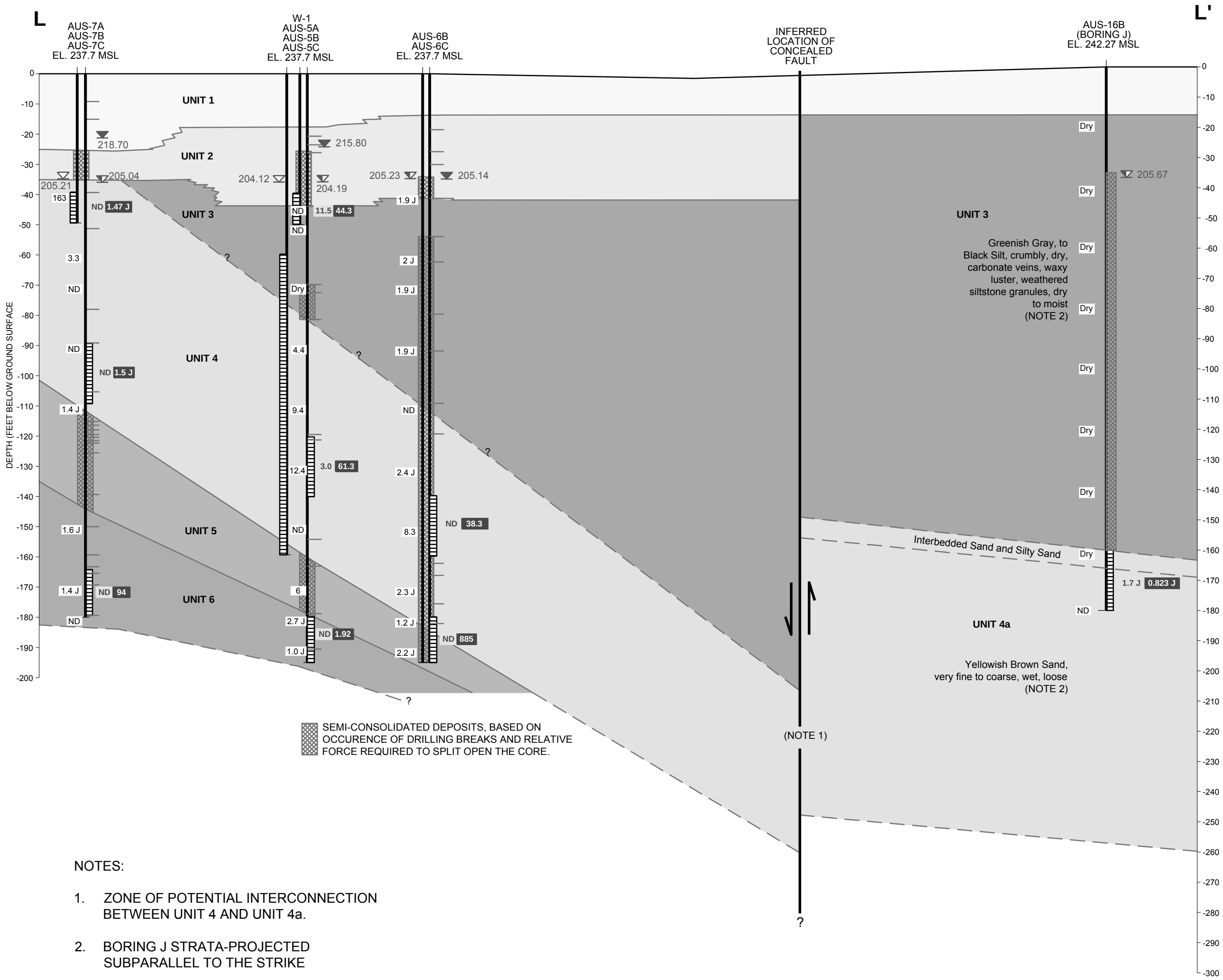

NOTES:

1. ZONE OF POTENTIAL INTERCONNECTION BETWEEN UNIT 4 AND UNIT 4a.
2. BORING J STRATA-PROJECTED SUBPARALLEL TO THE STRIKE

EXPLANATION:

AUS-6	BORING IDENTIFICATION
EL. 237.7 MSL	GROUND SURFACE ELEVATION
	GEOLOGICAL CONTACT
	SCREENED INTERVAL
7.4 na	NDMA CONCENTRATION IN WELL SAMPLE (ng/L)
	PERCHLORATE CONCENTRATION IN WELL SAMPLE (µg/L)
1.9 J	PERCHLORATE CONCENTRATION IN GRAB SAMPLE
	BOTTOM OF BORING
ND	NOT DETECTED AT LABORATORY REPORTING LIMIT
J	ESTIMATED CONCENTRATION
ng/L	NANOGRAMS PER LITER
µg/L	MICROGRAMS PER LITER
	GROUNDWATER ELEVATION - A WELLS (MEASURED 12/11/2015)
	GROUNDWATER ELEVATION - B WELLS (MEASURED 12/11/2015)
	GROUNDWATER ELEVATION - C WELLS (MEASURED 12/11/2015)
	POCKET PENETROMETER READINGS > 4.5 TONS/SQUARE FT

SOIL CLASSIFICATION:

UNIT 1	BASIN FILL; SAND AND SILT
UNIT 2	BASIN FILL; CLAY, HARD GENERALLY BLACK
UNIT 3	"PURISIMA"; SAND WITH INCLUSIONS OF SANDSTONES AND SILTSTONES; LAMINATED TO THIN BEDDED, FRIABLE, SEMI-CONSOLIDATED; GRADING TO WEAKLY CONSOLIDATED SILTSTONE AND SANDSTONE
UNIT 4/4a	"PURISIMA"; SILTY SAND AND SAND, VERY FINE TO VERY COARSE GRAINED, LOOSE; GRADES INTO SEMI-CONSOLIDATED SANDSTONE DOWN DIP; CONTAINS CLAY CLASTS AND OCCASIONAL PEBBLES NEAR THE BASE
UNIT 5/5a	"PURISIMA"; CLAY, HARD, VARIABLE COLORS INDICATING REDUCED OXIDATION STATES, INCLUDING BLACK, GRAY, BLUE OR GREEN; HARD, OCCASIONALLY PLATY, BIOTURBATION FEATURES, LAMINATED SILT OR FINE SAND; LOWER THIRD TO HALF CONTAINS BLACK RESINOUS HARD MATERIAL OF SUSPECTED ORGANIC ORIGIN, POSSIBLY DIATOMACEOUS MATERIAL
UNIT 6	"PURISIMA"; SANDY CLAY, SILTY CLAY (YELLOW BROWN), FINE SAND, SANDSTONE

