

**CITY OF RICHMOND**  
**Pt. Molate Community Advisory Committee**

Monday, December 16, 2013 6:30 PM  
Multi-Purpose Room, 440 Civic Center Plaza

**AGENDA**

**Members:**

**Vacant  
Chair**

**Paul Carman  
Vice-Chair**

**Joan Garrett**

**Dorothy Gilbert**

**Jim Hite**

**Jeanne Kortz**

**Eduardo Martinez**

**Joseph Puleo**

**Charles T. Smith**

**Pam Stello**

**Glenn Stephenson**

**Mary H. Sundance**

1. **Call to Order** (1 min.)
2. **Roll Call** (1 min.)
3. **Welcome and Meeting Procedures** (1 min.)

*Individuals who would like to address the committee on matters not listed on the agenda may do so under Open Forum. Please file a speaker's card with the note taker prior to the commencement of Open Forum. Individuals who want to comment on an individual item, please file a speaker's card before the item is called. The standard amount of time for each speaker will be three minutes.*

*At 8:30 PM, any items remaining on the agenda that require immediate attention may be taken out of turn, as necessary. All other items will be continued to another or the following committee meeting in order to make fair and attentive decisions. This meeting adjourns at 9:00 PM. The meeting may be extended by a majority vote of the committee.*

4. **Agenda Review and Adoption** (2 min.)  
*The order in which items will be heard may be adjusted at this time. In addition, items may be removed from or placed on the Consent Calendar at this time.*
5. **Announcements through the Chair** (2 min.)
  - a. CalTrans I-580 Scofield Ave. and Western Bride Decks Replacement Project

6. **Open Forum** (3 minutes per person limit)

7. **Presentations, Discussion & Action Items** (55 min.)
  - a. Discussion of Broom Eradication – Jim Hanson, CA Native Grasslands Association and David Amme, Vegetation Manager, East Bay Regional Park District (retired) (15 min.), (5 min.) Q &A
  - b. Presentation of United States Customs and Border Protection, Use of Building 1 – Stuart Tang, Chief CBPO and Steven D. Baxter, Section Chief – Tactical, Area Port of San Francisco (10 min.), (10 min.) Q&A
  - c. Discussion of December 6, 2013 Finance Committee Item – NCE 2014 Contract and Expectations Meeting with NCE – Joan Garrett (5 min.), (5 min.) Q&A
  - d. Election of a Committee Chair to fulfill the term of Eileen Whitty (10 min.)

8. **Staff Reports** (10 min.)  
*Following discussion of each item, the Committee may vote to make recommendations to staff or to the City Council.*
  - a. Project Manager's Staff Report (5 min.) - including
  - b. Report on Facility Survey with City of Richmond Caretaker – (5 min.)

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**9. Consent Calendar (2 min.)**

*Items on the consent calendar are considered matters requiring little or no discussion and will be acted upon in one motion*

- a. APPROVE – PMCAC meeting minutes of September 16, 2013
- b. APPROVE – PMCAC meeting minutes of October 21, 2013

**10. Future Agenda Items (5 min.)**

**11. City Council Liaison Reports (7 min.)**

- a. Report by Councilmember/Mayor McLaughlin regarding recent issues in Richmond relevant to the Advisory Committee. (5 min.)
- b. PMCAC appointment status – TBD (2 min.)

**12. Chair and Sub-Committee Reports (18 min.)**

*Following discussion of each item, the Committee may vote to make recommendations to staff or to the City Council.*

a. Clean-Up and Restoration (11 min.)

1. Summation 3Q2013 Site 1 Landfill Report (1 min.)
2. Summation 3Q2013 UST's Report (2 min.)
3. Summation 3Q 2013 PGWTP Report (2 min.)
4. Summation Oct 2013 Monthly Report (2 min.)
5. Summation IR Site 3 Status on Alternates (2 min.)
6. Report on Nov. 2013 Monthly Report (2 min.)

b. Community Outreach (3 min.)

1. Review of previous month's activities and plans for next month
2. Review of schedule for Neighborhood Council presentations

c. Grant Development (2 min.)

- Grant App. Status

d. Pt. Molate Beach (0 min.)

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e. Chair (2 min.)

- Identification of pending schedule conflicts

**13. Adjournment of PMCAC regular meeting**

**14. Assemblage of PMCAC Standing Sub-Committees**

**Scheduled Meetings**

**Committee Meeting - Monday, January 27, 2014, 6:30pm**

This meeting is held in a building that is accessible to people with disabilities. Persons with disabilities, who require auxiliary aids of services using city facilities, services or programs or would like information of the city's compliance with the American Disabilities Act (ADA) of 1990, contact: Rochelle Monk, City of Richmond (510) 620-6511 (voice).

Pt. Molate Community Advisory Committee Staff Liaison Contact: Craig K. Murray (510) 307-8140, [craig\\_murray@ci.richmond.ca.us](mailto:craig_murray@ci.richmond.ca.us). Agenda and minute information on the PMCAC can be found on the City Clerk's web location: <http://ca-richmond2.civicplus.com/index.aspx?NID=2442>

Additional correspondence can be directed to [PtMolateCAC@gmail.com](mailto:PtMolateCAC@gmail.com)

## Craig Murray

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**From:** Amsk, Allyn@DOT <allyn.amsk@dot.ca.gov>  
**Sent:** Thursday, December 12, 2013 3:47 PM  
**To:** Craig Murray  
**Subject:** RE: Lane Closures Continue for Eastbound I-580 East of Richmond San Rafael Bridge

Hi Craig,

There may be a few construction activities in the next few months, but for the most part, the project is going into winter suspension until next spring. The contractor will finish paving and striping activities in the spring.

There are going to be some painting projects on the Richmond San Rafael Bridge next year. I'll have the PIO send you an update when we have more information.

Thanks,

Allyn Amsk  
Public Information Officer  
Caltrans, District 4, Office of Public Affairs  
Office (510) 286-5445

Slow or Move Over for Workers--It's the Law

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**From:** Craig Murray [[mailto:Craig\\_Murray@ci.richmond.ca.us](mailto:Craig_Murray@ci.richmond.ca.us)]  
**Sent:** Wednesday, December 11, 2013 3:34 PM  
**To:** Amsk, Allyn@DOT  
**Subject:** Re: Lane Closures Continue for Eastbound I-580 East of Richmond San Rafael Bridge

Hello Allyn  
PMCAC meets next Monday.  
Any update/announcement on Scofield Bridge replacement?

Thanks  
Craig K. Murray

Sent from my iPhone

On Oct 29, 2013, at 4:16 PM, "Allyn Amsk" <[allyn.amsk@dot.ca.gov](mailto:allyn.amsk@dot.ca.gov)> wrote:

State of California • Department of Transportation

## TRAFFIC ADVISORY

**Date:** October 29, 2013  
**District:** 4 - Oakland  
**Contact:** Allyn Amsk



**Craig Murray**

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**From:** TSANG, STUART <STUART.TSANG@CBP.DHS.GOV>  
**Sent:** Tuesday, December 10, 2013 4:13 PM  
**To:** Craig Murray  
**Cc:** BAXTER, STEVEN D  
**Subject:** RE: Point Molate

Mr. Murray:

✓ CBP.gov is the website of CBP. ✓

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Hopefully, this will help the advisory board come to better understanding of Customs and Border Protection.

Thanks,

Stuart Tsang  
Chief CBPO  
415-279-9024

7.B.1



## Craig Murray

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**From:** Craig Murray  
**Sent:** Tuesday, December 10, 2013 4:24 PM  
**To:** 'joan@vbsi.com'; 'dgilbert77@sbcglobal.net'; 'umbrella27@hotmail.com';  
'sportif@earthlink.net'; 'ezedmartin@yahoo.com'; 'redryder@yahoo.com'; 'Pam Stello';  
'masundan@aol.com'; 'joepuleo@hotmail.com'; 'Paul Carman  
(paulcarman@comcast.net)'; 'karenstephenson3@yahoo.com'  
**Cc:** Gayle McLaughlin; MLeacox@ncenet.com; william.carson@terrphase.com  
**Subject:** NCE - 2014 Expectations  
**Attachments:** Draft Oversight Plan for Pt Molate.doc

Joan Garrett, Mike Leacox of NCE and I met after last Friday's Finance Committee Meeting to discuss expectations. Enclosed is a summary of looking forward to Pt Molate work in 2014 and working with the PMCAC. I will place this item in Monday's Agenda Packet and it is provided herein in advance per Joan Garrett's suggestion for PMCAC review/comment.

Craig K. Murray, SR/WA  
Development Project Manager II  
Successor Agency, Engineering Department  
450 Civic Center Plaza, 2nd Floor  
Richmond, CA 94804-1630  
510-307-8091  
510-307-8188 direct  
510-307-8116 fax





## MEMORANDUM

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**Date:** December 10, 2013                      **Project #:** A477.09.20  
**To:** Mr. Craig Murray  
**From:** Mr. Michael Leacox  
**Subject:** Enhanced Oversight of Point Molate Project

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Based on discussions and concerns of the Point Molate Community Advisory Committee and, as identified in the Finance Committee Meeting, NCE offers the following to enhance the level of financial, schedule and technical oversight of the Point Molate Project. We look forward to discussions regarding these ideas and thoughts.

### **Prepare a Master Schedule for the Entire Point Molate Project**

NCE will prepare a detailed Gantt Chart using MS Project. The goal of the Gantt Chart is to have a master plan of the entire project to allow for easier understanding of overall project status from a technical, financial, regulatory and permitting perspective. The Gantt Chart will incorporate elements of the entire Point Molate Project (each of the IR Sites). The schedule will show major technical tasks, field tasks, reporting requirements, regulatory requirements and deadlines, deadlines and tasks required the RWQCB Order, ECTA requirements and deadlines, permitting requirements, and critical internal technical and project milestones necessary required to meet the published regulatory milestones.

To the extent feasible, the Gantt chart will incorporate resource requirements for each of the major tasks and be constructed to link predecessors to each task to allow for relatively easy updates of the schedule, cost saving opportunities, and estimated costs to complete the project, and project variances as they arise.

### **Develop a Pre-Qualification Package to Attract to Solicit Estimates From Potential Contractors for IR Site 3 Remediation**

NCE will review the efficacy of developing a Pre-Qualification Solicitation to sub to potential contractors. The intent of this pre-qualification approach is two-fold:

1. To identify potential contracts and prequalify 3 to 5 contractors for each remedial technique such that the procurement process at the time of bidding requires less time and only qualified contractors will be considered.
2. Obtain preliminary pricing on the costs of remediation to validate the current engineers' estimates which will provide clarity with respect to the true costs of remediation at IR Site 3.



### **Evaluate Alternative Delivery Methods for Delivery of Routine Technical Tasks at Point Molate**

NCE will look into further alternative methods to deliver routine tasks. This includes operation of the Packaged Groundwater Treatment System, quarterly and semi-annual monitoring, AST tank inspections, landfill inspections, etc. While some of this has occurred and been embraced by Terraphase, this will be done in greater detail including considering soliciting bids from other consultants/contractors to conduct the work. This evaluation will consider the potential for bonding existing and/or alternative contractors that may perform the work.

### **Review of Permitting Requirements**

NCE will look at the permit requirements and permit triggers for the dig and haul scenario and thermal desorption for IR Site 3 for both the waste management unit and unrestricted land use scenarios currently being considered. The foundation for this work relates to the changes in truck trips in the dig and haul scenario for the two land use scenarios versus what was outlined in the EIR, as well as the potential for use of thermal desorption as a treatment alternative, which was not considered in the EIR. The current WMU scenario includes more truck trips in the dig and haul scenario than was considered in the EIR. The goal is to understand the permit requirements, permit mitigations, and permitting time frames.

### **Attend PMCAC Meetings on a Regular Basis**

NCE will attend PMCAC meetings on a regular basis and provide updates and status of the project. NCE will use the Gantt Chart described above as the platform for these discussions. It is anticipated that the updates will occur every two months or at major milestones and include discussions on key technical issues, schedule tracking, and financial concerns.

### **Support City in Evaluating Leveraging of Navy Funds**

NCE will support the City as necessary to look for opportunities to leverage the Navy funds. This includes re-evaluating insurance requirements, etc. (Craig and Joan, This is not up the NCE power ally, if we could leave this out of this list I think it would be best. It does not mean that it does not get done)

### **Participation in City Meetings**

NCE will attend key City meetings with respect to Point Molate. It is expected that those meetings include the monthly status meetings, meetings related to the ETCA, and technical and financial meetings. The City will keep NCE apprised of the meetings and provide input regarding the expected topics at those meetings to evaluate if the meeting would be considered a key meeting.



### **Evaluate Opportunities to Streamline Project**

During execution of each of the tasks above NCE will look for opportunities to streamline project tasks and/or complete tasks in parallel paths, versus conducting them in series with the goal to reduce the overall costs and time associated with delivery of the project. Opportunities may include streamlined review and delivery of planning and permitting documents, technical documents, etc.

### **Key Meeting with Terraphase**

NCE will champion a meeting between the City and Terraphase. The purpose of the meeting is to advise Terraphase of the above initiatives and to solicit their input to support the initiatives. It is also intended that the meeting provide an outline of the information needs from Terraphase as part of the initiatives, and the information need on a routine basis to support active management of the Master Schedule.





## Pt Molate Report

PMCAC #31 Dec. 16, 2013

**Security:** No unusual security events to report. DP Security sent me four months of security reports through November 2013. These reports are regularly sent to the Contract Manager and South District Commander of the Richmond Police Department Captain Mark Gagan. Each report shows the number and brief description of the types of events. For the last few months, these events noted have been two or three per month with most revolving around suspicious vehicles or incidents at gates. RPD receives a vehicle description and license number. From a prior report, the DP Security daytime guard asked for a direct phone number to Supervising RPD Officer. Southern District Commander advised that it would be quicker to call on the non-emergency line to report any concerns.

**Parks:** Last report I noted that behind Bldg. 123 there were some large trees that have been cut and stored for some time. This may have been debris from winter clearance activities from a prior City Arborist. Chris Chamberlain and Parks crews visited location and removed all of this material. Prior to a meeting with Parks Supt, Fire and Goats R Us representatives, I brought a bag lunch out to Pt Molate Beach Park. Park seemed orderly and views at picnic table near bluff proved to be relaxing even for 30 minutes. A Harbor Seal was doing circles and playing in waves and it was a funny distraction to the drone of vehicles on the bridge between counties. Parks Supt. Indicated that the new signs at entrance are from repurposed local trees. I coordinated a meeting on site with representatives of Goats R Us, Parks Supt. And VHFSZ representatives of Richmond FD. We discussed location, timing and protection of Pt Molate. Goats R Us representatives are familiar with Pt Molate and currently working at Chevron. I will be working with City Attorney and Risk Management to develop an agreement so Goats can be used within certain areas of Pt Molate. A presentation from SF State regarding ongoing research and work regarding Eel Grass at Pt Molate is pending. Beach Park SubCommittee will look to make contact and I will also seek contact to secure a presentation in 2014.

**Public Works/Caretaker:** I continued scheduling some time to visit with the Pt Molate Caretaker. One of the items that came up was items remaining at Pt Molate that belong to Upstream and the Guideville Tribe. Tribe indicated that items were left in the main building that was used as their office and the fire house. Items included pictures, banners, steel desk, chairs, computer equipment plans and exhibits. All items have been asked to be removed and City Caretaker indicated that he would work with Tribe and Upstream representatives to see that all items are removed. There was some initial review of Bldg. 1 and 6 and some of the roadside shoreline areas. Last report I noted that there were some power poles that are in varying conditions and will need some attention soon. Public Works has noted that these poles are safe. I will continue to meet with Caretaker and take space measurements and make notes and add to the locations inventoried. From a prior review, certain City materials such items as spent light tubes, dilapidated boxes of cleansers and liquid materials that I briefly discussed with the Public Works Director have now been removed. This was reported in the City Manager's Report as well and I met with Caretaker during this period and confirmed removal. There are still some older light tubes that will need to be remove. The Quonset Hut adjacent to the Beach Park was reviewed with the Caretaker and I spoke with the new Facility Manager of East Bay Center For Performing Arts regarding storage of certain items that were of concern to the Caretaker as well as security. As a reminder, a goal of this process is that

each Department or organizational representative would need to be responsible for their inventory and maintenance of their storage areas.

Committee Member Training and Education: In prior month's packet, I have included information on Rosenberg Rules. City of Richmond uses these summarized rules for City Council as well as its Committees. I inquired to the City Clerk about Brown Act Training and regular Committee Ethics (AB 1234) Training. Enclosed is response for members to consider in 2014:

*We don't routinely have training for the Brown Act. However, this week I will send to all staff to boards and commissions the most recent summary of the Brown Act that I received last week at the Clerk's New Law Seminar. All local officials and designated boards and commission members and staff are required to take AB 1234 Training every two years. If members of the PMCAC took training last year, they will have to take it again in 2014. If members took training in 2011, they can go to [fppc.ca.gov/index.php?id=477](http://fppc.ca.gov/index.php?id=477) and take the online course and submit their certificate to me.*

Fiscal Agent: New agent US Bank has been performing tasks and coordinating with our Finance Dept.

Other: I received DTSC correspondence regarding Solar PV for Brownfield and Hazardous Waste Sites. Enclosed is copy of that correspondence.

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# Have You Considered Solar for Your Brownfield or Hazardous Waste Site?

You may be able to...

- Alleviate the burden of legacy contamination
- Offset power costs of an on-site building with clean energy
- Return a large, otherwise dormant site into a revenue-producing one over the long term
- Pursue an alternate development plan if cleanup cost to redevelop to residential or commercial space is prohibitive or the site is available for lease but not otherwise attracting private development



Opportunities for solar might include:

- Ground-mount panels on a capped landfill or underused, degraded land area;
- Ground-mount panels built into the design plans for a new landfill cap;
- Rooftop panels on an existing building;
- Solar to generate power for a site cleanup/remedy

For new redevelopment:

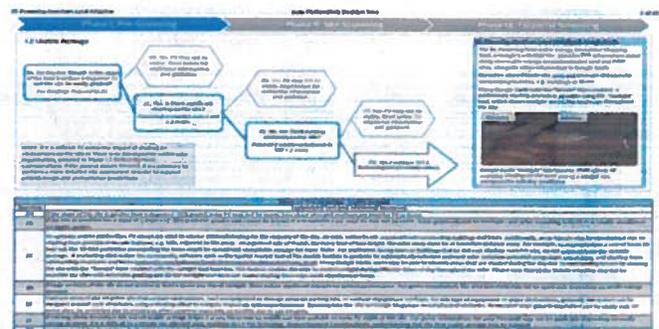
- solar can be integrated in residential or commercial project design plans to meet on-site energy demands, or;
- new buildings can be designed to be solar-ready, i.e. readily compatible with a future solar installation

## Is Solar Viable At My Site?

In order to gauge what makes a site a good candidate for solar, a **Solar Decision Tree** is available on EPA's Re-Powering America's Land website. This informational resource walks through important considerations for ground-mount or rooftop solar and can help you ascertain whether potential barriers to a solar project at your site exist.

Applicable to a range of site types and sizes, it addresses:

- site characteristics
- redevelopment considerations
- remediation status & remedial solutions compatible with solar
- criteria specific to landfills
- factors that affect the economics of solar



## *My Site Looks Promising for Solar, What Next?*

For privately-owned sites, owners may contact prospective solar developers directly to further evaluate the site, e.g., utility interconnection, and validate site feasibility. Following due diligence, the developer will typically provide a bid, which generally includes preliminary solar system design information and proposed ownership and financing options.

For publicly-owned sites, owners typically launch an open bidding process either by issuing a Request for Information (RFI) to get input from solar developers on potential system design and installation options and confirm interest in the site, or a Request for Proposals (RFP) to receive bids from a range of developers. From there, public entities select and award the project to a developer.

Project economics will depend on several site-specific factors as well as the financing structure used.



### *For publicly-owned sites*

Did you know that...

EPA Region 9's Targeted Brownfields Assessments Funds can be used for geotechnical analysis, e.g., to evaluate whether tailings pile soils are sufficiently stable for a solar PV installation? Visit: <http://www.epa.gov/region9/brownfields/grants.html> or email [kistner.glenn@epa.gov](mailto:kistner.glenn@epa.gov).

## *Where Can I Get More Information?*

EPA's Re-Powering America's Land initiative provides tools and resources to promote and encourage renewable energy development on contaminated lands, landfills and mine sites. The Solar Decision Tree and other useful resources can be found at:

<http://www.epa.gov/renewableenergyland/>

For information on using renewable energy for site cleanups/remedies, see:

<http://www.epa.gov/region9/climatechange/green-sites.htm>

<http://www.clu-in.org/greenremediation/>

For information on designing buildings to be solar-ready, review the National Renewable Energy Laboratory's "Solar Ready Buildings Planning Guide":

<http://www.nrel.gov/docs/fy10osti/46078.pdf>

# RE-Powering America's Land Initiative: Financing Renewable Energy Projects on Contaminated Lands

May 2013

The U.S. Environmental Protection Agency (EPA) recognizes the overall environmental benefit of siting renewable energy projects on contaminated lands. This fact sheet answers questions from site owners, renewable energy developers and communities concerning financing tools and structures, as well as federal financial incentives that may be available for redeveloping potentially contaminated sites, landfills, or mine sites for renewable energy.

## Have any renewable energy projects been financed and built on potentially contaminated lands, landfills or mine sites?

Yes. To date, EPA's RE-Powering America's Land Initiative has identified over 70 renewable energy projects installed on contaminated properties or landfills, with a cumulative capacity just over 215 megawatts (MW) – the equivalent of a mid-size, coal-fired power plant. Over half are large-scale systems with a project capacity of 1 MW or greater, with many exporting energy onto the utility grid or offsetting onsite energy demands.

## How are renewable energy projects financed?

Various approaches have been employed successfully. Project financing varies by project size, as well as local market conditions and available incentives. For many large-scale projects, options range from owner-operator financing, where the system is purchased directly, to third-party power purchase agreements, where the system is owned by an energy developer and the site owner purchases electricity for a given term. Other financing structures include sale/lease back models, which enable the energy user, such as a city government, to use the energy through leasing agreements, while the system owner benefits from the tax advantages.

