KELLY-MOORE PAINTS™

November 8, 2011

ACHCSA-EHS
1131 Harbor Bay Parkway, Suite 250
Alameda, CA. 94502-6577

Re: Groundwater Monitoring Report – September 2011
969 San Pablo Avenue, Albany, CA. 94706
ProTech Project # 501-OH11

To Whom It May Concern:

Attached is the Professional Certification – Report for Groundwater Monitoring, Kelly-Moore Paint Company, 969 San Pablo Avenue, Albany, CA, September 2011 report that Kelly-Moore Paint Company received November 1, 2011 for groundwater monitoring for 969 San Pablo Avenue, Albany, California. This report was prepared by ProTech Consulting & Engineering to evaluate groundwater at this site as required by ACHCSA-EHS. Kelly-Moore Paint Company is aware of the content of this report. If you have questions, I can be reached at my office telephone at (650)610-4314

Sincerely,

Robert Stetson
Director of Risk Management

1 Attachment: Report for Groundwater Monitoring, Kelly-Moore Paint Company, 969 San Pablo Avenue, Albany CA. – September 2011

Kelly-Moore Paint Company, Inc.
987 Commercial St.
San Carlos, CA. 94070
rstetson@kellymoore.com

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

1 November 2011

Mr. Robert Stetson
Kelly-Moore Paint Company
PO Box 3016
San Carlos, CA 94070

Re: Groundwater Monitoring Report – September 2011
969 San Pablo Avenue, Albany, CA
ProTech Project # 501-OH11

Dear Mr. Stetson:

This document describes the events that took place during the groundwater monitoring at the subject site during the month of September 2011. The document represents one of the tasks (Task 6) outlined in the Alameda County Environmental Health (ACEH) in its letter, dated 27 April 2011.

We will provide the Kelly-Moore Paint Company (KMPC) and the ACEH with an electronic version of this report. A certification letter (on KMPC letterhead, signed by you) is anticipated to go in front of this document transmitting the report to the agencies. Your production of this letter is required prior to submittal to ACEH.

Please review this information and let us know if you have any questions or comments.

Sincerely,
PROTECH CONSULTING & ENGINEERING

Glen Koutz
President

Distribution:

Mark E. Detterman
ACEH
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Project File
GeoTracker

SITE INFORMATION

Site Name:	969 San Pablo
Site Address:	969 San Pablo Avenue, Albany, CA
Owner:	Kelly-Moore Paints P.O. Box 3016, San Carlos, CA 94070
Owner's Representative:	Robert Stetson Director of Risk Management Tele: 650.592.8337x 4314 Mobile: 650.222.6023
Consultant:	ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020
Project Manager:	Sherwood Lovejoy, Jr. Tele: 415.381.2560 Mobile: 650.714.4200
Regulator	Mark E. Detterman Hazardous Materials Specialist ACEH 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 Tele: 510.567.6876

PROFESSIONAL CERTIFICATION

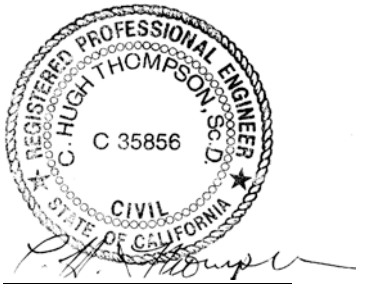
REPORT FOR GROUNDWATER MONITORING
KELLY MOORE PAINTS, 969 SAN PABLO AVENUE, ALBANY, CA
September 2011

This report has been prepared by the staff of ProTech Consulting & Engineering (ProTech) under the supervision of our Registered Professional Engineer for this project whose stamp and signature appear below.

This report has been prepared by ProTech for the exclusive use of ProTech and Kelly Moore Paints (client) and not for use by any other party. Any use by a third party of any of the information contained in this report shall be at their own risk and shall constitute a release and an agreement to defend and indemnify ProTech from and against any and all liability in connection therewith whether arising out of ProTech's negligence or otherwise.

All interpretations, conclusions, and recommendations are based solely on information gathered during this investigative stage and on no other unspecified information. This report is prepared as a tool for the client to use in determining the condition of the site. This report makes no certification, either implied or otherwise, that the site is free from pollution; it simply reports the findings of the study. Water sampling, while being less sample-specific than soil sampling, is still area-specific and if contaminants are not found in a sample it does not universally suggest that there are none of these contaminants present in that area or at the site.

The results and findings contained in this report are based on certain information from sources outside the control of ProTech. While exercising all reasonable diligence in the acceptance and use of information provided, ProTech does not warrant or guarantee the accuracy thereof. The report was developed specifically for this project (969 San Pablo, Albany, California) and should not be used for any other site.



Dr. C. Hugh Thompson, P.E.
Civil Engineer

Sherwood Lovejoy, Jr., REA
Environmental Assessor

Ryan Cozart
Geologist

ABBREVIATIONS

ACEH = Alameda County Environmental Health
Aromatics = Benzene, Toluene, Ethyl-Benzene, and Xylenes (BTEX)
FOx = Fuel Oxygenates
KMPC = Kelly Moore Paint Company
MTBE = Methyl tert-Butyl Ether
ND = Not Detected
ProTech = ProTech Consulting & Engineering
PHCs = Petroleum Hydrocarbons
rESL = residential Environmental Screening Level
RL = Reporting Limit
TA = Test America, Inc.
DRO = Diesel Range Organics (used to be TEPH-d)
GRO = Gasoline Range Organics (used to be TPH-g)
VOCs = Volatile Organic Compounds

1.0 - PROJECT BACKGROUND

1.1 - INTRODUCTION

ProTech Consulting & Engineering, Inc. (ProTech) was retained (August 2009) by Kelly-Moore Paint Company (KMPC) to perform Semi-annual groundwater monitoring and reporting at 969 San Pablo Avenue, Albany, California (site). ProTech has performed multiple tasks on this site, including: Phase I - Environmental Site Assessment, hydraulic lift removal, soil boring and groundwater monitor well installation, and groundwater monitoring. The last groundwater monitoring was performed in September 2010 and before that March 2010[1]. Three GWM reports have been forwarded to Alameda County Environmental Health (ACEH) without response until 27 April 2011. The work reported was recently[2] required by the ACEH as a re-newed effort. Beyond requesting monitoring, the ACEH requested that KMPC register information with the State GeoTracker site and update the information according to State requirements (see 27 April 2011 letter for all requirements).

1.2 - SITE DESCRIPTION

The site is located in Albany, at the junction of San Pablo Avenue and Buchanan Street (Figure 1). A commercial building was converted from a vehicle maintenance operation to a retail paint store and a beauty aids store. The site consists of one building that is L-shaped and parking lots both in front and along the side of the building (Figure 2). The site is fully capped with a building slab and concrete parking, other than small planter box areas. The existing groundwater monitor wells are located along the west side (front) and on the north side (end) of the building, along San Pablo Avenue (Figure 2). The two most recent well locations (MW-5 and MW-6) were selected based upon existing well locations (MW-2 through MW-4), position of former underground storage tank, and former land uses. The locations were approved by the ACEH prior to installation.

[1] Before the September 2009 sampling, almost ten years had passed between GWM events. Monitoring was discontinued because the ACEH was not responding to the GWMRs filed by KMPC, including questions and requests for guidance.

[2] 07/24/09 letter: "The California State Water Resources Control Board (State Water Board) has approved Resolution No. 2009-0042 (Actions to Improve Administration of the UST Cleanup Fund and UST Cleanup Program). Resolution No. 2009-0042 states that, "Regional Water Board and LOP agencies shall reduce quarterly groundwater monitoring requirements to semiannual or less frequent monitoring at all site unless site-specific needs warrant otherwise and shall notify all responsible parties of the new requirements no later than August 1, 2009. The groundwater monitoring wells at your site have not been monitored since September 2000. In accordance with Resolution No. 2009-0042, groundwater monitoring for your site is to be conducted on a semiannual basis unless site-specific needs warrant otherwise. The semiannual monitoring is to be conducted during the first and third quarters. Please present results from the semiannual groundwater monitoring in groundwater monitoring reports no later than 60 days following the groundwater sampling event."

1.3 - SITE BACKGROUND

The site is a former vehicle repair facility which was operated by Firestone Tire and Rubber until the early 1990 when it was sold to Super Shops, Inc. Super Shops operated it as vehicle repair and modification shop. Firestone operated a waste oil tank on the site until they removed it in May 1990 (ERM, 1990a).

Initially, constituents of potential concern (COPC) were defined by ProTech and accepted by ACEH to included: [total extractible petroleum hydrocarbons, characterized as diesel (TEPH-d)[3]; oil and grease (O&G); benzene, toluene, ethyl-benzene, and Xylenes (BTEX); 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethane (1,1-DCA), 1,1,1-trichloroethane (1,1,1-TCA), and Tetrachloroethylene (PCE); chromium Cr), lead (Pb), and nickel (Ni)] which were found during the tank removal (ERM, 1990a).

Well MW-4, (down gradient and away from existing buildings), and to a lesser extent well MW-5 have consistently shown COPC[4] during the monitoring from 1998 to 2000. The other wells have either not shown COPCs (MW-2) or sporadic detections (MW-3 and MW-6) during this period. MW-1 was destroyed years ago during soil excavation activities to remediate shallow polluted soils.

1.4 - ACEH CONCERNS

The ACEH reviewed ProTech's reports from April 1998 and March 1999 and prepared a comment letter. In this letter, they expressed concern about:

- The concentrations of the VOCs exceeded California rESLs.
- The status of well MW-2, and
- The limits of the former waste oil tank excavation with regard to wells MW-5 and MW-6.

ACEH directed KMPC to:

- Continue quarterly groundwater monitoring, with approval to remove TPH-g, TEPH-d, BTEX, and MTBE from the analyte list;
- Locate MW-2 or its remnants prior to resurfacing of the parking lot; and
- Plot the limits of the excavation on the site plan (ACEH, 1999b).

ProTech requested in writing that the drill cuttings be used on-site as fill material due to the lack of COPC (ProTech, 1999c). ACEH agreed to allow this re-use of soil cuttings (ACEH, 1999b).

The second quarter of groundwater monitoring was performed on 16 June 1999. During reconnaissance and setup for sampling the four wells (MW-3, MW-4, MW-5, and MW-6) we discovered well MW-2. It had been buried under the planter along the north end of the building.

[3] TEPH-d is now referred to as Diesel Range Organics (DRO).

[4] Only chlorinated hydrocarbons have been found in the wells, analytes related to fuel hydrocarbons were tested for in MW-3 and MW-4 in 04/21/98 and 03/29/99, and in MW-5 and MW-6 in 03/29/99. All results were ND.

We sampled all five wells. Well MW-2 did not contain any of the compounds tested. The other four wells (MW-3, MW-4, MW-5, and MW-6) all contained 1,1-DCA, and PCE, while wells MW-5 and MW-6 contained chloroform and TCE also. Well MW-4 also contained 1,1-DCE, cis-1,2-DCE, and vinyl chloride. California rESLs continued to be exceeded in well MW-4 for 1,1-DCA, cis-1,2-DCE, PCE, TCE and vinyl chloride, and in well MW-5 for 1,1-DCA. Well MW-2 was surveyed for TOC elevation. ProTech requested verbally that SVOCs be removed from the analyte list for quarterly monitoring since they had not been detected in previous monitoring events (ProTech, 1999c).

The County reviewed the ProTech QMR, including a proposed risk management assessment to close the site, and prepared a comment letter (ACEH, 1999c). In this letter, they expressed concern that:

- "Risk Management Plan (RMP) may essentially allow for a reduced frequency in groundwater monitoring, however it would not include closure for the site" based on fact that concentrations of VOCs continue to exceed California rESLs.
- "analysis for SVOCs may be discontinued due to Non Detect results from past sampling event. It appears that you have already taken the initiative to discontinue the analysis for SVOCs, based on the fact that this monitoring event did not include the analysis for these constituents";
- "future groundwater monitoring reports, and any additional reports or Workplans, shall include an attached cover letter, signed by a representative of your company (KMPC) acknowledging that the company has read the report and agrees to any recommendations or proposals"; and
- "future groundwater monitoring reports include copies of field data sheets showing levels of turbidity, noting odors, percent recharge in wells when samples were collected, pH, temperature, etc."

The third quarter of groundwater monitoring was performed on 15 September1999. We sampled all five wells. Well MW-2, again, did not contain any of the compounds tested. The other four wells (MW-3, MW-4, MW-5, and MW-6) contained 1,1-DCA, PCE, and TCE, while MW-4 also contained 1,1-DCE, cis-1,2-DCE, and vinyl chloride. California rESLs continue to be exceeded in well MW-4 for 1,1-DCA, cis-1,2-DCE, PCE, and vinyl chloride, while in well MW-5 1,1-DCA is above its rESL, and in well MW-6 PCE is above its rESL (ProTech, 1999d).

The County did not prepare a response letter to the third quarter monitoring report. The ACEH has been provided information to know the depth of these wells. City and County ordinances prohibit use of shallow ground water for drinking and require well casings to be sealed below the depth of the wells.

The fourth quarter of groundwater monitoring was performed on 15 December 1999. We sampled all five wells. Well MW-2, again, did not contain any of the compounds tested. The other four wells (MW-3, MW-4, MW-5, and MW-6) contained 1,1-DCA, PCE, and TCE, while MW-4 also contained cis-1,2-DCE. California rESLs continue to be exceeded in well MW-4 for 1,1-DCA, cis-1,2-DCE, and PCE, while in well MW-5 1,1-DCA is above its rESL, and in well MW-6 PCE is above its rESL (ProTech, 2000a).

The County did not prepare a response letter to the fourth quarter monitoring report. We contacted the County a week before the March 2000 monitoring was scheduled and learned that the County case officer had been changed for this project. During this teleconference, and several more telephone exchanges over the next week, we also negotiated the method of purging that had been requested in the fourth quarter 1999 monitoring report. The negotiated method was a slow purge effort ensuring the wells were not dewatered during the removal of one wellbore volume from each well.

No response or guidance from the ACEH reviews of four submitted reports lead to a nine-year hiatus in monitoring. With no direction provided to KMPC or technical comments provided on submitted reports, field actions were suspended by KMPC.

At the request of ACEH, sampling was resumed and the September 2009 report presents the results of the first semi-annual groundwater monitoring for 2009 (25 September 2009). The request for continued work included no justification provided by ACEH pertaining to the lack of direction on past work nor the description of current conditions justifying the importance of resuming monitoring. Four wells were sampled during this GWM event (MW-2, MW-3, MW-4, and MW-5). MW-6 was not sampled because it could not be located. MW-2, again, and MW-3 did not contain any of the compounds tested. MW-4 contained 1,1-DCA, cis-1,1 DCE, PCE, and TCE above the residential Environmental Screening Levels (rESLs). MW-5 contained 1,1-DCA, cis-1,1 DCE, PCE, and TCE below the rESLs[5].

Sampling resumed and the March 2010 report represents the results of the first semi-annual groundwater monitoring for 2010 (29 March 2010). The results of groundwater analysis indicated that MW-4 and MW-5 show consistent pollution but only MW-4 shows levels above the rESLs. MW-4 contained 1,1-DCA at 25 ug/L, c-1,2-DCE at 9.2 ug/L, PCE at 21 ug/L, and TCE at 6.7 ug/L (all above their respective rESLs). MW-5 contained 1,1-DCA at 1.3 ug/L, PCE at 1.5 ug/L. MW-2 and MW-3 were ND for all compounds analyzed and MW-6 was not found during this GWM event.

GWM continued and the September 2010 report represents the results of the second semi-annual groundwater monitoring for 2010 (28 September 2010). The results of this groundwater analysis indicate that MW-4 and MW-5 show consistent pollution, but only MW-4 shows levels above the rESLs. MW-4 contained 1,1-DCA at 25 ug/L, c-1,2-DCE at 8 ug/L, PCE at 20 ug/L, and TCE at 6.6 ug/L (all above their respective rESLs). MW-5 contained PCE at 2.1 ug/L, which is below its rESL. MW-2 and MW-3 were ND for all compounds analyzed and MW-6 was not found during this GWM event. The GWM was reduced to annually in the ACEH letter, dated 27 April 2011.

[5] The rESLs are set to Maximum Contaminant Level-priority (MCL-priority) and the rESLs and MCLs are the same for these compounds.

2.0 - GROUNDWATER MONITORING – SEPTEMBER 2011

2.1 - INTRODUCTION

At the request of ACEH, ProTech performed the 2011 GWM at 969 San Pablo Avenue, Albany, CA on 20 September 2011. The County approved scope-of-work for this GWM is outlined below:

1. Measure the depth-to-groundwater (DTW) and total depth (TD) in each of the groundwater monitor wells;
2. Purge each well prior to collecting a groundwater sample for analysis;
3. Analyze each of the groundwater samples for Halogenated Hydrocarbons by EPA Method 8260;
4. Prepare a groundwater monitoring report that includes the results of DTW measurements, and groundwater sample analysis. The report will include:
   - Tables showing tabulated DTW, development and purge parameters, groundwater elevations, and analytical results;
   - Figures illustrating groundwater flow direction; and
   - Appendix that includes laboratory reported results and chain-of-custody (COC) forms.

The fieldwork and laboratory analysis tasks are completed. This document represents the report task of the project.

2.2 - ELEVATION MEASUREMENTS

DTW and TD measurements for each monitoring well were recorded by ProTech on 20 September 2011. The locations of the wells are shown on Figure 2[6]. During this monitoring event, DTW was measured between 8.85 (MW-3) and 9.71 (MW-5) feet below the top of the monitor well casings (TOC) with the corresponding elevations being 32.64 feet above mean sea level (ft-amsl) [MW-3] and 32.00 ft-amsl [MW-5]. Groundwater level data for the site are included in Table 1.

The groundwater elevation measurements recorded for this monitoring event were used to construct an inferred groundwater flow direction map with gradient included as Figure 3. For a lot this small, determining the actual ground water velocity and direction of this shallow system is of questionable feasibility. Figure 4 represents an interpretation of the potential groundwater elevation contour map. According to the EPA On-line Tools for Site Assessment Calculation[7], the average hydraulic gradient for this site is 0.02002 and the flow direction was 116.7° of north.

[6] Well MW-6 was located during the PPS/SRS and monitored during this event for the first time since 3/16/2000.
[7] http://www.epa.gov/athens/learn2model/part-two/onsite/index.html.

2.3 - GROUNDWATER WELL PURGING & SAMPLING

We calculated the total wellbore water volume using the DTW and TD measurements to determine the volume of groundwater removal from each well[8]. Usually, at least three wellbore volumes are removed, unless the wells are low-flow wells[9] or other arrangements have been made with the agency[10]. These calculations are shown in Table 2.