VERTICAL SCALE IN FEET (0–40)
VERTICAL EXAGGERATION 2X
HORIZONTAL SCALE IN FEET (0–80)

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

GEOLOGIC CROSS SECTION L-L'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6e

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LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)
- [163] ELEVATION ON TOP OF UNIT 5 AND 5a. HACHURES ON LOWER SIDE.
- CHANGE IN ELEVATION ON TOP OF UNIT 5. HACHURES ON LOWER SIDE.
- ELEVATION CONTOUR ON THE TOP OF UNIT 5 ELEVATION IN FEET ABOVE MEAN SURFACE LEVEL (DASHED WHERE INFERRED)

0 50 100 150 Feet

N W E S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

ELEVATIONS ON TOP OF UNIT 5 AND 5A, WSWI AREA

ARCADIS

FIGURE 7

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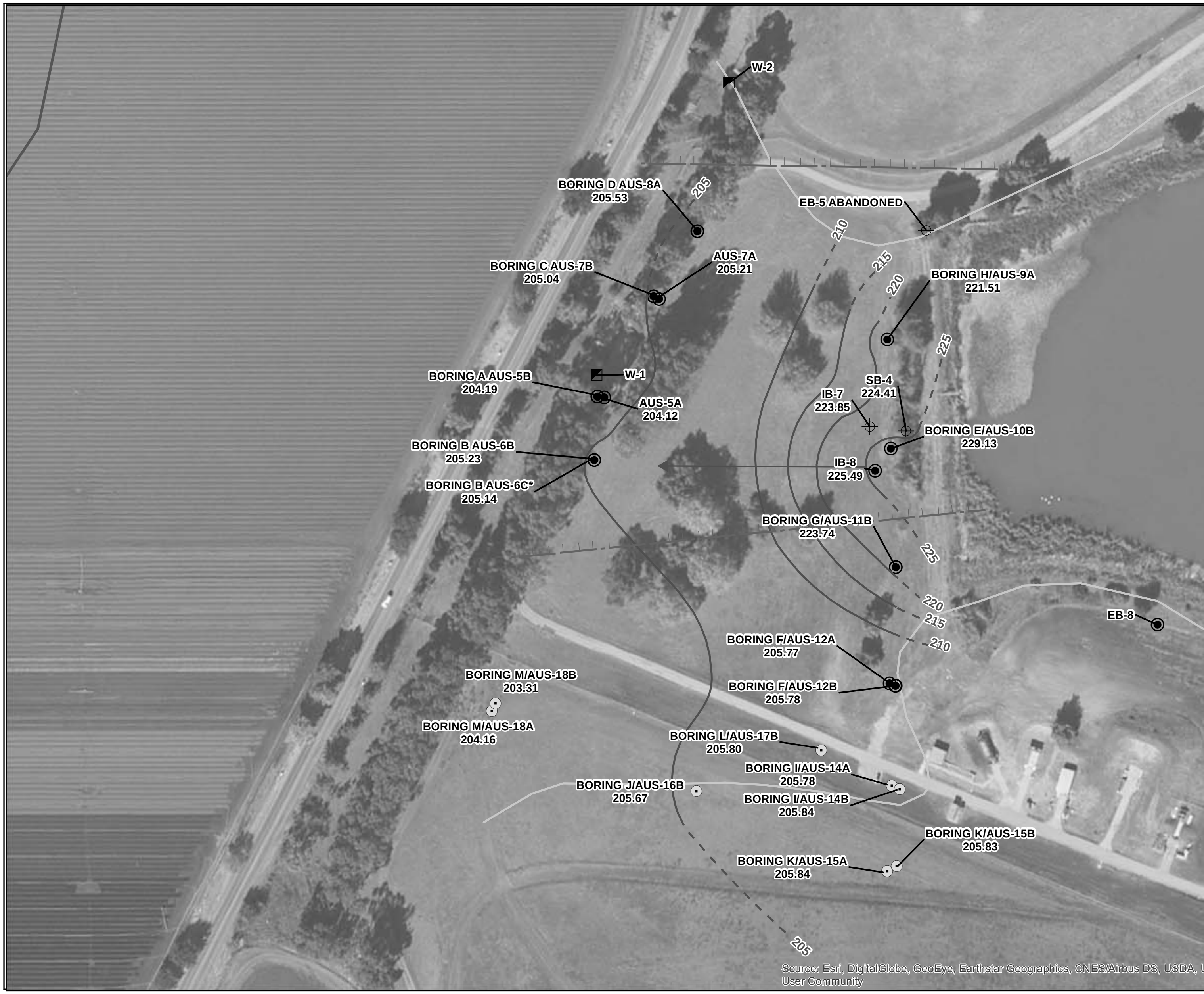

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- ESTIMATED GROUNDWATER FLOW DIRECTION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)
- CHANGE IN ELEVATION ON TOP OF UNIT 5. HACHURES ON LOWER SIDE.

NOTES:
* THE GROUNDWATER ELEVATION FOR AUS-6C IS CONSISTENT WITH B ZONE WELLS

GROUNDWATER ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL

0 75 150
Feet

N
W E
S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

WATER LEVEL CONTOURS
DECEMBER 11, 2015, A & B WELLS

ARCADIS

FIGURE
8

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)
- CHANGE IN ELEVATION ON TOP OF UNIT 5. HACHURES ON LOWER SIDE.