In several states, community solar gardens or virtual net metering policies enable energy developers to partner with consumers who subscribe to purchase power for a given period of time. For large, utility-scale projects, financing is typically provided through project banks. Development of these utility-scale projects typically employs complex financing deal structures. The potential project scale, site owner, market conditions, and renewable energy developer typically dictate the financing option.

## Can federal financing tools for redeveloping contaminated lands also be used for renewables?

More than two dozen federal programs have been used to support brownfields redevelopment. Examples of what may be used to supplement investment in site planning, preparation, construction, or capital equipment purchases follow.

### EPA Brownfields Program

Renewable energy projects could benefit during the early stages of project planning and development from EPA assessment grants (up to \$200,000) and cleanup grants (up to \$200,000, typically with a 20% cost share requirement); renewable energy project developers may also be able to partner with recipients of EPA Revolving Loan Funds (capitalized up to \$1 million). These funds can be used to make the site "shovel ready" for a renewable energy project, potentially incorporating elements of the final site requirements.

### Department of Housing and Urban Development (HUD)

HUD's Community Development Block Grant (CDBG) program funds projects to either help low- and moderate-income people, address slums and blight conditions, or address urgent community needs. Within these broad guidelines, municipalities can use CDBG funds to provide critical gap financing for site prioritization, planning and assessment activities, as well site preparation, demolition and cleanup. CDBG can improve site readiness for renewable energy projects.

## Re-Powering America's Land Initiative

Through the RE-Powering America's Land Initiative, the EPA promotes the reuse of potentially contaminated lands, landfills and mine sites for renewable energy through a combination of tailored redevelopment tools for communities and developers, as well as site-specific technical support.

The Initiative aims to revitalize degraded land by promoting renewable energy as a productive end use, when aligned with the community vision for the site.

### Advantages of Reuse

Potentially contaminated lands, landfills and mining sites offer developers a unique value proposition for renewable energy deployment by:

- Leveraging existing infrastructure
- Reducing project cycle times through streamlined permitting and zoning
- Improving project economics with reduced land costs and tax incentives
- Building a sustainable land development strategy by using contaminated lands
- Gaining community support
- Protecting open space

For more information go to:  
[www.epa.gov/renewableenergyland/](http://www.epa.gov/renewableenergyland/)



## Economic Development Administration (EDA)

EDA's Public Works and Economic Adjustment Assistance program helps finance infrastructure construction, expansion or upgrades, and site preparation activities needed for economic development. EDA targets investments to attract private capital by supporting the "back-end" or real estate reuse elements for projects, including transactions involving contaminated property. Renewable energy aligns with EDA goals.

## U.S. Department of Agriculture (USDA)

USDA offers various financing options to spur economic development and job creation opportunities, ranging from community facility loans and grants to business and industry loans and guarantees, in addition to energy-specific grants through the Rural Energy for America Program (REAP). These loans and grant programs may be used to develop a renewable energy system, such as anaerobic digesters for biomass or a solar array that powers agriculture activities for the surrounding community.

## Small Business Administration (SBA)

SBA primarily offers loan guarantees for either general business development needs (Section 7a) or long-term community economic development activities (Section 504). These guarantee programs support private lending for a range of activities, including land purchase, equipment, new construction, or conversion of existing facilities. These activities are integral to brownfields efforts and may facilitate renewable energy development.

## Are there federal tax incentives that can improve project economics?

Several federal tax incentives can support siting of renewable energy facilities. In general, the goal of tax incentives is to channel private capital to certain areas, such as distressed communities, or to achieve a desired investment outcome, such as renewable energy development.

*Business energy investment tax credits:* The federal government offers tax credit incentives to promote the development and deployment of renewable technologies (26 USC §48).

*Renewable energy bonus depreciation:* Many renewable energy projects are classified as "five-year property" under the IRS Modified Accelerated Cost Recovery System (MACRS), making total project costs depreciable over five years, with a 50% "bonus" depreciation for eligible systems in the first year (26 USC §168).

*New Markets Tax Credits (NMTC):* NMTCs were designed to stimulate investments and create jobs in distressed communities, often the location of brownfield properties (26 USC §45D).

*Extension of Renewable Electricity Production and Energy Investment Tax Credits:* The American Taxpayer Relief Act of 2012 extends the production and investment tax credits through 2013, specifically for wind energy. Facilities that begin construction (as defined in the IRS ruling released in April 2013) before the end of 2013 may claim the 10-year credit. (Pub. Law 112-240, 126 Stat. 2313)

## How can states and local governments help?

Most states and many communities have adapted their own financing programs and approaches to support economic development projects, including brownfields financing needs and renewable energy development. Tools that may be available include grants and rebates, property and sales tax incentives, loans, revolving loan funds, and loan guarantees. Virtually every state issues a variety of tax-exempt and taxable industrial development, revenue, economic development, and general obligation bonds; many also authorize some type of tax-increment finance, which uses future revenue to be generated from a project to help with present-day financing. These tools are well suited for redevelopment strategies involving renewable energy. A Department of Energy-supported website, [www.dsireusa.org](http://www.dsireusa.org), outlines state and federal incentives for renewable energy.

## How can liability considerations linked to financing be addressed?

The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) contains a secured creditor exemption that eliminates federal owner/operator liability for lenders who hold ownership in a CERCLA facility primarily to protect their security interest in that facility, provided they do not "participate in the management of the facility." [CERCLA §101(20)] EPA's fact sheet on lender liability is available at [www.epa.gov/swerosps/bf/aai/lenders\\_factsheet.pdf](http://www.epa.gov/swerosps/bf/aai/lenders_factsheet.pdf). Other laws may apply. These informational materials do not constitute or substitute for advice of legal counsel.

For more information, visit [www.epa.gov/renewableenergyland](http://www.epa.gov/renewableenergyland) or contact [cleanenergy@epa.gov](mailto:cleanenergy@epa.gov)



## Craig Murray

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**From:** Pekke, Milly@DTSC <Milly.Pekke@dtsc.ca.gov>  
**Sent:** Tuesday, December 03, 2013 12:32 PM  
**To:** Craig Murray  
**Cc:** erik\_skov@urscorp.com  
**Subject:** Solar PV  
**Attachments:** Solar on Contaminated Lands Fact Sheet\_10-13.docx; re-powering\_financing\_fact\_sheet.pdf

Dear Mr. Murray,

As part of USEPA's (United States Environmental Protection Agency's) initiative to promote the construction of solar PV facilities on remediated sites with residual contamination, USEPA has prepared the attached fact sheets.

The sites suitable for such an undertaking are those for which remedies such as caps or LUCs (Land Use Covenants) have been implemented. Please let us know if you are interested.

Thank you.

*Milly Pekke*  
Project Manager  
Brownfields and Environmental Restoration Program  
Department of Toxic Substances Control  
Berkeley  
Phone (510) 540-3777  
Fax (510) 540-3819  
[milly.pekke@dtsc.ca.gov](mailto:milly.pekke@dtsc.ca.gov)



**City of Richmond – POINT MOLATE COMMUNITY ADVISORY COMMITTEE**

Multi-Purpose Room  
440 CIVIC CENTER PLAZA

**PROPOSED MINUTES  
MONDAY, September 16, 2013, 6:30 PM**

**1. CALL TO ORDER**

Chair Whitty called the meeting to order at 6:44 p.m.

**2. ROLL CALL**

Present: Committee Members Carman, Gilbert, Hite, Kortz, Martinez, Puleo, Sundance, Whitty.

Absent: Garrett, Rosing, Smith, Stello, Stephenson

Staff Present: Craig K. Murray, Staff Liaison, Development Project Manager II

**3. WELCOME AND MEETING PROCEDURES**

Whitty welcomed audience. Whitty then explained meeting procedures, and discussed the Speaker Card process.

**4. AGENDA REVIEW AND ADOPTION**

Whitty reviewed Agenda items and briefed PMCAC on the Agenda order and speakers. Carman moved to go to presentations and then after presentations then decide what items to take on Agenda due to the large number of presentations. Whitty clarified that items 1-7 will be taken first and PMCAC will not need to vote on the action at this time but can reevaluate those remaining items on the Agenda after presentations.

**5. ANNOUNCEMENTS THROUGH THE CHAIR**

Chair reviewed Cal Trans Notice and indicated that the detour on the bicycle route is no longer needed. Whitty announced that Committee Member Martinez has been reappointed by City Council.

**6. OPEN FORUM**

No Speakers.

**7. PRESENTATIONS, DISCUSSION & ACTION ITEMS**

a. Gun Range Improvements Presentation

Whitty introduced the Chevron Richmond Gun Range, partners and Mark Piersante. Piersante introduced himself as an independent environmental consultant working for Chevron for 15 years and provided a narrative of what is developing at the gun range and drawings that were part of the Design Review package submitted to the City in May. Piersante introduced Mark Ayers who Manages Emergency Services for the Refinery, Joe Lorentz who is one of the Public Affairs contacts, and Kevin McMahon who works for HALO, a company that Chevron contracts with to operate the gun range and has guest with him of RPD Sgt. Noonan. Piersante noted that this is a joint effort with the California Maritime Academy to spend some money to improve the gun range. It has been many years since to spend any money to spruce up the gun range that has been there for nearly 60 years. Piersante noted that Cal-FEMA provided a grant to Cal Maritime to improve the gun range. Piersante open it up for questions. Martinez inquired about change in use and if Native Plants will be used. Piersante said no change in use and plan is to remove invasive plants with a standard plan of using Native Plants as planned by Vallier Designs of Pt Richmond. Hite inquired about relationship between refinery and shooting range. Piersante indicated that going back 60 years, it has been Richmond PD and employees that do also use that facility primarily on Saturdays. Whitty inquired if Pt Molate is developed and would that be a problem for the Gun Range. Piersante indicated that he believed there would be no material impact and has looked at gun ranges in Bay Area and some in very exclusive areas and noted that law enforcement in the area should be a benefit to local neighbors. Mark Ayers discussed Cal Maritime involvement and their approaching Gun Range for Hazardous Materials training and Chevron provided the

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matching funds. Ayers indicated that Gun Range would be improved to make it safer and cleaner. Ayers said FEMA will come out an audit to make sure government monies are spent wisely. Puleo inquired if range operates on weekend. Piersante indicated yes on weekends for employees and weekdays for agencies. Puleo was concerned about 50 caliber and automatic weapons being fired. Ayers noted that looking at it with RPD that it should be smaller caliber and SWAT teams in limited basis will be there with automatic weapons but it is a small arms range. Whitty expressed thanks to Gun Range team for their presentation.

b. Presentation of California Native Grassland Areas of Point San Pablo Peninsula

Whitty introduced Jim Hanson of the California Native Grasslands Association. Hanson noted that he is a Richmond resident and on the Board of this statewide organization with a mission to restore diversity in the California native grasslands through education, advocacy, research and stewardship. Hanson connected this flash drive to the provided laptop and presented what his organization does and this area is also noted as one of the areas to protect from the East Bay Chapter of the California Native Plant Society. Hanson summarized the variety of uses on the Peninsula but the Native Grassland area near Pt Molate still remains in an area in a coastal bluff area. Hanson noted that there was a survey stake placed recently in this knoll of the southern end of Pt Molate Beach and it is representative of what was here for a long time of approximately 1,000 years and used to show what a native grassland was over the years and noted it is an area with natural wealth. Survey stake, Hanson was relieved to find out, was determined to be for a planned bike route of EBRPD. Hanson noted that this Molate Fescue is drought tolerant, tough erosion-control grass compared to other native grasses and, of course, it is found in and originates in Pt Molate in this coastal prairie. Hanson also noted that this grass is now recognized in the turf trade as Molate Fescue. Hanson further noted that this little knoll is part of a larger Watershed story in the area as found in the US Navy study and in the CEQA process it was pushed to do a larger, detailed accurate grass study in the last development process. Hanson noted that this grass area supports the Eelgrass beds important to the fishing industry, where small fry and herring eggs develop, but it is also important to note that much of the Eelgrass beds in the Bay Area has disappeared. Hanson pointed out some of the old soul antiquity findings such as a large red flowering Toyon shrub that has grown over the years more like a tree.

Hanson noted that Grasslands are important because they are in an area that supports Pollinators with 1,200 species of native bees in California. Bees contribute and are important for preservation of the native grasslands, carbon storage with research in Berkeley and Marin County, they are important for rain water storage and deep roots to take rain water in for ground water recharge. Hanson stated that features in area appear ethereal but are important for water supply, erosion control and biodiversity. Hanson noted that people come to California for this and this is our State's third largest industry and it is important to the economy of the State. Hanson showed picture of yellow flowered shrub, broom, that is a concern because it takes over native areas and it acts as a fuel ladder in connection with blue gum eucalyptus trees in the area. It is called a fuel ladder because it takes the flames up to the crown of the tree and high volatile weeds like broom is an issue. Goal would be a clean sweep of the broom. Hanson noted back in history this area was called in the 1700's as Portrero San Pablo and reason it was called Portrero was the early economic uses of the area as a pasture due to the grasslands. Hanson noted that protection of this area is part of the General Plan.

Sundance questioned if Society has funded for broom removal. Hanson noted that it is done regularly as part of land management and EBRPD uses goats and CCC groups to do that usually under different agencies as part of their budgets. General discussion to coordinate broom pulling areas at Pt Molate. Whitty noted that there is a Community Outreach Committee and may want to coordinate an annual spring clean up.

c. Pt. Molate Security Presentation

Whitty introduced Mr. Michael Davenport, Jr. and noted that there are several months of security reports in the Committee Packet. Mr. Davenport introduced himself and his family owned Richmond based company that has been in business since 1996. Davenport noted that a roving patrol is provided for Pt Molate and covered the areas secured and process of daily entries and monthly reports are provided to RPD Captain Mark Gagan and Craig Murray. Davenport indicated primary concern is trespassers. Davenport explained process of approved Entry Permits and

level of assistance. Hite inquired about Homeland Security and Davenport indicated that they use the Winery. Kortz shared story of DP Staff not knowing what to do when she reported a noxious odor. Davenport indicated that the guard is not there any more and she would have reported it to supervisor to report to Chevron. Davenport introduced his brother Marshall and Operations Manager for the Chevron security contract. DP Security has been Chevron's Security contractor since October, 2012. Carman indicated that two times he visited there was not DP Security that met him but a very accommodating City Staff Member, Caretaker Willie Agnew. Davenport explained Craig would email the approved right of entry and there is a sign in the building that visitors can call DP Security if they are on their rounds. Murray further explained that the Caretaker can and does assist visitors especially when Security is on their rounds. Davenport noted that the guards have radio and cell phone and the sign has the Office phone for radio and the cell number. Carman inquired why security can't be there at the particular time. Davenport noted that Security will wait until a particular time but it does take about 45 minutes to make rounds. Davenport indicated that as long visitors have ID and approved right of entry then security can help with entry. Hite inquired to reduced crime including drugs and prostitution. Davenport shared stories of security coming upon people in past. Murray indicated that it is really helpful for everyone to follow procedures and not to just wander on to the base. Davenport noted good to visit in pairs especially if someone gets hurt. Murray asked Davenport to explain the Deggy system and Davenport indicated how DP Security can track rounds and keeping everyone safe. Carman wanted confirmation of Homeland Security if they can contact visitors directly or go through Security. Murray confirmed that the Security force and point of contact at Point Molate is DP Security. Davenport explained that 70% of their employees are Richmond based and DP can attend any future PMCAC meeting.

d. NCE Contract Scope of Services, Roles and Responsibilities

Whitty summarized that this is a continuation of the item where the PMCAC drafted line by line responsibilities for NCE that Committee would like to see included and advised the City. Whitty noted that a September 17 letter is drafted and left at tables for each Committee member to review. Whitty summarized that there are ten provisions to be included with a new NCE contract that Committee would like to see included but it has been under calendar yet and it stated that it will probably be a six-month temporary contract. Whitty noted that after a six-month contract is approved that the PMCAC requests that a new twelve month contract be drafted for around \$125,000. around these ten items. PMCAC felt that not all items were not getting attention. Murray summarized that additional input from other Committee Members were captured. Whitty agreed and noted that items are there but re-ordered. Whitty called for discussion.

Carman asked if there was a vote in the prior month. Whitty stated that there were two motions but it has been put all into one letter. Carman noted that last month he was the Committee Member that abstained and Whitty asked if Carman would like to change the letter. Carman indicated that he would not like to change the letter. Carman asked Murray if this is appropriate to forward to the Mayor. Murray noted that the PMCAC Staff Liaison is the Mayor but letter may want to be addressed to Mayor and Council to capture the full body. Whitty noted that the correct letter version does show Mayor and City Council. Whitty called for motion. Martinez noted that Mayor is in Ecuador and if this goes to Council. Whitty noted that this is not on tomorrow's City Council meeting. Murray noted that this will be considered at a future date. Hite motioned to approve letter as drafted, seconded by Martinez. All voted in favor with Carman noted as an Abstension. Whitty inquired who will forward to Mayor. Murray indicated that once final is approved by Whitty and forwarded to him that he would forward to entire PMCAC and to Mayor.

Kortz inquired as to why Carman abstained. Carman noted that he is not informed enough with the Request for Proposals and noted that heard Murray's discussion at last meeting regarding problems that could come from this and therefore feels not informed enough to support it or not.

e. Rename Western Drive North of I-580 Stenmark Drive

Whitty noted that this item is informational and no action is needed and this is not related to clean-up and restoration but because there has been so much discussion then the Committee wanted to be informed. Murray noted that Committee Garrett provided alternative suggestions for naming, it came late, and copies are available at desk for review. Hite noted that Stenmark Landing is a great idea but personally is against getting involved in the renaming and does not feel it is the PMCAC responsibility. Whitty noted to PMCAC that it will be heard at City Council tomorrow night as Item H-1.

Carman noted that it is a strange moment to rename a street and believed that many other street names should be done in the future in one fell swoop. Carman noted that the Spanish era of State are well recognized but something that is 20<sup>th</sup> Century is not as well noted. Carman noted that all eras of history should be noted. Martinez noted that he felt idea is premature and perhaps when Western Drive is reconstructed then it should be considered for renaming.

Whitty reviewed balance of Agenda. Carman noted to keep charging through the Agenda. Whitty inquired when the Consent Calendar can be approved. Murray noted that when the Agenda is approved then the Consent Calendar is approved unless anyone wants to pull an item off the Consent Calendar and then there would be discussion. Whitty called if anyone wanted to pull off the minutes. Whitty moved to adopt Agenda, Martinez seconded. Item approved unanimously.

## 8. STAFF REPORTS

### PROJECT MANAGER'S STAFF REPORT INCLUDING

- a. Report on results from US Navy Escrow Fund Agent RFP
- b. Review of fund balances for Pt Molate General Fund budget and Navy Escrow Account
- c. Report on Nichols Consulting Engineers Contract Status Remediation Activities

Murray reported on five items in board packet for this item. Murray noted that there is a new fiscal agent Union Bank and reported on the balance summary forwarded today from First American to Union Bank. Murray reported on Beach Park progress and meeting with Caretaker on City areas under use in Pt Molate. Whitty noted that a flyer regarding PMCAC Outreach would be helpful. Murray summarized that fund balance prepared by LaShonda White and summarized the NCE costing sheet. Murray also noted that Committee Garrett forwarded out some additional items late and Committee may want to consider carrying this item over since she could not make the meeting. Carman agreed that NCE's Mike Leacox can attend next meeting with Garrett and Carson, attending tonight, can also reattend the next meeting.

General discussion on NCE, Terraphase process regarding IR Site 3 and City proceeding with the FS RAP process on IR Site 3. Carman and Carson discussed process for bidding and how to get to a complete clean-up. Whitty noted that discussion on this will continue to the next meeting.

## 9. CONSENT CALENDAR

- a. APPROVE – PMCAC meeting minutes of July 15, 2013
- b. APPROVE – PMCAC meeting minutes of August 19, 2013

Whitty moved item previously with Agenda, Martinez seconded. Item approved unanimously.

## 10. FUTURE AGENDA ITEMS

Whitty discussed future items such as All One Ocean, Rosenberg Rules and possible Homeland Security briefing. Sundance inquired about a Grand Opening of Pt Molate Beach. Murray indicated that it is

with Parks Supt. Chamberlain, but since there is a lot of prior help from this Committee, then a proposed date could come from PMCAC. Whitty asked if this could be a future Agenda item. Sundance noted that it could be open prior to next meeting. Hite noted that it would be in early October. Murray noted that he would email PMCAC information from Chamberlain on opening.

**11. CITY COUNCIL LIAISON REPORTS**

- a. Report by Councilmember/Mayor McLaughlin regarding recent issues in Richmond relevant to the Advisory Committee

Whitty reported that Mayor could not attend.

- b. PMCAC appointment status

Whitty indicated no report but a flyer would be great.

**12. CHAIR AND SUB-COMMITTEE REPORT**

- a. Clean-Up and Restoration:
1. Summarization of wet season groundwater monitoring report covering period 1/1/13 to 6/30/13
  2. Report out on 7/23/13 Meeting with NER, NCE, Terraphase, PMCAC & City Staff
  3. Report out on 2<sup>nd</sup> Qtr SMR for PGWTP
  4. Report out on August Monthly Status Report
  5. Report on 8/15/13 2<sup>nd</sup> Qtr 2013 UST Monitoring Report

Kortz noted that she did not prepare any report. Carman noted that Garrett wanted item 1 to be on the Agenda and Carson noted that he can report on it. Whitty noted that only Garrett and Kortz are on this Committee and it is important. Carman noted that PMCAC should hold over item 1 for Garrett next month and hear item 2. Carman inquired if anyone attended the July 23 meeting. Hite noted that he attended and had a concern about NER with a pre-established price and foresees a cost overrun just like the SF Bay Bridge project. Whitty asked if there was any further report out on this meeting. Carman asked about NER maintaining a bond for work cost overage and a waste management unit affecting property values. Carson summarized primary items of discussion. Carman noted his concern and any discount for a complete clean up of the site such as Scenario four with excavation without desorption. Carson explained budget and process based on data project has obtained and noted that there could be an option during the bid process and recommends that get Water Board approval first with option prior to bidding. Carman noted he has no objection to Waste Management Unit in theory. Carson agreed that ideal would be nothing out there but there is budget constraint and noted that the US Navy when it allocated money never considered complete removal. Carman motioned that City Staff should consider to complete clean up, consider thermal desorption at the new price, and bidding in clean up in a modulated form as Mr. Carson has described and make a decision on complete clean up after the bids are in. Carson agreed but Thermal thrown in will delay project at least a year. Kortz inquired why one year. Carson indicated CEQA will need to be re-opened and Green House Gas will need to be considered. Carman noted that he visited Pt Molate with three different people and that with Sea level rise IR Site 3 will be under 10 feet of water so what is the difference. Carson noted that the elevation of Site 3 is between 15 to about 20 feet and projection for next 100 years is 3.5 feet so it is unlikely the site will go underwater. Carson noted that the groundwater rise will make it wet in the clean layer above the waste and there should not be a concern. Whitty noted that there was a motion, there was discussion and called for a second. Kortz seconded. Item passed unanimously with Martinez abstained.