ProTech purged the wells using a 2-stage purge/sampling pump. We dedicated the down-hole tubing to each well and do not handle or clean this tubing between events so it does not need cleaning, thus preventing cross-contamination. We cleaned the purge/sampling pump, using a triple-rinse setup[11], between wells[12]. This system has been proven to produce ND results when there are no pollutants. ProTech purged one well bore volume and a low rate at each well to insure the wells did not dewater. This method is approved by the ACEH for low flow wells. Once purged, ProTech sampled groundwater in the appropriate sample containers (3 - 40-ml VOA vials). We sealed the containers, checked for bubbles, labeled, and placed them on ice pending transport to the laboratory. Monitor wells (MW-2, MW-3, and MW-6) dewatered during this monitoring event. The purge volume and parameters are in Tables 2 and 3, respectively.

2.3.1 – MW-2

We removed approximately 3 gallons (~0.86 wellbore volumes) from this well during purging. The well did dewater. The water was clear the entire time and clear samples were collected. The purge water was placed in a 55-gallon drum on-site and there were no bubbles in the unpreserved VOA vials[13].

[8] We determine the volume of groundwater that needs removal from each well by finding the water column height (WCH) using [DTW-TD=WCH], then determine the cubic feet (ft^3) using [$WCH*\Pi*r^2$], and then convert ft^3 to gallons using [ft^3 * 7.48].

[9] Low-Flow wells are dewatered and then allowed to recover 80% of their static level before sampling.

[10] The ACEH has approved removing one wellbore volume prior to sampling and that the flow rate be sufficiently low so as not to dewater wells.

[11] A triple-rinse setup is three buckets, the first with water and TSP, the second with water, and the third with DI water. The pump is soaked and scrubbed with a scrub brush in the first bucket to remove contaminants. We rinse the pump vigorously in the second bucket, and again in the third bucket. TCG rinses the buckets and refills them after each decontamination event.

[12] During purging, we measure the parameters: pH, conductivity, and temperature, while we observe clarity or turbidity of water. We monitor parameters a few gallons after commencement of pumping, at the mid-point, and at the end-point of pumping.

[13] Unpreserved VOA vials were used due to bubble formation in the preserved VOA vials.

2.3.2 – MW-3

We removed approximately 3.5 gallons (~0.98 wellbore volumes) from this well during purging. The well dewatered at 3.5 gallons. The pump was turned on and left running the entire time. The water was clear at the start of purging then became silty and silty samples were collected. The purge water was placed in a 55-gallon drum on-site and there were no bubbles in the unpreserved VOA vials.

2.3.3 – MW-4

We removed approximately 4 gallons (~1.06 wellbore volumes) from this well during purging. The well did not dewater. The pump was turned on and left running the entire time. The water was silty at start and cleared up at around 3 gallons. Clear samples were collected. The purge water was placed in a 55-gallon drum on-site and there were no bubbles in the unpreserved VOA vials.

2.3.4 – MW-5

We removed approximately 7 gallons (~1.03 wellbore volumes) from this well during purging. The well did not dewater. The pump was turned on and left running the entire time. Water was silty at start and cleared up. Clear samples were collected. The purge water was placed in a 55-gallon drum on-site and there were no bubbles in the unpreserved VOA vials.

2.3.5 – MW-6

Well MW-6 was sampled during this event for the first time since 3/16/2000. We removed approximately 7 gallons (~0.92 wellbore volumes) from this well during purging. The well did dewater. Water was brownish-clear the entire time and silty samples were collected. The purge water was placed in a 55-gallon drum on-site and there were no bubbles in the unpreserved VOA vials.

2.4 - ANALYTICAL RESULTS[14]

We delivered, under COC protocols, to Test America's (TA) Pleasanton laboratory for analysis. TA analyzed the groundwater samples for Volatile Organic Compounds (VOCs) by EPA 8260.

[14] In reviewing these data, the County may wish to consider that sampling this very shallow ground water in an old urban area (where the shallow soils have been repeatedly disturbed or imported) would be unlikely to represent the quality of any beneficially useful groundwater. Other sites in the Bay Area have been granted closure with pollutants at higher concentrations than at this site.

The results are discussed below and tabulated in Table 1. The Laboratory Results and COC form are included in Appendix 1.[15]

2.4.1 – MW-2

The results of analysis indicate that all compounds tested were below their Reporting Limits (RLs), which are below the rESLs.

2.4.2 – MW-3

The results of analysis indicate that all compounds tested were below their RLs, which are below the rESLs

2.4.3 – MW-4

The results of analysis indicate that:

- 1,1-DCA was detected at 27 ug/L with an RL of 0.50 ug/L, which is > its rESL,
- cis-1,2-DCE was detected at 8.8 ug/L with an RL of 0.50 ug/L, which is > its rESL,
- TCE was detected at 6.9 ug/L with an RL of 0.50 ug/L, which is > its rESL, and
- PCE was detected at 21 ug/L with an RL of 0.50 ug/L, which is > its rESL.
- All other compounds tested were below their RLs.

2.4.4 – MW-5

The results of analysis indicate that:

- PCE was detected at 2.2 ug/L with an RL of 0.50 ug/L, which is below its rESL, and
- 1,1-DCA was detected at 1.4 ug/L with an RL of 0.50 ug/L, which is > its rESL,
- All other compounds tested were below their RLs.

2.4.5 – MW-6

The results of analysis indicate that:

- 1,1-DCA was detected at 0.88 ug/L with an RL of 0.50 ug/L, which is < its rESL,
- TCE was detected at 0.89 ug/L with an RL of 0.50 ug/L, which is < its rESL, and
- PCE was detected at 3.1 ug/L with an RL of 0.50 ug/L, which is < its rESL.
- All other compounds tested were below their RLs.

[15] In Appendix 1, detected results are either **red** (≥ rESL), or not (< rESL or not established [NE]).

2.5 – ENVIRONMENTAL SCREENING LEVELS COMPARISON

Below is a table showing the detected results, by well, and the residential Environmental Screening Levels [rESLs] (MCL-priority) for those compounds[16]. The rESLs (MCL-priority) are regulatory limits for drinking water and from common practice they have become similar to "default cleanup standards for groundwater". When a constituent is detected in more than one analysis, then the highest result is used for comparison.

COMPARISON OF RESULTS TO RESIDENTIAL ENVIRONMENTAL SCREENING LEVELS [rESLs] (MCL-PRIORITY)						
Constituent	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**rESL[1]**
1,1-DCA	ND	ND	***27***	**1.4**	**0.88**	5
1,1-DCE	ND	ND	ND	ND	ND	6
cis-1,2-DCE	ND	ND	***8.8***	ND	ND	6
PCE	ND	ND	***21***	**2.2**	**3.1**	5
TCE	ND	ND	***6.9***	ND	**0.89**	5
VC	ND	ND	ND	ND	ND	0.5

Notes:
[1] = MCL-priority
Results in ug/L, rESLs in ug/L
Bold = Detected
Bold Italics = ≥ rESL
Citation: *Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater* (November 2007), San Francisco Bay Regional Water Quality Control Board, California EPA, http://www.waterboards.ca.gov/sanfranciscobay/esl.htm (updated: May 2008).

As illustrated in the above table, 1,1-DCA, cis-1,2-DCE, TCE, and PCE all exceed their rESLs in MW-4. MW-5 had detections of 1,1-DCA and PCE, while MW-6 had detections of 1,1-DCA, PCW, and TCE, but all are below their rESLs.

The following Table shows the detected result, the corresponding rESL, and the multiple of the rESL. In urban areas there is a disparity of VOCs, based on numerous issues.[17]

[16] These limits can be found in the Environmental Screening Levels, using the rESL-priority levels for groundwater. *Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater* (November 2007), San Francisco Bay Regional Water Quality Control Board, California EPA.

[17] Breton W. Bruce, Peter B. McMahon, Shallow ground-water quality beneath a major urban center: Denver, Colorado, USA, Journal of Hydrology, Volume 186, Issues 1-4, 15 November 1996, Pages 129-151, ISSN 0022-1694, DOI: 10.1016/S0022-1694 (96) 03031-4. (http://www.sciencedirect.com/science/article/B6V6C-3VWNHTW-7/2/92dbeac9f091db245bbd4c18e4f0258f)

Analytical Results Multiple Over (Under) rESLs				
Well #	**Constituent**	**Analytical Result**	**rESL***	**X rESL**
MW-4	1,1-DCA	27	5	5.4
	cis-1,2-DCE	8.8	6	1.46
	PCE	21	5	4.2
	TCE	6.9	5	1.38
Notes: * = rESL (MCL-Priority) X rESL = Analytical Result multiple of rESL				

3.0 – OBSERVATIONS, CONCLUSIONS, AND RECOMMENDATIONS

3.1 - OBSERVATIONS

The results of groundwater analysis indicate that MW-4 and MW-5 show consistent pollution but only MW-4 shows levels above the rESLs. MW-4 contained 1,1-DCA at 27 ug/L, c-1,2-DCE at 8.8 ug/L, PCE at 21 ug/L, and TCE at 6.9 ug/L (all above their respective rESLs). MW-5 contained PCE at 2.2 ug/L and 1,1-DCA at 1.4 ug/L, which are below their respective rESLs. MW-2 and MW-3 were ND for all compounds analyzed. MW-6 was sampled for the first time since 3/16/2000 during this GWM event. MW-6 contained 1,1 DCA at 0.88 ug/L, PCE at 3.1 ug/L, and TCE at 0.89 ug/L, which are below their respective rESLs.[18]

Table 2 shows calculations and observations of ProTech's well purging practice. The parameters of pH, conductivity, and temperature were measured during purging (Table 3) and indicate that, there is some stabilization before sampling. The samples were consistent with the Chain-of-Custody (COC). There were no bubbles were reported in the TA checklist.

The on-site inferred groundwater flow direction and gradient, according to EPA On-line Tools for Site Assessment Calculation, is towards the southwest (116.7° of north), with an average hydraulic gradient of 0.02002 (Table 4).

Monitor well MW-6 was sampled during this GWM for the first time since 3/16/2000.

3.2 - CONCLUSIONS

From the above observations, and our history with the site, we formed the following conclusions:

1. There continues to be no threat to public health from direct exposure (area paved), inhalation (no odors – lots of air movement), or from drinking water, as shallow groundwater (<50 fbg) is not allowed for consumptive use and is too shallow due to normally prohibited pumping of shallow ground water due to potential water borne disease transport. In addition the area has been and continues to be supplied by municipal water service that draws water from out of this vicinity,
2. Limited Beneficial Uses and non-degradation policies of the State, may be considered in light of this site's long history and natural attenuation and degradation of constituents, that has already been accepted by California Regulatory Agencies at other sites and has been recommended by Senate Bill 1764 Advisory Committee Recommendations

[18] The County may wish to consider the facts that the up-gradient wells closer to the former sources do not support positive findings, while the down-gradient wells closer to buried utilities and adjacent property appear to be maintaining higher levels of COPCs. It is common for sewers to leak VOCs and groundwater VOCs can be found in the presence of Nitrate, Nitrite, and fecal coliform.

Report.[19],

3. Figures 5 through 8 show the historic concentrations of PCE, TCE, c1,2-DCE, and 1,1-DCA. All of these constituents, except PCE are trending downward (near or at their lows in the most recent sampling) from all the data collected since 1998[20],
4. PCE is at the top of the degradation sequence, not at the bottom, indicating that there may be another source[21] of at least PCE, on- or off-site, other than the waste oil tank that was removed,
5. Given the groundwater flow direction and the results of wells MW-2, MW-3, MW-5, and MW-6, it is not unreasonable to consider a source just down-gradient of MW-4 such as the concrete sewer that is more likely than not leaking.

3.3 - RECOMMENDATIONS

1. Perform a Soil-Gas Vapor Survey (SGVS) [Workplan in agency review stage],
2. Prepare an updated Site Conceptual Model (SCM) that evaluates on-site conditions, off-site conditions and data gaps,
3. The above two tasks should aid in determining reasons why MW-4 is so much higher than the other site wells, like nearby potential sources off the property.

[19] Section 8 – Beneficial Use Designations and Water Quality Objectives, pp 12.

[20] There was an unusual occurrence between November 1999 and March 2000, MW-2 and MW-3 dropped 3+ feet, while MW-6 dropped 1.5 feet, MW-5 dropped 0.5 feet and MW-4 dropped only 0.15 feet.

[21] Other urban sites, Sacramento County, South Lake Tahoe, etc. have found that a primary source of PCE soil and shallow ground water pollution is exfiltration of sewers that have been or are being used to carry rinse water containing PCE away from dry cleaners connected to these government owned utilities. The CVWQCB has required the Sacramento County Sewer District to investigate and remediate PCE leaking from sewers.

4.0 - REFERENCES

Breton W. Bruce, Peter B. McMahon, Shallow ground-water quality beneath a major urban center: Denver, Colorado, USA, Journal of Hydrology, Volume 186, Issues 1-4, 15 November 1996, Pages 129-151, ISSN 0022-1694, DOI: 10.1016/S0022-1694 (96) 03031-4. (http://www.sciencedirect.com/science/article/B6V6C-3VWNHTW-7/2/92dbeac9f091db245bbd4c18e4f0258f)

California Code of Regulations, Title 8; Department of Industrial Relations - California Occupational Safety and Health Regulations (Title 8).

California Code of Regulations, Title 22: Social Security; Division 4: Environmental Health and Division 4.5: Chapter 11: Identification of Hazardous Waste; article 3: Characterization of Hazardous Waste (Title 22).

California State Water Resources Control Board, 1989, Leaking Underground Fuel Tanks Manual (LUFT Manual).

California Department of Water Resources, California Well Standards, Bulletins 74-90 and 74-81.

Code of Federal Regulations, Title 29; part 1910: Occupational Safety and Health Standards (29 CFR).

Code of Federal Regulations, Title 40; part 261; subpart B - Criteria for identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste, and subpart C - Characteristics of Hazardous Waste (40 CFR).

Division of Toxic Substances Control (DTSC), 1986, California Site Mitigation Decision Tree, Chapter 3.

Designated Level Methodology for Waste Classification and Cleanup Level Determination; California Regional Water Quality Control Board; Central Valley Region (Marshack Document), 1986.

Lawrence Livermore National Laboratory, 1995, Recommendations To improve the Cleanup Process for California's Leaking Underground Fuels Tanks (LUFTs), LLNL, 16 October, 1995.

_____, 1995, California Leaking Underground Fuel Tank (LUFT) Historical Case Analyses LLNL, 16 November 1995.

Nielsen, David M., 1991, Practical Handbook of Ground-Water Monitoring, Lewis Publishers.

ProTech Consulting & Engineering, 1998a, Groundwater Monitoring Report – April 1998, 969 San Pablo Avenue, Albany, California.

_____, 1999a, Groundwater Monitoring Report –March 1999, 969 San Pablo Avenue, Albany, California.

_____, 1999b, Groundwater Monitoring Report – June 1999, 969 San Pablo Avenue, Albany, California.

_____, 1999c, Groundwater Monitoring Report – September 1999, 969 San Pablo Avenue, Albany, California.

_____, 1999d, Groundwater Monitoring Report – December 1999, 969 San Pablo Avenue, Albany, California.

_____, 2001a, Groundwater Monitoring Report – March 2000, 969 San Pablo Avenue, Albany, California.

_____, 2009a, Groundwater Monitoring Report – October 2009, 969 San Pablo Avenue, Albany, California.

_____, 2010a, Groundwater Monitoring Report – March 2010, 969 San Pablo Avenue, Albany, California.

_____, 2010b, Groundwater Monitoring Report – September 2010, 969 San Pablo Avenue, Albany, California.

Senate Bill 1764 Advisory Committee Recommendations Report Regarding California's Underground Storage Tank Program, 31 May 1996.

State Water Resources Control Board, 1995, Letter regarding Lawrence Livermore National Laboratory (LLNL) Report on Leaking Underground Storage Tank (UST) Cleanup, 8 December 1995.

J. L. Wilson, S. H. Conrad, W.R. Mason, W. Peplinski, and E. Hagan, 1990, Laboratory Investigation of Residual Liquid Organics, United States Environmental Protection Agency, EPA 600/6-90/004.