NOTE:
GROUNDWATER ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL

0 75 150 Feet

N W E S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

WATER LEVEL CONTOURS DECEMBER 11, 2015, C WELLS

ARCADIS

FIGURE 9

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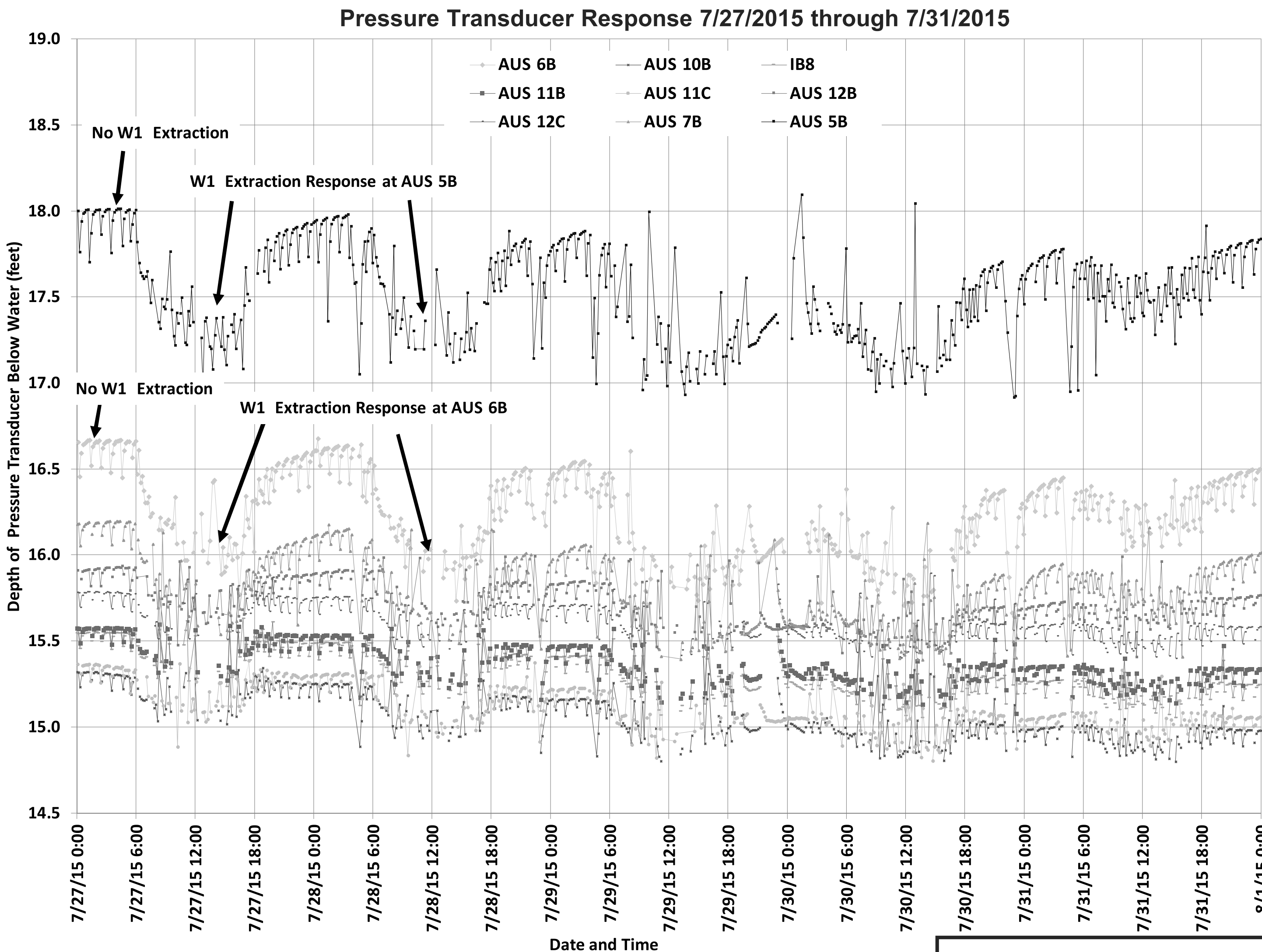

TDY INDUSTRIES
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

TRANSDUCER RESPONSES - ALL WELLS MONITORED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

DATE-DIV-ORIGINATOR
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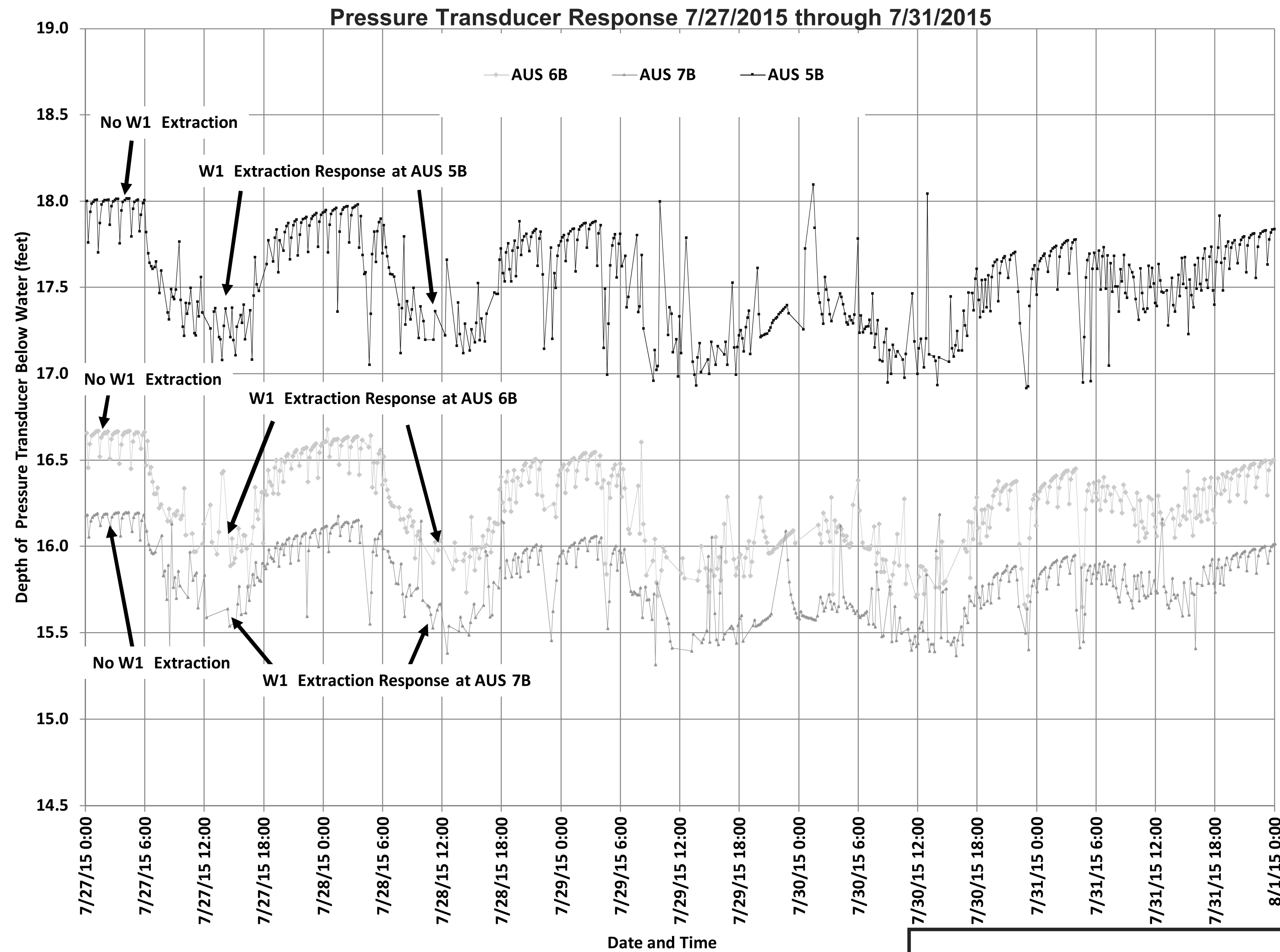