Hite inquired about a project permit. Carson noted that only permit is from City after the FS RAP is finished and the Water Board reviews and puts out for formal public comment. Hite inquired about costs. Carson noted that Water Board bills by the hour but does not see those invoices. Martinez inquired what is the Water Board process of approval. Carson noted that approval is sought first from the Water Board for the Waste

Management Unit and then the alternative for complete cleanup such as in Alternative 6. Carson noted that it is important that Water Board knows that it is about Budget and if we can afford it then we can proceed rather than Water Board stating if you thinking about full clean up then just do it without any necessary budget recourse. Carman said the FS RAP should move forward including all alternatives. Carman requested Murray to inform City Manager of motion just made by PMCAC and movement forward on FS RAP. Murray noted that he could summarize and forward out to Chair, PMCAC as well as City Manager.

Whitty inquired about Item 3. Carson noted that this is this is just normal NPDES report. Carman indicated that this was seen already last month. Whitty asked about Item 4 August Monthly Report. Carson noted nothing special really other than Terraphase is waiting for direction on IR Site 3. Whitty noted a good report on the UST Monitoring and all normal and this report was very clear. General questions on the report regarding terminology. Carson noted that we need to get moving on IR Site 3 to get action for next summer.

b. Community Outreach:

Hite reported that there is a new brochure being prepared. A draft of the Committee Brochure was provided at each Committee Members desk. Brochure was prepared by Richmond Resident and Photographer Ellen Gailing. General discussion about proposed changes. Carman noted that there was a lot of people at table at the Solano Stroll. Kortz reported that it was staffed by Citizens for a Sustainable Pt Molate and that there was a lot of interest and a lot of people coming to the table. Kortz noted that Stello, Smith, and Garrett are on the Citizens for a Sustainable Pt Molate group and she could talk to them about input and future events. Whitty mentioned that Richmond Chamber is doing the upcoming tour of Richmond Shoreline and brochures could be made available for that event.

c. Grant Development: Grant App.Status

No report.

d. Pt Molate Beach: Baykeeper Cleanup Completion and current rehabilitation status

No report.

e. Chair: Identification of pending schedule conflicts

No report.

**13. ADJOURNMENT**

Hite moved to adjourn the meeting at 9:08 pm, seconded by Carman. Passed unanimously.

**14. Assemblage of PMCAC Standing Sub-Committees**

Adjourned to Sub-Committee Meetings.

**15. SCHEDULED MEETINGS**

Committee Meeting –

Monday, October 21, 2013, 6:30 p.m., Multi-Purpose Room, 440 Civic Center Plaza

Minutes respectfully submitted by:

\_\_\_\_\_

Craig K. Murray, PMCAC Staff Liaison

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# **City of Richmond – POINT MOLATE COMMUNITY ADVISORY COMMITTEE**

Multi-Purpose Room  
440 CIVIC CENTER PLAZA

## **PROPOSED MINUTES MONDAY, October 21, 2013, 6:30 PM**

### **1. CALL TO ORDER**

Chair Whitty called the meeting to order at 6:38 p.m.

### **2. ROLL CALL**

Present: Committee Members Carman, Garrett, Gilbert, Hite, Kortz (6:42), Martinez, Puleo (6:40), Smith, Stello (6:42), Sundance, Whitty.

Absent: Rosing, Stephenson

Staff Present: Craig K. Murray, Staff Liaison, Development Project Manager II; Gayle McLaughlin, Liaison to the City Council.

### **3. WELCOME AND MEETING PROCEDURES**

Whitty welcomed audience. Whitty then explained meeting procedures, and discussed the Speaker Card process.

### **4. AGENDA REVIEW AND ADOPTION**

Whitty reviewed Agenda items and briefed PMCAC on the Agenda order and speakers. Garrett moved to adopt the Agenda with Item 7B given more time and less time to 7A, seconded by Carman. Item passed unanimously.

### **5. ANNOUNCEMENTS THROUGH THE CHAIR**

Chair reviewed Cal Trans Notice on shifting lanes to accommodate rebuilding of the bridge deck. Chair noted that on October 15 City Council voted to rename Western Drive north of the Richmond San Rafael Bridge to Stenmark Drive. Garrett spoke on the renaming of Western Drive item and made a motion to request to City Council costing and source of funding information of renaming this portion of Western Drive, seconded by Smith. Motion passes unanimously. Martinez inquired if he could make a friendly amendment. Martinez made motion to reconsider prior motion, Garrett seconded. Motion passed unanimously. Martinez made friendly amendment to request information from City Council on how Cal Trans will provide for the name change on their signs, seconded by Smith. Amended Motion passed unanimously. Whitty announced that Committee Member Rosing has moved out of town and is expected to resign from the Pt Molate Community Advisory Committee. Murray clarified that Rosing auto-resigns as of missing tonight's PMCAC meeting.

### **6. OPEN FORUM**

Jim Hanson spoke to the Committee regarding signage and to at least keep signage along the former Western Drive stating Pt Molate.

### **7. PRESENTATIONS, DISCUSSION & ACTION ITEMS**

#### **a. All One Ocean**

Whitty introduced Pamela Comstock and Lauren Weiner of All One Ocean. Whitty noted that in packet it shows that Park and Rec. has approved a trial placement of the All One Ocean Trash Pick Up Sign Post in Marina Bay. Weiner introduced All One Ocean founder Hallie Inglehart and Pamela Comstock. Weiner described herself as a Surfer, Activist and a Mother of a two year old and holds a MBA with Green Certification and being the Director of All One Ocean is a dream job. A presentation was made by Comstock showing the stations, use of repurposed coffee bean bags for users and Weiner described the process of removing things such as cigarette butts and straws that don't belong on the beach and Comstock noted that Pt Reyes Station has three stations up already. Weiner showed pictures of the Great Pacific Garbage Patch, the

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North Pacific Gyre, an ocean trash area and how the five different Gyres affect ocean animals and birds that frequent beach areas. Comstock walked around the trash bags for the Committee and displayed an example of the All One Ocean sign post that is placed in Beach areas. Weiner noted that there are a total of seven stations up already including two in Emeryville in the East Bay and in conversation with Pacifica and several other beach communities. Weiner noted that she will skip several slides to get to the Community Engagement piece. This involves incorporating local businesses as well as involving a Steward. The Steward visits the box about every seven to ten days and takes data points of how many times the bag has been used, make sure the signage hasn't been tagged and to take care of the station. Weiner noted that she is skipping the education portion of the presentation and noted a Beach Clean Up is coming up this Wednesday. Weiner concluded and opened up for questions. Carman asked if there were questions from the Committee. Hite asked what Weiner's favorite place to surf and Weiner noted Eldoran in Pacifica. Hite noted that Drake's Bay has best surf if you take a left and walk a mile and it only breaks on a west swell with a little tube that is not dangerous and easy to access. Weiner asked if she can longboard this location. Hite said short board would work. Weiner indicated that she could then tell her husband. Puleo commented that the boxes need to be secured or they will end up in the Pacific trash pile. Weiner noted that they are drilled into wood and showed the slide of the location in Limatour and other locations affixed to side of a building and set in cement. Boxes are located on the footway to the beach and not actually on the beach and away from the water. Signage is 60% educational even if people don't open the box. Information is on why this is an issue. Smith asked about the big stuff. Weiner noted that All One Ocean has found at other locations that people will drag larger items to the station and the beach agencies will pick it up. Inglehart noted that the stations will help visitors start changing the thinking about picking up trash. Martinez inquired if there would be extra trash can receptacles if the program is successful. Weiner indicated that no additional cans would be provided by All One Ocean and the materials in each bag is not voluminous. Weiner noted that the stations are located next to a garbage bin. Comstock noted that there has not been a complaint about an adjacent trash bin that is overflowing and has not been picked up. Garrett invited All One Ocean representatives to a Pt Molate Beach Clean Up and see amount of materials placed in just one trash can and it is a very different scenario. Weiner noted that Garrett's comment is a great question.

Garrett further noted that time has been spent with CFSPM (Citizens for a Sustainable Pt Molate) in regards to Adopt-A-Beach and Stewarding and clean ups at the beach and it is a very different scenario at Pt Molate. Garrett stated that not every beach you encounter will be a good candidate for an All One Ocean Trash Pick Up and Education Station and further stated that Pt Molate Beach right now is not a good candidate for this but may two years from now. Garrett stated that point source trash at Pt Molate Beach is derelict marine debris that came from creosote-loaded pilings from Red Rocks Marina and not good for any human to touch and there are a lot of sunken boat and boat parts that are being shed to the Beach Park including fiberglass. Garrett noted that she was on beach yesterday with gloves on and picked up two times the amount in just one All One Ocean bag. Garrett noted that the PMCAC wants to encourage people to clean up after themselves as stated in the Waste Management Plan and at the moment need to consider the programmatic expression of the park. Is it to encourage eating, parking, water sports and what have you and this is a big factor. Garrett stated that City of Richmond has a very diverse demographics to come and spend a quiet afternoon there. There are no sports facilities there but picnic tables and barbeques and that is it and all of the trash cans have been located next to the barbeques because of the point source of people bringing food in and their containers. Garrett noted that doing a study this weekend she found that the trash cans closest to the barbeques and tables were the ones that were full and those at the far end of the park weren't full at all. Garrett furthermore noted that the biggest thing is that the PMCAC does want park visitors to manage trash that they are bringing in but don't want, at this point, to encourage people that have not been trained to go out on the beach and pick things up that includes risks of fiberglass and picking up sharded fiberglass is not fun. Garrett noted that there are a number of dead animals there and dead birds too and she found three dead birds yesterday with a two year old trying to fling a dead crow in the air and there are a number of dead seals. Garrett noted that PMCAC does not want people to try to drag items up on the beach and need special care as well as don't want people to try to drag pilings around and there is a very erosive bluff and PMCAC does not want people to drag things up there and to bring things up next to a box. Garrett summarized that this is the scenario for now and it is not a great idea to push the uninitiated that haven't been involved to go out on their own and pick up the typical clean-ups of straws

and bottles. Garrett noted that everyone she saw on the beach is doing that anyway. Garrett stated that she thinks it is really risky that unattended to encourage people to go onto the beach with serious hazards. Garrett noted that there is another big hazard and All One Ocean needs to face facts that Pt Molate Beach Park is an inner City with a bunch of drug paraphrenellia around and don't want to encourage people without gloves to pick that up. Garrett noted that she thinks All One Ocean's proposal is great and thinks that we should continue to follow the path that Parks Superintendent Chris Chamberlain is going down for good point source loading is fantastic. Weiner agreed that type of materials that Garrett described is not All One Ocean's target and All One Ocean is open to beaches that are appropriate. Garrett noted that she really likes the education component and told Weiner to go to the East Bay Regional Park District because there is another scenario that mimicks the programmatic scenario of Pt Molate Beach with much bigger volume and that is EBRPD's Miller Knox Park and there is a lot of people and trash coming in there and a great opportunity to safely educate people to pick up after themselves without any hazardous things. Garrett provided All One Ocean another tip to partner with other Non Profits who are stewarding these beaches and parks because the education is really important including other non profits are trying to put in signage of the importance of marine ecology and the life cycle with plastics. Garrett summarized that it is an opportunity for All One Ocean to get in and tell its three hundred and sixty degree story with an integrated educational sign. Garrett also mentioned that the All One Ocean stations need to be more rugged with laminated signage. Weiner noted that it is normally laminated but this is just a sample presented. Inglehart inquired what specific organizations that are stewarding Pt Molate. Garrett noted it is CFSPM and that she is surprised that David Helvarg didn't alert the All One Ocean of this fact and that CFSPM has been conducting clean ups at Pt Molate for a number of years in conjunction with The Watershed Project and in conjunction with Baykeeper. Garrett further noted that Baykeeper just pulled 18 tons of creosoted logs from Pt Molate Beach Park in May from September, 2013. Comstock noted that big events like Coastal Clean Up day bring out lots of people to clean up a lot as compared to All One Ocean being an everyday event. Garrett told All One Ocean that they should get together with CFSPM and all three directors of CFSPM are here in the PMCAC meeting now and All One Ocean can hook up with their Adopt-A-Beach Program and Garrett described it as very casual but trained and guided and wear gloves. Inglehart asked if this was through the Coastal Commission. Garrett said no and it is with the CFSPM. Whitty asked to describe CFSPM. Garrett noted that it is the organization that received the funding to open the Pt Molate Beach Park and that all three Directors are sitting at the PMCAC table. Stello indicated that she has been to the All One Ocean website and is a CFSPM Director and thinks All One Ocean is great and will send All One Ocean an email. Stello indicated that Smith is also a Director that CFSPM is working with. Hite agreed that All One Ocean is a great organization and could have used one of their bags last time he was on the beach.

Inglehart indicated that there are three stations about to go up on the island of Hawaii and the entrance to the Pt Molate Beach Park would be a great place for a sign on basics of green debris and stations as part of the way. Garrett noted that All One Ocean may want to put a bid in on a rubberized locker for all the volunteer organizations to put their supplies in and those that are trained could access this locker with pails, forks, knives to be used for clean up. Whitty thanked All One Ocean for a great presentation. Whitty noted that PMCAC will let CFSPM work with All One Ocean regarding working on Pt Molate Beach Park and that PMCAC would not be recommending any action.

b. Review IR Site 3 NER Correspondence, Final Numbers

Whitty announced that Terraphase has commenced preparing the FS RAP for IR Site 3. Carson confirmed. Whitty asked if Kirk Shellum is available. Garrett noted to Carson that the spreadsheet is difficult to read and has reduced it down to basic information of each alternative. A Go To Meeting connection was established and Kirk Shellum of NER/Minneapolis, MN introduced Daryl Nelson, NER CEO, in Edmonton, Canada and Technical Director John Tucker in San Antonio, TX. Garrett asked Mike Leacox of NCE to walk through the NCE spreadsheet to see the difference between the July and September costing, to allow NER to make any comments on it, so that PMCAC can

determine a dependable final number and make a recommendation on what road to travel in order to remediate IR Site 3.

Mike Leacox of NCE noted that there are only two spots where NER numbers have been used in the spreadsheet of difference and that is how the soil is treated. Garrett presented a summary spreadsheet and noted that there are differences on virtually every element. Garrett noted that the Ground Water Treatment Plant and an assumption of operation of three and one-half years makes a difference to NER's proposal in one of the scenarios. Garrett explained that the new spreadsheet with subtotal figures for P1,2,3,4 plus contingency and it lays out the figures from July 23 and September 12 and the spreadsheet only includes sub-totals and totals. Garrett explained that PMCAC can see items such as why P1 was \$250,000 and is now \$750,000 and to walk through those explanations. Leacox explained the comparison of the cost of Thermal Desorption versus the cost of Treating and Hauling from July 19 to September 12. Leacox mentioned that he thought a focus on the September 12 information with reoccurring costs that are important to consider in relation to timelines to the two alternatives and other costs that come in or out depending on what alternative is viewed.

NER provided Go To Meeting access to system at PMCAC meeting place so all could see spreadsheet information being discussed. Leacox summarized reoccurring costs that affected differences in the spreadsheet including Phase I of the July 19 estimate that did not include some of the reoccurring costs as Operation of the Ground Water Treatment System, the Semi-Annual Ground Water Monitoring, and Regional Water Quality Control Board oversight and indicated that the reason the numbers go up in Phase I for excavation and for Thermal Desorption is because they were not included in the original spreadsheet. Garrett clarified that Scenario 2 is lined up against others. Discussion on Ground Water Packaged Treatment Plant (PGWTP) and Carson noted that this system will not last 20 years but more like 2 years.

Garrett indicated that need to look at clean close and Carson indicated that with a Waste Management Unit the management costs of it will go down over the years. Garrett inquired why costs were double for Thermal Desorption (TD) and Leacox indicated that it is for more than just one year, and there are extra CEQA costs and uncertainty of permitting the TD system including Air Board Permit and City Green House Gas rule. Leacox further described Scenario 4 with 3.5 years rather than 1 year. Shellum noted that it was first time he looked at spreadsheet and questioned why a year and a half to permit the system. Shellum indicated that the Air Permit in San Joaquin recently received would be no where near a year and a half. Carson inquired to how long was the experience of NER in getting an Air Permit in the Bay Area. Shellum indicated it wouldn't take a year and a half. Carson inquired to Shellum to his experience with CEQA and how long that would take. Shellum indicated that talking to regulators it would be an amendment and not a full document. Carson inquired to what regulator. Shellum indicated that he spoke with the Water Board. Carson asked who Shellum knows as the Lead Agency. Shellum said he spoke with the Water Board and they felt that it would not take that long. Carson stated that the lead agency is the City. Shellum stated that he was asking the question if a new CEQA document would be required. Carson said that is correct. Shellum summarized experience in San Joaquin County and their staff said a permit could be obtained in six to eight weeks. Garrett indicated that even with public notification process best case would be nine months and realistically looking at a year to a year and a quarter. Stello asked if Carson could not speak in confrontational manner.

Leacox summarized other figures relating to operating the packaged groundwater plant and noted numbers for P2 for excavation did not change. Leacox explained that he did not have this NER letter and difference is about \$60,000. Garrett agreed that there are some differences and they show up later. Leacox indicated that the Phase 3 excavation and disposal really didn't change remarkably with one correction on converting the bank cubic yards to loose cubic yards. Real change on thermal desorption is the thermal rate. Garrett inquired to the change on the 46 and the 42. Leacox responded that it is the 123,000 tons compared to the 3,000 tons and confirmed that this is two different scenarios and this is the broadest change. Leacox noted in Phase 4 it is the reoccurring costs tied to ground water monitoring that created change and noted that in the 19 versus 12 and believes it was a regulatory oversight that did not get in there. Garrett thought it was P1. Leacox said no but it is a lot of things that came in and out and the timeframes attached to it and gave example of P4 with five years versus 20 years of monitoring. Garrett inquired about scenarios of 20 years of monitoring versus a clean close scenario.

Carson summarized that Garrett wants to see the scenarios at 5 year intervals. Garrett agreed and that, for PMCAC, it is best to put information in format that is digestible. Leacox noted that in order to get to each scenario final number

then it needs the review at this level of detail. Garrett agreed and noted that it helps with general numbers in counseling the City. Carson noted that it is closer to 1 to 3 million in Scenario 2 if only 5 years and the packaged groundwater treatment plant will be gone, Water Board has bought into it already and all we have to do is to aerate for non-polar which are considered non-toxic compounds in that trenched out compound in response to Garrett inquiry of annual cost of \$375,000 a year to run the PGWTP. Carson noted that the PGWTP is gone. Leacox noted that NCE has accounted for the PGWTP being turned off after remediation is complete. TD in scenario 4 is a 3 year process prior to being turned off. Garrett inquired if it could be broken into phasing in Scenario 2 to point PGWTP is turned off. Leacox understood this as phasing and then you compete on Mobilization Costs and each time mobilize it will be \$300,000. For TD and \$50,000. for soil excavation.

Garrett summarized that this body, the PMCAC, is trying to get to a point where it can provide a cogent set of guidance to the City Council. Carson noted that what Garrett proposed such as Phasing can be done. Carson said that no one will say that you can't excavate to clean closure. Garrett noted that City may need to make compromises and seek a 20 year clean up rather than 2 year clean up and seek additional funding. Carson noted that he spoke at last meeting and can provide flexibility and with City staff it can be bid as bid alternate such as there are three alternatives with the Waste Management Unit and to take it entirely out. Garrett indicated that it does hinder marketability of Pt. Molate and also noted that it is too bad that the review of what to do with IR Site 3 has created a cost of approximately \$100,000 a month for about a year and a half and we could have been going into this if we just settled on it. Garrett recommended to now go out to a RFP for Scenario 2.

Leacox noted that this presentation is an Engineer's Estimate and it is not a bid and TD is also an Engineers Estimate using best understanding and unit costs. Garrett noted that PMCAC is asking for final costing and time spent is just unacceptable. Leacox described why to get a bid is once the bids and specifications are prepared once the methodology is determined how it will go and the bids and specifications are provided to a contractor to provide a bid and then you will have your bid amount. Leacox noted that it is standard in the industry to develop the project, prepare an Engineers estimate, put plans and specifications out to bid, and then you would have your bid. Garrett noted that this should have been done over a year ago.

Carman inquired if the City can go out to bid and last meeting discussion on the alternate bid process. Carson indicated that he does not recommend TD through the FS RAP and recommends an alternative bid through the excavation. Hite asked how long it will take to bid and stated it would be about six months. Garrett noted a year and a half for TD with the CEQA approval. Martinez inquired to how large a difference between an engineers estimate and a bid. Whitty noted that engineers estimate is usually a little high. Leacox noted in the Civil Engineering world in is typical to try to get to the Engineers Estimate with 5% and the uncertainty in this project is the amount of soil might be more than what is estimated. Garrett noted that the 15% contingency is pretty fat. Carson noted that it is pretty standard. Sundance inquired that the City Manager desired to clean to highest standard. Leacox confirmed that is Scenario 4 that is called Clean Closed in the landfill business. Leacox summarized the process to get to the bidding point. Carson noted that the bidding for a construction bid would allow contractors to get numbers will be at least a month.