TABLES

Table 1 - Groundwater Elevation Measurement and Analytical Results
Kelly-Moore Paint Company
969 San Pablo Avenue, Albany, CA
ProTech Project #501-11

WELL #	DATE	TOC	DTW	GW-ELEV	D-**Elev**	Chlfrm	1,1-DCA	1,1-DCE	c1,2-DCE	PCE	TCE	VC	TPH-g	TEPH-d	Ben	Tol	E-Ben	Xyl	MTBE
MW-2	36327	42.14	8.36	33.78		ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	36418	42.14	9.25	32.89	0.89	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	36509	42.14	8.36	33.78	-0.89	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	36601	42.14	5.18	36.96	-3.18	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40081	42.14	8.35	33.79	3.17	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40266	42.14	5.49	36.65	2.86	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40449	42.14	9.64	32.5	-4.15	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40806	42.14	9.22	32.92	0.42	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
MW-3	35906	41.49	7.33	34.16		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	36248	41.49	5.6	35.89	-1.73	ND	1.2	ND	ND	1.7	1.6	ND	ND	ND	ND	ND	ND	ND	ND
	36327	41.49	7.95	33.54	2.35	ND	1.3	ND	ND	1.7	2.3	ND	NA	NA	NA	NA	NA	NA	NA
	36418	41.49	8.73	32.76	0.78	ND	1.4	ND	ND	1.6	1.9	ND	NA	NA	NA	NA	NA	NA	NA
	36509	41.49	8.36	33.13	-0.37	ND	0.97	ND	ND	1	0.98	ND	NA	NA	NA	NA	NA	NA	NA
	36601	41.49	5.05	36.44	-3.31	ND	1.2	ND	ND	1.6	2	ND	NA	NA	NA	NA	NA	NA	NA
	40081	41.49	8.8	32.69	3.75	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40266	41.49	7.14	34.35	1.66	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40449	41.49	9.3	32.19	-2.16	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40806	41.49	8.85	32.64	0.45	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
MW-4	35906	41.15	7.52	33.63		ND	34	ND	5.3	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
	36248	41.15	7.5	33.65	-0.02	ND	84	1.5	25	18	6.5	3.1	ND	ND	ND	ND	ND	ND	ND
	36327	41.15	8.73	32.42	1.23	ND	76	1.3	23	20	6.4	2.4	NA	NA	NA	NA	NA	NA	NA
	36418	41.15	9.18	31.97	0.45	ND	61	0.74	18	16	4.4	0.91	NA	NA	NA	NA	NA	NA	NA
	36509	41.15	8.95	32.2	-0.23	ND	37	ND	11	5.7	2.5	ND	NA	NA	NA	NA	NA	NA	NA
	36601	41.15	8.8	32.35	-0.15	ND	58	0.84	18	10	44	1.2	NA	NA	NA	NA	NA	NA	NA
	40081	41.15	9.3	31.85	0.5	ND	33	ND	12	15	6.7	ND	NA	NA	NA	NA	NA	NA	NA
	40266	41.15	7.6	33.55	1.7	ND	25	ND	9.2	21	6.7	ND	NA	NA	NA	NA	NA	NA	NA
	40449	41.15	9.35	31.8	-1.75	ND	25	ND	8	20	6.6	ND	NA	NA	NA	NA	NA	NA	NA
	40806	41.15	8.87	32.28	0.48	ND	27	ND	8.8	21	6.9	ND	NA	NA	NA	NA	NA	NA	NA
MW-5	36248	41.71	8.14	33.57		0.97	5.3	ND	ND	1.6	1.6	ND	ND	ND	ND	ND	ND	ND	ND
	36327	41.71	8.91	32.8	0.77	0.63	4.8	ND	ND	1.5	1.8	ND	NA	NA	NA	NA	NA	NA	NA
	36418	41.71	9.2	32.51	0.29	ND	6.4	ND	ND	1.8	1.8	ND	NA	NA	NA	NA	NA	NA	NA
	36509	41.71	8.86	32.85	-0.34	ND	6.7	ND	ND	1.5	1.4	ND	NA	NA	NA	NA	NA	NA	NA
	36601	41.71	8.3	33.41	-0.56	0.61	5.3	ND	ND	1.3	1.1	ND	NA	NA	NA	NA	NA	NA	NA
	40081	41.71	9.89	31.82	1.59	ND	4.8	ND	0.76	2.7	0.88	ND	NA	NA	NA	NA	NA	NA	NA
	40266	41.71	8.33	33.38	1.56	ND	1.3	ND	ND	1.5	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40449	41.71	9.79	31.92	-1.46	ND	2.1	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	40806	41.71	9.71	32	0.08	ND	1.4	ND	ND	2.2	ND	ND	NA	NA	NA	NA	NA	NA	NA
MW-6	36248	42.04	7.74	34.3		0.78	1.4	ND	ND	6.8	0.8	ND	ND	ND	ND	ND	ND	ND	ND
	36327	42.04	9.25	32.79	1.51	ND	1.4	ND	ND	5.3	0.8	ND	NA	NA	NA	NA	NA	NA	NA
	36418	42.04	9.71	32.33	0.46	ND	1.8	ND	ND	6.2	0.87	ND	NA	NA	NA	NA	NA	NA	NA
	36509	42.04	9	33.04	-0.71	ND	1.2	ND	ND	4.8	0.56	ND	NA	NA	NA	NA	NA	NA	NA
	36601	42.04	7.38	34.66	-1.62	ND	1.3	ND	ND	5.6	0.74	ND	NA	NA	NA	NA	NA	NA	NA
	40081	42.04	NM			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40266	42.04	NM			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40449	42.04	NM			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	40806	42.04	9.12	32.92		ND	0.88	ND	ND	3.1	0.89	ND	NA	NA	NA	NA	NA	NA	NA

Table 1 - Groundwater Elevation Measurement and Analytical Results
Kelly-Moore Paint Company
969 San Pablo Avenue, Albany, CA
ProTech Project #501-11

WELL #	DATE	TOC	DTW	GW-ELEV	D-**Elev**	Chlfrm	1,1-DCA	1,1-DCE	c1,2-DCE	PCE	TCE	VC	TPH-g	TEPH-d	Ben	Tol	E-Ben	Xyl	MTBE

Notes:

TOC = top of casing elevation (ft above mean sea level - [ft-amsl])
DTW = depth to water (ft below TOC)
GW-ELEV = groundwater elevation (ft-amsl)
D-Elev = change in elevation (ft) from one GWM to the next
All results reported in parts-per-billion (ppb)
MCL = maximum contaminant level (EPA and California cited)
Chlfrm = Chloroform (RL-0.5 ppb) (MCL-80 ppb)
1,1-DCA = 1,1-dichloroethane (RL-0.5 ppb) (MCL-5 ppb [California])
1,1-DCE = 1,1-dichloroethene (RL-0.5 ppb) (MCL-7 ppb [EPA] 6 ppb [California])
c1,2-DCE = cis 1,2-dichloroethene (RL-0.5 ppb) (MCL-70 ppb [EPA] 6 ppb [California])
PCE = tetrachloroethene (RL-0.5 ppb) (MCL-5 ppb [EPA & California])
TCE = trichloroethene (RL-0.5 ppb) (MCL-5 ppb [EPA & California)
VC = vinyl chloride (RL-0.5 ppb) (MCL-2 ppb [EPA] 0.5 ppb [California])
NA = not analyzed for
NM = not measured
ND = not detected above method detection limit
Bold =greater than California MCL

TPH-g = total petroleum hydrocarbons, as gasoline (MDL-50 ppb)
TEPH-d = total extractible petroleum hydrocarbons, as diesel (MDL-50 ppb)
Ben = benzene (MDL-0.5 ppb)
Tol = toluene (MDL-0.5 ppb)
E-Ben = ethyl-benzene (MDL-0.5 ppb)
Xyl = xylenes (o, m, p) (MDL-0.5 ppb)
MTBE = methyl tert butyl ether (MDL-5 ppb)

Table 2 - Wellbore Volume Calculations
Kelly-Moore Paint company
969 San Pablo Avenue, Albany, CA
ProTech Project #501-11

Sampling Date: **09/20/11**

Well #	DTW	TD	DH	Well R	Well R2	WV (ft3)	WV (gal)	VR (g)	TWV
MW-2	9.22	14.55	5.33	0.17	0.03	0.46	3.48	3.00	0.86
MW-3	8.85	14.31	5.46	0.17	0.03	0.48	3.56	3.50	0.98
MW-4	8.87	14.68	5.81	0.17	0.03	0.51	3.79	4.00	1.06
MW-5	9.71	20.09	10.38	0.17	0.03	0.91	6.77	7.00	1.03
MW-6	9.12	19.93	10.81	0.17	0.03	1.02	7.62	7.00	0.92

Notes:
Wellbore volume formula used - PR2H; where H is DH
DTW = depth-to water (ft below grade)
TD = total depth of well
ΔH = water column thickness (ft)
Well R = well radius (ft)
Well R^2 = well radius squared (ft^2)
WV (ft^3) = wellbore volume (ft3)
WV (gal) = wellbore volume (gallons); where 1 ft3 = 7.48 gallons
VR (gal) = volume removed during purging (gallons)
TWV = total wellbore volumes removed during purging

Table 3 - Parameter Testing Results
Kelly-Moore Paint company
969 San Pablo Avenue, Albany, CA
ProTech Project #501-11

Sampling Date: **9/20/11**

			Parameters			
Well #	**Interval(1)**	**~Gals**	**pH**	**Cond**	**Temp**	**Notes**
MW-2	Start	1.00	7.80	6.06	66.00	Clear, slow dewatering. Dewatered
	End	3.00	7.70	4.38	66.30	Clear non silty samples
MW-3	Start	1.00	7.50	6.03	68.50	Silty at start. Dewatered at 3.5 gal.
	End	3.50	7.10	6.03	70.20	Silty samples
MW-4	Start	1.00	6.80	6.55	72.00	Silty at start. Cleared up. Clear
	End	4.00	9.70	6.37	69.20	Samples.
MW-5	Start	1.00	7.40	7.12	68.20	Silty at start. Cleared up
	Middle	4.00	7.00	6.83	67.60	
	End	7.00	7.00	6.25	69.20	
MW-6	Start	1.00	7.50	8.00	66.00	Non-silty brownish clear at start.
	Middle	4.00	7.50	6.83	65.50	Dewatered. Brownish clear silty
	End	7.00	7.50	6.76	66.60	Samples

Notes:
~Gals = approximate gallons removed at time of measurement
pH in standard units
Cond = Conductivity (µmho/cm)
Temp = temperature (° F)
(1) = wells dewatered during pumping, were then allowed to recover for sampling

Table 4 - Flow Direction and Gradient Calculations

http://www.epa.gov/athens/learn2model/part-two/onsite/gradient4plus-ns.html

Ecosystems Research

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

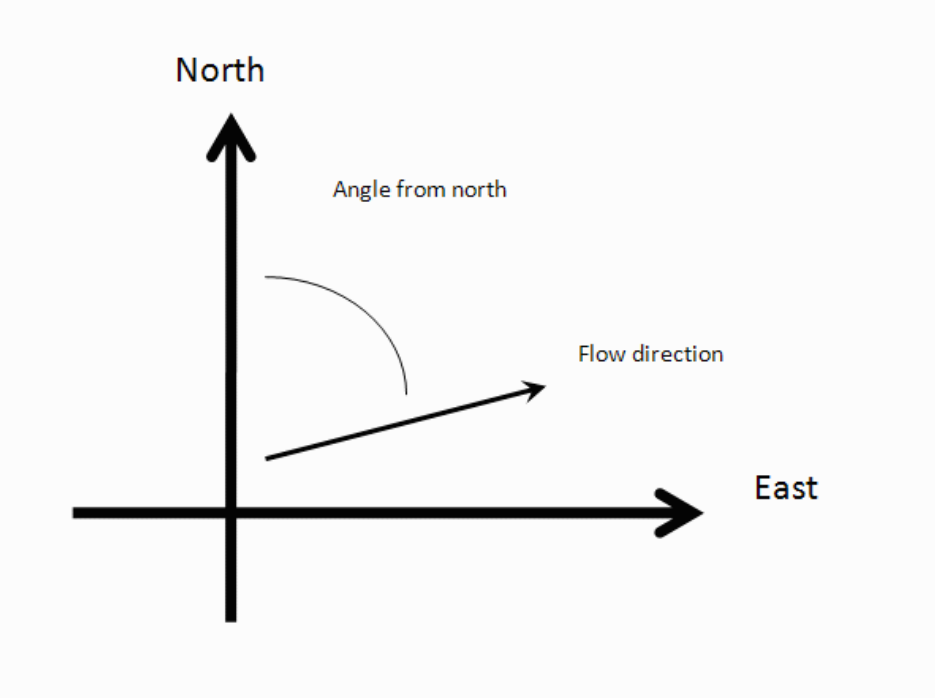
Gradient Calculation from fitting a plane to as many as thirty points

$a x_1 + b y_1 + c = h_1$
$a x_2 + b y_2 + c = h_2$
$a x_3 + b y_3 + c = h_3$
. . .
$a x_{30} + b y_{30} + c = h_{30}$

where (x_i,y_i) are the coordinates of the well and
h_i is the head

i = 1,2,3, ... , 30
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back

Site Name: Kelly Moore
Date: 9/20/2011 Current Date
Calculation basis: Head
Coordinates: ft

I.D.	x-coordinate	y-coordinate	head (ft)
1) MW-2	-20	57	32.92
2) MW-3	-32	11.5	32.64
3) MW-4	-1	3.5	32.28
4) MW-5	11	33	32.00
5) MW-6	-12	44	32.92
6)			
7)			

Table 4 - Flow Direction and Gradient Calculations, cont'd

8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	5
Max. Difference Between Head Values	0.2804
Gradient Magnitude (i)	0.02002
Flow direction as degrees from North (positive y axis)	116.7
Coefficient of Determination (R^2)	0.815

WCMS
Last updated on October 31, 2011

FIGURES

Site 12.73 mi

Site 3144 ft

Site 810 ft

ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020 / Fax: 650.569.4023	Job No. 218-OH10 Date 29 September 2011 Drawn by RC Rev WL / Apprvd WL	**Site Location** Kelly-Moore Paint Company 696 San Pablo Avenue, Albany, CA for: W.E. Berry P.O. Box 3016, San Carlos, CA 94070	Project N Figure 1

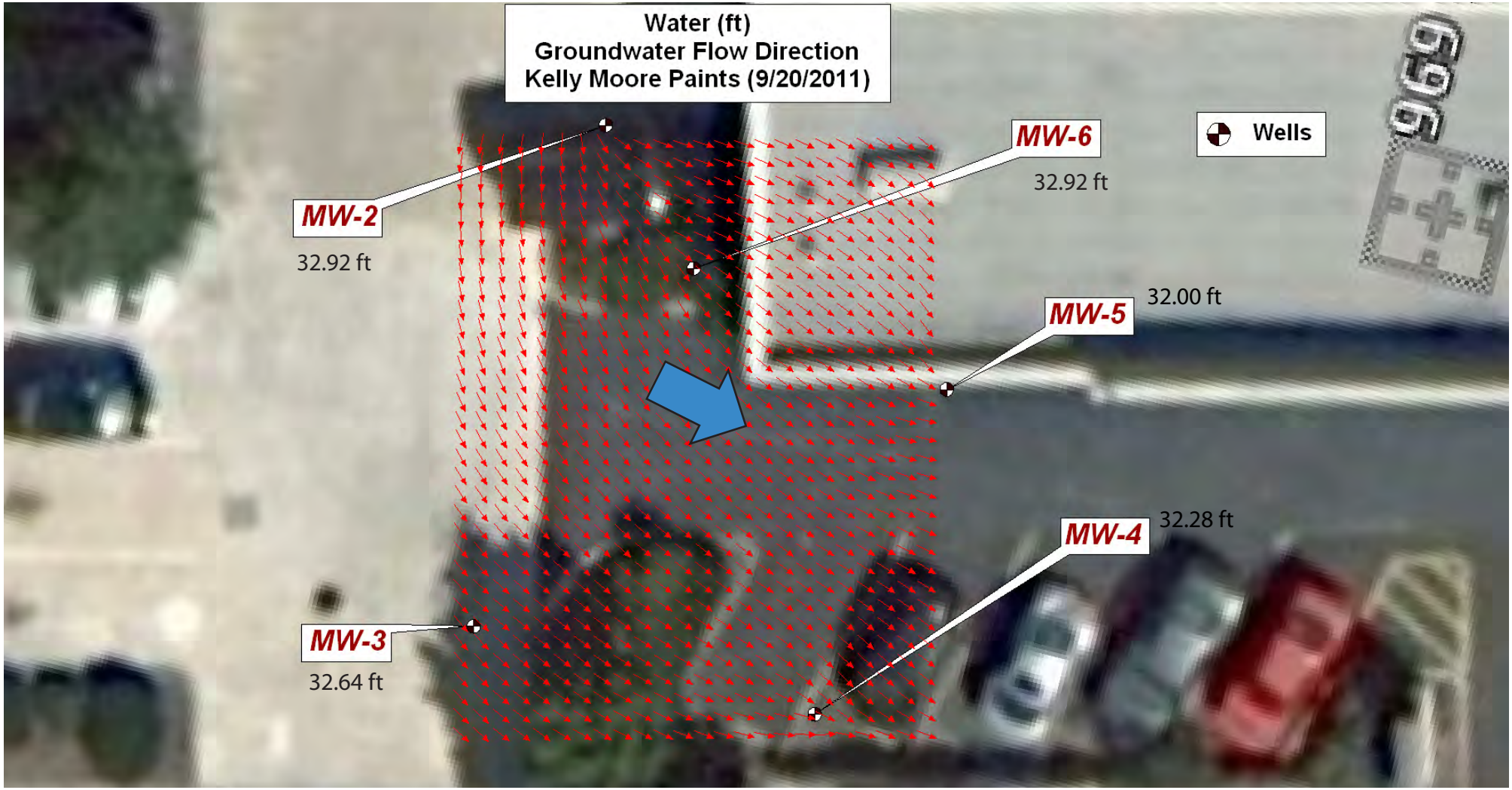
ProTech
1208 Main Street, Redwood City, CA 94063
Tel: 650.569.4020 / Fax: 650.569.4023

Job No.	Date	Drawn by	Rev.	Apprvd.
218-OH10	5 Sept 2011	WL	WL	WL

Project
TOC Elevations (ft)
696 San Pablo Avenue, Albany, CA
for
Kelly-Moore Paint Company
P.O. Box 3016, San Carlos, CA 94070

N

Figure
2



Calculated flow direction 116.7 degrees (from EPA north ⬆) as per EPA Site Assessment Calculation.

Calculated average gradient as per EPA Site Assessment Calculation = 0.02002.

Contours drawn by Enviroinsite

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

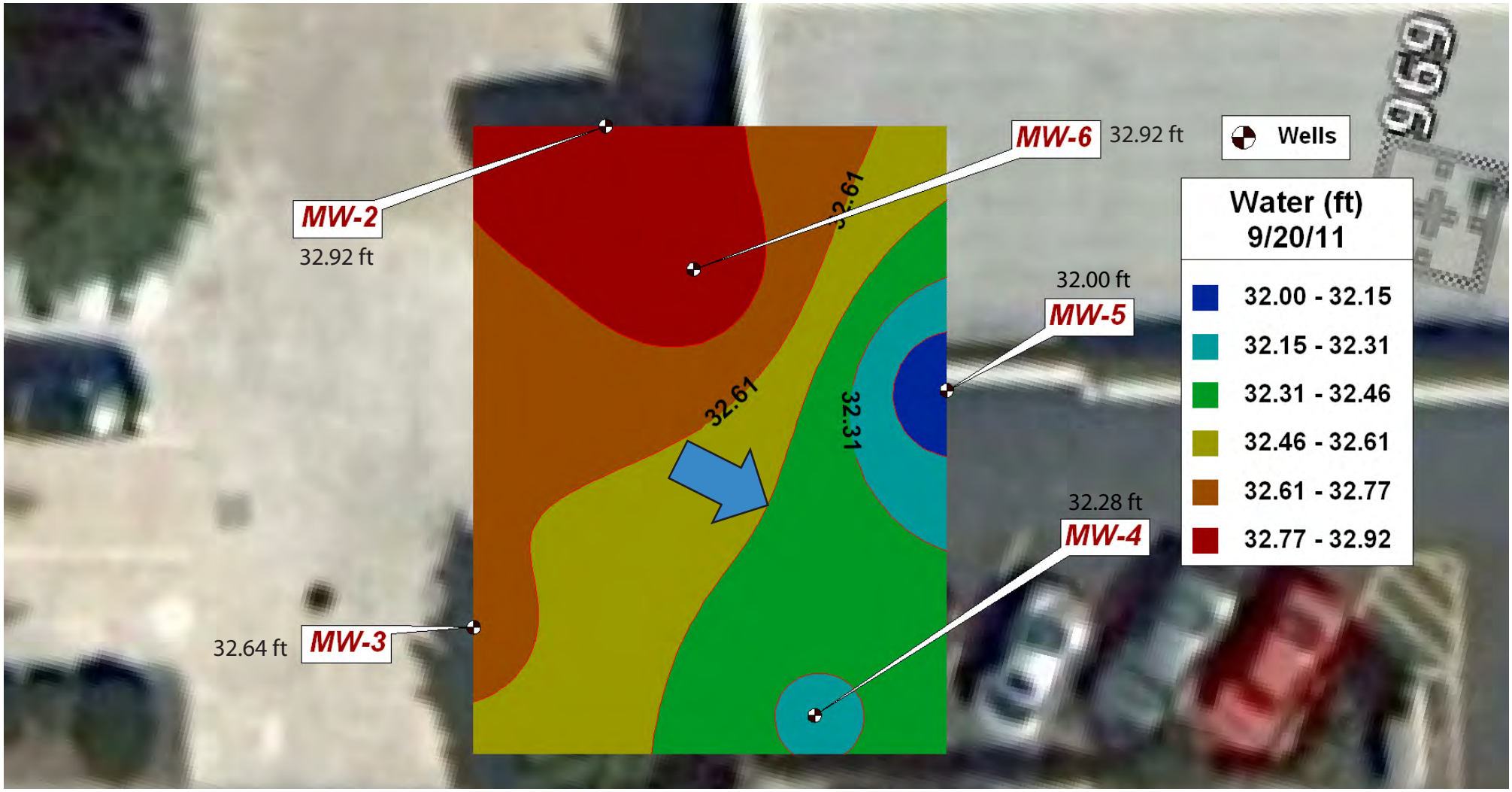
Job No.	501-OH11
Date	12 October 2011
Drawn by	RC
Rev	SL
Apprvd	SL

Groundwater Flow Direction
Kelly-Moore Paint Company **(9/20/2011)**
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

Project

N

Figure
3



Calculated flow direction 116.7 degrees (from EPA north ↑) per EPA Site Assessment Calculation.