TDY INDUSTRIES
FORMER TELEDYNE McCORMICK SELPH INC. FACILITY
HOLLISTER, CALIFORNIA

TRANSDUCER RESPONSES - WELLS NEAREST TO SUPPLY WELL W-1

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION
- LIMITS OF ALLUVIAL DEPOSITS (AFTER IT CORPORATION, 1985)
- APPROXIMATE ISOCONCENTRATION CONTOUR OF PERCHLORATE GREATER THAN 6 µg/L WITHIN PURISIMA FORMATION
- CHANGE IN ELEVATION ON TOP OF UNIT 5. HACHURES ON LOWER SIDE.

ABBREVIATIONS:
µg/L = MICROGRAMS PER LITER
U = NOT DETECTED AT LISTED REPORTING LIMIT
J = CONCENTRATION IS ESTIMATED

NOTE:
ISOCONCENTRATION CONTOURS WERE NOT DEVELOPED FOR THE ALLUVIAL DEPOSITS BECAUSE THERE ARE ONLY TWO MONITORING WELLS SCREENED WITHIN THESE SEDIMENTS.

LOCATION ID — DATE SAMPLED
AUS-9A 10/15/2015
1.3 U
RESULT (µg/L)

0 75 150 Feet

N S E W

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

PERCHLORATE DISTRIBUTION WSWI AREA

ARCADIS

FIGURE 12

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LEGEND

- NEW BORING AND MONITORING WELL LOCATIONS
- MONITORING WELL SCREENED WITHIN PURISIMA FORMATION
- MONITORING WELL SCREENED WITHIN THE UPPER ALLUVIAL DEPOSITS
- WATER SUPPLY WELL SCREENED WITHIN THE PURISIMA FORMATION

SAMPLE ID — DATE SAMPLED
AUS-11C 7/14/2014
0.59J
RESULT

NOTE:
ALL RESULTS REPORTED IN NANOGRAMS PER LITER (NG/L).

0 75 150
Feet

N / W / E / S

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

NDMA DISTRIBUTION
WSWI AREA

ARCADIS

FIGURE
13

Path: Z:\GISPROJECTS_ENV\McCormick\McCormick\GIS\MXD\2016\Isaac Report\UPDATED\Figure 13 SiteLayout_WSWI_NDMA.mxd Date Saved: 2/15/2016 10:08:15 AM Author: M Miller

Path: Z:\GISPROJECTS_ENV\McCormick\McCormick\GIS\MXD\2016\Perch\Figure 14 Interim Action Area Upper Alluvium Groundwater Perchlorate Isoconcentration Contours1_10_1.mxd Date Saved: 2/26/2016 11:45:27 AM Author: M Miller

LEGEND

- CPT/GW SAMPLING LOCATION
- INJECTION WELL
- MONITORING WELL
- SOIL BORING
- SOIL BORING GRAB GW SAMPLE
- WATER SUPPLY WELL

NOTE:
GRAY LOCATION LABELS INDICATE UPPER ALLUVIUM SAMPLE LOCATIONS THAT DO NOT HAVE RECENT (2013-2015) DATA. 2012 DATA UTILIZED FOR CONTOURING IF CONSISTENT WITH 2013-2015 DATA.

ND (1.6) NON DETECT REPORTED AT THE DETECTION LIMIT WHERE APPLICABLE

MW-6S — LOCATION ID
8/21/2012 — SAMPLE DATE
3.0 U — PERCHLORATE CONCENTRATION MICROGRAMS PER LITER (µg/L)