Puleo asked if 4 Scenarios can be bid out is realistic. Garrett said no and noted that Terraphase's recommendation is Scenario 2 excavation and described the process that the Committee is going through and see if there are other possibilities such as Scenario 4 and 2 and Garrett does not personally discount TD whether Scenario 2 or 4 but there is a big financial difference between the two and based on that the recommendation is Scenario 2. Carson agrees to get an alternate cost and maybe it will fit into the budget but not to give up the scenario that does fit with the budget. Carson noted that once it is bid, the City may determine that it would like to come up with an extra 3-5 million or whatever is needed to clean closure alternative. Garrett noted that there is agreement with process on the x axis doing it with the alternative but would like TD bid. Carson noted that bidding TD delays the process. Excavation bid with hard numbers you can be in field in 2-3 weeks versus the year and half additional time for TD. Carman indicated that it may be worth it if you can save money such as \$8 million and recommends putting TD in the bid. Carson noted that you will not save \$8 million. Hite asked if the GHG permit can be waived. Discussion that it would come around in project cost. General discussion about GHG emissions. Shellum noted that the Green House Gas emissions would need to be permitted and what needs to be determined. Garrett noted that the CEQA document did not address GHG emissions.

9.B.5

Carman noted that City staff is moving forward anyway and need to get this in FS RAP. Garrett noted that it has been two years of slow walking the process. Carson noted if it takes longer then you will spending money. Garrett noted that it costs money slow walking the process. Carson clarified that it is taken time due to the Water Board's regulatory stance on the process and the debate over this particular issue. Garrett noted that it took over a year to get a meeting with NER. Carman opened discussion to NER. Shellum noted that NER has listened and first got involved about two years ago with a meeting of George Leyva and Bill Carson at the site. Shellum summarized process and details such as fuel and noted that the NER process does take more time but liability is severed on site by reusing the soil on site. Shellum indicated that the bids could come in 30-40 percent higher with excavation and compared a clean site via TD or a site with a Waste Management Unit.

Puleo said PMCAC should recommend to go forward now and City to put out an RFP whether TD or excavation. Carman noted that Murray stated that the City is already moving forward on the FS RAP. Carman believes entire PMCAC recommends that TD be included in FS RAP and bid process. Murray noted that from the last PMCAC that there was an Administrative Decision to go forward with FS RAP and seek a cost for clean closure. Martinez inquired if the figures on the WMU include the dumpsite for disposal. Leacox said that the tipping disposal fee is included forever at the dump site. Leacox agreed with NER's point that you still own it and it is cradle to grave. Shellum indicated that the risk may with an insurance policy may be really expensive. Puleo noted that the City has already spent a lot of money on insurance policies. Stello asked Murray if TD was included in the steps forward. Murray indicated that the discussion with the FS RAP will include the Clean Closure alternative bid and time issues and lapse with TD may be with George Leyva and consultants. Garrett noted that in December of 2012 George Leyva already stated that the FS RAP will be rejected if TD isn't addressed and rejected a pilot study requirement. Garrett inquired why can't go forward with TD and small footprint WMU and it would be wasting additional time with Water Board not to include TD. Murray clarified the responsibility of the Water Board. Carman stated importance to having a site without a Waste Management Unit and it may restrict value and use of the property and this is not seen in the numbers.

Puleo motioned that the City go forward with the bid process. Martinez seconded. Garrett provided further discussion and the restoration advisory subcommittee should further discuss the quantitative aspects and seek further funding for full clean closure and seek developers that will provide that additional funding and stress that both technologies have benefits and drawbacks and both are at equal footing and in Garrett's book they are even.

Whitty clarified that the City go forward with both Scenarios to bid. Motion passed unanimously. Smith wanted to make another motion and changed it to a recommendation that the Committee goes to the three that spoke the longest that would compose the letter to the City Council. Whitty noted to the City Council Liaison. Mayor indicated that it should also be directed to City Council. Whitty noted that the three of us would draft the letter. Carman indicated that time is of the essence because Staff is not waiting. Carman asked if NER is still there. Shellum confirmed that they were there and wanted to know if project and bid will be bonded. Shellum said yes. Mayor asked if PMCAC letter can be copied to Bill Lindsay. Whitty agreed.

## 8. STAFF REPORTS

### PROJECT MANAGER'S STAFF REPORT INCLUDING

- a. Report on new US Navy Escrow Fund Agent
- b. Review of fund balances for Pt Molate General Fund budget and Navy Escrow Account
- c. Report on Facility Survey with City of Richmond Caretaker
- d. Inquiry of Use of Goats for Vegetation Management
- e. Information from David Rosenberg, Esq. Presentation on Rosenberg Rules
- f. PMCAC Establishment Resolution No. 8-11 Review

Whitty noted that there is a Staff Report in the packet under item 8 and congratulated the PMCAC for getting the Beach Park opened and there was a huge amount of press. Garrett requested that item 8d be carried over to November. Whitty agreed. Garrett suggested that item 8e and the Charter reading be carried over until

9.B.6

November and asked each PMCAC member to read. Whitty called for report on 8a,b,c. Murray noted that KCRT's Brian Bland put together a video on Pt Molate Beach Park and asked if it would be alright to play the video while the Staff Report item is being heard. Murray reported that the new Fiscal Agent Agreement was provided to the US Navy Attorney and the first Escrow payment request, #39 in sequence, was requested through Union Bank. Murray reported that both finance reports are there. Garrett requested if a summary can be provided in the Staff Report and asked for a report by vendor. Garrett summarized a \$105,000. Invoice from Terraphase and inquired about how to see invoices since March. Garrett also inquired about monthly insurance report. Murray indicated that any Committee member can come in and review. Carman indicated not to place this in packet because it is too large. Garrett inquired if Staff can place items into Google documents and Murray reiterated that this is available any time for Committee members to review hard copies but can check with City Manager Staff to see if this request can be coordinated. Murray reported on update on review of space usage at Pt Molate.

**9. CONSENT CALENDAR**

- a. APPROVE – PMCAC meeting minutes of September 16, 2013

Murray noted that item will need to be carried over to next month.

**10. FUTURE AGENDA ITEMS**

Whitty noted the two carry over items from Staff Report and to seek for a future presentation of the Pt Molate Beach Park Eelgrass. Garrett asked to reconsider PMCAC meetings on Monday nights. Carman noted that with Hite they have some volunteers for broom removal and this could be considered. Whitty said that it can be put on for next agenda.

**11. CITY COUNCIL LIAISON REPORTS**

- a. Report by Councilmember/Mayor McLaughlin regarding recent issues in Richmond relevant to the Advisory Committee

Mayor reported no significant items of change in litigation from the City Attorney's Office and advised the Court's will continue the case management and there will be a conference coming up in December. Mayor also announced that the City is waiting for the Court's ruling on the City's motion on the judgement on the pleading that some of the issues get thrown out of the court. Mayor indicated that she is pleased that Pt Molate Beach Park is opened and expressed thanks to entire PMCAC for their work on this effort. Mayor noted that she is in contact with the City Parks Superintendent to select a date for a more official grand opening. Garrett inquired if arguments have been submitted. Mayor indicated that she can check and report.

- b. PMCAC appointment status

No report.

**12. CHAIR AND SUB-COMMITTEE REPORT**

- a. Clean-Up and Restoration:
1. Summarization of wet season groundwater monitoring report covering period 1/1/13 to 6/30/13
  2. Report out on August Monthly Status Report
  3. Report out on September Monthly Status Report

9.B.7

Whitty referred to packet for Item 12.A.1. Garrett referenced to Carson to report but inquired on the high readings in a couple of wells. Carson reported a couple with high petroleum readings but have not heard from the Water Board and indicated that he can have Peter review and report back to him. Garrett inquired on the optimization comment in the report. Carson said that there is limited amount of contamination in the bioreactor and goal is to get rid of it before it collapses on itself and can do this by increasing the amount of sand filters. Carson noted that this should bring in the Operations and Maintenance time costs out there as well. Carson noted that Terraphase is already checking to make sure the Carbon is treating it adequately. Carson indicated that Terraphase found that it was loading the Carbon too rapidly and that would increase the costs but the amount of loading on the Carbon will be less costly than having Colin go out there two-three times a week to check and keep that Bioreactor from braking. Garrett requested a copy of the Water Board comments. Carson noted that he received Garrett's email last week requesting comments and Carson will Kelly will go through Garrett request for documents and apologized because in the industry this is the busy time just before going into winter weather. Carson noted that Water Board comments were regarding what Terraphase will be doing with the tanks and want a report on each one that is planned to be closed and what to do with tanks that still have some impact. Carson said there is no sense in providing active remediation of these tanks but will provide Water Board a report on each tank closure. Carson noted in August and September really haven't been doing anything other than running the systems waiting for a decision on where to go with IR Site 3.

Garrett asked Carson if he could provide a copy of the draft FS RAP that Terraphase is preparing. Carson indicated that now he is working on details on alternatives and by next meeting should be able to bring what the alternatives are to go through the FS RAP.

Garrett asked if anyone else had comments on the August and September reports.

b. Community Outreach:

Hite reported that attending PMCAC have a copy of the current draft brochure and asked for comments. Hite reported that the brochure and survey will be circulated to the community and noted that PMCAC will have the benefit of the University of California, Berkeley Graduate Students again to assist in outreach and marketing. Hite thought that targeted efforts this time may be focus and go to Iron Triangle. Stello noted Santa Fe. Hite indicated no slide show because of limitations with technology. Garrett inquired how all Neighborhood Councils will be reached. Hite indicated that he will do what he can and start coordinating it and indicated that Mary, Eduardo or Charles may help as well. Garrett inquired if a schedule of when the Outreach will be performed at each Neighborhood Council. Hite said yes. Whitty inquired if a presentation has been made to the Coordinating Council. Hite said yes that there has been a presentation there but can go back there again.

Hite expressed thanks to Ellen Gailing for doing the work and she can make information into a slide presentation. Garrett asked for Hite to report next month on the schedule of visits to Neighborhood Councils. Smith reported on Beach Park. Garrett suggested new flyer be placed on posts at the Beach Park. Garrett inquired if there is a PMCAC recruitment portion of the flyer. Hite noted it is a section on how to participate. Smith noted that a lot of people have asked if Kayaks can be brought to and up on the Pt Molate Beach Park and stated that the answer, according to Garrett, is yes. Garrett clarified that we, the PMCAC, are not in a position to say no. Garrett noted a concern that the Kayaks will create their own social caste down there unless we, the PMCAC, say no kayaking rules then people will arrive with kayaks and drag across the lawn. Murray stated that there is an Eelgrass area that has been studied at Pt Molate Beach Park for some time and it is a group that PMCAC may want to come speak and PMCAC can consider items such as this in the management of the Beach Park and make sure everyone is on the same page. Garrett acknowledged that these particular Eelgrass sensitive areas off of Pt. Molate Beach Park has been already reviewed by every kayaking club and a bunch of conservators. Whitty noted that Eelgrass Research presentation can be put on as a presentation for the future. Stello said it is Kathryn Boyer of the Tiburon Research Center as the point of contact. Hite noted the Romberg Center. Stello said yes.

c. Grant Development:

Stello reported a conversation with Healthy Richmond and they have a grant coming up in November. Stello presented that effort would involve youth in a summertime afternoon coastal education day camp. Stello reported that PMCAC has three Interns from UC Berkeley to work on visioning on the ground with interviews and focus on parents and youth with a focus on the Santa Fe Neighborhood Council area but decision hasn't been made yet and could include North Richmond. Principals at MIG, Daniel Iacafono and Susan Goldsmith, will be leading the youth and Stello noted that both Daniel and Susan spoke to the PMCAC and MIG worked on POGO park, Solano playlot and the Richmond Central Greenway. Stello noted that besides visioning, the big question would be transportation of the youth to the daycamp.

Stello indicated that there is work on a second grant with Wells Fargo for a Coastal Prairie Demonstration plot and signage at Beach Park for Watershed and a coastal education curriculum.

d. Pt Molate Beach: Proposed beach park signage; Baykeeper marine debris cleanup progress

Whitty noted that the Beach Park was opened on Monday and this has been covered already. Garrett noted that photos are in the packet about what the Beach Park looked like on Monday. Garrett reported on new improvements to Beach Park. Puleo noted that there is no beach at high tide but there is pilings there. Garrett reported that every rule that not supposed to break was being observed and there was a bunch of Laoian kids out there with fishing poles. Garrett noted overflowing trash cans, new sign. Garrett reviewed type of trash such as a box an awning came in and Styrofoam cooler and noted that PMCAC will be watching the waste stream. Garrett did report that other than one Kleenex that there was no trash other than marine debris on the beach. Garrett noted that there was already graffiti on a park bench. Discussion on how to clean the benches and Smith noted if there is not enough trash cans then trash will go all over.

e. Chair: Identification of pending schedule conflicts

Whitty reviewed the dates of Nov.18 and Dec.16 during the holidays and inquired if there were conflicts. No conflicts reported.

**13. ADJOURNMENT**

Sundance moved to adjourn the meeting at 9:13 pm, seconded by Smith. Passed unanimously.

**14. Assemblage of PMCAC Standing Sub-Committees**

Adjourned to Sub-Committee Meetings.

**15. SCHEDULED MEETINGS**

Committee Meeting – .

Monday, December 16, 2013, 6:30 p.m., Multi-Purpose Room, 440 Civic Center Plaza

Minutes respectfully submitted by:

\_\_\_\_\_  
Craig K. Murray, PMCAC Staff Liaison

9.B.9





October 30, 2013

Mr. George Leyva  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

**Subject:** Third Quarter 2013 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report,  
Former Naval Fuel Depot Point Molate, Richmond, California

Dear Mr. Leyva,

On behalf of the City of Richmond, Terraphase Engineering Inc. has prepared the attached Third Quarter 2013 Installation Restoration (IR) Site 1 Landfill Post-Closure Monitoring Report. This report describes the activities and status for the ongoing monitoring and maintenance program for the IR Site 1 landfill on the former Naval Fuel Depot Point Molate located in Richmond, California. This report is intended to meet the requirements of Task 11 of the California Regional Water Quality Control Board (RWQCB) Order No. R2-2011-0087, which was adopted on December 19, 2011. This Order requires the continuance of long-term monitoring and maintenance for the IR Site 1 landfill in accordance with the June 2005 Record of Decision (ROD) for the IR Site 1 landfill.

If you have any question or comments regarding this report, please contact Ryan Janoch at (510) 645-1850.

Sincerely,  
For Terraphase Engineering Inc.

A handwritten signature in blue ink that reads 'Ryan Janoch'.

Ryan Janoch, P.E. (C78735)  
Senior Professional Engineer

A handwritten signature in blue ink that reads 'Chris Jones'.

Chris Jones  
Staff Engineer

cc: Carlos Privat, City of Richmond  
Craig Murray, City of Richmond  
David Clark, BRAC Program Management Office  
Michael Leacox, Nichols Consulting Engineers  
Joan Garrett, PMCAC  
Eileen Whittey, PMCAC  
Paul Carman, PMCAC  
Lori Braunesreither, Contra Costa County Environmental Health Services

Attachments: 3<sup>rd</sup> Quarter 2013 IR Site 1 Monitoring Report

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**3<sup>rd</sup> QUARTER 2013 MONITORING REPORT  
INSTALLATION RESTORATION SITE 1 LANDFILL  
FORMER NAVAL FUEL DEPOT POINT MOLATE,  
RICHMOND, CALIFORNIA**

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*Prepared on Behalf of*

City of Richmond  
450 Civic Center Plaza  
Richmond, California

*Prepared by*

Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California

October 30, 2013

Project Number 0078.001.004



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- A Site Inspection Forms
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## Acronyms and Abbreviations

BRAC PMO	Base Realignment and Closure Project Management Office
Cal Recycle	California Department of Resources Recycling and Recovery
CCR	California Code of Regulations
CTRM	composite turf reinforced matting
FPAL	fuel product action level
GAC	granulated activated carbon
IR	Installation Restoration
MCA	mitigation compensation area
Navy	United States Navy
NFD	Naval Fuel Depot
OWS	oil/water separator
PAH	polyaromatic hydrocarbon
PMMP	Post-closure Maintenance and Monitoring Plan
ROD	Record of Decision
SVOC	semi-volatile organic compound
Terraphase	Terraphase Engineering Inc.
TPH	total petroleum hydrocarbons
TPHg	total petroleum hydrocarbons as gasoline
TPHd	total petroleum hydrocarbons as diesel
TPHbc	total petroleum hydrocarbons as bunker fuel C
TPHj5	total petroleum hydrocarbons as jet propellant 5
TPHmo	total petroleum hydrocarbons as motor oil
TtEMI	Tetra Tech EM Inc.
UST	underground storage tank
VOC	volatile organic compound

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## 1.0 INTRODUCTION

This 3<sup>rd</sup> Quarter 2013 Installation Restoration (IR) Site 1 Landfill Post-Closure Monitoring Report describes the activities and status for the ongoing monitoring and maintenance program for the IR Site 1 landfill at the former Naval Fuel Depot (NFD) Point Molate located in Richmond, California. This letter report is intended to meet the requirements of Task 11 of the California Regional Water Quality Control Board (RWQCB) Order No. R2-2011-0087, which was adopted on December 19, 2011. This Order requires the continuance of long-term monitoring and maintenance for the Site 1 landfill in accordance with the June 2005 Record of Decision (ROD; BRAC PMO, 2005) for the IR Site 1 landfill.

The site information included in this section was obtained from the Final Post-closure Maintenance and Monitoring Plan (PMMP), IR Site 1 Final Cover, Naval Fuel Depot Point Molate (TtEMI 2002).

### 1.1 Site Description

NFD Point Molate covers 413 acres in the Potrero Hills of Point San Pablo Peninsula northwest of Richmond in Contra Costa County, California (Figure 1). NFD Point Molate is a former bulk fuel storage and transfer facility operated by the United States Navy (Navy). The oil-handling facilities were built in 1942 during World War II and were capable of storing more than 40 million gallons of fuel in 20 underground storage tanks (USTs), with a capacity of two million gallons each connected by nine miles of buried fuel pipeline. Historically, base facilities also included an oily water treatment plant; aboveground storage tanks; a domestic wastewater treatment plant; an oil reclamation and storage facility; and a former waste disposal area, now designated as the IR Site 1 landfill.

The IR Site 1 landfill, as shown in Figure 2, is located approximately 1,000 feet east of San Francisco Bay, near the center of the former NFD Point Molate. From approximately 1957 until 1979, IR Site 1 was primarily used for disposal of construction and landscaping debris. The debris was deposited over a one-acre area. In 1998, an investigation was conducted to determine the general nature and extent of the waste in the landfill. The estimated volume of fill at IR Site 1 was 20,000 cubic yards (TtEMI 2001a). The soil cover for IR Site 1 was designed in 2001 and constructed in 2002. The soil cover is three feet thick, has drainage controls and a monitoring system, and was hydroseeded with an annual native grass for erosion protection. The area of the IR Site 1 soil cover is shown on Figure 3.

Steep topography bounds the IR Site 1 landfill on the north, east, and west, with the steepest slopes near the toe of the site, on the southwest side. A low-lying wetland area is located on the south side (down gradient) of the site, as shown on Figure 3.

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## 1.2 Applicable Regulations

Non-hazardous solid waste disposal facilities in California are regulated under Title 27 of the California Code of Regulations (CCR). These regulations are administered by both the State Water Resources Control Board and the California Department of Resources Recycling and Recovery (Cal Recycle). The closure and post-closure maintenance requirements for closed landfills or disposal sites, such as IR Site 1, are defined in Title 27 CCR Chapter 3, Subchapter 5. The regulations require that a closed landfill or disposal site be maintained and monitored during the post-closure period to ensure that public health, public safety and the environment are protected and that wastes remaining on site do not pose a threat to water quality.

Section 21090 (Closure and Post-Closure Maintenance Requirements for Solid Waste Landfills) of Title 27 CCR Article 2, Subchapter 5 describes the performance standards and requirements for final cover systems, grading, erosion control, surface water drainage, and inspection and maintenance activities that are applicable to this site.

The IR Site 1 ROD indicates that monitoring of the landfill will continue in accordance with the PMMP (TtEMI 2002) as amended (Sullivan Consulting Group 2003).

## 1.3 Compliance Measures

The overall goal of the post-closure monitoring and maintenance program is to ensure the integrity, effectiveness and long-term maintenance and performance of the IR Site 1 soil cover and drainage system and associated institutional controls established for the site. A PMMP has been established for the former NFD Point Molate IR Site 1 landfill (TtEMI 2002). The requirement to implement the PMMP is in the Final ROD (BRAC PMO 2005).

The PMMP provides the following measures:

- Implementation of an inspection and maintenance program, including an emergency response plan, to maintain the integrity and long-term performance of the engineered soil cover and surface water drainage system were installed at IR Site 1;
- Performance of periodic inspection, monitoring, and reporting activities to document the long-term protection objectives;
- Performance of an annual topographic survey during the first three years for comparison with the baseline survey to detect areas of subsidence and monitor slope stability (since completed); and
- Performance of an annual inspection of the wetland mitigation compensation area (MCA) for the first three years to determine the success of the wetland vegetation establishment (since completed).

The results of the periodic inspections and surveys have been and will be compared with prior inspections to determine whether conditions of the soil cover system warrant reevaluation or repair.

---

## 1.4 Report Organization

This report is organized into six sections, including this introduction. Section 2 summarizes observations made during the monthly site visits. Section 3 discusses repair and maintenance activities recommended for the site. Section 4 discusses the wet season monthly treatment system sampling events. Section 5 lists references used during performance of the site inspection and preparation of this report.

Appendix A contains the site inspection forms and Appendix B contains documentation from the Contra Costa County Environmental Health Services quarterly inspection for this reporting period.