Calculated average gradient as per EPA Site Assessment Calculation = 0.02002.

Contours drawn by Enviroinsite

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

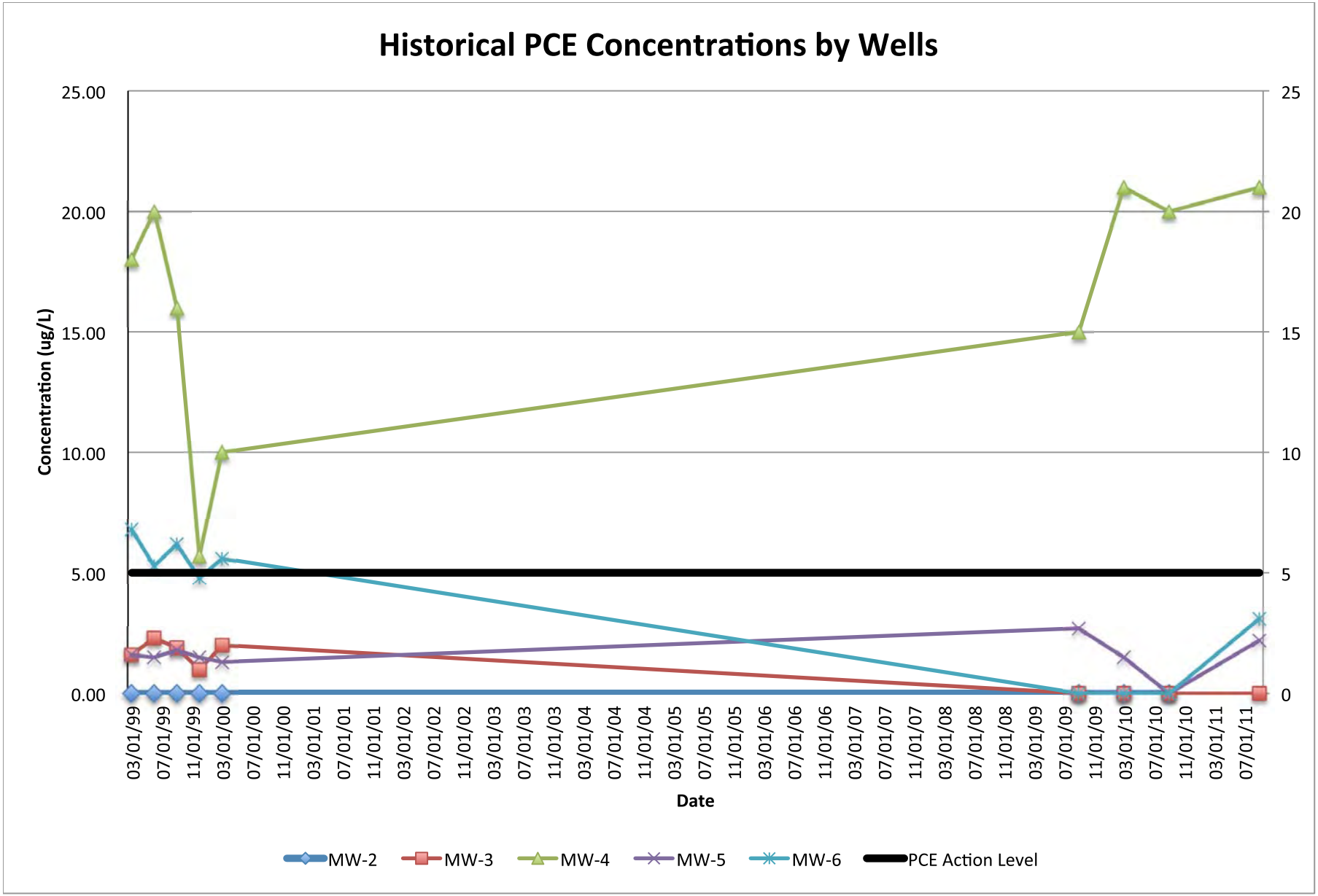
Job No.	501-OH11
Date	13 October 2011
Drawn by	RC
Rev	SL
Apprvd	SL

Groundwater Elevation Contour
Kelly-Moore Paint Company **(9/20/2011)**
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

Project

N

Figure
4

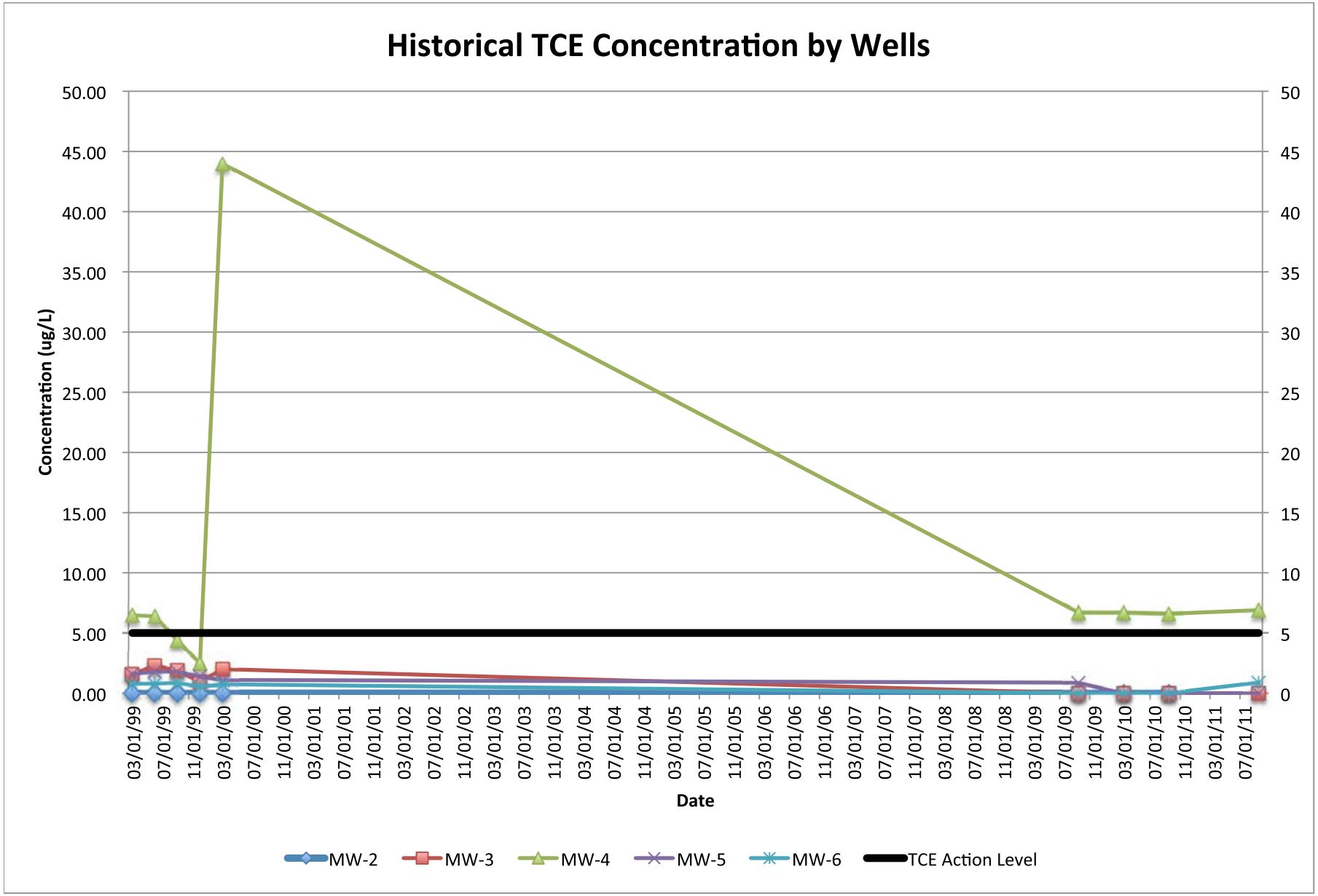


ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

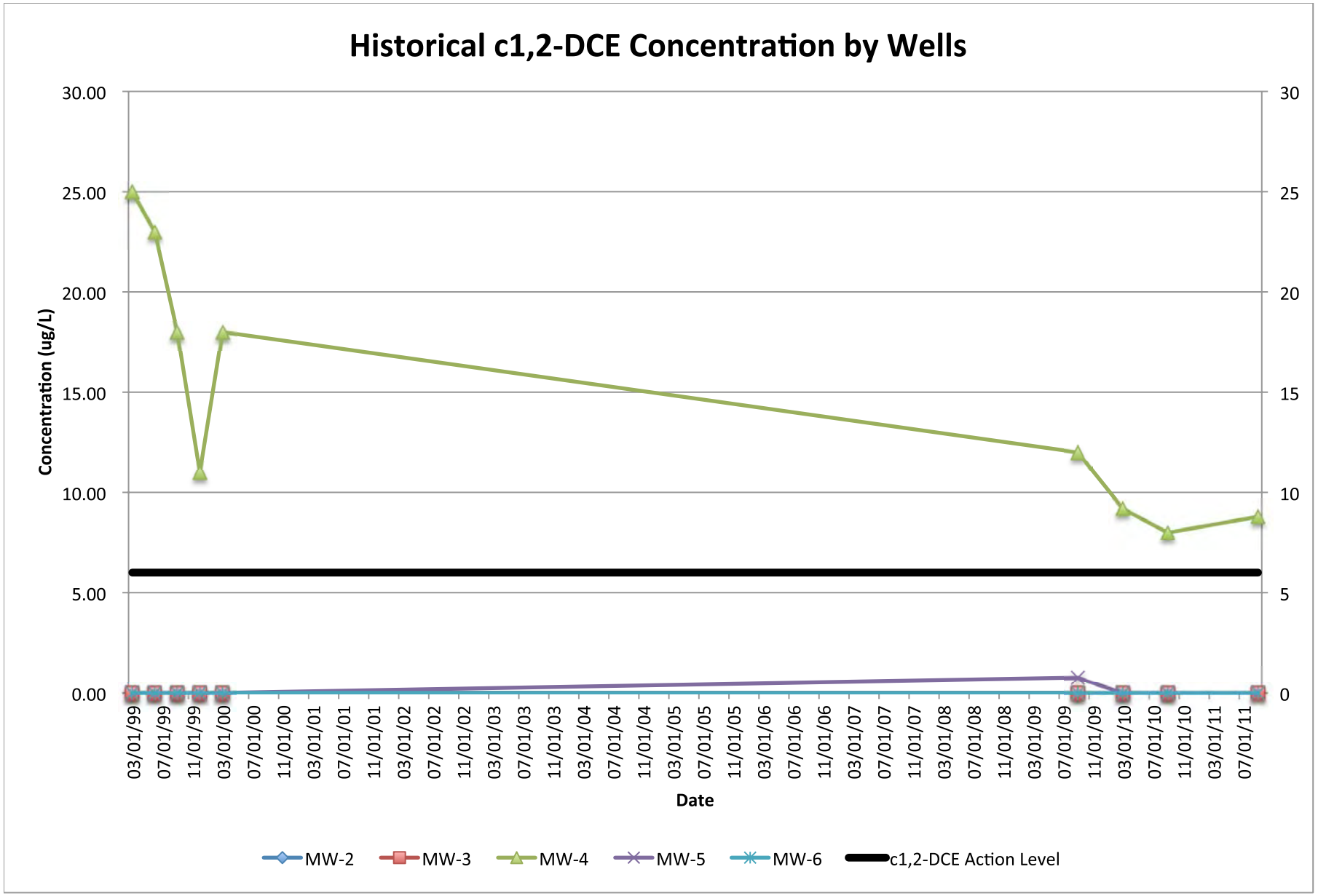
Job No.	501-OH11
Date	13 Octoberr 2011
Drawn by	RC
Rev	SL
Apprvd	SL

Historical PCE Concentrations
Project
Kelly-Moore Paint Company
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