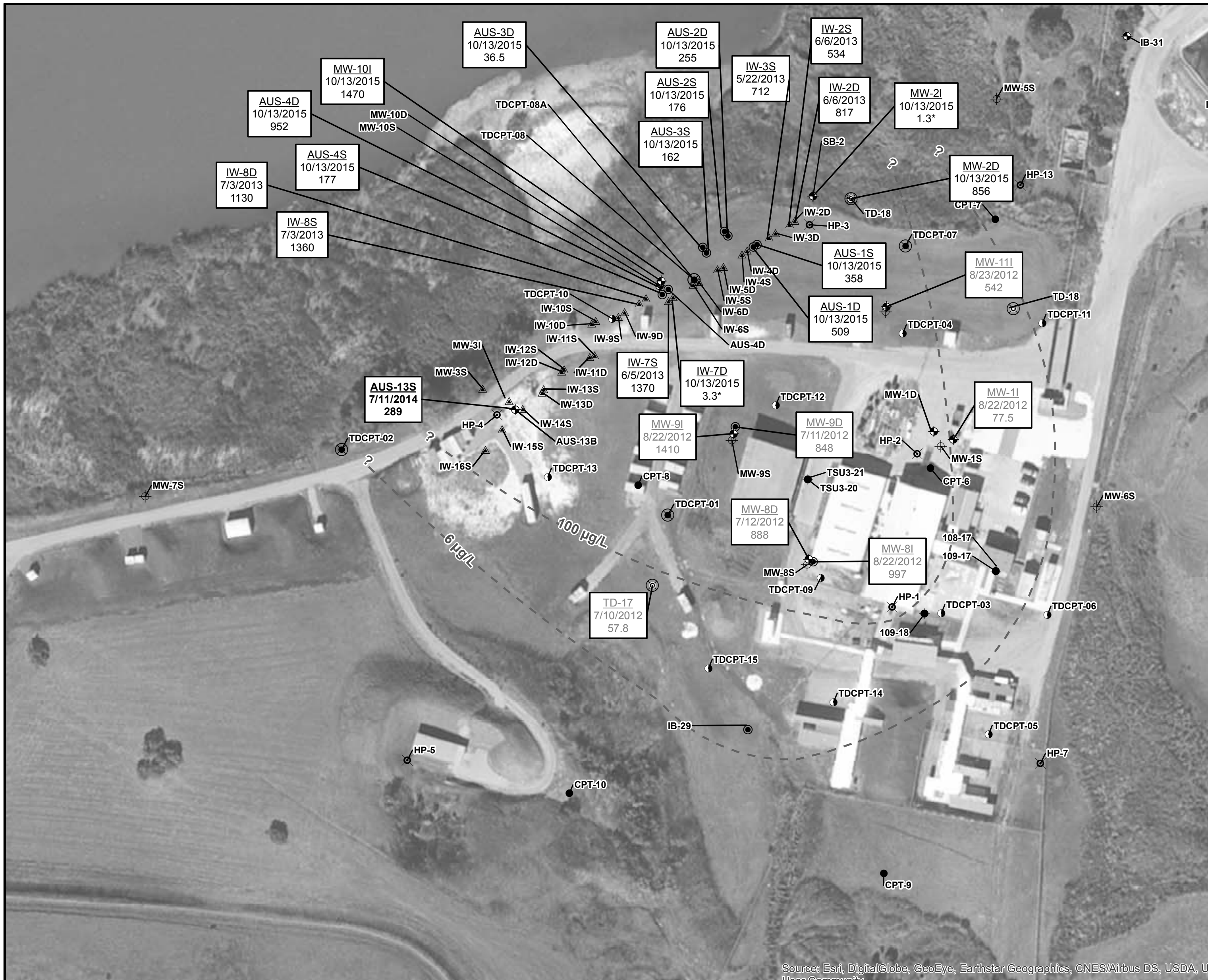
0 100 200 Feet

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

INTERIM ACTION AREA UPPER ALLUVIUM GROUNDWATER PERCHLORATE ISOCONCENTRATION CONTOURS

ARCADIS

FIGURE 14



LEGEND

- CPT/GW SAMPLING LOCATION
- INJECTION WELL
- MONITORING WELL
- SOIL BORING
- SOIL BORING GRAB GW SAMPLE
- WATER SUPPLY WELL

* = NOT USED IN CONTOURING

NOTE:
GRAY LOCATION LABELS INDICATE LOWER ALLUVIUM SAMPLE LOCATIONS THAT DO NOT HAVE RECENT (2013-2015) DATA. 2012 DATA UTILIZED FOR CONTOURING IF CONSISTENT WITH 2013-2015 DATA.

ND (1.6) NON DETECT REPORTED AT THE DETECTION LIMIT WHERE APPLICABLE

MW-1I — LOCATION ID
8/22/2012 — SAMPLE DATE
77.5 — PERCHLORATE CONCENTRATION MICROGRAMS PER LITER (µg/L)

0 100 200 Feet

N S E W

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

INTERIM ACTION AREA LOWER ALLUVIUM GROUNDWATER PERCHLORATE ISOCONCENTRATION CONTOURS

ARCADIS

FIGURE 15

LEGEND

- CPT/GW SAMPLING LOCATION
- INJECTION WELL
- MONITORING WELL
- SOIL BORING
- SOIL BORING GRAB GW SAMPLE
- WATER SUPPLY WELL

NOTE:
GRAY LOCATION LABELS INDICATE UPPER ALLUVIUM SAMPLE LOCATIONS THAT DO NOT HAVE RECENT (2013-2014) DATA. 2012 DATA UTILIZED FOR CONTOURING IF CONSISTENT WITH 2013-2014 DATA.

ND (1.6) NON DETECT REPORTED AT THE DETECTION LIMIT WHERE APPLICABLE

AUS-13C — LOCATION ID
11/11/2014 — SAMPLE DATE
2.0 J — PERCHLORATE CONCENTRATION MICROGRAMS PER LITER (µg/L)

0 100 200 Feet

N E S W

TDY INDUSTRIES, LLC
FORMER TELEDYNE McCORMICK SELPH, INC. FACILITY
HOLLISTER, CALIFORNIA

INTERIM ACTION AREA PURISIMA FORMATION GROUNDWATER PERCHLORATE ISOCONCENTRATION CONTOURS

ARCADIS

FIGURE
16

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Chapter XII - California Environmental Quality Act (CEQA)

Section XII.A herein is a completed CEQA Checklist, as it pertains to environmental changes relative to changes between this updated RCRA Part B Application and the former permitted HW operations. Section XII.B explains and/or amplifies the checklist items identified with numbered notes (i.e., X1, X2, etc.).

A. CEQA Checklist

1. Background

a. Pacific Scientific Energetic Materials Company, Inc.

b. 3601 Union Road, Hollister, CA 95023, (831) 637-3731

c. Submitted as Chapter XII of PSEMC's RCRA Part B Application, Facility Hazardous Waste Operations Plan

d. Checklist required by the DTSC Part B Application Completeness Checklist

e. Pacific Scientific Energetic Materials Company, Inc., Facility Hazardous Waste Operations Plan (FHWOP).