---

## **2.0 SITE MONITORING**

On September 5, 2013, Chris Jones of Terraphase and Lori Braunesreither, Contra Costa County Environmental Health Services Environmental Health Specialist II, conducted the 3<sup>rd</sup> Quarter 2013 site monitoring of the IR Site 1 landfill cover. The monitoring included the quarterly and monthly inspection tasks established in the final PMMP (TtEMI 2002) and the final PMMP Revision 1 (Sullivan Consulting Group 2003). In addition, monthly monitoring was conducted by Terraphase on July 8, August 22, and September 30, 2013. Furthermore, the City of Richmond has a full-time security staff for the former NFD Point Molate who performs periodic monitoring of the landfill's gates and locks.

The final ROD (BRAC PMO 2005) specifies continuing monitoring per the final PMMP as part of the selected remedy for the site. The purpose of the quarterly site monitoring is to assess the soil and vegetative cover and surface water drainage to identify evidence of erosion, cracking, and settlement that may warrant maintenance or repair. The purpose of the monthly monitoring was to assess site security and signage. Recommendations for repairs and further monitoring are provided in Section 3. The field notes from the site monitoring are included in Appendix A. The documentation from Contra Costa County Environmental Health quarterly site monitoring is include in Appendix B. Refer to Figure 3 for soil cover and drainage feature locations.

### **2.1 Signs and Gates**

Signs at IR Site 1 were examined to verify they were posted, legible, and in good condition. Gate 17 (entrance gate) was secure and locked. The gates to the gas vent enclosures were locked. Signs were legible and in good condition. The signs near the paved area and at the northern boundary of the cover area were in good condition.

### **2.2 Erosion Control**

Terraphase conducted visual monitoring of the vegetation, the composite turf reinforced matting (CTRM), and riprap by first inspecting the perimeter and then the interior areas of the soil cover. The vegetation was examined for signs of stress, stunted growth, wilting, changes in color, and bare spots. The CTRM was examined for loose areas, peeling, vegetation growth, and silt buildup. The riprap was examined for vandalism, displacement, vegetation, and sedimentation. The vegetation consisted primarily of grasses and low shrubs growing in various places on the landfill cover, particularly along the edges of the cover. Grasses have filled in between plugs and the paving stone area has well established vegetation. Rodent activity was observed during site visits, but the burrows were not significant. The CTRM was well secured to the ground and at the transition with the riprap, concrete, and paving stone.

---

## 2.3 Final Grading

Terraphase engineers conducted visual monitoring by walking the perimeter and traversing across the soil cover area. Terraphase examined the soil cover for the following:

- Erosion rills;
- Visible depressions;
- Ponded water;
- Exposed refuse;
- Cracks;
- Settlement and subsidence;
- Slope failure;
- Seeps; and
- Burrowing of animals.

No significant surface cracking (desiccation) was observed during the monitoring. The landfill cover will continue to be checked for surface cracks during future quarterly monitoring events. No ponding of water or any areas of subsidence were observed during the monthly site monitoring visits. Evidence of ponding will continue to be monitored.

During monitoring, there was evidence of burrowing animals on the north-central portion of the site, but the burrows were not significant. Rodent burrows will continue to be monitored.

No evidence of visible depressions, exposed refuse, settlement or subsidence, slope failure or seeps were observed during the quarterly monitoring.

Surveying of the settlement markers was conducted for three years following the final capping of the landfill.

## 2.4 Monitoring Systems

Terraphase engineers conducted visual monitoring of the groundwater monitoring wells, the soil gas monitoring wells, and the gas vents for structural integrity and general condition. The monitoring wells and gas vents were generally in good condition. Covers on the groundwater monitoring wells have bolts, but are not locked. All landfill gas turbines were observed to be turning and operational during the monthly site visits.

Terraphase is conducting a monitoring program for methane in soil gas and impacts of landfill constituents to groundwater and conducting site maintenance in accordance with the oil/water separator (OWS) PMMP, as required by the final ROD (BRAC PMO 2005). The scheduled sampling and analysis program assesses whether concentrations of chemicals in groundwater

---

and OWS effluent, and concentrations of methane in soil gas samples at or immediately down gradient of IR Site 1, exceed applicable action levels and require additional action as a compliance activity. A complete description of the required monitoring activities can be found in the IR Site 1 PMMP (Tetra Tech 2002), and its subsequent revision (Sullivan Consulting Group 2003). The results of the monitoring are summarized in Section 5.0.

## **2.5 Drainage Features**

The purpose of the surface water drainage system is to provide surface drainage to minimize infiltration through the landfill cover and to reduce and control erosion. The surface water drainage system consists of two cast-in-place concrete V-ditches located on the western and eastern sides of the IR Site 1 soil cover, grassed channels located on the east and west sides of the IR Site 1 soil cover, a natural drainage outlet on the north side of the IR Site 1 soil cover, pipes and a culvert near the paving stone area and two tailwater basins at the southern end of the IR Site 1 soil cover. The locations of the drainage features are shown on Figure 3. Construction details are described in the Final Cover Design, Design Basis Report, Design Drawings, and Specifications (TtEMI 2001b).

Terraphase engineers walked the surface water drainage features to monitor areas for discharge water, standing water, blockage of drainage channels, and the condition of the drainage features. The flow paths of the drainage channels and culvert were generally clear of blockages (some minor presence of vegetation). The condition of the concrete V-ditches showed some minor cracking; however, the V-ditches appeared to be stable.

The tailwater basins were in good condition with some vegetation growth. The natural drainage outlet was clear of significant buildup of silt and weeds. The OWS was intact. Standing water was noted in the tank. No flowing discharges were evident at the time of site inspection. The flow paths of the eastern and western grassed channels were free of debris, blockages, or other trash. No standing water was observed behind the terrace berm.

## **2.6 Paving Stones**

Terraphase conducted visual monitoring of the paving stone area for signs of buckling or displacement. The paving stone area is located on the southeast side of the soil cover, north of the tailwater basin. The paving stones appeared to be sound without appreciable silt buildup. The vegetation is well established between the stones and the stones are secure. No broken stones were visible.

---

## **3.0 RECOMMENDATIONS**

Recommendations for repairs that could not be completed during the site monitoring visits and further monitoring are provided below.

### **3.1 Signs and Gates**

None.

### **3.2 Erosion Control**

Continue monitoring rodent holes during the next inspection to determine if the cover is being compromised. Actions will be taken if significant erosion is evident or refuse is exposed.

### **3.3 Monitoring System**

None.

### **3.4 Drainage Features**

Continue monitoring vegetation and maintain height of vegetation in the drainage features between 6 and 12 inches per PMMP Section 2.3.4.2.

---

## 4.0 TREATMENT SYSTEM MONITORING

During the wet season (November through April), monthly influent and effluent sampling is conducted on the treatment system. Treatment system influent and effluent monitoring for total petroleum hydrocarbons (TPH) was not conducted by Terraphase at IR Site 1 for this reporting period because significant rain events did not occur during this reporting period.

---

## 5.0 REFERENCES

Base Realignment and Closure Project Management Office (BRAC PMO) 2005. Final Record of Decision, Installation Restoration Site 1, Naval Fuel Depot Point Molate, Richmond, California. June.

Regional Water Quality Control Board (RWQCB). 2011. Updated Site Cleanup Requirements for the Former Naval Fuel Depot Point Molate. December.

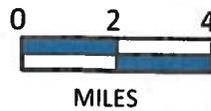
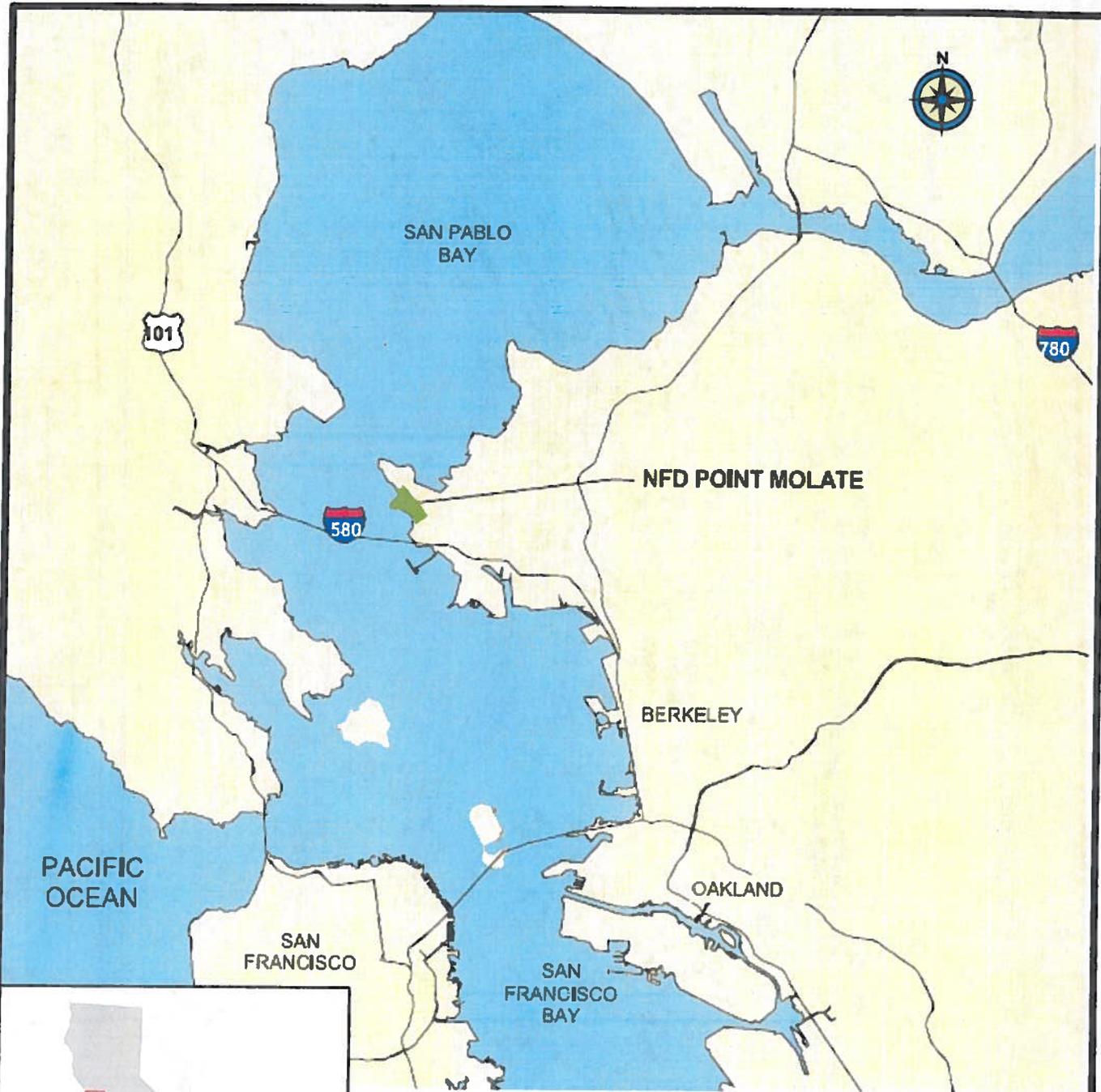
Sullivan Consulting Group. 2003. Final Oil Water Separator Post-Closure Maintenance and Monitoring Plan Revision 1, Naval Fuel Depot Point Molate, Richmond, California. September.

Tetra Tech EMI (TtEMI). 2001a. IR Site 1 Action Memorandum, Naval Fuel Depot Point Molate, Richmond, California. June.

TtEMI. 2001b. Final Cover Design, Design Basis Report, Design Drawings, and Specifications. August.

TtEMI. 2002. Final Postclosure Maintenance and Monitoring Plan (PMMP), IR Site 1 Final Cover, Naval Fuel Depot Point Molate. August.

File Name: Figure 1 – Site Location Map Prepared by: ptz Checked by: jrr



**SAFETY FIRST**



CLIENT:  
City of Richmond

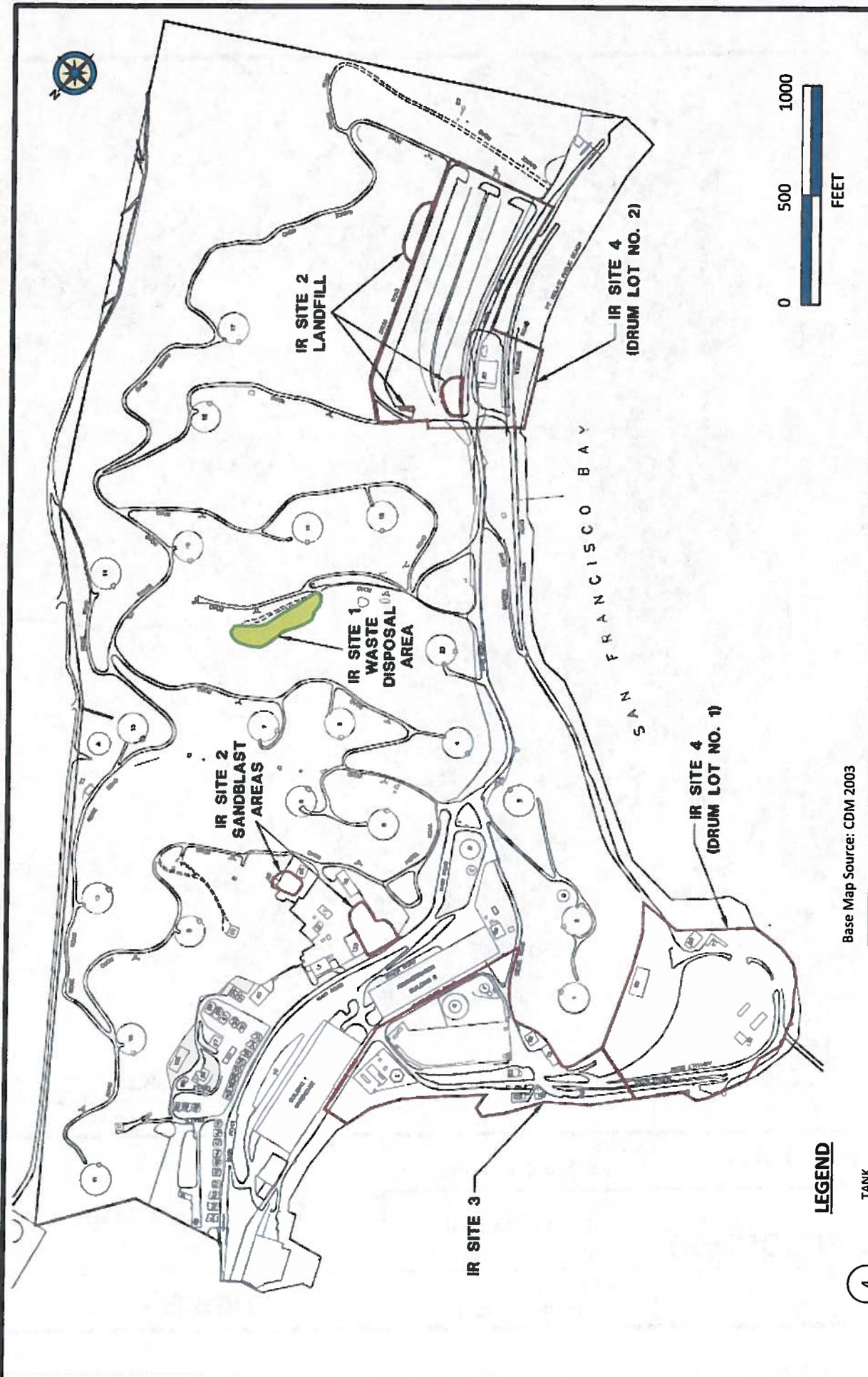
PROJECT:  
IR Site 1 Landfill  
Quarterly Report

PROJECT NUMBER:  
0078.001.004

**Site Location Map**

**FIGURE 1**

12.A.1.16



Base Map Source: CDM 2003

**LEGEND**

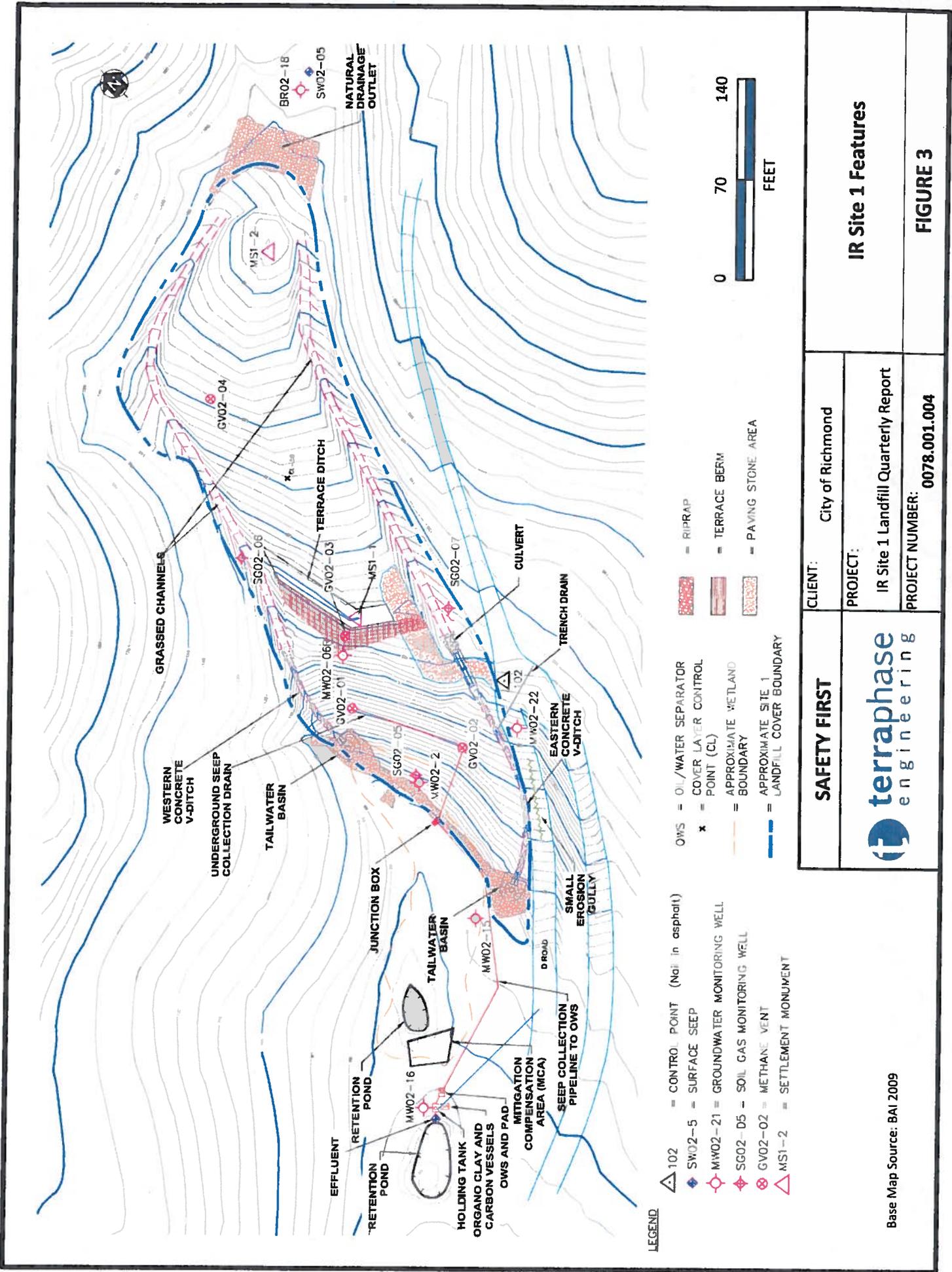
- 4 TANK
- IR SITE BOUNDARY
- NFD POINT MOLATE BOUNDARY

NOTES:  
 ALL BOUNDARIES ARE APPROXIMATE  
 IR = INSTALLATION RESTORATION  
 NFD = NAVAL FUEL DEPOT

	CLIENT:	City of Richmond
	PROJECT:	IR Site 1 Landfill Quarterly Report
	PROJECT NUMBER:	0078.001.004

IR Site 1 Location Map

FIGURE 2



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**APPENDIX A  
SITE INSPECTION FORMS**

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## Landfill Inspection

Site 1 Post Closure Monitoring and Maintenance  
Former Naval Fuel Depot Point Molate, Richmond

Date: <u>7-18-13</u>	Time: <u>1325</u>	Logged by: <u>Chris J.</u>		
Project Number: 0001.001.026				
Weather Conditions: <u>Sunny</u>				
Frequency	Task	PMP Section	Action Needed	Action Completion Date
Monthly	Inspection Signs and Gates	2.3.1	<u>None</u>	
Quarterly	Inspect Vegetation	2.3.4	<u>None</u>	
	Inspect Composite Turf Reinforced Matting	2.3.4	<u>None</u>	
	Inspect Riprap	2.3.4	<u>None</u>	
	Site Walk (Animal Burrows, Ponded Water, Erosion, etc.)	2.3.4, 2.3.5	<u>None</u>	
	Inspect OWS	Revision 1, Section 2.0	<u>None</u>	
	Inspect Vents, Pipes, and Wells	2.3.2	<u>None</u>	
	Inspect Drainage Discharge Water	2.3.3	<u>None</u>	
	Inspect Drainage for Trash, Blockage, and Condition	2.3.3	<u>None</u>	
	Inspect Drainage Standing Water	2.3.3	<u>None</u>	
	Inspect Paving Stone	2.3.6	<u>None</u>	
Annual	Inspect Wetlands	2.4	—	
	Inspect OWS	Revision 1, Section 2.0	—	
Significant Wind/Storm	Inspect Vegetation	2.3.4	—	
	Inspect OWS	Revision 1, Section 2.0	—	
	Inspect Standing Water	2.3.3	—	
	Inspect Composite Turf Reinforced Matting	2.3.4	—	

Notes: White phase separator is about 1/2 full  
Flow totalizer = 4170,485 gal  
Some animal burrows