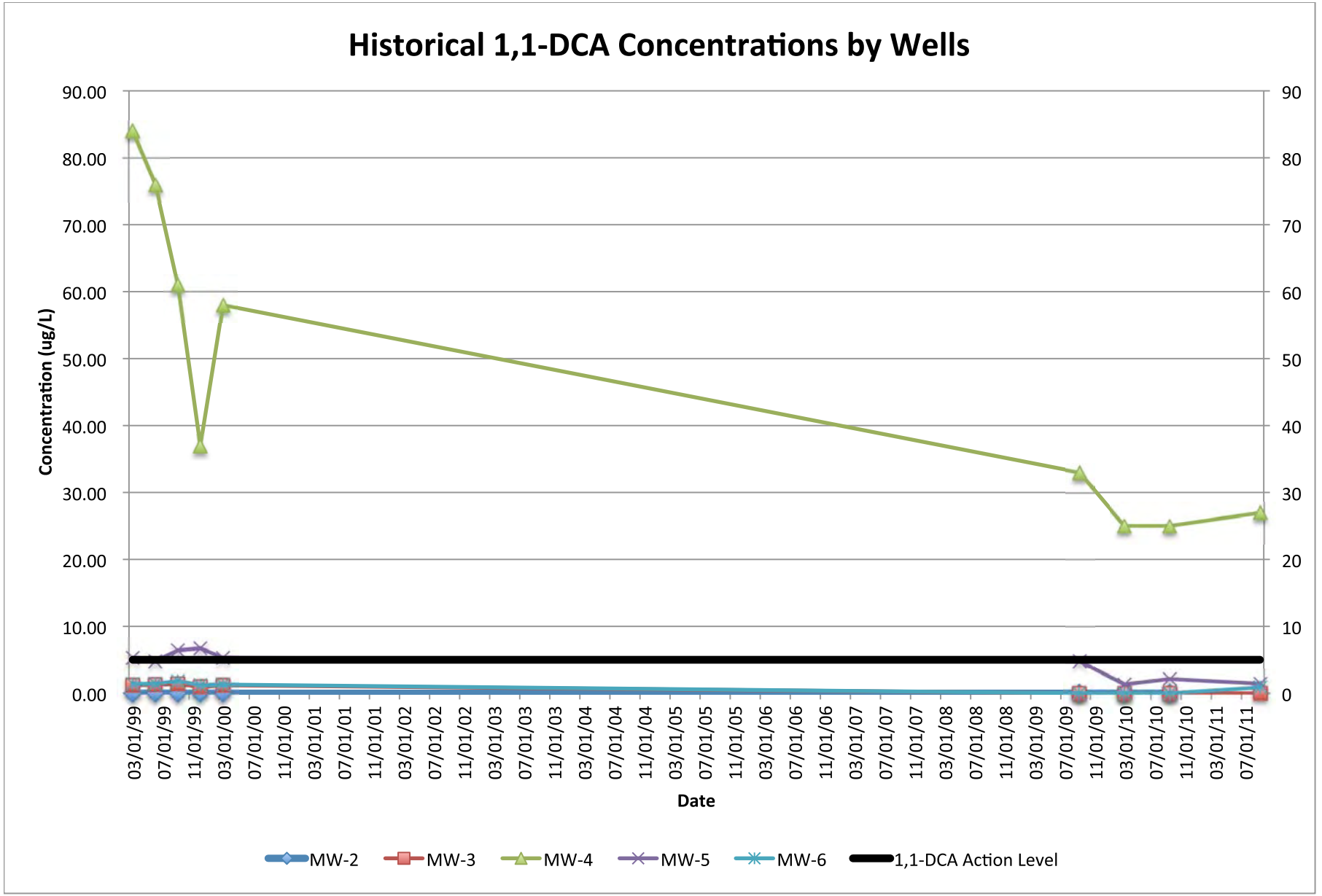
Figure
5



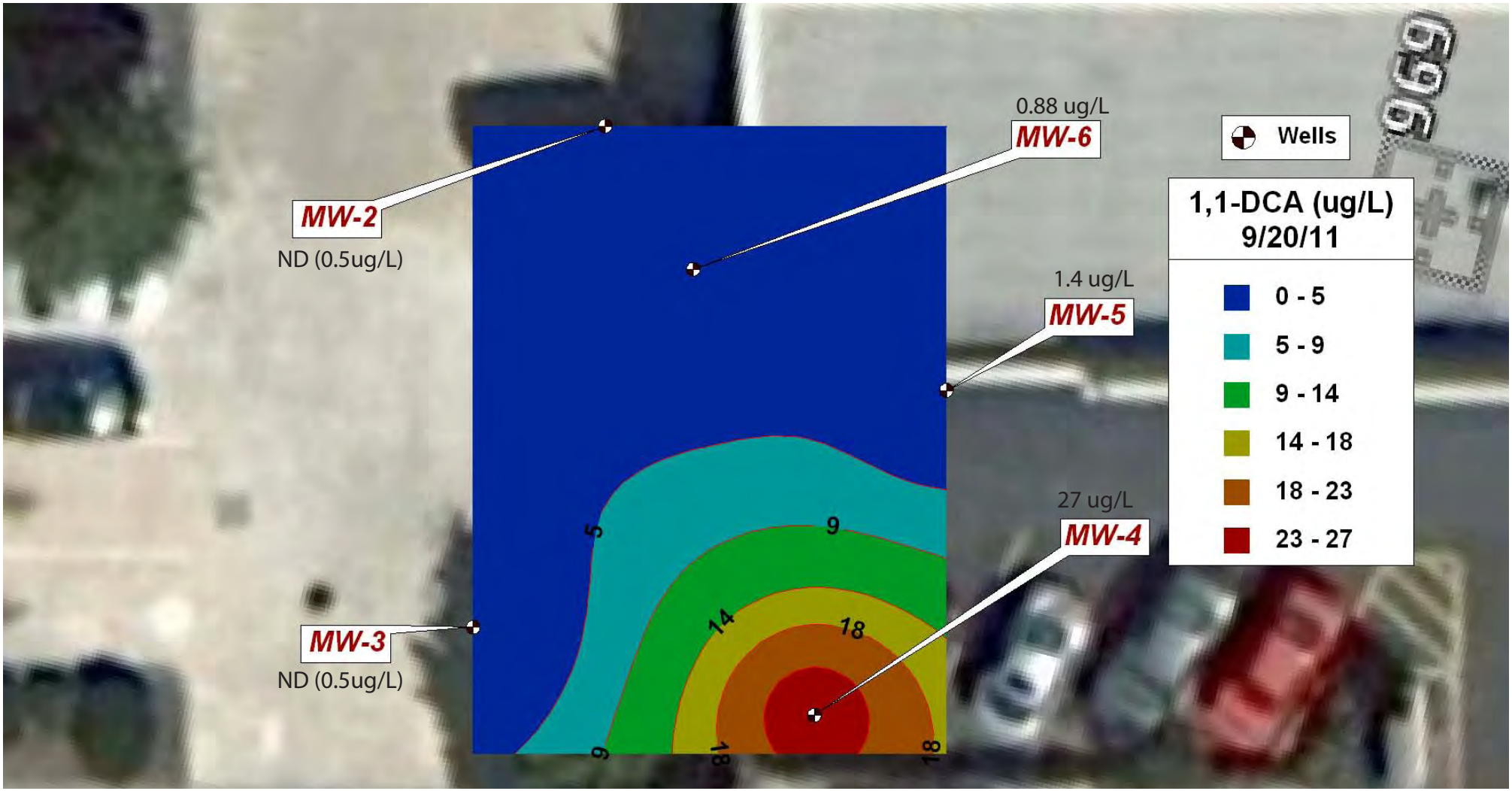
ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020 / Fax: 650.569.4023	Job No. 501-OH11 Date 13 Octoberr 2011 Drawn by RC Rev SL Apprvd SL	**Historical TCE Concentrations** Kelly-Moore Paint Company 696 San Pablo Avenue, Albany, CA for: W.E. Berry P.O. Box 3016, San Carlos, CA 94070	Project Figure 6



ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020 / Fax: 650.569.4023	Job No. 501-OH11 Date 13 Octoberr 2011 Drawn by RC Rev SL Apprvd SL	**Historical c1,2-DCE Concentrations** Project Kelly-Moore Paint Company 696 San Pablo Avenue, Albany, CA for: W.E. Berry P.O. Box 3016, San Carlos, CA 94070	Figure **7**



ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020 / Fax: 650.569.4023	Job No. 501-OH11 Date 13 Octoberr 2011 Drawn by RC Rev SL Apprvd SL	**Historical 1,1-DCA Concentrations** Project Kelly-Moore Paint Company 696 San Pablo Avenue, Albany, CA for: W.E. Berry P.O. Box 3016, San Carlos, CA 94070	Figure **8**



Contours drawn by Enviroinsite

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

Job No.	501-OH11
Date	13 October 2011
Drawn by	RC
Rev	SL
Apprvd	SL

Site Location w/1,1-DCA (ug/L) Results and Contours (9/20/2011)

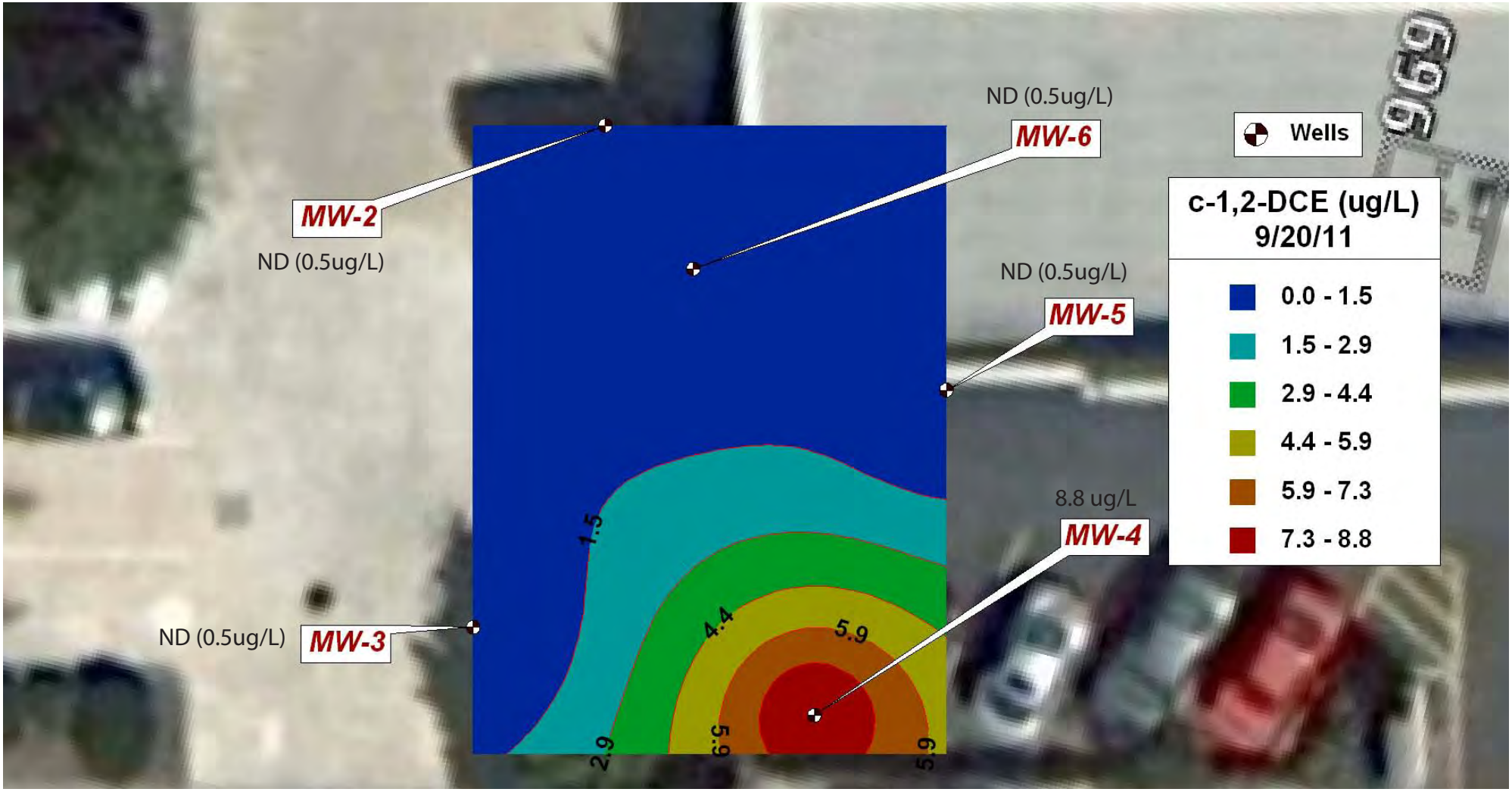
Project

Kelly-Moore Paint Company
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

N

Figure

9



Contours drawn by Enviroinsite

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

Job No.	501-OH11
Date	13 October 2011
Drawn by	RC
Rev	SL
Apprvd	SL

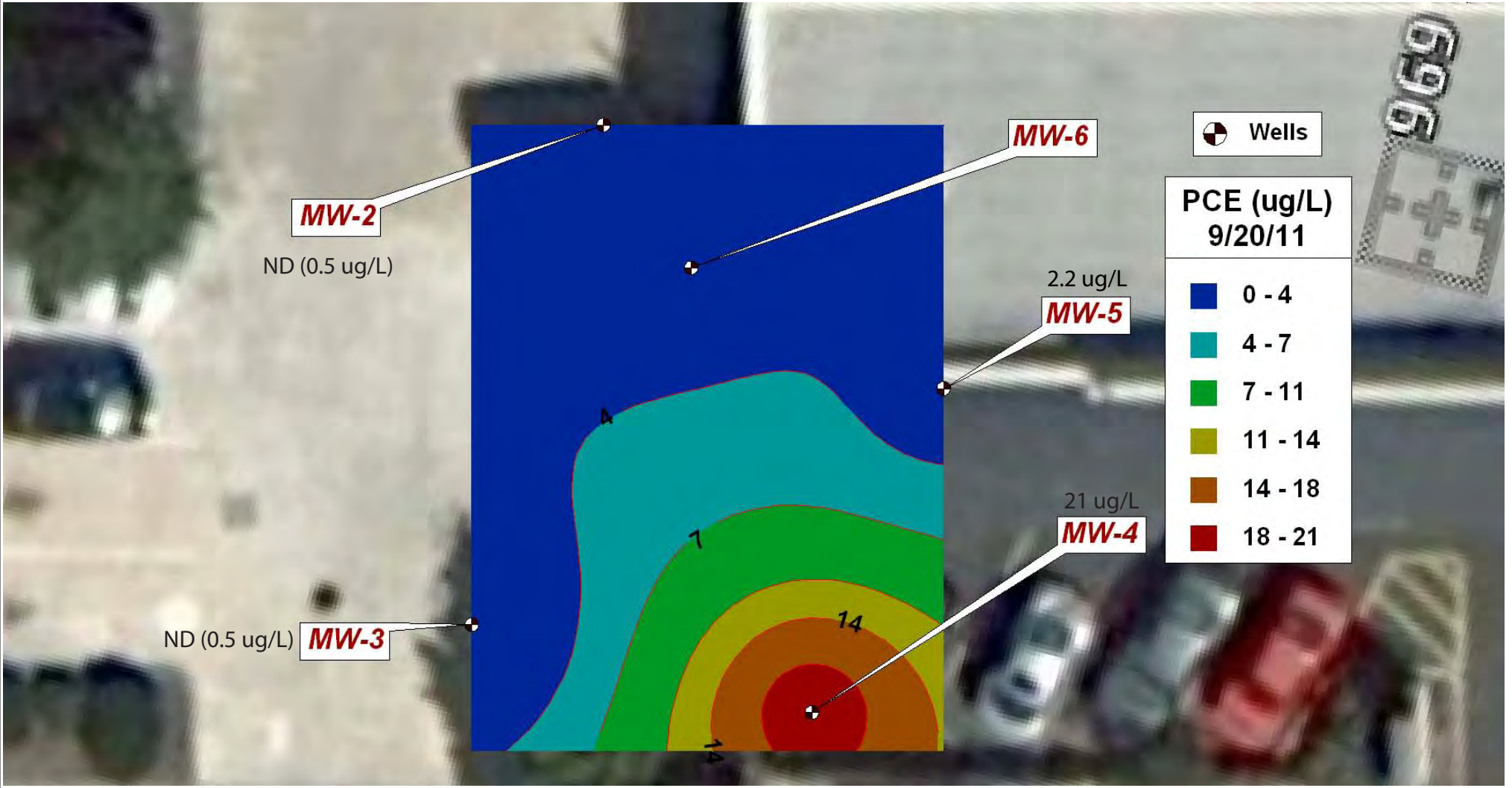
Site Location w/cis-1,2-DCE (ug/L) Results and Contours (9/20/2011)

Project

Kelly-Moore Paint Company
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

N

Figure **10**



Contours drawn by Enviroinsite

ProTech Consulting & Engineering
1208 Main Street, Redwood City, CA 94063
Tele: 650.569.4020 / Fax: 650.569.4023

Job No.	501-OH11
Date	13 October 2011
Drawn by	RC
Rev	SL
Apprvd	SL

Site Location w/PCE (ug/L) Results and Contours (9/20/2011)

Project

Kelly-Moore Paint Company
696 San Pablo Avenue, Albany, CA
for: W.E. Berry
P.O. Box 3016, San Carlos, CA 94070

N

Figure **11**

APPENDIX 1 – LABORATORY REPORTS AND COC FORMS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-37571-1
Client Project/Site: 969 San Pablo Ave Albany

For:
ProTech Consulting and Engineering
1208 Main Street
Redwood City, California 94063

Attn: Mr. Woody Lovejoy

Surinder Sidhu

Authorized for release by:
09/28/2011 04:45:35 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Table of Contents

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Job ID: 720-37571-1

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative
720-37571-1

Comments
No additional comments.

Receipt
Sampling time was missing on COC and recored from sample containers.
Samples MW-3 and MW-4 did not have times on samples.

All other samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The following sample 37571-1,2,3,4 and 5 submitted for volatiles analysis was received with insufficient preservation (pH >2): MW-2 (720-37571-1), MW-3 (720-37571-2), MW-5 (720-37571-4), MW-6 (720-37571-5).

Method(s) 8260B: The following sample 37571-3 submitted for volatiles analysis was received with insufficient preservation (pH >2): MW-4 (720-37571-3).

No other analytical or quality issues were noted.

Detection Summary

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Client Sample ID: MW-2 — Lab Sample ID: 720-37571-1

No Detections

Client Sample ID: MW-3 — Lab Sample ID: 720-37571-2

No Detections

Client Sample ID: MW-4 — Lab Sample ID: 720-37571-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	27		0.50		ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	8.8		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	21		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	6.9		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 720-37571-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.4		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	2.2		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 720-37571-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.88		0.50		ug/L	1		8260B	Total/NA
Tetrachloroethene	3.1		0.50		ug/L	1		8260B	Total/NA
Trichloroethene	0.89		0.50		ug/L	1		8260B	Total/NA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-2
Date Collected: 09/20/11 10:40
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/22/11 01:48	1
Acetone	ND		50		ug/L			09/22/11 01:48	1
Benzene	ND		0.50		ug/L			09/22/11 01:48	1
Dichlorobromomethane	ND		0.50		ug/L			09/22/11 01:48	1
Bromobenzene	ND		1.0		ug/L			09/22/11 01:48	1
Chlorobromomethane	ND		1.0		ug/L			09/22/11 01:48	1
Bromoform	ND		1.0		ug/L			09/22/11 01:48	1
Bromomethane	ND		1.0		ug/L			09/22/11 01:48	1
2-Butanone (MEK)	ND		50		ug/L			09/22/11 01:48	1
n-Butylbenzene	ND		1.0		ug/L			09/22/11 01:48	1
sec-Butylbenzene	ND		1.0		ug/L			09/22/11 01:48	1
tert-Butylbenzene	ND		1.0		ug/L			09/22/11 01:48	1
Carbon disulfide	ND		5.0		ug/L			09/22/11 01:48	1
Carbon tetrachloride	ND		0.50		ug/L			09/22/11 01:48	1
Chlorobenzene	ND		0.50		ug/L			09/22/11 01:48	1
Chloroethane	ND		1.0		ug/L			09/22/11 01:48	1
Chloroform	ND		1.0		ug/L			09/22/11 01:48	1
Chloromethane	ND		1.0		ug/L			09/22/11 01:48	1
2-Chlorotoluene	ND		0.50		ug/L			09/22/11 01:48	1
4-Chlorotoluene	ND		0.50		ug/L			09/22/11 01:48	1
Chlorodibromomethane	ND		0.50		ug/L			09/22/11 01:48	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/22/11 01:48	1
1,3-Dichlorobenzene	ND		0.50		ug/L			09/22/11 01:48	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/22/11 01:48	1
1,3-Dichloropropane	ND		1.0		ug/L			09/22/11 01:48	1
1,1-Dichloropropene	ND		0.50		ug/L			09/22/11 01:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/22/11 01:48	1
Ethylene Dibromide	ND		0.50		ug/L			09/22/11 01:48	1
Dibromomethane	ND		0.50		ug/L			09/22/11 01:48	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/22/11 01:48	1
1,1-Dichloroethane	ND		0.50		ug/L			09/22/11 01:48	1
1,2-Dichloroethane	ND		0.50		ug/L			09/22/11 01:48	1
1,1-Dichloroethene	ND		0.50		ug/L			09/22/11 01:48	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 01:48	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 01:48	1
1,2-Dichloropropane	ND		0.50		ug/L			09/22/11 01:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 01:48	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 01:48	1
Ethylbenzene	ND		0.50		ug/L			09/22/11 01:48	1
Hexachlorobutadiene	ND		1.0		ug/L			09/22/11 01:48	1
2-Hexanone	ND		50		ug/L			09/22/11 01:48	1
Isopropylbenzene	ND		0.50		ug/L			09/22/11 01:48	1
4-Isopropyltoluene	ND		1.0		ug/L			09/22/11 01:48	1
Methylene Chloride	ND		5.0		ug/L			09/22/11 01:48	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/22/11 01:48	1
Naphthalene	ND		1.0		ug/L			09/22/11 01:48	1
N-Propylbenzene	ND		1.0		ug/L			09/22/11 01:48	1
Styrene	ND		0.50		ug/L			09/22/11 01:48	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 01:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-2
Date Collected: 09/20/11 10:40
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 01:48	1
Tetrachloroethene	ND		0.50		ug/L			09/22/11 01:48	1
Toluene	ND		0.50		ug/L			09/22/11 01:48	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/22/11 01:48	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/22/11 01:48	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/22/11 01:48	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/22/11 01:48	1
Trichloroethene	ND		0.50		ug/L			09/22/11 01:48	1
Trichlorofluoromethane	ND		1.0		ug/L			09/22/11 01:48	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/22/11 01:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/22/11 01:48	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/22/11 01:48	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/22/11 01:48	1
Vinyl acetate	ND		10		ug/L			09/22/11 01:48	1
Vinyl chloride	ND		0.50		ug/L			09/22/11 01:48	1
Xylenes, Total	ND		1.0		ug/L			09/22/11 01:48	1
2,2-Dichloropropane	ND		0.50		ug/L			09/22/11 01:48	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*67 - 130*		*09/22/11 01:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 130*		*09/22/11 01:48*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*09/22/11 01:48*	*1*