2. Environmental Impacts (All "Yes" and "Maybe" answers are explained in Section B)

a. Earth. Will the proposal result in:

	YES	MAYBE	NO
1. Unstable earth conditions or changes in geological substructures?			X
2. Disruptions, displacements, compaction or overcovering of the soil			X
3. Change the Topography or ground surface relier features?			X
4. The destruction, covering, or loss of any unique geological or physical features			X
5. Any increased wind or water erosion of soil, either on or off site?			X
6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition, or erosion that may modify the channel of a river, strea,, oceanbed or any bay inlet, or lake?			X
7. Exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazard?		X	

b. Air. Will the proposal result in:

	YES	MAYBE	NO
1. Substantial air emissions or deterioration of ambient air quality?			X
2. Creation of objectionable odors?			X

3. Alteration of air movement, moisture or temperature, or any change in climate locally or regionally?			X

c. Water. Will the proposal result in:

	YES	MAYBE	NO
1. Changes in currents or course of direction of water movements, in either ocean or fresh water?			X
2. Change in absorbtion rates, drainage patterns, or rate or amounts of surface water in any body of water?			X
3. Alterations to the course or flow of lfood waters?			X
4. Change in the amount of surface water in a body of water			X
5. Discharge into surface waters that may impact water quality			X
6. Alteration in the direction or rate of flow of groundwaters?			X
7. Changes in the quality of groundwaters either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?			X
8. Substantial reduction in the amount of water otherwise available for public water supplies?			X

d. Plant Life. Will the proposal result in:

	YES	MAYBE	NO
1. Change in diversity of species or number of any species?			X
2. Reduction in the number of unique, rare, or endangered species?			X
3. Introduction of new species into the area, or create a barrier to existing species			X
4. Reduction in acerage for agriculture			X

e. Animal Life. Will the proposal result in:

	YES	MAYBE	NO
1. Change in diversity of species or number of any species?			X
2. Reduction in the number of unique, rare, or endangered species?			X
3. Introduction of new species into the area, or create a barrier to existing species			X
4. Deterioration to existing habitat?			X

f. Noise. Will the proposal result in:

	YES	MAYBE	NO
1. Increase in existing noise?			X
2. Exposure of people to severe noise?			X

g. Light and Glare. Will the proposal result in:

	YES	MAYBE	NO
1. Increase in light or glare?			X

h. Land Alteration. Will the proposal result in:

	YES	MAYBE	NO
1. Substantial alteration from present or planned land use?			X

i. Natural resource Use. Will the proposal result in:

	YES	MAYBE	NO
1. Increase in rate of natural resource use?			X

j. Risk of Upset. Will the proposal result in:

	YES	MAYBE	NO
1. Risk of explosion causing release of hazardous substances in the event of an accident			X

k. Population. Will the proposal result in:

	YES	MAYBE	NO
1. Alteration to human population distribution, density, location or growth rate?			X

l. Housing. Will the proposal result in:

	YES	MAYBE	NO
1. Affect to existing housing or demand for housing?			X

m. Transportation. Will the proposal result in:

	YES	MAYBE	NO
1. Increase in vehicle movement?			X
2. Effects on existing parking facilities or demand for new parking?			X
3. Impact on public transport system?			X
4. Alteratoins to present circulation pattern?			X
5. Alterations to waterborne, rail or air traffic?			X
6. Increase in traffic hazards?			X

n. Public Services. Will the proposal have an effect upon:

	YES	MAYBE	NO
1. Fire protection?			X
2. Police protection?			X
3. Schools?			X

4. Parks or other recreational facilities?			X
5. Maintenance of public facilities (including roads)?			X
6. Other governmental services?			X

o. Energy. Will the proposal result in:

	YES	MAYBE	NO
1. Substantial energy use?			X
2. Substantial increase in demand upon existing energy sources, or require new energy resources?			X

p. Utilities Will the proposal result in:

	YES	MAYBE	NO
1. Need for new systems or alterations to old ones?			X

q. Human Health. Will the proposal result in:

	YES	MAYBE	NO
1. Creation of any health hazards or potential health hazards?		X	
2. Exposure to potential health hazards		X	

r. Aesthetics. Will the proposal result in:

	YES	MAYBE	NO
1. Obstruction of scenic vistas, or open views to the public, or creation of offensive site?			X

s. Recreation. Will the proposal result in:

	YES	MAYBE	NO
1. Impact on quality of existing recreational sites?			X

t. Cultural Resources. Will the proposal result in:

	YES	MAYBE	NO
1. Alteration or destruction of historic sites, structures or objects?			X
2. Adverse physical or aesthetic effects to prehistoric or historic structures, sites or objects?			X
3. Potential to cause change which would affect unique ethnic cultural values?			X
4. Restricting exist religious uses?			X

u. Mandatory Findings of Significance. Will the proposal result in:

	YES	MAYBE	NO
1. Degrade the quality of the environment substantially reduce habitat of a fish or wildlife population to drop below self-			X

sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			
2. Achieve short term (in comparison to the disadvantage of long term) environmental goals? (A short term impact on the environment is one which occurs in a relatively brief, definitive period of time while long term impacts will endure well into the future.)			X
3. Does the project have impacts that are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)			X
4. Does project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			X

B. Explanation of Other than Negative Answers

1. Checklist Item II.1.g:

Maybe. This site, along with much of northern California, is subject to earthquakes from time to time. See Chapter II for a discussion of the relationship of the site to known active faults, and the potential for associated seismic hazards.

2. Checklist Items II.17.a and II.17.b:

Maybe. The only potential health hazard or potential exposure of people to health hazards is the possibility of an accident involving a HW unit or a severe upset of a treatment process. Operational procedures, facility design, and contingency planning iterated throughout this plan are all designed to mitigate the hazard and risk of any such event.

Chapter XIII - Environmental Control Permits

Appendix 8 herein contains copies of the following relevant environmental control permits applicable to the PSEMC facility's hazardous waste operations:

1. California Environmental Protection Agency, Department of Toxic Substances Control, Class 2 Permit Modification, Hazardous Waste Facility Permit CAD 009220898
2. California Department of Health Services - Private, Non-Transient Water System Permit (Water Permit No. 02-05-00P-3500563).
3. California Regional Water Quality Control Board, Central Coast Region – Waste Discharge Requirements (WDRs) Order No. 99-78.
4. California Regional Water Quality Control Board, Central Coast Region – Storm Water General Permit Notice of Intent. WDID Identification Number 3 35S016249.
5. Monterey Bay Unified Air Pollution Control District – Permits to Operate (PTOs) No. 11727 (TSU-2) and 11732 (TSU-1).