## Landfill Inspection

**Site 1 Post Closure Monitoring and Maintenance**  
**Former Naval Fuel Depot Point Molate, Richmond**

Date: <u>08-22-13</u>		Time: <u>1420</u>		Logged by: <u>Chris J.</u>	
Project Number: 0001.001.026					
Weather Conditions: <u>Sunny</u>					
Frequency	Task	PMP Section	Action Needed	Action Completion Date	
Monthly	Inspection Signs and Gates	2.3.1	<u>None</u>		-
Quarterly	Inspect Vegetation	2.3.4	<u>None</u>		-
	Inspect Composite Turf Reinforced Matting	2.3.4	<u>None</u>		-
	Inspect Riprap	2.3.4	<u>None</u>		-
	Site Walk (Animal Burrows, Pondered Water, Erosion, etc.)	2.3.4, 2.3.5	<u>Some Animal Burrows</u> <u>None</u>		-
	Inspect OWS	Revision 1, Section 2.0	<u>About 1/2 Full</u> <u>None</u>		-
	Inspect Vents, Pipes, and Wells	2.3.2	<u>None</u>		-
	Inspect Drainage Discharge Water	2.3.3	<u>None</u>		-
	Inspect Drainage for Trash, Blockage, and Condition	2.3.3	<u>None</u>		-
	Inspect Drainage Standing Water	2.3.3	<u>None</u>		-
	Inspect Paving Stone	2.3.6	<u>None</u>		-
Annual	Inspect Wetlands	2.4	<u>NA</u>		-
	Inspect OWS	Revision 1, Section 2.0	<u>NA</u>		-
Significant Wind/Storm	Inspect Vegetation	2.3.4	<u>NA</u>		-
	Inspect OWS	Revision 1, Section 2.0	<u>NA</u>		-
	Inspect Standing Water	2.3.3	<u>NA</u>		-
	Inspect Composite Turf Reinforced Matting	2.3.4	<u>NA</u>		-

# Landfill Inspection

Site 1 Post Closure Monitoring and Maintenance  
Former Naval Fuel Depot Point Molate, Richmond

Date: <del>9-5-13</del> 9-5-13		Time: 0855		Logged by: Chris J	
Project Number: 0001.001.002					
Weather Conditions: Sunny					
Frequency	Task	PMP Section	Action Needed	Action Completion Date	
Monthly	Inspection Signs and Gates	2.3.1	None		
Quarterly	Inspect Vegetation	2.3.4	None		
	Inspect Composite Turf Reinforced Matting	2.3.4	None		
	Inspect Riprap	2.3.4	None		
	Site Walk (Animal Burrows, Ponded Water, Erosion, etc.)	2.3.4, 2.3.5	None		
	Inspect OWS	Revision 1, Section 2.0	None		
	Inspect Vents, Pipes, and Wells	2.3.2	None		
	Inspect Drainage Discharge Water	2.3.3	None		
	Inspect Drainage for Trash, Blockage, and Condition	2.3.3	None		
	Inspect Drainage Standing Water	2.3.3	None		
	Inspect Paving Stone	2.3.6	None		
Annual	Inspect Wetlands	2.4	—		
	Inspect OWS	Revision 1, Section 2.0	—		
Significant Wind/Storm	Inspect Vegetation	2.3.4	—		
	Inspect OWS	Revision 1, Section 2.0	—		
	Inspect Standing Water	2.3.3	—		
	Inspect Composite Turf Reinforced Matting	2.3.4	—		

## Landfill Inspection

**Site 1 Post Closure Monitoring and Maintenance  
Former Naval Fuel Depot Point Molate, Richmond**

Date: <u>9-30-13</u>		Time: <u>1350</u>		Logged by: <u>Chris J.</u>	
Project Number: <del>001.001.002</del> <u>0078.001.004</u>					
Weather Conditions: <u>Overcast</u>					
Frequency	Task	PMP Section	Action Needed	Action Completion Date	
Monthly	Inspection Signs and Gates	2.3.1	<u>None</u>		—
Quarterly	Inspect Vegetation	2.3.4	<u>None</u>		—
	Inspect Composite Turf Reinforced Matting	2.3.4	<u>None</u>		—
	Inspect Riprap	2.3.4	<u>None</u>		—
	Site Walk (Animal Burrows, Ponded Water, Erosion, etc.)	2.3.4, 2.3.5	<u>None (Some Burrows)</u>		—
	Inspect OWS	Revision 1, Section 2.0	<u>None (Nearly Empty)</u>		—
	Inspect Vents, Pipes, and Wells	2.3.2	<u>None</u>		—
	Inspect Drainage Discharge Water	2.3.3	<u>None</u>		—
	Inspect Drainage for Trash, Blockage, and Condition	2.3.3	<u>None</u>		—
	Inspect Drainage Standing Water	2.3.3	<u>None</u>		—
	Inspect Paving Stone	2.3.6	<u>None</u>		—
Annual	Inspect Wetlands	2.4	<u>NA</u>		—
	Inspect OWS	Revision 1, Section 2.0	<u>NA</u>		—
Significant Wind/Storm	Inspect Vegetation	2.3.4	<u>NA</u>		—
	Inspect OWS	Revision 1, Section 2.0	<u>NA</u>		—
	Inspect Standing Water	2.3.3	<u>NA</u>		—
	Inspect Composite Turf Reinforced Matting	2.3.4	<u>NA</u>		—

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**APPENDIX B  
CONTRA COSTA COUNTY ENVIRONMENTAL HEALTH  
SERVICES INSPECTION REPORT**

---

WILLIAM B. WALKER, M.D.  
HEALTH SERVICES DIRECTOR

RANDALL L. SAWYER  
CHIEF ENVIRONMENTAL HEALTH & HAZMAT OFFICER

MARILYN C. UNDERWOOD, PH.D. REHS  
DIRECTOR OF ENVIRONMENTAL HEALTH



CONTRA COSTA  
ENVIRONMENTAL HEALTH

2120 Diamond Blvd., Suite 200  
Concord, California 94520  
Ph (925) 692-2500  
Fax (925) 692-2502  
www.cchealth.org/eh/

September 6, 2013

Ryan Janoch  
Terraphase Engineering, Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612

**Subject:** *LEA Inspection Report for the Naval Fuel Depot Point Molate,  
Richmond, Facility No. 07-CR-0042*

Dear Mr. Janoch:

Contra Costa Environmental Health, as the Local Enforcement Agency (LEA) for solid waste, conducted a routine inspection of the above referenced closed site on **September 5, 2013**. A copy of the inspection report is enclosed for your records.

If you have any questions regarding the content of the enclosed inspection report or related compliance issues, please contact me at (925) 692-2528.

Sincerely,



Lori Braunesreither, REHS  
Environmental Health Specialist II

*Enclosure*

cc: Joe Doser, Supervising Environmental Health Specialist  
Frank Davies, CalRecycle  
Adriana Constantinescu, CA RWQCB SF Bay Region  
Jim Levine, Upstream Point Molate, LLC  
Bruce Goodmiller, Richmond Assistant City Attorney

LB:tf



12.A.1.27

## Closed Disposal Site Inspection Report (188)

Enforcement Agency:		County of Contra Costa			
SWIS Facility File Number (99-xx-9999)		Inspection Date		Program Code	
07-CR-0042		9/5/2013		LEA Periodic	
Time In	8:00	Time Out	10:00	Inspection Time	2.0
Facility Name			Received By		
Naval Fuel Depot Point Molate Site 1			U.S. Department of the Navy-SW Div NFEC		
Facility Location			Owner Name		
NFD Point Molate / 330 - 25th Street, Richmond 94804					
Inspector			Also Present (Name)		
Lori Braunesreither 			Chris Jones, Terraphase		
<small>THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF THE DIVISION 32 OF THE PUBLIC RESOURCES CODE (PRC) AND TITLE 14 AND TITLE 27 CALIFORNIA CODE OF REGULATIONS (CCR)</small>					
<input checked="" type="checkbox"/>	No Violations or Areas of Concern				
<input type="checkbox"/>	<input type="checkbox"/>	Regulations			
Inspection Report Comments:					
3rd Quarter 2013 Routine Inspection.					

12.4.1.28

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October 30, 2013

Mr. George Leyva  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Subject: Third Quarter 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California

Dear Mr. Leyva,

On behalf of the City of Richmond, Terraphase Engineering Inc. (Terraphase) has prepared the attached Third Quarter 2013 Underground Storage Tank (UST) Monitoring Report. This report describes the activities and status for the ongoing monitoring and maintenance program for USTs 1 through 20 at the former Naval Fuel Depot Point Molate located in Richmond, California. The inspections were conducted in accordance with the Final Post-Closure UST Maintenance and Monitoring Plan (PMMP) (ITSI 2005).

If you have any question or comments regarding this report, please contact Ryan Janoch at (510) 645-1850.

Sincerely,  
For Terraphase Engineering Inc.

A handwritten signature in blue ink that reads 'Ryan Janoch'.

Ryan Janoch, P.E. (C78735)  
Senior Professional Engineer

A handwritten signature in blue ink that reads 'Chris Jones'.

Chris Jones  
Staff Engineer

cc: Carlos Privat, City of Richmond  
Craig Murray, City of Richmond  
David Clark, BRAC Program Management Office  
Michael Leacox, Nichols Consulting Engineers  
Eileen Whittey, PMCAC  
Paul Carman, PMCAC  
Joan Garrett, PMCAC  
Lori Braunesreither, Contra Costa County Environmental Health Services

Attachments: 3<sup>rd</sup> Quarter 2013 Underground Storage Tank (UST) Monitoring Report



**3<sup>rd</sup> Quarter 2013 MONITORING REPORT  
UNDERGROUND STORAGE TANKS  
FORMER NAVAL FUEL DEPOT POINT MOLATE,  
RICHMOND, CALIFORNIA**

---

*Prepared on Behalf of*

City of Richmond  
450 Civic Center Plaza  
Richmond, California

*Prepared by*

Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California

October 30, 2013

Project Number 0078.001.006



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## Acronyms and Abbreviations

bbbl	barrel
BAI	Barajas and Associates, Inc.
BRAC	Base Realignment and Closure
CCHSD	Contra Costa Health Services Department
FOSET	Finding of Suitability for Early Transfer
ITSI	Innovative Technical Solutions, Inc.
JP-5	jet propellant grade 5 fuel
MSL	mean sea level
NFD	Naval Fuel Depot
ORS	oil recovery system
PMMP	Post-Closure UST Maintenance and Monitoring Plan
RWQCB	California Regional Water Quality Control Board, San Francisco Bay Region
Terraphase	Terraphase Engineering Inc.
TtEMI	Tetra Tech EM Inc.
UST	underground storage tank
VP	valve pit

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## 1.0 INTRODUCTION

On behalf of the City of Richmond Terraphase Engineering Inc. (Terraphase) has prepared this Underground Storage Tank (UST) Quarterly Monitoring Report to summarize the monitoring conducted on a monthly and quarterly basis as part of the ongoing monitoring and maintenance of USTs 1 through 20 at the former Naval Fuel Depot (NFD) Point Molate in Richmond, California. The inspections were conducted in accordance with the final Post-Closure UST Maintenance and Monitoring Plan (PMMP) (ITSI 2005).

## 2.0 HISTORY OF UST OPERATIONS AT NFD POINT MOLATE

The former NFD Point Molate was a fuel storage facility that had the capacity to store more than 40 million gallons of fuel. Prior to closure, the facility mainly held jet propellant grade 5 fuel (JP-5) and marine diesel fuel. Historically, other fuels were stored at the depot, including bunker fuel and aviation gasoline. Fuel was transferred to and from the facility by offloading and onloading ships and barges at the depot fuel pier, as well as through the Santa Fe Pacific Pipeline transfer station.

The former NFD Point Molate is on the San Pablo peninsula (Figure 1), approximately 1.5 miles north of the Richmond-San Rafael Bridge in the City of Richmond, Contra Costa County, California. Former NFD Point Molate covers approximately 412 acres in the Potrero Hills along the northeastern shore of San Francisco Bay of which 140 acres are submerged within San Francisco Bay. The San Pablo peninsula is the land mass between San Pablo Bay and San Francisco Bay. Former NFD Point Molate contains approximately 1.6 miles of shoreline, and its property extends into the adjacent hillsides to the top of the San Pablo ridge. Topography at the facility ranges from flat, filled areas (reclaimed tidal areas) near the Bay to steep, dissected slopes of nearly 500 feet above mean sea level (MSL) in elevation. The facility is bordered to the north, south, and east by the Chevron Corp. Richmond refinery (Chevron Richmond refinery) and to the west by San Francisco Bay.

Fuel storage and transfer operations at the facility ceased in May 1995. Former NFD Point Molate became a closing base under the Base Realignment and Closure (BRAC) IV program in September 1995, and operational closure of the facility occurred in September 1998. In September 2003, approximately 372 acres of the depot were transferred to the City of Richmond under a Finding of Suitability to Transfer (Navy 2003). The remaining 40 acres of the 412-acre federal facility were transferred to the City on March 29, 2010 on the basis of a Finding of Suitability for Early Transfer (FOSET; Navy 2008).

The Navy closed in place (without filling with concrete or other material) USTs 1 through 20, due to the large size and the good condition of the USTs. Tanks B and C were removed due to their relatively smaller size, central location, and history of bunker fuel releases near Tank B. The *Underground Storage Tank and Hillside Pipeline Closure Conceptual Design* (TtEMI, 1999), was reviewed by the Hazardous Materials Programs office at the Contra Costa Health Services Department (CCHSD), the City of Richmond, and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). CCHSD, the agency overseeing structural closure of the USTs, officially approved the conceptual plan in a letter dated 23 July 1999.

CCHSD approved final closure in place of USTs 1 through 20 in a letter dated 24 February 2005; CCHSD also recognized that associated fuel product pipelines and valves were cleaned and rendered inoperable, and that Tanks B and C were completely removed. To date, USTs 1, 4, 7, 9, 10, 11, 12, 14, 16, 17 and 20 have received environmental closure (NFA) letters from the RWQCB. The remaining USTs (USTs 2, 3, 5, 6, 8, 13, 15, 18, and 19) have not received

environmental closure from the RWQCB. Regardless of the closure status of the USTs with the RWQCB, they require on-going maintenance and monitoring to reduce the chances that they will become a physical hazard. This report describes the monitoring and maintenance for USTs 1 through 20.

USTs 1 through 20 each have a capacity of approximately 50,000 barrels (bbls), which is equivalent to 2.1 million gallons. Figure 2 is a site plan showing the locations of the USTs and appurtenances at the former NFD Point Molate.

Between 1943 and 1975, bunker fuel, marine diesel fuel, and JP-5 were stored at the former NFD Point Molate. Between 1975 and 1995, the northern portion of the facility (USTs 1, 2 and 5 through 13) was used to store and transfer diesel fuel. The southern portion of the facility (USTs 3, 4 and 14 through 19) was used to store and transfer JP-5. UST 20 stored bunker fuel from 1943 to 1975, and stored naval ballast, sediment and wastewater from 1975 to 1995.

USTs 1 through 20 were constructed between 1942 and 1943 by blasting bedrock in the hillside to create "benches" for the USTs. Concrete was poured into wooden forms built on the benches, apparently in direct contact with bedrock. The UST floors, walls, and roof support columns were constructed; the concrete roofs were then installed. Completed USTs were covered with varying amounts of fill (four to eight feet); fill materials were presumably blasted rock and locally-derived excavated fill. Appendix A includes a more detailed description of UST construction, as excerpted from the *Final Report, Structural Integrity Evaluation of Underground Storage Tanks at Naval Fuel Depot, Point Molate, Richmond, California* (AGS, 2000).

Approximate dimensions of USTs 1-20 are as follows:

- Each tank has an interior clear diameter of 135'-4".
- Each tank has an interior clear height of 20'-0".
- Each tank has roof and floor slabs 1'-4" and 1'-6" thick, respectively.
- Tank walls are 1'-6" thick up to 10'-0" in height and 1'-3" thick above that.

Each UST was constructed with a perimeter drain surrounding the tank bottom. Original design drawings indicate that each drain consisted of open joint tiles placed in a gravel bed. Each drain was laid on a slope to fall approximately 12 inches from the upper (uphill side) UST perimeter to the lower (downhill side) perimeter. Water collected by these drains was to the oil recovery system (ORS; TtEMI, 2002). The purpose of the perimeter drains was to prevent infiltrating surface water from accumulating in the backfill outside of the UST walls. Figure 3 is a typical cross section of a UST at former NFD Point Molate.

### 3.0 SITE INSPECTIONS

The PMMP requires:

- Monthly inspections of the gates, locks, and fences.
- Quarterly inspections of the vegetation for erosion control; surface grade for erosion control; UST systems (ground surface, French drain outfalls, and tank vents); and groundwater monitoring wells.
- Biannual (Two-year) inspections of the UST interiors for standing water.
- Five-year structural inspections, structural inspections after significant loading events, and structural inspections after major seismic events.

The purpose of the site inspections is to conduct the inspection tasks established in the Final PMMP (ITSI 2005), including: security, erosion control, condition of the UST systems, and condition of the groundwater monitoring wells to identify conditions that may warrant maintenance or repair. This section provides an overview of observations made during the inspections. Recommendations for repairs that could not be completed during the site inspection are provided in Section 5. Individual UST sites are referred to by tank number (e.g., UST 6).

The location of tanks, monitoring wells, and French drains are shown on Figure 2. Summary table of the inspection field notes are provided in Appendix A.

#### 3.1 Monthly Inspection of Gates, Locks, and Fences

The gates, locks, and fences along Western Drive that provide security for the UST sites are inspected to make sure they are in good condition, locked, and secure.

Observations during the monthly inspections of the gates, locks, and fences performed on July 18, August 22, and September 30, 2013:

- The gates, locks, and fences for gates 15 through 19 are in good condition, locked, and secure.
- The motor for opening and closing gate 23 was repaired prior to the September inspection and is functioning properly. This gate is under constant surveillance as it is located next to the guard house (Building 123).

## 3.2 Quarterly Inspection of Erosion Control

### 3.2.1 Vegetation

Vegetation protects the soil surface from wind and water erosion, improves slope stability, and improves visual aesthetics. A site-specific hydroseed mix that includes drought-tolerant native plant seeds has been used for providing a vegetative cover at the UST sites.

Vegetation on UST sites are inspected for bare spots, signs of stress, color changes, etc. and areas of both healthy and sickly growth were noted on a quarterly basis.

#### Observations during the quarterly inspection performed on August 22, 2013:

- Vegetation on the surfaces of the USTs 1 through 20 was mostly brown due to lack of precipitation during the dry season.

### 3.2.2 Surface Grade

Uniformity of the slight grade on top of the USTs mitigates erosion and reduces surface water infiltration.

The soil cover is inspected for erosion visible depressions, ponded water, cracks, and slope failure and inspected the grade on top of the USTs to see if there was a uniformity of the slight (0.5 percent to 1 percent) grade on a quarterly basis.

#### Observations during the quarterly inspection performed on August 22, 2013:

- No indication of erosion, ponded water, cracks, depressions, or slope failure was found at USTs 1 through 20.

## 3.3 Quarterly Inspection of UST Systems

### 3.3.1 Ground Surface

The structural integrity of the USTs can be compromised by surface loads. Loading by structures, vehicles, and debris is prohibited. Overloading is a serious condition that could lead to catastrophic failure and must be addressed by a licensed structural engineer.

Ground surfaces of the USTs are inspected for surface loads including structures, signs of vehicle traffic, and dumping of debris on a quarterly basis.

#### Observations during the quarterly inspection performed on August 22, 2013:

- Indications of light vehicle traffic such as tire tracks are present at USTs 1 through 20. The tire tracks are likely from lawn mowers.

### 3.3.2 Tank Vents

The aboveground vent at each UST provides equilibrium of the UST atmosphere with the outside atmosphere and allows for humidity to escape the UST interior.

The vents are inspected for signs of vandalism and to assure that the vent opening was intact on a quarterly basis.

#### Observations during the quarterly inspection performed on August 22, 2013:

- The vents do not show any indication of vandalism and the vent openings were intact and unobstructed at USTs 1 through 20.

### 3.3.3 French Drain Outfalls

French drains at each UST are intended to direct water surface water infiltration away from the structural joint between the tank ceiling and upper sidewalls. Rip-rap is located at each outfall to reduce erosion. French drain outfalls are inspected for vandalism or displacement on a quarterly basis.

The quarterly observations for the French drain outfalls can be found in the Appendix A, which is attached to this report. The West drain at UST 6, South drain at UST 15, and East drain at Tank 16 could not be located. It is suspected that they were previously destroyed or were never constructed by the Navy.

## 3.4 Quarterly Inspection of Groundwater Monitoring Wells

There are groundwater monitoring wells adjacent to many of the USTs. The well casings are typically completed aboveground and protected with a standpipe. The wells are locked with keyed padlocks.

The surface completions of the monitoring wells are inspected for general condition on a quarterly basis. The standpipe covers are opened, well casings and well caps are inspected, and grout surrounding the each casing is inspected.

The quarterly observations for the groundwater monitoring wells can be found in the Appendix A, which is attached to this report.

## 4.0 RECOMMENDATIONS

Recommendations for repairs that could not be completed during the site inspection are provided below.

### 4.1 Gates, Locks, and Fences

If locks are rusted or are missing, or if gates or fences are in disrepair, the City of Richmond must be notified that repairs should be made.

Recommended actions:

None

### 4.2 Erosion Control

#### 4.2.1 Vegetation

If significant bare spots are found, the bare spots must be reseeded or planted in accordance with the specification for hydroseeding. Irrigation during the establishment period must be provided, as necessary.

Recommended actions:

Bare and/or brown vegetation is present at USTs 1 through 20, but the bare and/or brown patches of vegetation are not significant enough to require reseeding or planting. The brown vegetation is most likely due to lack of rainfall. This will be monitored for future degradation.

#### 4.2.2 Surface Grade

Erosion must be mitigated. Visible depressions and cracks must be backfilled. Slope failures must be mitigated by backfilling and placing rip-rap or other erosion-limiting engineered control.

Recommended actions:

None

### 4.3 UST Systems

#### 4.3.1 Ground Surface

Any objects, debris, or material that represents a load to the USTs must be removed. If a UST has been significantly overloaded, a structural inspection must be conducted.

Recommended actions:

None

#### 4.3.2 Tank Vents

Vents must be repaired as required. Any object in the vent opening must be removed.