Client Sample ID: MW-3
Date Collected: 09/20/11 00:00
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/22/11 02:16	1
Acetone	ND		50		ug/L			09/22/11 02:16	1
Benzene	ND		0.50		ug/L			09/22/11 02:16	1
Dichlorobromomethane	ND		0.50		ug/L			09/22/11 02:16	1
Bromobenzene	ND		1.0		ug/L			09/22/11 02:16	1
Chlorobromomethane	ND		1.0		ug/L			09/22/11 02:16	1
Bromoform	ND		1.0		ug/L			09/22/11 02:16	1
Bromomethane	ND		1.0		ug/L			09/22/11 02:16	1
2-Butanone (MEK)	ND		50		ug/L			09/22/11 02:16	1
n-Butylbenzene	ND		1.0		ug/L			09/22/11 02:16	1
sec-Butylbenzene	ND		1.0		ug/L			09/22/11 02:16	1
tert-Butylbenzene	ND		1.0		ug/L			09/22/11 02:16	1
Carbon disulfide	ND		5.0		ug/L			09/22/11 02:16	1
Carbon tetrachloride	ND		0.50		ug/L			09/22/11 02:16	1
Chlorobenzene	ND		0.50		ug/L			09/22/11 02:16	1
Chloroethane	ND		1.0		ug/L			09/22/11 02:16	1
Chloroform	ND		1.0		ug/L			09/22/11 02:16	1
Chloromethane	ND		1.0		ug/L			09/22/11 02:16	1
2-Chlorotoluene	ND		0.50		ug/L			09/22/11 02:16	1
4-Chlorotoluene	ND		0.50		ug/L			09/22/11 02:16	1
Chlorodibromomethane	ND		0.50		ug/L			09/22/11 02:16	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:16	1

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-3
Date Collected: 09/20/11 00:00
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:16	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:16	1
1,3-Dichloropropane	ND		1.0		ug/L			09/22/11 02:16	1
1,1-Dichloropropene	ND		0.50		ug/L			09/22/11 02:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/22/11 02:16	1
Ethylene Dibromide	ND		0.50		ug/L			09/22/11 02:16	1
Dibromomethane	ND		0.50		ug/L			09/22/11 02:16	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/22/11 02:16	1
1,1-Dichloroethane	ND		0.50		ug/L			09/22/11 02:16	1
1,2-Dichloroethane	ND		0.50		ug/L			09/22/11 02:16	1
1,1-Dichloroethene	ND		0.50		ug/L			09/22/11 02:16	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 02:16	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 02:16	1
1,2-Dichloropropane	ND		0.50		ug/L			09/22/11 02:16	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 02:16	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 02:16	1
Ethylbenzene	ND		0.50		ug/L			09/22/11 02:16	1
Hexachlorobutadiene	ND		1.0		ug/L			09/22/11 02:16	1
2-Hexanone	ND		50		ug/L			09/22/11 02:16	1
Isopropylbenzene	ND		0.50		ug/L			09/22/11 02:16	1
4-Isopropyltoluene	ND		1.0		ug/L			09/22/11 02:16	1
Methylene Chloride	ND		5.0		ug/L			09/22/11 02:16	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/22/11 02:16	1
Naphthalene	ND		1.0		ug/L			09/22/11 02:16	1
N-Propylbenzene	ND		1.0		ug/L			09/22/11 02:16	1
Styrene	ND		0.50		ug/L			09/22/11 02:16	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 02:16	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 02:16	1
Tetrachloroethene	ND		0.50		ug/L			09/22/11 02:16	1
Toluene	ND		0.50		ug/L			09/22/11 02:16	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/22/11 02:16	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/22/11 02:16	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/22/11 02:16	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/22/11 02:16	1
Trichloroethene	ND		0.50		ug/L			09/22/11 02:16	1
Trichlorofluoromethane	ND		1.0		ug/L			09/22/11 02:16	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/22/11 02:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/22/11 02:16	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/22/11 02:16	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/22/11 02:16	1
Vinyl acetate	ND		10		ug/L			09/22/11 02:16	1
Vinyl chloride	ND		0.50		ug/L			09/22/11 02:16	1
Xylenes, Total	ND		1.0		ug/L			09/22/11 02:16	1
2,2-Dichloropropane	ND		0.50		ug/L			09/22/11 02:16	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*09/22/11 02:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*67 - 130*		*09/22/11 02:16*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*09/22/11 02:16*	*1*

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-4
Date Collected: 09/20/11 00:00
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/22/11 02:45	1
Acetone	ND		50		ug/L			09/22/11 02:45	1
Benzene	ND		0.50		ug/L			09/22/11 02:45	1
Dichlorobromomethane	ND		0.50		ug/L			09/22/11 02:45	1
Bromobenzene	ND		1.0		ug/L			09/22/11 02:45	1
Chlorobromomethane	ND		1.0		ug/L			09/22/11 02:45	1
Bromoform	ND		1.0		ug/L			09/22/11 02:45	1
Bromomethane	ND		1.0		ug/L			09/22/11 02:45	1
2-Butanone (MEK)	ND		50		ug/L			09/22/11 02:45	1
n-Butylbenzene	ND		1.0		ug/L			09/22/11 02:45	1
sec-Butylbenzene	ND		1.0		ug/L			09/22/11 02:45	1
tert-Butylbenzene	ND		1.0		ug/L			09/22/11 02:45	1
Carbon disulfide	ND		5.0		ug/L			09/22/11 02:45	1
Carbon tetrachloride	ND		0.50		ug/L			09/22/11 02:45	1
Chlorobenzene	ND		0.50		ug/L			09/22/11 02:45	1
Chloroethane	ND		1.0		ug/L			09/22/11 02:45	1
Chloroform	ND		1.0		ug/L			09/22/11 02:45	1
Chloromethane	ND		1.0		ug/L			09/22/11 02:45	1
2-Chlorotoluene	ND		0.50		ug/L			09/22/11 02:45	1
4-Chlorotoluene	ND		0.50		ug/L			09/22/11 02:45	1
Chlorodibromomethane	ND		0.50		ug/L			09/22/11 02:45	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:45	1
1,3-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:45	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/22/11 02:45	1
1,3-Dichloropropane	ND		1.0		ug/L			09/22/11 02:45	1
1,1-Dichloropropene	ND		0.50		ug/L			09/22/11 02:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/22/11 02:45	1
Ethylene Dibromide	ND		0.50		ug/L			09/22/11 02:45	1
Dibromomethane	ND		0.50		ug/L			09/22/11 02:45	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/22/11 02:45	1
1,1-Dichloroethane	**27**		0.50		ug/L			09/22/11 02:45	1
1,2-Dichloroethane	ND		0.50		ug/L			09/22/11 02:45	1
1,1-Dichloroethene	ND		0.50		ug/L			09/22/11 02:45	1
cis-1,2-Dichloroethene	**8.8**		0.50		ug/L			09/22/11 02:45	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 02:45	1
1,2-Dichloropropane	ND		0.50		ug/L			09/22/11 02:45	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 02:45	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 02:45	1
Ethylbenzene	ND		0.50		ug/L			09/22/11 02:45	1
Hexachlorobutadiene	ND		1.0		ug/L			09/22/11 02:45	1
2-Hexanone	ND		50		ug/L			09/22/11 02:45	1
Isopropylbenzene	ND		0.50		ug/L			09/22/11 02:45	1
4-Isopropyltoluene	ND		1.0		ug/L			09/22/11 02:45	1
Methylene Chloride	ND		5.0		ug/L			09/22/11 02:45	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/22/11 02:45	1
Naphthalene	ND		1.0		ug/L			09/22/11 02:45	1
N-Propylbenzene	ND		1.0		ug/L			09/22/11 02:45	1
Styrene	ND		0.50		ug/L			09/22/11 02:45	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 02:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-4
Date Collected: 09/20/11 00:00
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 02:45	1
Tetrachloroethene	**21**		0.50		ug/L			09/22/11 02:45	1
Toluene	ND		0.50		ug/L			09/22/11 02:45	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/22/11 02:45	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/22/11 02:45	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/22/11 02:45	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/22/11 02:45	1
Trichloroethene	**6.9**		0.50		ug/L			09/22/11 02:45	1
Trichlorofluoromethane	ND		1.0		ug/L			09/22/11 02:45	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/22/11 02:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/22/11 02:45	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/22/11 02:45	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/22/11 02:45	1
Vinyl acetate	ND		10		ug/L			09/22/11 02:45	1
Vinyl chloride	ND		0.50		ug/L			09/22/11 02:45	1
Xylenes, Total	ND		1.0		ug/L			09/22/11 02:45	1
2,2-Dichloropropane	ND		0.50		ug/L			09/22/11 02:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*09/22/11 02:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*67 - 130*		*09/22/11 02:45*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/22/11 02:45*	*1*

Client Sample ID: MW-5
Date Collected: 09/20/11 12:02
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/22/11 03:13	1
Acetone	ND		50		ug/L			09/22/11 03:13	1
Benzene	ND		0.50		ug/L			09/22/11 03:13	1
Dichlorobromomethane	ND		0.50		ug/L			09/22/11 03:13	1
Bromobenzene	ND		1.0		ug/L			09/22/11 03:13	1
Chlorobromomethane	ND		1.0		ug/L			09/22/11 03:13	1
Bromoform	ND		1.0		ug/L			09/22/11 03:13	1
Bromomethane	ND		1.0		ug/L			09/22/11 03:13	1
2-Butanone (MEK)	ND		50		ug/L			09/22/11 03:13	1
n-Butylbenzene	ND		1.0		ug/L			09/22/11 03:13	1
sec-Butylbenzene	ND		1.0		ug/L			09/22/11 03:13	1
tert-Butylbenzene	ND		1.0		ug/L			09/22/11 03:13	1
Carbon disulfide	ND		5.0		ug/L			09/22/11 03:13	1
Carbon tetrachloride	ND		0.50		ug/L			09/22/11 03:13	1
Chlorobenzene	ND		0.50		ug/L			09/22/11 03:13	1
Chloroethane	ND		1.0		ug/L			09/22/11 03:13	1
Chloroform	ND		1.0		ug/L			09/22/11 03:13	1
Chloromethane	ND		1.0		ug/L			09/22/11 03:13	1
2-Chlorotoluene	ND		0.50		ug/L			09/22/11 03:13	1
4-Chlorotoluene	ND		0.50		ug/L			09/22/11 03:13	1
Chlorodibromomethane	ND		0.50		ug/L			09/22/11 03:13	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:13	1

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-5
Date Collected: 09/20/11 12:02
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:13	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:13	1
1,3-Dichloropropane	ND		1.0		ug/L			09/22/11 03:13	1
1,1-Dichloropropene	ND		0.50		ug/L			09/22/11 03:13	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/22/11 03:13	1
Ethylene Dibromide	ND		0.50		ug/L			09/22/11 03:13	1
Dibromomethane	ND		0.50		ug/L			09/22/11 03:13	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/22/11 03:13	1
1,1-Dichloroethane	**1.4**		0.50		ug/L			09/22/11 03:13	1
1,2-Dichloroethane	ND		0.50		ug/L			09/22/11 03:13	1
1,1-Dichloroethene	ND		0.50		ug/L			09/22/11 03:13	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 03:13	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 03:13	1
1,2-Dichloropropane	ND		0.50		ug/L			09/22/11 03:13	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 03:13	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 03:13	1
Ethylbenzene	ND		0.50		ug/L			09/22/11 03:13	1
Hexachlorobutadiene	ND		1.0		ug/L			09/22/11 03:13	1
2-Hexanone	ND		50		ug/L			09/22/11 03:13	1
Isopropylbenzene	ND		0.50		ug/L			09/22/11 03:13	1
4-Isopropyltoluene	ND		1.0		ug/L			09/22/11 03:13	1
Methylene Chloride	ND		5.0		ug/L			09/22/11 03:13	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/22/11 03:13	1
Naphthalene	ND		1.0		ug/L			09/22/11 03:13	1
N-Propylbenzene	ND		1.0		ug/L			09/22/11 03:13	1
Styrene	ND		0.50		ug/L			09/22/11 03:13	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 03:13	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 03:13	1
Tetrachloroethene	**2.2**		0.50		ug/L			09/22/11 03:13	1
Toluene	ND		0.50		ug/L			09/22/11 03:13	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/22/11 03:13	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/22/11 03:13	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/22/11 03:13	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/22/11 03:13	1
Trichloroethene	ND		0.50		ug/L			09/22/11 03:13	1
Trichlorofluoromethane	ND		1.0		ug/L			09/22/11 03:13	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/22/11 03:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/22/11 03:13	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/22/11 03:13	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/22/11 03:13	1
Vinyl acetate	ND		10		ug/L			09/22/11 03:13	1
Vinyl chloride	ND		0.50		ug/L			09/22/11 03:13	1
Xylenes, Total	ND		1.0		ug/L			09/22/11 03:13	1
2,2-Dichloropropane	ND		0.50		ug/L			09/22/11 03:13	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*09/22/11 03:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 130*		*09/22/11 03:13*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*09/22/11 03:13*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-6
Date Collected: 09/20/11 11:40
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/22/11 03:42	1
Acetone	ND		50		ug/L			09/22/11 03:42	1
Benzene	ND		0.50		ug/L			09/22/11 03:42	1
Dichlorobromomethane	ND		0.50		ug/L			09/22/11 03:42	1
Bromobenzene	ND		1.0		ug/L			09/22/11 03:42	1
Chlorobromomethane	ND		1.0		ug/L			09/22/11 03:42	1
Bromoform	ND		1.0		ug/L			09/22/11 03:42	1
Bromomethane	ND		1.0		ug/L			09/22/11 03:42	1
2-Butanone (MEK)	ND		50		ug/L			09/22/11 03:42	1
n-Butylbenzene	ND		1.0		ug/L			09/22/11 03:42	1
sec-Butylbenzene	ND		1.0		ug/L			09/22/11 03:42	1
tert-Butylbenzene	ND		1.0		ug/L			09/22/11 03:42	1
Carbon disulfide	ND		5.0		ug/L			09/22/11 03:42	1
Carbon tetrachloride	ND		0.50		ug/L			09/22/11 03:42	1
Chlorobenzene	ND		0.50		ug/L			09/22/11 03:42	1
Chloroethane	ND		1.0		ug/L			09/22/11 03:42	1
Chloroform	ND		1.0		ug/L			09/22/11 03:42	1
Chloromethane	ND		1.0		ug/L			09/22/11 03:42	1
2-Chlorotoluene	ND		0.50		ug/L			09/22/11 03:42	1
4-Chlorotoluene	ND		0.50		ug/L			09/22/11 03:42	1
Chlorodibromomethane	ND		0.50		ug/L			09/22/11 03:42	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:42	1
1,3-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:42	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/22/11 03:42	1
1,3-Dichloropropane	ND		1.0		ug/L			09/22/11 03:42	1
1,1-Dichloropropene	ND		0.50		ug/L			09/22/11 03:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/22/11 03:42	1
Ethylene Dibromide	ND		0.50		ug/L			09/22/11 03:42	1
Dibromomethane	ND		0.50		ug/L			09/22/11 03:42	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/22/11 03:42	1
1,1-Dichloroethane	**0.88**		0.50		ug/L			09/22/11 03:42	1
1,2-Dichloroethane	ND		0.50		ug/L			09/22/11 03:42	1
1,1-Dichloroethene	ND		0.50		ug/L			09/22/11 03:42	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 03:42	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/22/11 03:42	1
1,2-Dichloropropane	ND		0.50		ug/L			09/22/11 03:42	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 03:42	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/22/11 03:42	1
Ethylbenzene	ND		0.50		ug/L			09/22/11 03:42	1
Hexachlorobutadiene	ND		1.0		ug/L			09/22/11 03:42	1
2-Hexanone	ND		50		ug/L			09/22/11 03:42	1
Isopropylbenzene	ND		0.50		ug/L			09/22/11 03:42	1
4-Isopropyltoluene	ND		1.0		ug/L			09/22/11 03:42	1
Methylene Chloride	ND		5.0		ug/L			09/22/11 03:42	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/22/11 03:42	1
Naphthalene	ND		1.0		ug/L			09/22/11 03:42	1
N-Propylbenzene	ND		1.0		ug/L			09/22/11 03:42	1
Styrene	ND		0.50		ug/L			09/22/11 03:42	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 03:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-6
Date Collected: 09/20/11 11:40
Date Received: 09/21/11 10:07

Lab Sample ID: 720-37571-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/22/11 03:42	1
Tetrachloroethene	**3.1**		0.50		ug/L			09/22/11 03:42	1
Toluene	ND		0.50		ug/L			09/22/11 03:42	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/22/11 03:42	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/22/11 03:42	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/22/11 03:42	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/22/11 03:42	1
Trichloroethene	**0.89**		0.50		ug/L			09/22/11 03:42	1
Trichlorofluoromethane	ND		1.0		ug/L			09/22/11 03:42	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/22/11 03:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/22/11 03:42	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/22/11 03:42	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/22/11 03:42	1
Vinyl acetate	ND		10		ug/L			09/22/11 03:42	1
Vinyl chloride	ND		0.50		ug/L			09/22/11 03:42	1
Xylenes, Total	ND		1.0		ug/L			09/22/11 03:42	1
2,2-Dichloropropane	ND		0.50		ug/L			09/22/11 03:42	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*67 - 130*		*09/22/11 03:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*67 - 130*		*09/22/11 03:42*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/22/11 03:42*	*1*