Chapter XII Attachments

Chapter XIII Attachments

Appendices

- *Appendix 1: Analysis Reports*
- *Appendix 2: Lab Certifications*
- *Appendix 3: Sampling Methods*
- *Appendix 4: TSU-1 Engineering Certification*
- *Appendix 5: TSU-3 Engineering Certification*
- *Appendix 6: TSU-8 engineering Certification*
- *Appendix 7: Training Director Qualification*
- *Appendix 8: Environmental Control Permits*
- *Appendix 9: TSU-2 Engineering Certification*
- *Appendix 10: 1991 Risk Assessment*
- *Appendix 11: Facility Assessment and Condition Reports*

Appendix 1

Typical Analysis Reports

1/22/1990, 12 pages

ANALYTICAL CHEMISTS
and
BACTERIOLOG
Approved by State of California

Tel: 408 724-5422
FAX: 408 724-3188

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

A Division of Control Laboratories Inc.

In any reference, please quote Certified Analysis Number appearing hereon.

83987-1-3118

Teledyne McCormick Selph
3601 Union Road
Hollister CA 95024-0006

22 JAN 90

CERTIFIED ANALYTICAL REPORT

MATERIAL:	Liquid sample received 10 Jan 1990
IDENTIFICATION:	90014 - sample collected 1/10/90, 08:35
REPORT:	Quantitative chemical analysis is as follows expressed as milligrams per liter (parts per million):

Formaldehyde	950 mg/L

Method of Analysis: AOAC 13th Edition, 1980, Method 20.063

The undersigned certifies that the above is a true and accurate report of the findings of this Laboratory.

Analyst

ToxScan Inc.

42 Hangar Way
Watsonville, CA 95076

(408) 724-4522

FAX (408) 724-3188

METHOD # MODIFIED 8015

Teledyne McCormick-Selph
3601 Union Rd.
Hollister CA 95023-0006

February 26, 1990

ATTN: Charlie Martin

MATERIAL:	Soil samples received February 14, 1990
ANALYSES COMPLETED:	February 23, 1990
IDENTIFICATION:	East End 102; Sample 90033-1
TOXSCAN NUMBER:	T-5617
REPORT:	Quantitative chemical analysis for semi to non-volatile hydrocarbons is as follows, expressed as micrograms per gram (parts per million) as received.
METHOD:	Sample is extracted with acetone, saturated sodium chloride solution is added and the extract is partitioned into hexane. Gas chromatographic analysis is then performed on a DB-1 megabore capillary column with flame ionization detection.

The chromatograph pattern of Sample #90033-1 did not match that of the aviation fuel RJ-4. The chromatograph pattern of Sample #90033-1 matched very closely that of Kerosene:

Concentration: 1600 ppm*

* Characterized as Kerosene

Detection Limit = 10 ppm

Philip R. Esposito
Laboratory Director

K-2

ToxScan Inc.

42 Hangar Way
Watsonville, CA 95076

(408) 724-4522

FAX (408) 724-3188

Teledyne McCormick-Selph
3601 Union Rd.
Hollister CA 95023-0006

February 26, 1990

ATTN: Charlie Martin

MATERIAL:	Soil samples received February 14, 1990
ANALYSES COMPLETED:	February 23, 1990
IDENTIFICATION:	East End 102
TOXSCAN NUMBER:	T-5617
REPORT:	Quantitative chemical analysis by Standard Method 503E is as follows, expressed as micrograms per gram (parts per million) as received:

Sample Identification	Total Petroleum Hydrocarbons
90030-2	ND
90030-3	ND
90031-3	ND
90032-3	ND
90033-3	16
90034-3	10
90035	ND
90031-1	15
90031-2	71
90032-1	560
90032-2	ND
90033-1	3800
90033-2	130
90034-1	4000
90034-2	16
90037-1	860
90038-1	350
90039-1	61
90030-1	2400

Detection Limit = 10 ppm

Philip D. Carpenter
Laboratory Director

A-

Page: 1 of 1
Date: March 6, 1990
Client Project ID: Soil East 102
Work Order Number: TO-02-351

IT ANALYTICAL SERVICES
SAN JOSE, CA

Lab Sample ID	Client Sample ID	Sample Date	Extraction Date	Date Analysis Completed	Sample Condition on Receipt
TO-02-351-01	90040-3 East of 102	2/26/90	2/28/90	2/28/90	cool
TO-02-351-02	90041-3 East of 102	2/27/90	2/28/90	2/28/90	cool

Total Recoverable Petroleum Hydrocarbons - E.P.A. Method 418.1

ND = None Detected   Results - Milligrams per Kilogram

Lab Sample ID	Client Sample ID	Total Recoverable Petroleum Hydrocarbons
TO-02-351-01	90040-3 East of 102	ND
TO-02-351-02	90041-3 East of 102	ND
Detection Limit		50.

A-4

682-1-89

CARTER ANALYTICAL LABORATORY, INC.

95 LOST LAKE LANE • CAMPBELL, CA 95008 • (408) 866-1600

REPORT FOR Mr. Robert Kocsnaros
Teledyne McCormick
ORDER NO. 9410-CD P.O.#56201 MG DATE 05-18-90

SUBJECT Analysis of a Water Sample

One water sample was analyzed by EPA methods 8010, 8020, 8080 and 8270. The sample was also analyzed for waste metals by atomic absorption (AA) spectroscopy and for specific anions. The physical tests carried out include percent solids, total oil and grease, pH and flashpoint. The sample was identified as follows.

Sample	Customer Label	Description
L1	Teledyne	water

Metals Analysis

The sample was analyzed for the metals listed below using AA spectroscopy. The proper operational conditions were established for each element and the spectrophotometer was calibrated with standards. The analytical results, in parts per million (ppm), are as follows. Less than figures denote detection limits.

Metal	L1 (ppm)	Detection Limit (ppm)
arsenic	< 1.0	1.0
barium	< 1.0	1.0
cadmium	0.04	0.01
chromium	< 0.1	0.1
copper	0.7	0.05
lead	< 0.05	0.05
mercury	3.0	2.0
nickel	0.15	0.1
thallium	< 0.2	0.2
zinc	0.19	0.2
silver	< 0.05	0.01
beryllium	< 0.1	0.05
selenium	< 0.1	0.1
antimony	< 0.1	0.1
cobalt	0.1	0.1
molybdenum	0.3	0.1
vanadium	< 0.1	0.1

REPORT APPROVED BY M. R. Pixton TITLE Laboratory Supervisor
M.R. Pixton

Low levels of copper, mercury, nickel, cadmium, zinc and molybdenum were detected in sample L1.