Recommended actions:

None

#### 4.3.3 French Drain Outfalls

Blockages of the drain pipe must be removed. Riprap must be replaced in kind. Small vegetation growing into the rip-rap is beneficial and should not be removed.

Recommended actions:

Some sediment build-up was observed at the North drain outfall for UST 4, the South drain outfall for UST 11 and the Northeast drain outfall for UST 20. These three outfalls were cleared at the time of inspection and should be monitored for further sediment build-up.

### 4.4 Groundwater Monitoring Wells

If standing water is present in the well standpipes, it must be removed from the standpipe and the condition allowing water to accumulate should be mitigated. If casing caps are missing, they should be replaced. If grout is cracked, it should be removed and replaced.

Recommended actions:

None

## 5.0 REFERENCES

- AGS, 2000. Structural Integrity Evaluation of Underground Storage Tanks at Naval Fuel Depot, Point Molate, Richmond, California, Final Report. September.
- Barajas and Associates, Inc. (BAI). 2007. Basewide Groundwater Monitoring, Site 1 Post Closure Monitoring and Maintenance, and Closed Underground Storage Tank Monitoring and Maintenance, Site Health and Safety Plan, Naval Fuel Depot Point Molate, Richmond, California. June.
- CDM. 2009. Final Annual 2007 – 2008 Post-Closure UST Monitoring Report Former Naval Fuel Depot Point Molate Richmond, California. September 30.
- Innovative Technical Solutions, Inc. (ITSI). 2005. Final Post-Closure UST Maintenance and Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. December.
- \_\_\_\_\_. 2005b. Final Post-Construction Summary Report for Closure of the UST, Pipeline, and Valve Box Systems at Naval Fuel Depot Point Molate, Richmond, California. November 17.
- (United States) Department of the Navy and City of Richmond. 2003. Finding of Suitability for Transfer, Naval Fuel Depot Point Molate, Richmond, California. May 27.
- \_\_\_\_\_. 2008. Finding of Suitability for Early Transfer, Disposal Areas 3, 5, 10, and 13, Naval Fuel Depot Point Molate, Richmond, California. September 12.
- Terraphase. 2011. Underground Storage Tank Monitoring and Maintenance Plan, Former Naval Fuel Depot Point Molate, Richmond, California. March 11 (revised April 4).
- Terraphase. 2012. Well Abandonment Work Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 8.
- Tetra Tech EM Inc. (TtEMI), 1999. Underground Storage Tank and Hillside Pipeline Closure Conceptual Design, Naval Fuel Depot Point Molate, Richmond, California. 30 April.
- \_\_\_\_\_. 2002. Final Definitive Design for the UST and Hillside Pipeline Closure, Naval Fuel Depot Point Molate, Richmond, California. 24 January.

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**APPENDIX A**  
**SUMMARY TABLES**

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**Appendix A - Table 1**  
**Observations for the French Drain Outfalls**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



Tank	French Drain Outfall	Observations during the August 2013 Inspection
UST 1	East drain	Good condition
	West drain	Good condition
UST 2	North drain	Good condition
	South drain	Good condition
UST 3	North drain	Good condition
	South drain	Good condition
UST 4	North drain	Good condition (Soil cleared during inspection)
	East drain	Good condition
UST 5	North drain	Good condition
	South drain	Good condition
UST 6	North drain	Good condition
	Northwest drain	Good condition
	West drain	Cannot be located
UST 7	East drain	Good condition
	West drain	Good condition
UST 8	North drain	Good condition
	Southwest drain	Good condition
UST 9	North drain	Good condition
	South drain	Good condition

**Appendix A - Table 1**  
**Observations for the French Drain Outfalls**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



Tank	French Drain Outfall	Observations during the August 2013 Inspection
UST 10	Northwest drain	Good condition
	West drain	Good condition
	Southeast drain	Good condition
UST 11	North drain	Good condition
	South drain	Good condition (Soil cleared during inspection)
UST 12	East drain	Good condition
	West drain	Good condition
UST 13	Northwest drain	Good condition
	South drain	Good condition
UST 14	Northwest drain	Good condition
	Southeast drain	Good condition
UST 15	South drain	Cannot be located
	Southwest drain	Good condition
	East drain	Good condition (Dense Vegetation)
UST 16	East drain	Cannot be located
	West drain	Good condition (Dense Vegetation)
UST 17	North drain	Good condition
	South drain	Good condition
UST 18	Northeast drain	Good condition
	Northwest drain	Good condition

**Appendix A - Table 1**  
**Observations for the French Drain Outfalls**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



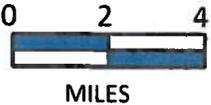
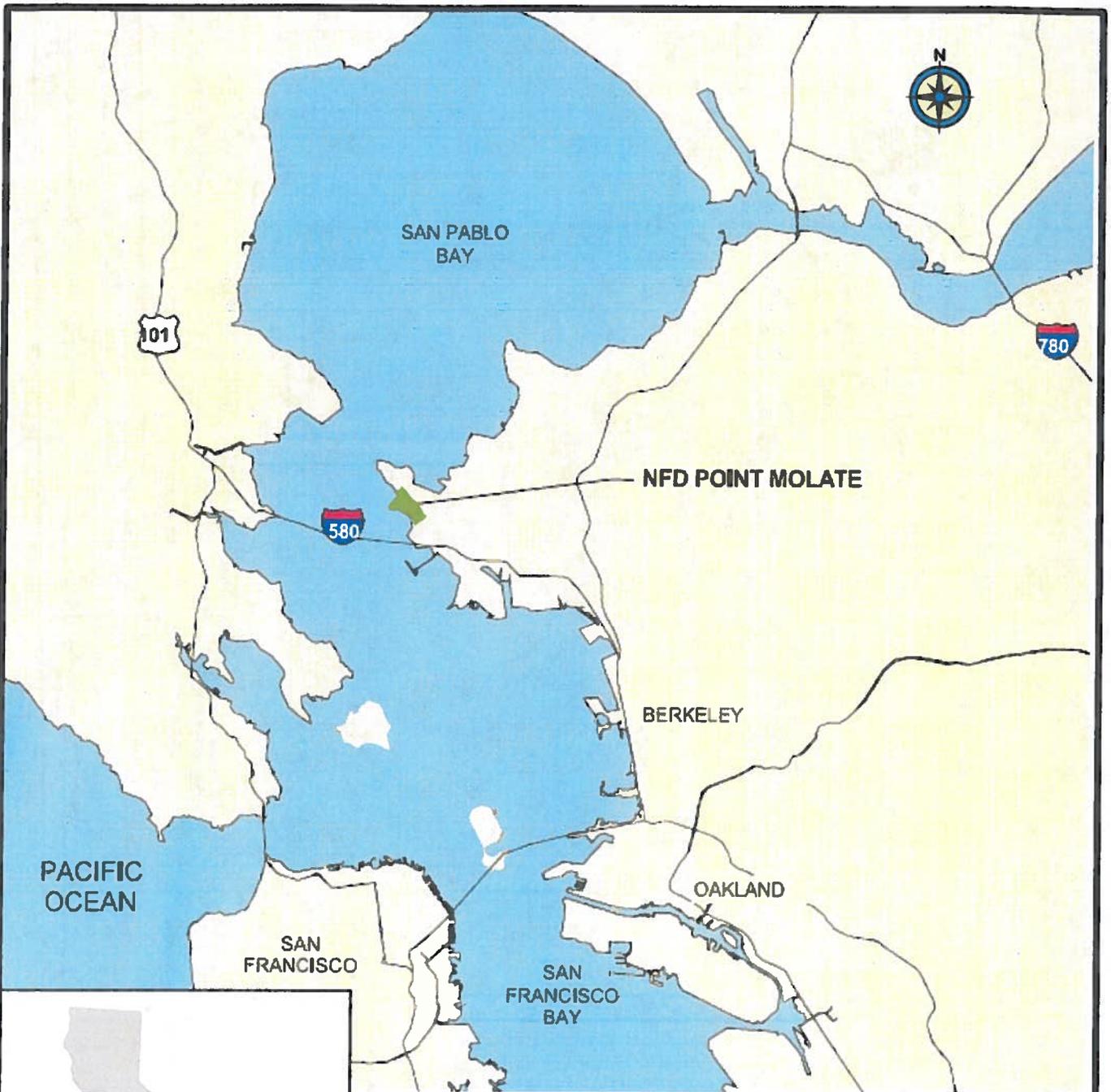
<b>Tank</b>	<b>French Drain Outfall</b>	<b>Observations during the August 2013 Inspection</b>
UST 19	North drain	Good condition
	South drain	Good condition
UST 20	Northeast drain	Good condition (Soil cleared during inspection)
	West drain	Good condition

**Appendix A - Table 2**  
**Observations for the Groundwater Monitoring Wells**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



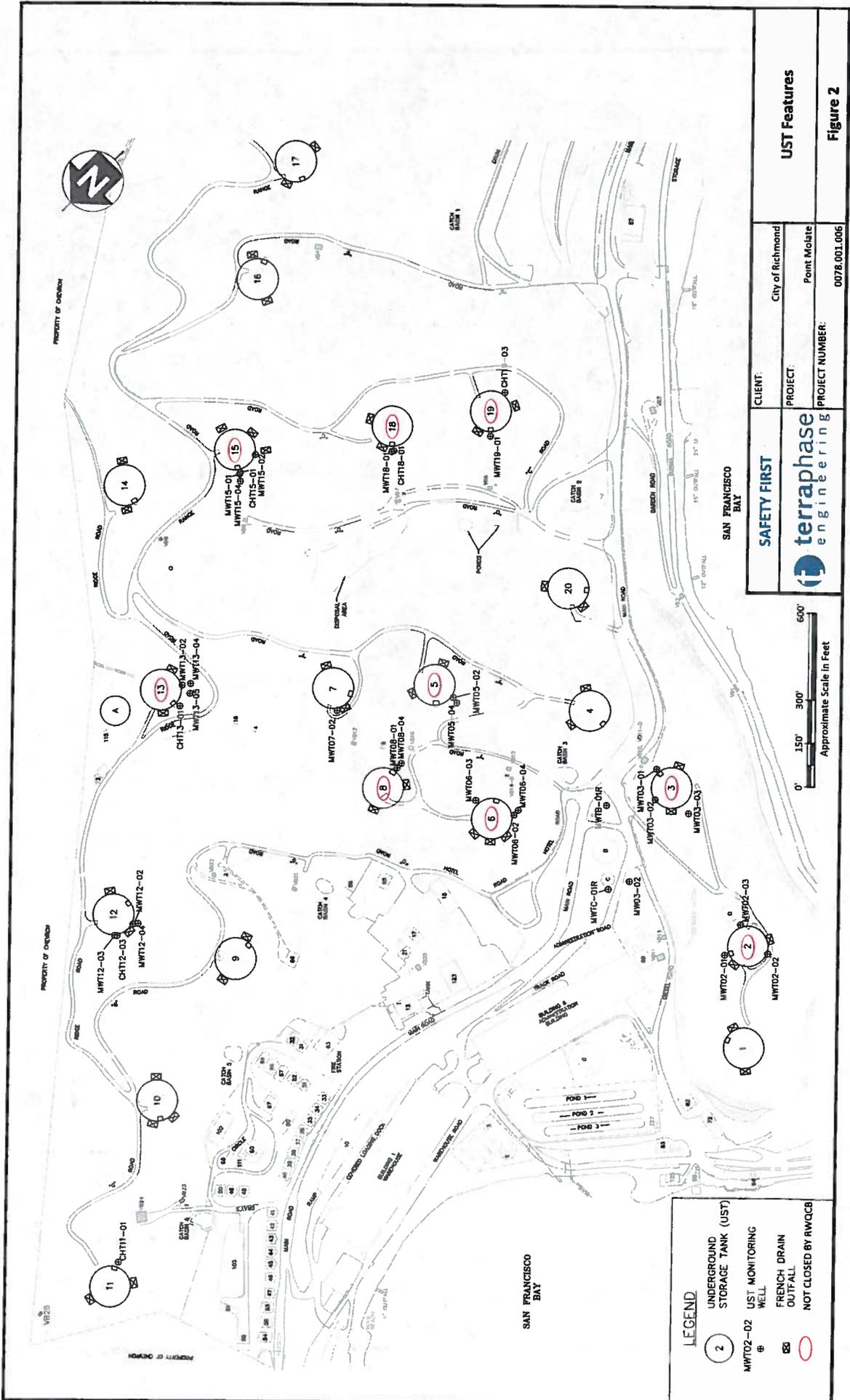
Tank	Groundwater Monitoring Well	Observations during the August 2013 Inspection
UST 2	MWT02-01	Good condition
	MWT02-03	Good condition
UST 3	MWT03-02	Good condition (No Well Cap)
UST 5	MWT05-02	Good condition
UST 6	MWT06-02	Good condition
UST 8	MWT08-01	Good condition
UST 12	MWT12-03	Good condition
UST 13	MWT13-02	Good condition
UST 15	MWT15-02	Good condition
UST 18	MWT18-01	Good condition
UST 19	MWT19-01	Good condition

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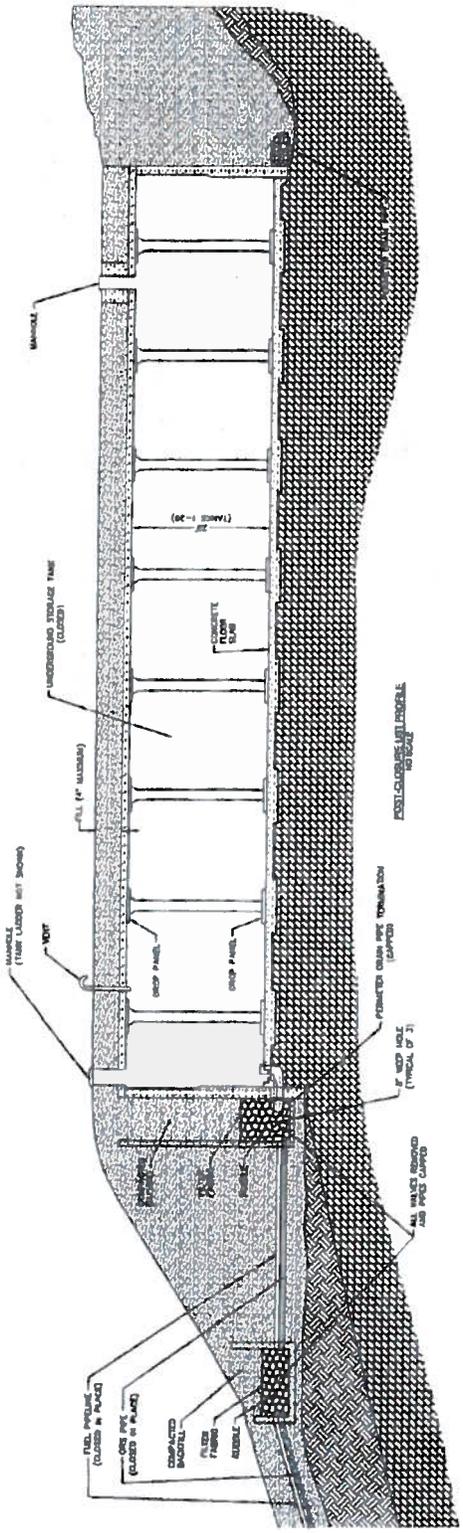
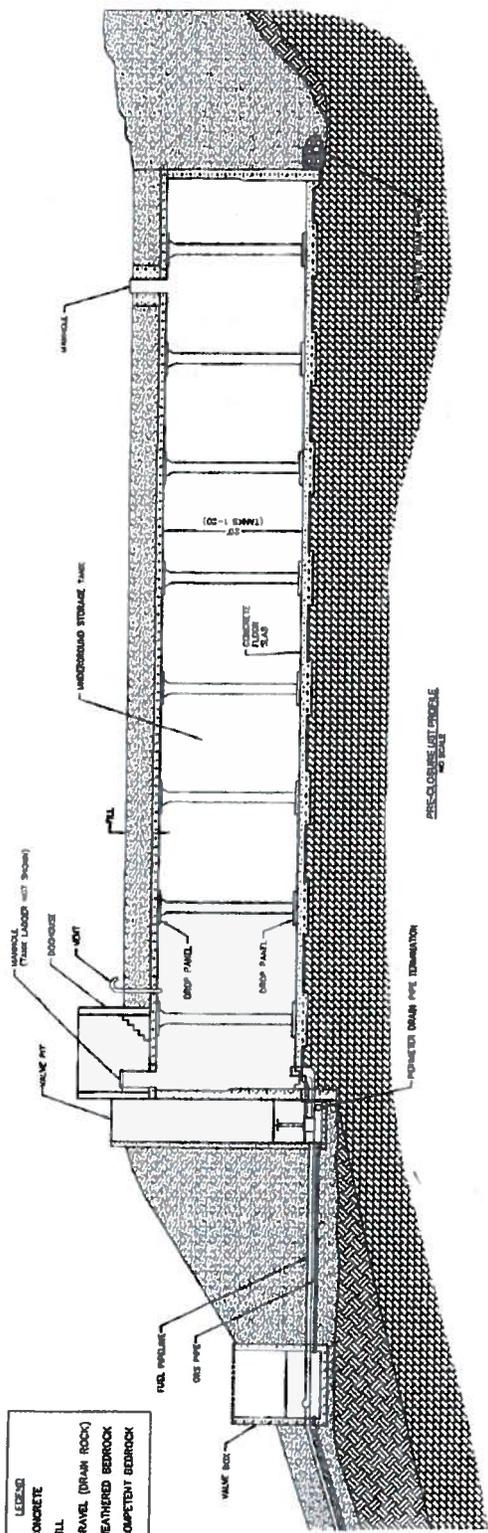


<p><b>SAFETY FIRST</b></p>	<p>CLIENT: City of Richmond</p>	<p><b>Site Location Map</b></p>
	<p>PROJECT: UST Monitoring Report</p>	
	<p>PROJECT NUMBER: <b>0078.001.006</b></p>	

12.A.2.25



LEGEND	
	CONCRETE
	FILL
	GRAVEL (DRAIN ROCK)
	WEATHERED BEDROCK
	COMPETENT BEDROCK



<b>SAFETY FIRST</b> 	CLIENT:	City of Richmond
	PROJECT:	UST Monitoring Report
	PROJECT NUMBER:	0078.001.006

UST Cross Section

FIGURE 3

Source: ITS 2005

12.A.2.27





November 4, 2013

Ms. Lourdes Gonzales  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Attn: NPDES Wastewater Division  
Fuel General NPDES No. CAG912002

Subject: Third Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant,  
Former Naval Fuel Depot Point Molate, Richmond, California (Orders No. R2-2006-0075,  
R2-2012-0012, NPDES Permit No. CAG912002)

Dear Ms. Gonzales:

The City of Richmond (the "City") entered into the Point Molate Remediation Agreement in 2008 (the "Remediation Agreement") for certain remediation-related work at Point Molate, including the preparation of this report, pursuant to the Remediation Agreement. City has retained qualified professionals to assist in carrying out the subject work, including Terraphase Engineering Inc. ("Terraphase"). In addition, the City has retained Nichols Consulting Engineers ("Nichols") to represent and advise regarding remediation-related matters at Point Molate, including this report. Based upon their qualifications and experience, the City has reasonably relied on Terraphase and Nichols to prepare the report and other attached documents and to advise the City regarding its preparation and contents. Based upon the foregoing, the City makes the following certification:

*I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

A handwritten signature in blue ink, appearing to be "Craig K. Murray".

Craig K. Murray  
Development Project Manager II

450 Civic Center Plaza, 2<sup>nd</sup> floor Richmond, CA 94804-1630

Telephone: (510) 307-8140 Fax: (510) 307-8116 [www.ci.richmond.ca.us](http://www.ci.richmond.ca.us)

12.A.3.1



October 30, 2013

Ms. Lourdes Gonzales  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Attn: NPDES Wastewater Division  
Fuel General NPDES No. CAG912002

Subject: Third Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California (CIWQS 657165) Order No. R2-2012-0012, NPDES No. CAG912002

Dear Ms. Gonzales:

On behalf of the City of Richmond, Terraphase Engineering Inc. (Terraphase) has prepared this National Pollutant Discharge Elimination System (NPDES) Third Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant (PGWTP) located at the Former Naval Fuel Depot Point Molate in Richmond, California ("the Site"). This letter report was prepared in accordance with the RWQCB Order No. R2-2012-0012, NPDES Permit No. CAG912002 (adopted March 15, 2012), titled "GENERAL WASTE DISCHARGE REQUIREMENTS FOR: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit)".

This report presents the data collected during the third quarter of 2013 ("the reporting period") in accordance with reporting requirements specified in Attachment E of the VOC and Fuel General Permit. This report presents flow rates, field water-quality measurements, and laboratory analytical results of the PGWTP influent and effluent for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds; and polycyclic aromatic hydrocarbon (PAH).

#### **PGWTP Description**

The PGWTP treats groundwater extracted from four screened wells that are set into a trench that extends below the water table and has been backfilled with gravel to minimize the resistance to groundwater flow into the wells. The groundwater is pumped from the extraction wells using submersible well pumps and conveyed to an oil-water separator (OWS). In the OWS, the small amounts of free petroleum product present in the extracted groundwater flow to an oil reservoir tank. The water is then pumped from the OWS to a flow control tank where it flows by gravity into the bioreactor. After exiting the bioreactor, the water is pumped through a two-pod sand filter (installed in January 2013) into a phase separation tank, to remove any biological matter and sediment, followed by three 2,000-pound GAC units. The GAC units are plumbed in series to further reduce the concentrations of the chemicals of concern in the PGWTP's effluent discharge. Treated groundwater is discharged directly to San Francisco Bay under the requirements of the NPDES Permit.

Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612  
www.terrphase.com

12.A.3.2

In September of this reporting period, modifications were made to the PGWTP per Terraphase's notification letter to the RWQCB dated October 24, 2013. The modifications include the removal of the oil-water separator, flow control tank, and bioreactor such that groundwater is pumped from the extraction wells and is conveyed directly to the sand filters. Following the sand filters, water then flows through four GAC units (2,000 pounds each) plumbed in series before being discharged to San Francisco Bay. The modifications were completed prior to the sampling event conducted on September 30, 2013.