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-99467/4
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			09/21/11 20:05	1
Acetone	ND		50		ug/L			09/21/11 20:05	1
Benzene	ND		0.50		ug/L			09/21/11 20:05	1
Dichlorobromomethane	ND		0.50		ug/L			09/21/11 20:05	1
Bromobenzene	ND		1.0		ug/L			09/21/11 20:05	1
Chlorobromomethane	ND		1.0		ug/L			09/21/11 20:05	1
Bromoform	ND		1.0		ug/L			09/21/11 20:05	1
Bromomethane	ND		1.0		ug/L			09/21/11 20:05	1
2-Butanone (MEK)	ND		50		ug/L			09/21/11 20:05	1
n-Butylbenzene	ND		1.0		ug/L			09/21/11 20:05	1
sec-Butylbenzene	ND		1.0		ug/L			09/21/11 20:05	1
tert-Butylbenzene	ND		1.0		ug/L			09/21/11 20:05	1
Carbon disulfide	ND		5.0		ug/L			09/21/11 20:05	1
Carbon tetrachloride	ND		0.50		ug/L			09/21/11 20:05	1
Chlorobenzene	ND		0.50		ug/L			09/21/11 20:05	1
Chloroethane	ND		1.0		ug/L			09/21/11 20:05	1
Chloroform	ND		1.0		ug/L			09/21/11 20:05	1
Chloromethane	ND		1.0		ug/L			09/21/11 20:05	1
2-Chlorotoluene	ND		0.50		ug/L			09/21/11 20:05	1
4-Chlorotoluene	ND		0.50		ug/L			09/21/11 20:05	1
Chlorodibromomethane	ND		0.50		ug/L			09/21/11 20:05	1
1,2-Dichlorobenzene	ND		0.50		ug/L			09/21/11 20:05	1
1,3-Dichlorobenzene	ND		0.50		ug/L			09/21/11 20:05	1
1,4-Dichlorobenzene	ND		0.50		ug/L			09/21/11 20:05	1
1,3-Dichloropropane	ND		1.0		ug/L			09/21/11 20:05	1
1,1-Dichloropropene	ND		0.50		ug/L			09/21/11 20:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			09/21/11 20:05	1
Ethylene Dibromide	ND		0.50		ug/L			09/21/11 20:05	1
Dibromomethane	ND		0.50		ug/L			09/21/11 20:05	1
Dichlorodifluoromethane	ND		0.50		ug/L			09/21/11 20:05	1
1,1-Dichloroethane	ND		0.50		ug/L			09/21/11 20:05	1
1,2-Dichloroethane	ND		0.50		ug/L			09/21/11 20:05	1
1,1-Dichloroethene	ND		0.50		ug/L			09/21/11 20:05	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			09/21/11 20:05	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			09/21/11 20:05	1
1,2-Dichloropropane	ND		0.50		ug/L			09/21/11 20:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			09/21/11 20:05	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			09/21/11 20:05	1
Ethylbenzene	ND		0.50		ug/L			09/21/11 20:05	1
Hexachlorobutadiene	ND		1.0		ug/L			09/21/11 20:05	1
2-Hexanone	ND		50		ug/L			09/21/11 20:05	1
Isopropylbenzene	ND		0.50		ug/L			09/21/11 20:05	1
4-Isopropyltoluene	ND		1.0		ug/L			09/21/11 20:05	1
Methylene Chloride	ND		5.0		ug/L			09/21/11 20:05	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			09/21/11 20:05	1
Naphthalene	ND		1.0		ug/L			09/21/11 20:05	1
N-Propylbenzene	ND		1.0		ug/L			09/21/11 20:05	1
Styrene	ND		0.50		ug/L			09/21/11 20:05	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			09/21/11 20:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-99467/4
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			09/21/11 20:05	1
Tetrachloroethene	ND		0.50		ug/L			09/21/11 20:05	1
Toluene	ND		0.50		ug/L			09/21/11 20:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			09/21/11 20:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			09/21/11 20:05	1
1,1,1-Trichloroethane	ND		0.50		ug/L			09/21/11 20:05	1
1,1,2-Trichloroethane	ND		0.50		ug/L			09/21/11 20:05	1
Trichloroethene	ND		0.50		ug/L			09/21/11 20:05	1
Trichlorofluoromethane	ND		1.0		ug/L			09/21/11 20:05	1
1,2,3-Trichloropropane	ND		0.50		ug/L			09/21/11 20:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			09/21/11 20:05	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			09/21/11 20:05	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			09/21/11 20:05	1
Vinyl acetate	ND		10		ug/L			09/21/11 20:05	1
Vinyl chloride	ND		0.50		ug/L			09/21/11 20:05	1
Xylenes, Total	ND		1.0		ug/L			09/21/11 20:05	1
2,2-Dichloropropane	ND		0.50		ug/L			09/21/11 20:05	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*67 - 130*		*09/21/11 20:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*67 - 130*		*09/21/11 20:05*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/21/11 20:05*	*1*

Lab Sample ID: LCS 720-99467/5
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methyl tert-butyl ether	25.0	27.7		ug/L		111	62 - 130
Acetone	125	100		ug/L		80	26 - 180
Benzene	25.0	27.2		ug/L		109	82 - 127
Dichlorobromomethane	25.0	29.5		ug/L		118	70 - 130
Bromobenzene	25.0	26.6		ug/L		106	79 - 127
Chlorobromomethane	25.0	26.6		ug/L		106	70 - 130
Bromoform	25.0	23.5		ug/L		94	68 - 136
Bromomethane	25.0	24.4		ug/L		98	43 - 151
2-Butanone (MEK)	125	121		ug/L		97	66 - 149
n-Butylbenzene	25.0	28.7		ug/L		115	79 - 142
sec-Butylbenzene	25.0	28.3		ug/L		113	81 - 134
tert-Butylbenzene	25.0	28.0		ug/L		112	82 - 135
Carbon disulfide	25.0	25.1		ug/L		100	58 - 124
Carbon tetrachloride	25.0	30.2		ug/L		121	77 - 146
Chlorobenzene	25.0	26.2		ug/L		105	70 - 130
Chloroethane	25.0	26.1		ug/L		104	62 - 138
Chloroform	25.0	27.5		ug/L		110	70 - 130
Chloromethane	25.0	26.1		ug/L		104	52 - 175
2-Chlorotoluene	25.0	29.4		ug/L		118	70 - 130
4-Chlorotoluene	25.0	28.5		ug/L		114	70 - 130
Chlorodibromomethane	25.0	30.6		ug/L		122	78 - 145

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-99467/5
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,2-Dichlorobenzene	25.0	27.5		ug/L		110	70 - 130
1,3-Dichlorobenzene	25.0	27.4		ug/L		110	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	87 - 118
1,3-Dichloropropane	25.0	29.0		ug/L		116	82 - 128
1,1-Dichloropropene	25.0	26.7		ug/L		107	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	26.5		ug/L		106	72 - 136
Ethylene Dibromide	25.0	28.1		ug/L		112	70 - 130
Dibromomethane	25.0	27.9		ug/L		112	70 - 130
Dichlorodifluoromethane	25.0	25.0		ug/L		100	33 - 125
1,1-Dichloroethane	25.0	27.4		ug/L		110	70 - 130
1,2-Dichloroethane	25.0	28.4		ug/L		114	70 - 126
1,1-Dichloroethene	25.0	23.3		ug/L		93	64 - 128
cis-1,2-Dichloroethene	25.0	31.6		ug/L		126	70 - 130
trans-1,2-Dichloroethene	25.0	22.0		ug/L		88	68 - 118
1,2-Dichloropropane	25.0	27.7		ug/L		111	70 - 130
cis-1,3-Dichloropropene	25.0	28.6		ug/L		114	88 - 137
trans-1,3-Dichloropropene	25.0	30.0		ug/L		120	83 - 140
Ethylbenzene	25.0	27.3		ug/L		109	86 - 135
Hexachlorobutadiene	25.0	25.4		ug/L		102	70 - 130
2-Hexanone	125	136		ug/L		109	60 - 164
Isopropylbenzene	25.0	27.9		ug/L		112	70 - 130
4-Isopropyltoluene	25.0	28.0		ug/L		112	70 - 130
Methylene Chloride	25.0	25.7		ug/L		103	73 - 147
4-Methyl-2-pentanone (MIBK)	125	144		ug/L		115	63 - 165
Naphthalene	25.0	27.7		ug/L		111	78 - 135
N-Propylbenzene	25.0	27.3		ug/L		109	70 - 130
Styrene	25.0	27.7		ug/L		111	70 - 130
1,1,1,2-Tetrachloroethane	25.0	28.5		ug/L		114	70 - 130
1,1,2,2-Tetrachloroethane	25.0	29.8		ug/L		119	70 - 130
Tetrachloroethene	25.0	25.2		ug/L		101	70 - 130
Toluene	25.0	26.7		ug/L		107	83 - 129
1,2,3-Trichlorobenzene	25.0	26.6		ug/L		106	70 - 130
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		102	70 - 130
1,1,1-Trichloroethane	25.0	28.8		ug/L		115	70 - 130
1,1,2-Trichloroethane	25.0	27.9		ug/L		112	82 - 128
Trichloroethene	25.0	25.3		ug/L		101	70 - 130
Trichlorofluoromethane	25.0	26.7		ug/L		107	66 - 132
1,2,3-Trichloropropane	25.0	28.1		ug/L		112	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.9		ug/L		100	42 - 162
1,2,4-Trimethylbenzene	25.0	27.8		ug/L		111	70 - 132
1,3,5-Trimethylbenzene	25.0	28.6		ug/L		114	70 - 130
Vinyl acetate	25.0	32.5		ug/L		130	43 - 163
Vinyl chloride	25.0	26.8		ug/L		107	63 - 125
m-Xylene & p-Xylene	50.0	55.9		ug/L		112	70 - 142
o-Xylene	25.0	28.7		ug/L		115	89 - 136
2,2-Dichloropropane	25.0	30.4		ug/L		122	70 - 140

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-99467/5
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		67 - 130
1,2-Dichloroethane-d4 (Surr)	108		67 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: LCSD 720-99467/6
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether			25.0	24.6		ug/L		98	62 - 130	12	20
Acetone			125	98.3		ug/L		79	26 - 180	2	30
Benzene			25.0	26.4		ug/L		106	82 - 127	3	20
Dichlorobromomethane			25.0	26.9		ug/L		108	70 - 130	9	20
Bromobenzene			25.0	25.7		ug/L		103	79 - 127	3	20
Chlorobromomethane			25.0	24.0		ug/L		96	70 - 130	10	20
Bromoform			25.0	21.5		ug/L		86	68 - 136	9	20
Bromomethane			25.0	24.2		ug/L		97	43 - 151	1	20
2-Butanone (MEK)			125	119		ug/L		95	66 - 149	2	20
n-Butylbenzene			25.0	30.2		ug/L		121	79 - 142	5	20
sec-Butylbenzene			25.0	30.2		ug/L		121	81 - 134	6	20
tert-Butylbenzene			25.0	29.5		ug/L		118	82 - 135	5	20
Carbon disulfide			25.0	26.0		ug/L		104	58 - 124	4	20
Carbon tetrachloride			25.0	31.5		ug/L		126	77 - 146	4	20
Chlorobenzene			25.0	26.0		ug/L		104	70 - 130	1	20
Chloroethane			25.0	26.6		ug/L		106	62 - 138	2	20
Chloroform			25.0	26.2		ug/L		105	70 - 130	5	20
Chloromethane			25.0	26.4		ug/L		106	52 - 175	1	20
2-Chlorotoluene			25.0	29.9		ug/L		120	70 - 130	2	20
4-Chlorotoluene			25.0	28.8		ug/L		115	70 - 130	1	20
Chlorodibromomethane			25.0	27.2		ug/L		109	78 - 145	12	20
1,2-Dichlorobenzene			25.0	26.2		ug/L		105	70 - 130	5	20
1,3-Dichlorobenzene			25.0	27.1		ug/L		108	70 - 130	1	20
1,4-Dichlorobenzene			25.0	26.4		ug/L		106	87 - 118	2	20
1,3-Dichloropropane			25.0	25.4		ug/L		102	82 - 128	13	20
1,1-Dichloropropene			25.0	27.5		ug/L		110	70 - 130	3	20
1,2-Dibromo-3-Chloropropane			25.0	25.9		ug/L		104	72 - 136	2	20
Ethylene Dibromide			25.0	24.5		ug/L		98	70 - 130	14	20
Dibromomethane			25.0	24.5		ug/L		98	70 - 130	13	20
Dichlorodifluoromethane			25.0	26.3		ug/L		105	33 - 125	5	20
1,1-Dichloroethane			25.0	26.6		ug/L		106	70 - 130	3	20
1,2-Dichloroethane			25.0	24.9		ug/L		100	70 - 126	13	20
1,1-Dichloroethene			25.0	24.1		ug/L		96	64 - 128	3	20
cis-1,2-Dichloroethene			25.0	30.2		ug/L		121	70 - 130	5	20
trans-1,2-Dichloroethene			25.0	22.2		ug/L		89	68 - 118	1	20
1,2-Dichloropropane			25.0	25.5		ug/L		102	70 - 130	8	20
cis-1,3-Dichloropropene			25.0	25.8		ug/L		103	88 - 137	10	20
trans-1,3-Dichloropropene			25.0	26.4		ug/L		106	83 - 140	13	20
Ethylbenzene			25.0	28.1		ug/L		112	86 - 135	3	20
Hexachlorobutadiene			25.0	26.9		ug/L		108	70 - 130	6	20

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-99467/6
Matrix: Water
Analysis Batch: 99467

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
2-Hexanone			125	126		ug/L		101	60 - 164	7	20
Isopropylbenzene			25.0	29.1		ug/L		116	70 - 130	4	20
4-Isopropyltoluene			25.0	29.5		ug/L		118	70 - 130	5	20
Methylene Chloride			25.0	24.0		ug/L		96	73 - 147	7	20
4-Methyl-2-pentanone (MIBK)			125	131		ug/L		105	63 - 165	9	20
Naphthalene			25.0	25.7		ug/L		103	78 - 135	7	20
N-Propylbenzene			25.0	28.8		ug/L		115	70 - 130	5	20
Styrene			25.0	26.8		ug/L		107	70 - 130	3	20
1,1,1,2-Tetrachloroethane			25.0	27.5		ug/L		110	70 - 130	4	20
1,1,2,2-Tetrachloroethane			25.0	28.0		ug/L		112	70 - 130	6	20
Tetrachloroethene			25.0	25.4		ug/L		102	70 - 130	1	20
Toluene			25.0	27.5		ug/L		110	83 - 129	3	20
1,2,3-Trichlorobenzene			25.0	25.0		ug/L		100	70 - 130	6	20
1,2,4-Trichlorobenzene			25.0	24.4		ug/L		98	70 - 130	5	20
1,1,1-Trichloroethane			25.0	29.4		ug/L		118	70 - 130	2	20
1,1,2-Trichloroethane			25.0	24.4		ug/L		98	82 - 128	13	20
Trichloroethene			25.0	25.2		ug/L		101	70 - 130	0	20
Trichlorofluoromethane			25.0	28.1		ug/L		112	66 - 132	5	20
1,2,3-Trichloropropane			25.0	26.5		ug/L		106	70 - 130	6	20
1,1,2-Trichloro-1,2,2-trifluoroethane			25.0	26.0		ug/L		104	42 - 162	4	20
1,2,4-Trimethylbenzene			25.0	28.2		ug/L		113	70 - 132	1	20
1,3,5-Trimethylbenzene			25.0	29.4		ug/L		118	70 - 130	3	20
Vinyl acetate			25.0	29.1		ug/L		116	43 - 163	11	20
Vinyl chloride			25.0	28.2		ug/L		113	63 - 125	5	20
m-Xylene & p-Xylene			50.0	57.3		ug/L		115	70 - 142	2	20
o-Xylene			25.0	28.8		ug/L		115	89 - 136	0	20
2,2-Dichloropropane			25.0	30.9		ug/L		124	70 - 140	2	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

QC Association Summary

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

GC/MS VOA

Analysis Batch: 99467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-37571-1	MW-2	Total/NA	Water	8260B	
720-37571-2	MW-3	Total/NA	Water	8260B	
720-37571-3	MW-4	Total/NA	Water	8260B	
720-37571-4	MW-5	Total/NA	Water	8260B	
720-37571-5	MW-6	Total/NA	Water	8260B	
LCS 720-99467/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 720-99467/6	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 720-99467/4	Method Blank	Total/NA	Water	8260B	

Certification Summary

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica San Francisco	California	State Program	9	2496

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ProTech Consulting and Engineering
Project/Site: 969 San Pablo Ave Albany

TestAmerica Job ID: 720-37571-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-37571-1	MW-2	Water	09/20/11 10:40	09/21/11 10:07
720-37571-2	MW-3	Water	09/20/11 00:00	09/21/11 10:07
720-37571-3	MW-4	Water	09/20/11 00:00	09/21/11 10:07
720-37571-4	MW-5	Water	09/20/11 12:02	09/21/11 10:07
720-37571-5	MW-6	Water	09/20/11 11:40	09/21/11 10:07

720-37571

133804

09/28/2011

Chain of Custody Record

ProTech Consulting & Engineering

1208 Main Street
Redwood City, CA 94063
650.569.40200 / 650.569.4023 (fax)
protech@tcg-international.com

Client Contact	Project Manager: Woody Lovejoy	Site Contact: Ryan Cozart	Date: 09/20/2011	COC No:
Client Name: **Kelly Moore Paint Company**	Tele: 415.381.2560	Tele: 415.342.9735	Courier:	1 of 1 COCs
Address:	Analysis Turnaround Time			Lab Job No.
City/State/Zip:				
Phone: **650.592.8337 x4314**				Lab SDG No.
FAX:	5-Day TAT			
Project Name: **969 SPA-GWM**	5-6°C			
Site: **969 San Pablo Avenue, Albany, CA**				
Job #: **501-11**				

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Preservative	EPA 8260-VOCs	Sample Specific Notes:
MW-2	9/20/11		discrete	GW	3		1	X	
MW-3	9/20/11		discrete	GW	3		1	X	
MW-4	9/20/11		discrete	GW	3		1	X	
MW-5	9/20/11		discrete	GW	3		1	X	
MW-6	9/20/11		discrete	GW	3		1	X	

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Ryan Cozart	Protech	9/21/11 1007		TASF	09/21/11 1007
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Special Instructions/QC Requirements & Comments:

Report: Level 2

efile: STF EDF

Global ID: T0600101674

Log Code: PTCR

Login Sample Receipt Checklist

Client: ProTech Consulting and Engineering

Job Number: 720-37571-1

Login Number: 37571

List Source: TestAmerica San Francisco

List Number: 1

Creator: Sidhu, Surinder

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

APPENDIX 2 –HISTORICAL MONITORING

Four groundwater monitor wells (MW-1, MW-2, MW-3, and MW-4) were installed to monitor groundwater conditions. The soil samples from the boring for MW-1 contained TEPH-d in the three samples collected between 5.5 ft and 10.5 ft below grade (fbg). The 10.5 fbg sample also contained Benzene, Xylenes, 1,1-DCA, 1,2-DCA, 1,1,1-TCA, and PCE. The soil sample collected 16 fbg in the boring for MW-2 contained Ethyl-Benzene and Xylenes. Soil samples from the other two soil borings for monitor wells MW-3 and MW-4 were below method detection limits (MDLs) for the compounds tested. The groundwater sample from monitor well MW-1 contained Benzene, 1,1-DCA, 1,1,1-TCA, Trichloroethylene (TCE), and PCE, while the groundwater samples from MW-2 and MW-3 were below method detection limits (MDLs) for all compounds tested. The groundwater sample from monitor well MW-4 contained TCE (ERM, 1990a). ERM reported an apparent mounding of groundwater near the former tankpit. They attributed this mounding to infiltration of surface water through the tankpit backfill.