Anions Analysis

The sample was analyzed for sulfide, cyanide, ammonia and fluoride ion concentrations using standard colorimetric procedures. The proper operational conditions were established for each anion and the spectrophotometer was calibrated with standards. The analytical results are as follows.

Anion	Concentration (ppm)	Detection Limit (ppm)
sulfide	6.	1.
cyanide	5.	0.1
fluoride	< 0.1	0.1
ammonia	122.	0.1

High levels of ammonia and low levels of sulfide and cyanide were found in sample L1.

EPA Method 8080 Analysis

The water sample was analyzed according to EPA Method 8080 for pesticides and polychlorinated biphenyls (PCBs) using an IBM model 9630 gas chromatograph. One liter of sample was extracted with three 30 milliliter portions of dichloromethane. The extracts were combined and solvent exchanged with hexane. The hexane extract was evaporated down to a final weight of one gram. Two microliters of hexane extract was injected into the gas chromatograph (GC). Separation of the various sample components was accomplished on a packed column with a bonded phase of 1.5% SP-2250/1.95% SP-2401 on Supelcoport. The eluted components were detected by an electron capture detector (ECD) and the output recorded on an HP digital plotter/recorder. The results, given as parts per billion (ppb), are as follows.

Compound	L1 (ppb)	Detection Limit (ppb)
aldrin	< 50.	50.
dieldrin	< 50.	50.
chlordane	< 50.	50.
p,p'-DDT	< 50.	50.
p,p'-DDE	< 50.	50.
p,p'-DDD	< 50.	50.
alpha-endosulfan	< 50.	50.
beta-endosulfan	< 50.	50.
endosulfan sulfate	< 50.	50.
endrin	< 50.	50.
endrin aldehyde	< 50.	50.

Compound	L1 (ppb)	Detection Limit (ppb)
heptachlor	< 50.	50.
heptachlor epoxide	< 50.	50.
alpha-BHC	< 50.	50.
beta-BHC	< 50.	50.
gamma-BHC (Lindane)	< 50.	50.
delta-BHC	< 50.	50.
arochlor 1242 (PCB)	< 50.	50.
arochlor 1254 (PCB)	< 50.	50.
arochlor 1221 (PCB)	< 50.	50.
arochlor 1232 (PCB)	< 50.	50.
arochlor 1248 (PCB)	< 50.	50.
arochlor 1260 (PCB)	< 50.	50.
arochlor 1016 (PCB)	< 50.	50.
toxaphene	< 50.	50.

Any 8080 compounds present in the sample were below the detection limit.

EPA Method 8020 Analysis

Sample L1 was analyzed for benzene, toluene, ethyl benzene and xylenes (BTEX) following EPA method 8020 using an Nicolet model 9630 gas chromatograph. A 5.00 milliliter portion of the sample was purged for 10 minutes at a rate of 25 ml per minute in a Tekmar liquid sample concentrator. The purged gases were trapped, concentrated, and automatically desorbed onto the GC. Sample separation was achieved on a packed column of 5% SP-1200/1.75% Bentone-34 on Supelcoport. The eluted components were detected by a photo ionization detector (PID) followed by a flame ionization detector (FID). The results of this analysis are reported in parts per billion (ppb) as follows.

Compound	L1 (ppb)	Detection Limit (ppb)
benzene	< 50.	50.
toluene	< 50	50.
ethyl benzene	< 50.	50.
xylene	< 50.	50.

Any benzene, toluene, ethyl benzene or xylenes present in the samples are below the detection limit.

EPA Method 8010 Analysis

Sample L1 was analyzed for volatile halogenated organic compounds according to EPA method 8010 using an HP model 5890 GC. Five milliliters of the sample was purged for 11 minutes at a rate of 40 ml per minute in a Tekmar liquid sample concentrator. The purged gases were trapped, concentrated, and automatically desorbed into the GC. Separation of the various sample components was accomplished on a packed column with a bonded phase of 1% SP-1000 on 60/80 Carbopack B. The eluted components were detected by a Hall electrolytic conductivity detector (ElCD) and the output recorded on an HP digital plotter/recorder. The results, given as parts per billion (ppb) are as follows.

Compound	L1 (ppb)	Detection Limit (ppb)
benzyl chloride	< 0.005	0.005
bis(2-chloroethoxy)methane	< 0.1	0.1
bis(2-chloroisopropyl)ether	< 0.1	0.1
bromobenzene	< 0.01	0.01
bromodichloromethane	< 0.005	0.005
bromoform	< 0.01	0.01
bromomethane	< 5.	5.
carbon tetrachloride	< 0.005	0.005
chloroacetaldehyde	< 2.	2.
chlorobenzene	< 0.005	0.005
chloroethane	< 5.	5.
2-chloroethylvinyl ether	< 0.1	0.1
chloroform	< 0.005	0.005
1-chlorohexane	< 0.005	0.005
chloromethane	< 5.	5.
chloromethyl methyl ether	< 5.	5.
2-chlorotoluene	< 0.005	0.005
3-chlorotoluene	< 0.005	0.005
4-chlorotoluene	< 0.005	0.005
dibromochloromethane	< 0.005	0.005
dibromomethane	< 0.005	0.005
1,2-dichlorobenzene	< 0.01	0.01
1,3-dichlorobenzene	< 0.01	0.01
1,4-dichlorobenzene	< 0.01	0.01
dichlorodifluoromethane	< 5.	5.
1,1-dichloroethane	< 0.005	0.005
1,2-dichloroethane	< 0.005	0.005
1,1-dichloroethene	< 0.005	0.005
trans-1,2-dichloroethene	< 0.005	0.005
dichloromethane	< 0.010	0.010
1,2-dichloropropane	< 0.005	0.005
trans-1,3-dichloropropene	< 5.	5.
1,1,1,2-tetrachloroethane	< 0.005	0.005
1,1,2,2-tetrachloroethane	< 0.005	0.005
tetrachloroethene	< 0.005	0.005
1,1,1-trichloroethane	< 0.005	0.005
1,1,2-trichloroethane	< 0.005	0.005
trichloroethene	< 0.005	0.005
trichlorofluoromethane	< 5.	5.
1,2,3-trichloropropane	< 0.005	0.005
vinyl chloride	< 5.	5.