Based on the results of soil sampling and groundwater results, Firestone decided to remove additional soil from the excavation in an attempt to remove the source of contamination. During this removal, monitor well MW-1 was destroyed. Results of confirmatory soil sampling indicated that TEPH-d was only detected in one of the sidewall samples (CS-3) at eight fbg at 3.8 ppm (ERM, 1990b).

Recommendations were made to perform quarterly groundwater monitoring for one year and then to re-evaluate the site conditions (ERM, 1990b). According to County personnel (Susan Hugo)[22] this work was never done.

ProTech performed a Phase I - Environmental Site Assessment (Phase I) in April 1998 on the property for K/M prior to their purchase of the property. During this task, ProTech located two of the three remaining groundwater monitor wells (MW-3 and MW-4), while well MW-2 was not evident during site reconnaissance activities. ProTech also identified five hydraulic lifts (Figure 2) that were present in the garage portion of the building (ProTech, 1998a).

After review of the Phase I report, K/M instructed ProTech to develop and sample the two-groundwater monitor wells (MW-3 and MW-4). In April 1998, ProTech developed the two groundwater monitor wells and collected groundwater samples for analysis for total petroleum hydrocarbons, characterized as gasoline (TPH-g), TEPH-d, TEPH, characterized as kerosene (TEPH-k), TEPH, characterized as motor oil (TEPH-mo), BTEX, O&G, and volatile organic compounds (VOCs). Results of the groundwater analyses (Figure 3) indicated that monitor well MW-3 was below MDLs for the compounds tested for, while monitor well MW-4 contained 1,1-DCA, cis-1,2-Dichloroethylene (cis-1,2-DCE), and PCE (ProTech, 1998b) at levels of interest. With the Phase I report and these groundwater results in-hand, K/M purchased the property.

In September 1998, K/M began removal of the five hydraulic lifts. ProTech witnessed the removal of all five lifts and collected soil samples from three of the pits (Pit #s 1, 4, and 5) where the rams were compromised and/or soil staining was evident. The soil samples were collected after soil was excavated to a point where contamination was no longer evident. The analyses,

[22] Personal communication with Susan Hugo, June 1998.

which were specified by ACHA, were for total extractable petroleum hydrocarbons, characterized as hydraulic oil (TEPH-ho), VOCs, and LUFT Manual metals. Results from two of the pits (Pit #s 4, and 5) were below the MDLs of the analyses or present below regulated concentrations. Results from the third pit (Pit #1) indicated that TEPH-ho was detected at 500 ppm. Additional soil was excavated from this pit (approximately 3 ft below the groundwater table) and a second soil sample was collected for analysis. Results (Figure 2) indicated that TEPH-ho was still present at 1,400 ppm (ProTech, 1998c).

Results of soil samples were collected from "likely dirty" stockpiled soil indicated that petroleum hydrocarbons (TEPH-ho) required regulated disposal. This stockpiled soil was disposed of as a Class II - designated waste at Forward Landfill (ProTech, 1998c).

ACHCSA-EHS agreed that the "likely clean" soil, which came from the upper 3 feet of material in each pit and exhibited no evidence of contamination, could be re-used on-site as backfill above the water table. They further agreed that further assessment of the site would be through groundwater monitoring and the installation of two additional groundwater monitor wells (ACHCSA-EHS, 1999).

ProTech prepared a Workplan for the installation of the two additional groundwater monitor wells that the County requested plus a survey for top-of-casing (TOC) elevations of the new and existing wells (ProTech, 1999a).

Two groundwater monitor wells (MW-5 and MW-6) were installed March 1999. Soil samples were collected from the two soil borings for analysis for petroleum products, aromatic hydrocarbons, the fuel additive: methyl tert-butyl ether (MTBE), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). The results indicated that only the soil samples from the boring for well MW-6 contained any compounds analyzed for above their method detection limits (MDLs). The only compound found was TEPH-d at 1.9 ppm (8 fbg) and 3.8 ppm (18 fbg). The two new wells (MW-5 and MW-6) were developed and purged, and the existing two wells (MW-3 and MW-4) were purged prior to collecting groundwater samples. The results of groundwater sampling indicate that none of the wells contains measurable petroleum hydrocarbons (TPH-g or TEPH-d), aromatic hydrocarbons (BTEX), MTBE, or SVOCs. All four wells contained 1,1-DCA, and PCE, while wells MW-5 and MW-6 also contained chloroform, and TCE, and well MW-4 also contained 1,1-DCE, cis-1,2-DCE, and vinyl chloride.[23] California maximum contaminant levels (rESLs) have been exceeded for 1,1-DCA, cis-1,2-DCE, PCE, and vinyl chloride. The four monitor wells (MW3 through MW-6 were surveyed TOC elevations. Monitor well MW-2 was not located during this field effort. ProTech recommended that the TPH-g, TEPH-d, BTEX, and MTBE, be removed from the analyte list for quarterly monitoring (ProTech, 1999b).

[23] 1,1-DCA was improperly reported as 1,2-DCA in the April 1999 well installation report. All data tables have been corrected for this report. 1,2-DCA has not been detected by ProTech in its three sampling efforts, while 1,1-DCA has.

APPENDIX 3 – STANDARD OPERATING PROCEDURES

SOP-4 - GROUNDWATER DEVELOPMENT PURGING AND SAMPLING

Well Development

Prior to water sampling, 72 hrs after well development, each well is purged by evacuating a minimum of three well-casing volumes of groundwater or until the one or more of parameters: temperature, conductivity, and pH of the discharge water stabilize. If a well is purged dry before three casing volumes have been removed, the sample will be taken after the well has recovered to within 80 percent of the static water level. Purged water is drummed so that it can be profiled and disposed of appropriately.

Well Purging

A well is purged the wells using a 2-stage purge/sampling pump. We dedicate the down-hole tubing for the wells to avoid the introduction of foreign material thus preventing cross-contamination. We cleaned the purge/sampling pump, using a triple-rinse setup[24], between wells. During purging, we measured the parameters: pH, conductivity, and temperature, while we observed clarity and/or turbidity of water. We monitored the parameters after a few gallons have been removed, at the mid-point of pumping, and at the end of pumping. Sampling of groundwater proceeded once purging was complete.

Well Sampling

Forty-milliliter (ml) glass volatile-organic-analysis (VOA) vials, with Teflon septa, are used as sample containers for volatile organic compounds (VOC) analysis. For other analyses, the appropriate EPA-approved sampling containers are used. The groundwater sample is decanted into each VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample can be collected from at least one well. This sample is put on hold at the laboratory. A trip blank is prepared at the office and placed in the transport cooler. It remains in the cooler during the entire sample transport process. The trip blank is placed on hold pending any anomalous results. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a bladder pump or bailer is cleaned following its use in a well, prior to its use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well purging and water sampling equipment that is not dedicated to a well is triple-rinsed between each well. As a secondary precaution, wells are sampled in order of least to highest concentrations as established by previous analyses.

[24] A triple-rinse setup is three buckets, the first with water and TSP, the second with water, and the third with DI water. The pump is soaked and scrubbed with a scrub brush in the first bucket to remove contaminants from the outside and we run the pump to clean the inside. We rinse the pump vigorously in the second bucket, and rinse again in the third bucket. We run the pump at each stage to the flush the inside. The order in which we purge the wells is cleanest to dirtiest.

SOP-8 - LIQUID LEVEL GAUGING USING WATER LEVEL METER OR INTERFACE PROBE

The complete list of field equipment for liquid level gauging is assembled in the Technical office prior to departure to the field. This includes the probe(s), light filter(s), and product bailer(s) to be used for liquid levels (tested in test well before departure). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to clean the equipment between gauging wells.

When using the water level probe to gauge liquid levels, the probe tip is lowered into the well until the unit sounds. The top-of-casing (TOC) point is determined. This point is marked with a dot, or a groove, or is the obvious high point on the casing on the north side. The place on the probe-cord that corresponds with this TOC point is marked and an engineer's tape is used to measure the distance between the probe end and marking on the cord. This measurement is then recorded on the liquid level data sheet as depth to water (DTW).[25]

When using the interface probe to gauge liquid levels, clamping it to the metal stovepipe or another metal object nearby first grounds the probe. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case. After grounding the probe, the top of the well casing is fitted with a light filter to insure that sunlight does not interfere with the operation of the probe's optical mechanisms. The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates that the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a solid tone. In either case, this is the depth-to-groundwater (DTW) measurement. The solid tone indicates that floating hydrocarbons are present on top of the groundwater. To determine the thickness of the floating hydrocarbons, the probe is slowly raised until the solid tone ceases. This is the depth-to-floating hydrocarbon (DTFH) measurement. To determine the thickness of the sinking hydrocarbons, the probe is slowly raised, from the bottom, until the solid tone turns into an oscillating tone. This is the depth-to-sinking hydrocarbon (DTSH) measurement. The process of lowering and raising the probe must be repeated several times to insure accurate measurements. DTW and DTFH or DTSH measurements are recorded in hundredths of feet on the liquid level data sheet. Liquid hydrocarbon thickness (PT) is calculated by difference Depth-to-Product (DTP) and the DTW. This measurement is recorded on the data sheet as liquid hydrocarbon thickness (PT). When floating hydrocarbons are found in a well, a bottom-loading product bailer may be lowered partially through the water/liquid hydrocarbon interface to confirm the thickness of floating hydrocarbons on the water surface. When sinking hydrocarbons are found a product bailer may be lowered through the water/liquid hydrocarbon interface, at the bottom of the well, to confirm the thickness of sinking hydrocarbons beneath the water.

In order to avoid cross contamination of wells during the liquid level gauging process, wells are gauged in a clean to dirty order (where this information is available). In addition, any gauging equipment is cleaned with TSP and water and thoroughly rinsed with deionized water before daily use, before gauging another well on a site, and at the completion of daily use.

[25] [25] The volume of groundwater that needs removal from each well is determined by calculating the water column height (WCH), using [DTW-TD=WCH], then determining the cubic feet (ft^3), using [$WCH*\Pi*r^2$], where r = radius of the well casing, and then converting ft^3 to gallons, using [ft^3 * 7.48].

SOP-10 - SAMPLE LABELING & CHAIN-OF-CUSTODY

To ensure correct analysis and integrity of any sample, correct sample labeling and the accompaniment of a chain-of-custody (COC) form with all samples from the field to the designated analytic laboratory is mandatory. The label of a sample must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Name of company collecting sample
- Preserved or not

Once this data has been put on the sample container, it must be transferred to the COC. A COC accompanies every shipment of samples and establishes the documentation necessary to trace sample possession, as well as evidence of collection, shipment, laboratory receipt, analysis requested and laboratory custody until the time of disposal. The COC form must include, at a minimum, the following items:

- Sample identification number
- Location of sample collection
- Date and time of sample collection
- Analysis required
- Sample type
- Preservative used, if any
- Names of all samplers
- Signatures of personnel relinquishing and receiving samples
- Laboratory sample number and log number (recorded by laboratory personnel)
- Company contact name and project number (recorded by laboratory personnel)
- Sample condition and temperature (recorded by laboratory personnel)

Sample transfer and shipment is always accompanied by a COC. The initial preparation of the COC occurs in the office and completed in the field by the personnel collecting the samples. Each sample is assigned a unique identification number that represents the specific sampling location. The identification numbers are entered on the COC accompanied by the requested analysis, preservative used, if any, type of sample collected, and type of sample container. Any special instructions are included here.

If the field personnel deliver the samples to the laboratory, they will at that time sign the COC form and relinquish the samples. At this point, the Quality Control Coordinator, or the representative for the laboratory, will check to make sure all samples are present and note the condition and integrity of each sample. After all samples have been documented as received by the laboratory personnel, they will sign the COC form and issue the delivering personnel a copy. The laboratory with the analytic data report should also return a copy of the signed COC form.

If the samples are delivered by courier, or other commercial carrier, the container of samples shall be sealed, and a custody tape will be applied to the container to seal it and to signal any tampering with the container. The courier will sign the COC taking ownership of the samples that the samplers have relinquished by also signing the COC. The receipt form the courier will be attached to the COC copy retained by the relinquishing personnel and serve as an extension of the COC.

Any changes to a COC must be initialed and copies of the revised COC must be distributed to all appropriate personnel.

APPENDIX 4 – SUMMARY RESUMES

Dr. C. Hugh Thompson, P.E., DEE
Principal Consulting Environmental Engineer

Years of Experience with This Firm: 9 **with Other Firms:** 31

Education: Degree(s)/ Year/ Specialization:

- ScD, 1968, Environmental Engineering, Washington University, St. Louis, MO
- M.S., 1965, Civil Engineering – Water Resources, New Mexico State University
- B.S., 1964, Civil Engineering – Sanitary, New Mexico State University

Active Registrations:

- Professional Engineer # 35856, State of California
- Professional Engineer # 17893, State of Michigan
- Professional Engineer # 8298, State of Virginia
- Professional Engineer State of Arizona, (pending)
- Professional Engineer State of Nevada, (pending)
- General Engineering Contractor (Class A) California (inactive)
- 40 hours OSHA Management Training
- Diplomat # 92-20070 American Academy of Environmental Engineers

Experience and Qualifications:

-1997 – Present - Principal Environmental Engineering Consultant, TCG/ProTech/HTA
-1985 – 1997 - Officer in 3 national environmental consulting firms: URS Corp., Roy F. Weston, Law Engineering, and Environmental
-1980 – 1985 - Corporate Director of Environmental Affairs and Operations, Aerojet General Corporation
-1978 – 1980 - Director Office of Hazardous Materials Research, Battelle Memorial Institute
-1970 – 1978 - US Government: Director Office of Hazardous and Toxic Substances, USEPA

- Industrial Environmental Issue Definition and Strategic Planning and Resolution
- Pollution Prevention/Waste Minimization Plans
- Site and Building Investigations, Mitigation Design and Implementation
- Risk Management and Large Program Management
- Corporate Compliance Program Design and Implementation
- Industrial Waste Treatment Design and Pilot Studies
- Treatment Technology Development and Applications
- SPCC and Spill Response Plans
- Environmental and OSHA Training
- International Pollution Agreement Technical Support
- Installation Restoration Programs
- Municipal Waste Treatment Operation and Design

Dr. Thompson heads up the engineering group. Clients are well represented by Dr. Thompson's wealth of experience in site investigation and assessment, remedial design and implementation. Dr. Thompson also provides expert witness services to clients on a myriad of engineering disciplines.

SHERWOOD LOVEJOY, JR., P.G., R.E.A., C.E.I., C.E.C., C.M.A., C.M.I.
PRINCIPAL CONSULTING HYDROGEOLOGIST / REGISTERED ENVIRONMENTAL ASSESSOR

Years of Experience with This Firm: 16 **with Other Firms:** 8

Education: Degree(s) / Year / Specialization:

- M.S., 1993, Environmental Science and Management, University of San Francisco
- B.A., 1982, Geology, University of Rhode Island, Kingston, Rhode Island
- B.S., 1981, Zoology, University of Rhode Island, Kingston, Rhode Island
- Graduate Studies, 1982 - 1983 Hydrology, Geophysics, Advanced Structural Geology and Geochemistry, University of Maryland, College Park, Maryland

Active Registrations:

- Professional Geologist #TN-1566, State of Tennessee
- Professional Geologist #PG-2166, State of Wyoming
- Registered Environmental Assessor # REA (I)-03171, State of California
- General Engineering Contractor's (Class A) #540389, State of California
- Class A - Hazardous Waste Removal Certification #540389, State of California
- Well Driller License (C-57), #540389, State of California
- Certified Environmental Inspector #6331, National Registration for EAA,
- Certified Environmental Consultant, #6331, National Registration for EAA
- Certified Mold Assessor, #6331, National Registration for EAA
- Certified Mold Inspector, #6331, National Registration for EAA
- 40 Hour OSHA and 8 Hour OSHA Management Training

Experience and Qualifications:

- 1991-Present - Principal Consulting Hydrogeologist, TCG/ProTech/HTA
- 1994 -1995 - President/Principal Hydrogeologist, MRD - Environmental Services, Inc.
- 1990 -1991 - President/CEO/Principal Hydrogeologist, Hawaiian Geologic Resources, Inc.
- 1988 -1991 - President/CEO/Principal Hydrogeologist, Western Geologic Resources, Inc.

- Environmental Site Investigation & Assessment
- Remediation Strategy Development
- Facility Demolition/Plant Reclamation Strategy Development and Oversight
- Underground Tank Compliance & Soil Remediation of Fuel Contamination
- Demolition/Reconstruction Management and Oversight
- Hydrogeological Assessment and Modeling
- Groundwater Monitor Well Installation, Sampling, and Monitoring
- Chemical Stabilization of Metals and pH in Soil
- Mine Audits, Investigations, Reclamation Studies, and Reclamation Design
- Regulatory Liaison, Negotiation, and Site Closure
- Construction Management and Contractor Oversight

The surface and subsurface contamination investigation and remediation program is headed by Mr. Lovejoy. Clients are well represented by Mr. Lovejoy's extensive experience and expertise in the latest soil and groundwater investigation and remediation techniques and methods. In addition, clients benefit as they are skillfully represented during regulatory agency interaction, negotiation and permitting.

Ryan Cozart
Geologist/Environmental Assessor/Asbestos & Lead Technician

Years of Experience with This Firm: 5 with Other Firms: 2

Education: Degrees / Year / Specialization:
- B.S., 1998, Geology, California State – Hayward

Active Registrations:
- 40 Hour OSHA Training

Experience and Qualifications:
- 2001 – Present - Geologist/Environmental Assessor/Asbestos & Lead Technician, TCG/ProTech/HTA
- 2000 – 2001 – Polarized Light Microscope Analyst, EMSL
- 1998 – 2000 – Geologist, Burns and McDonnell

- Environmental Site Investigation & Assessment
- Facility Demolition/ Oversight
- Underground Storage Tank Compliance
- Groundwater Monitor Well Installation, Sampling, and Monitoring
- Chemical Stabilization of Metals and pH in Soil
- Construction Management and Contractor Oversight
- Asbestos and lead building Surveys
- Asbestos/lead air monitoring and analysis

Field geologic operations are well handled by Mr. Cozart. Clients are well represented by Mr. Cozart's experience in the latest soil and groundwater investigation techniques and methods. In addition, clients benefit as they are skillfully represented in the field.