#### **PGWTP 2013 Third Quarter Operations**

The PGWTP operated continuously from July 1, through September 30, 2013. No bypasses or upsets occurred during the reporting period, and the PGWTP was not shutdown. The PGWTP was operated and maintained in accordance with the Operation and Maintenance (O&M) Manual, prepared by Terraphase, dated July 25, 2011. A copy of this O&M Manual is located at the PGWTP.

During the third quarter of 2013, the PGWTP treated approximately 859,000 gallons of groundwater with an average flow rate of approximately 6.5 gallons per minute (Table 1).

During the third quarter of 2013, approximately 3.1 kilograms of TPH were removed by the PGWTP (Table 2).

#### **Summary of NPDES Sampling Results**

Influent and effluent water samples from the PGWTP were collected and analyzed during the reporting period in accordance with the 2012 Order. Tables 3A, and 3B summarize the analytical data for influent samples collected from the PGWTP. Tables 4A, and 4B summarize data for the same analytes in effluent samples collected from the PGWTP during the reporting period. The following sections of this report summarize the sampling results.

#### **TPH Analytical Results**

Influent and effluent sampling for TPH as gasoline (TPHg), TPH as diesel (TPHd), and TPH as bunker fuel C (TPHbc) was performed on July 18, August 22, and September 30, 2013. The analytical results for these compounds are presented in Table 3A for influent samples and in Table 4A for effluent samples.

The concentrations of TPHg and TPHd in effluent samples were below their respective effluent limitations during the reporting period. The concentrations of TPHbc in effluent samples were below the analytical laboratory's reporting limit of 100 µg/L during the reporting period.

Historically, the influent and effluent samples at the PGWTP have contained concentrations of compounds that interfere with the analytical laboratory's performance of TPH analysis when using United States Environmental Protection Agency (EPA) Method 8015B. Interference of this type is typically caused by a biogenic source, usually carboxylic acids that have elution times similar to the range of TPHd and TPHbc compounds. When present in samples, these organic acids are interpreted by laboratory analytical machines to be TPH. The interference in site samples has led to false elevated analytical results for TPH. Subjecting the sample to a process referred to as a "silica gel cleanup" effectively removes the interfering compounds from a sample and allows the laboratory to separate out

and quantify the true concentration of petroleum-related TPH compounds. Silica gel cleanups were performed on the TPHd and TPHbc samples collected from the PGWTP.

#### **BTEX Analytical Results**

Influent and effluent sampling for BTEX compounds was performed on July 18, August 22, and September 30, 2013. BTEX analytical results are presented in Table 3A for influent samples and in Table 4A for effluent samples.

The concentrations of BTEX compounds in the effluent samples were below their respective effluent limitations during the reporting period.

#### **PAH Analytical Results**

Influent and effluent sampling for PAH compounds was performed on July 18, August 22, and September 30, 2013. PAH analytical results are presented in Table 3B for influent samples and in Table 4B for effluent samples.

The concentrations of PAH compounds in the effluent samples were not detected above the analytical laboratory's reporting limit of 0.5 µg/L, which is the lowest reporting limit that the analytical laboratory can reach.

#### **Visual Observations**

Visual observations regarding floating materials, discoloration, turbidity, odor, evidence of beneficial use, hydrographic condition, and weather condition for the receiving water; and odor, weather condition, deposits, discoloration, clogging, and valve exercise regarding the PGWTP were recorded during the monthly sampling events. The visual observation forms for the reporting period are provided as Attachment A.

#### **Quality Assurance/Quality Control (QA/QC)**

Standard QA/QC measures were implemented during the sample collection, transportation, and chemical analysis process. The primary objective of these QA/QC measures is to ensure that resulting analytical data are reproducible, are of adequate quality for their intended use, and are representative of actual conditions.

- July Trip Blank Detection:
  - TPHg was detected in the trip blank that accompanied the samples collected on July 18, 2013. The concentration was 15 J µg/L.
- August Method Blank Detection:
  - TPHg was detected in the method blank associated with the samples collected on August 22, 2013. The concentration was 14 J µg/L.
- September Trip Blank Detection:

- TPHg was detected in the trip blank that accompanied the samples collected on September 30, 2013. The concentration was 16 J µg/L.
- September Method Blank Detection:
  - TPHg was detected in the method blank associated with the samples collected on September 30, 2013. The concentration was 20 J µg/L.
  - TPHd was detected in the method blank associated with the samples collected on September 30, 2013. The concentration was 5.4 J µg/L.

Estimated concentrations: Analytes that were present in samples above the laboratory method detection limit (MDL) but below the laboratory reporting limit (RL) are qualified with a "J" flag to indicate that the concentration is an estimated value.

No further qualification has been applied to the analytical results presented in this report because the concentrations of the analytes in the method and trip blank samples are below the analytical laboratory's reporting limit and the concentrations of the analytes in the effluent samples are below the Effluent Limitations.

#### Compliance Evaluation Summary

During the third quarter 2013 reporting period, the PGWTP complied with the applicable sampling requirements.

If you have questions regarding this report, please call Ryan Janoch at (510) 645-1850.

Sincerely,  
For Terraphase Engineering Inc.



Ryan Janoch P.E. (C78735)  
Senior Professional Engineer



Chris Jones  
Staff Engineer

cc: Carlos Privat, City of Richmond  
Craig Murray, City of Richmond  
Venkat Puranapanda, ACE Group  
David Clark, United States Navy BRAC  
Michael Leacox, Nichols Consulting Engineers  
George Levya, California RWQCB  
Joan Garrett, PMCAC  
Bruce Bayaert, PMCAC

**Tables:**

- 1 PGWTP Summary of Flow Data
- 2 PGWTP Summary of Total Petroleum Hydrocarbon Mass Removal Data
- 3A PGWTP Summary of Influent BTEX and Total Petroleum Hydrocarbons Sample Results
- 3B PGWTP Summary of Influent PAH Sample Results
- 4A PGWTP Summary of Effluent BTEX and Total Petroleum Hydrocarbons Sample Results
- 4B PGWTP Summary of Effluent PAH Sample Results

**Attachments:**

Attachment A Visual Observation Forms

**Table 1**  
**PGWTP Summary of Flow Data**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



Month	Period of Operation <sup>(1)</sup> (days)	Volume Per Period (gallons)	Volume Per Period (liters)	Average Flow Rate During Operation (gpm)
July	31	307,240	1,162,903	6.9
August	31	255,550	967,257	5.7
September	30	296,020	1,120,436	6.9

**Notes:**

(1) Number of days system is operating, which may not coincide with the number of days in the month.

gpm = gallons per minute

Second Quarter 2013 Summary (7/1/2013 to 9/30/2013)	
Total days of operation	92
Total volume of groundwater treated (gallons)	858,810
Average flow rate (gpm)	6.5

**Table 2**  
**PGWTP Summary of TPH Mass Removal Data**  
**Former Naval Fuel Depot Point Molate, Richmond, California**



Month	Period of Operation <sup>(1)</sup> (days)	Volume Per Period (gallons)	Volume Per Period (liters)	Total TPH Influent Concentration <sup>(2)</sup> (µg/l)	Total TPH Effluent Concentration <sup>(2)</sup> (µg/l)	Total TPH Removal Concentration (µg/l)	TPH Mass Removed Per Period <sup>(3)</sup> (kg)	TPH Mass Removal (kg/day) Rate
July	31	307,240	1,162,903	278	0	278	0.3	0.0
August	31	255,550	967,257	2,248	0	2,248	2.2	0.1
September	30	296,020	1,147,078	534	18	516	0.6	0.0

**Notes:**

(1) Number of days system is operating, which may not coincide with the number of days in the month.

(2) For total TPH concentration, non-detects are treated as zero.

(3) Total TPH concentration is based on addition of TPHg, TPHd, and TPHbc results. Because the range of hydrocarbons reported for each analyte overlaps, this mass removal may be biased high.

ND = Not Detected (Analyte was not detected above the RL.)

RL = Reporting Limit

TPH = Total Petroleum Hydrocarbons

kg = kilograms

µg/l = micrograms per liter

Third Quarter 2013 Summary (7/1/2013 to 9/30/2013)	
TPH mass removed this period (kg)	3.1

Table 3A

PGWTP Summary of Influent BTEX and Total Petroleum Hydrocarbons Analytical Results  
Former Naval Fuel Depot Point Molate, Richmond, California



Constituent	Analytical Method	Units	Sample Frequency	Sample Date											
				7/18/13			8/22/13			9/30/13					
				Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed
Benzene	EPA 8260B	µg/l	Q	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	0.2 J	0.5	0.1	1-Oct
Toluene	EPA 8260B	µg/l	Q	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
Ethylbenzene	EPA 8260B	µg/l	Q	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
Total xylenes	EPA 8260B	µg/l	Q	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
TPH <sub>g</sub>	EPA 8015B	µg/l	Q	13 J <sup>(2)</sup>	50	13	19-Jul	18 J <sup>(2)</sup>	50	13	24-Aug	64 Y <sup>(2)</sup>	50	5.7	1-Oct
TPHd <sup>(1)</sup>	EPA 8015B	µg/l	Q	65 Y	17	5.3	27-Jul	430 Y	17	5.3	27-Aug	120 Y <sup>(2)</sup>	17	3.2	8-Oct
TPHbc <sup>(1)</sup>	EPA 8015B	µg/l	Q	200 Y	100	--	27-Jul	1800	100	--	27-Aug	350 Y	100	--	8-Oct

Notes:

(1) Silica gel cleanup used for TPHd and TPHbc analysis

(2) Analyte detected in Trip Blank and/or Method Blank

-- = Not measured/Not applicable

**BOLD** = Analyte detected

EPA = Environmental Protection Agency

J = Estimated concentration. Compound detected at a concentration below its RL and above the MDL.

MDL = Method Detection Limit

ND = Not Detected (Analyte was not detected above the RL)

Q = Quarterly

RL = Reporting Limit

TPHbc = total petroleum hydrocarbons quantified as bunker C

TPHd = total petroleum hydrocarbons quantified as diesel

TPHg = total petroleum hydrocarbons quantified as gasoline

µg/l = micrograms per liter

Y = Sample exhibits chromatographic pattern, which does not resemble standard.

12.A.3.9

Table 3B

PGWTP Summary of Influent PAHs Analytical Results  
Former Naval Fuel Depot Point Molate, Richmond, California



Constituent	Analytical Method	Units	Sample Frequency	7/18/13						8/22/13						9/30/13					
				Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed		
				Naphthalene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.03	27-Aug	ND
Acenaphthylene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Acenaphthene	EPA 8270C-SIM	µg/l	Q	0.09	0.09	0.02	23-Jul	0.06 J	0.09	0.02	27-Aug	0.2	0.09	0.02	0.02	27-Aug	0.2	0.09	0.02	0.02	27-Aug
Fluorene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	0.03 J	0.09	0.02	0.02	27-Aug	0.03 J	0.09	0.02	0.02	27-Aug
Phenanthrene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Anthracene	EPA 8270C-SIM	µg/l	Q	0.1	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.04	27-Aug	ND	0.09	0.02	0.04	27-Aug
Fluoranthene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Pyrene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	0.1	0.09	0.02	0.03	27-Aug	0.1	0.09	0.02	0.03	27-Aug
Benzo(a)anthracene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Chrysene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Benzo(b)fluoranthene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Benzo(k)fluoranthene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Benzo(a)pyrene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Indeno(1,2,3-cd)pyrene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Dibenz(a,h)anthracene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug
Benzo(g,h,i)perylene	EPA 8270C-SIM	µg/l	Q	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug	ND	0.09	0.02	0.02	27-Aug

Notes:

- = Not measured/Not applicable
- ND** = Analyte detected
- EPA = Environmental Protection Agency
- J = Estimated concentration. Compound detected at a concentration below its RL and above the MDL.
- MDL = Method Detection Limit
- ND = Not Detected (Analyte was not detected above the RL.)
- Q = Quarterly
- RL = Reporting Limit
- µg/l = micrograms per liter

17.4.3.10

Table 4A

PGWTP Summary of Effluent BTEX and Total Petroleum Hydrocarbons Analytical Results  
Former Naval Fuel Depot Point Molate, Richmond, California



Constituent	Analytical Method	Units	Sample Freq.	Effluent Limit.	Sample Date											
					7/18/13				8/22/13				9/30/13			
					Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed
Benzene	EPA 8260B	µg/l	M	5	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
Toluene	EPA 8260B	µg/l	M	5	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
Ethylbenzene	EPA 8260B	µg/l	M	5	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
Total xylenes	EPA 8260B	µg/l	M	5	ND	0.5	0.1	19-Jul	ND	0.5	0.1	23-Aug	ND	0.5	0.1	1-Oct
TPH <sub>g</sub>	EPA 8015B	µg/l	M	50	ND	50	13	20-Jul	ND	50	13	24-Aug	14 J <sup>(2)</sup>	50	5.7	1-Oct
TPH <sub>d</sub> <sup>(1)</sup>	EPA 8015B	µg/l	M	50	ND	17	5.3	27-Jul	ND	17	5.3	27-Aug	3.9 J <sup>(2)</sup>	17	3.2	8-Oct
TPH <sub>bc</sub> <sup>(1,3)</sup>	EPA 8015B	µg/l	M	--	ND	100	--	27-Jul	ND	100	--	27-Aug	ND	100	--	8-Oct

Notes:

- (1) Silica gel cleanup used for TPH<sub>d</sub> and TPH<sub>bc</sub> analysis
- (2) Analyte detected in Trip Blank and/or Method Blank
- (3) TPH<sub>bc</sub> has a trigger limit of 50 µg/l. However, the analytical method reporting has been 100 µg/l since January 25, 2012.

-- = not measured/not applicable

**BOLD** = Analyte detected

EPA = Environmental Protection Agency

J = Estimated concentration. Compound detected at a concentration below its RL and above the MDL.

M = Monthly

MDL = Method Detection Limit

ND = Not Detected (Analyte was not detected above the RL.)

RL = Reporting Limit

TPH<sub>bc</sub> = total petroleum hydrocarbons quantified as bunker C

TPH<sub>d</sub> = total petroleum hydrocarbons quantified as diesel

TPH<sub>g</sub> = total petroleum hydrocarbons quantified as gasoline

µg/l = micrograms per liter

Y = Sample exhibits chromatographic pattern, which does not resemble standard.

**Table 4B**  
**PGWTP Summary of Effluent PAHs Analytical Results**  
**Former Naval Fuel Depot Point Molate, Richmond, California**

Constituent	Analytical Method	Units	Sample Frequency	Trigger	Sample Date											
					7/18/13			8/22/13			9/30/13					
					Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed	Result	RL	MDL	Date Analyzed
Naphthalene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Acenaphthylene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Acenaphthene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Fluorene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Phenanthrene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Anthracene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Fluoranthene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Pyrene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Benzo(a)anthracene	EPA 8270C-SIM	µg/l	M	0.0044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Chrysene	EPA 8270C-SIM	µg/l	M	0.044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Benzo(b)fluoranthene	EPA 8270C-SIM	µg/l	M	0.0044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Benzo(k)fluoranthene	EPA 8270C-SIM	µg/l	M	0.0044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Benzo(e)pyrene	EPA 8270C-SIM	µg/l	M	0.0044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Indeno(1,2,3-cd)pyrene	EPA 8270C-SIM	µg/l	M	0.0044 <sup>1)</sup>	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Dibenz(a,h)anthracene	EPA 8270C-SIM	µg/l	M	0.0044	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct
Benzo(g,h,i)perylene	EPA 8270C-SIM	µg/l	M	-	ND	0.09	0.02	23-Jul	ND	0.09	0.02	27-Aug	ND	0.09	0.02	9-Oct

**Notes:**

(1) The RL is greater than the trigger concentration and the minimum level listed in Appendix 4 of the 2005 State Water Resources Control Board, Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). However, for EPA 8270C-SIM, the lowest level for the reporting limit that the analytical laboratory can report down to is 0.09 µg/L

-- = Not measured/Not applicable

EPA = Environmental Protection Agency

MDL = Method Detection Limit

RL = Reporting Limit

ND = Not Detected (Analyte was not detected above the RL)

PAHs = Polycyclic aromatic hydrocarbons

M = Monthly

µg/l = micrograms per liter

12.A.3.12

**ATTACHMENT A**  
**VISUAL OBSERVATION FORMS**

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<b>Site Visit Date:</b> 7/18/13 <b>Personnel:</b> Chris Jones	
<b>Visual for Receiving waters</b>	
None	Floating and suspended materials of waste origin (oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of
None	Discoloration and turbidity: Description of color, source, and size of affected area
None	Odor: presence or absence, characterization, source distance of travel, and wind direction
Yes, birds	Evidence of beneficial water use: presence of waterfowl or wildlife, people fishing, and other recreational activities in the vicinity of the site
N/A	Hydrographic condition, if relevant (Tidal conditions, depth of sample)
71, Wind 8.0 mph W, 0.0" total precipitation	Weather Conditions: air temperature, wind direction/velocity, Total precipitation in previous 5 days and on day of observation
<b>Visual for Groundwater Treatment System</b>	
None	Odor: presence or absence, characterization, source, distance of travel, and wind direction
8.0 mph W	Weather Conditions: Wind direction/velocity
None	Deposits, discolorations, and/or plugging in the treatment system that could adversely affect the system reliability and performance
Yes	Operation of the float and pressure shutoff valves installed to prevent system overflow or bypass

<b>Site Visit Date:</b> 8/22/13 <b>Personnel:</b> Chris Jones	
<b>Visual for Receiving waters</b>	
None	Floating and suspended materials of waste origin (oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of
None	Discoloration and turbidity: Description of color, source, and size of affected area
None	Odor: presence or absence, characterization, source distance of travel, and wind direction
Yes, birds	Evidence of beneficial water use: presence of waterfowl or wildlife, people fishing, and other recreational activities in the vicinity of the site
N/A	Hydrographic condition, if relevant (Tidal conditions, depth of sample)
68, Wind 9.0 mph WSW, 0.0" total precipitation	Weather Conditions: air temperature, wind direction/velocity, Total precipitation in previous 5 days and on day of observation
<b>Visual for Groundwater Treatment System</b>	
None	Odor: presence or absence, characterization, source, distance of travel, and wind direction
9.0 mph WSW	Weather Conditions: Wind direction/velocity
None	Deposits, discolorations, and/or plugging in the treatment system that could adversely affect the system reliability and performance
Yes	Operation of the float and pressure snitch valves installed to prevent system overflow or bypass

<b>Site Visit Date:</b> 9/30/13 <b>Personnel:</b> Chris Jones	
<b>Visual for Receiving waters</b>	
None	Floating and suspended materials of waste origin (oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of
None	Discoloration and turbidity: Description of color, source, and size of affected area
None	Odor: presence or absence, characterization, source distance of travel, and wind direction
Yes, birds	Evidence of beneficial water use: presence of waterfowl or wildlife, people fishing, and other recreational activities in the vicinity of the site
N/A	Hydrographic condition, if relevant (Tidal conditions, depth of sample)
67, Wind 8.0 mph SW, 0.0" total precipitation	Weather Conditions: air temperature, wind direction/velocity, Total precipitation in previous 5 days and on day of observation
<b>Visual for Groundwater Treatment System</b>	
None	Odor: presence or absence, characterization, source, distance of travel, and wind direction
8.0 mph SW	Weather Conditions: Wind direction/velocity
None	Deposits, discolorations, and/or plugging in the treatment system that could adversely affect the system reliability and performance
Yes	Operation of the float and pressure shutoff valves installed to prevent system overflow or bypass





November 6, 2013

Mr. George Leyva  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

*sent via: email*

**Subject: Monthly Remediation Status Report for Work in October 2013, Former Naval Fuel Depot Point Molate, Richmond, California**

Dear Mr. Leyva:

This monthly remediation status report summarizes the remediation activities conducted by Terraphase Engineering Inc. (Terraphase) on behalf of the City of Richmond at the former Naval Fuel Depot Point Molate (the Site). This remediation status report is intended to meet the requirements of Task 9 in the Regional Water Quality Control Board (RWQCB) Order R2-2011-0087 (RWQCB 2011d). The requirements of Task 9 are as follows:

*The Discharger shall submit a report to the Regional Water Board, 30 days prior to the start of any onsite remediation activities, and then on a monthly basis beginning 30 days after the start of the remediation activities, outlining the onsite remediation activities accomplished during the past month and those planned for the following month. The first monthly report at the beginning of each quarter shall include monitoring and test results and any conclusions or proposed changes to the remediation process based on those results. If any changes to the remediation are proposed during any monthly report, applicable supporting monitoring or test data will be submitted at that time. The status report shall also verify that the Prohibitions in Section A, stipulated above, have been adhered to. Should any of those prohibitions be trespassed, the report shall propose a recommendation acceptable to the Executive Officer to correct the trespass.*

This remediation status report provides a monthly update on the progress of environmental investigations, remediation, maintenance, and monitoring at the Site. This report is organized around each task listed in the RWQCB Order R2-2011-0087 (RWQCB 2011d). Additional tasks related to the Installation Restoration (IR) Site 3 Packaged Groundwater Treatment Plant (PGWTP) and site-wide groundwater monitoring are also included below. For major work tasks completed in 2012, please see the monthly status report for December 2012 (Terraphase 2013a). A reference list of reports and submittals is included as an attachment to this letter.

**Task 1: Soil Cleanup Goals (Compliance Date: February 13, 2012)**

*Work completed in October 2013:*

1. None

*Major Work Items Previously Completed in 2013:*

1. Analysis of the existing soil data compared to the proposed soil cleanup goals

*Upcoming Work in November 2013:*

1. None

**Task 2: Soil and Groundwater Management Plan (Compliance Date: March 15, 2012)**

Complete - *Final Soil and Groundwater Management Plan submitted to the RWQCB September 21, 2012 (Terraphase 2012jj)*

**Task 3a: IR Site 3 Feasibility Study and Remedial Action Plan (Compliance Date: May 4, 2012)**

*Work completed in October 2013:*

1. Discussions with City of Richmond and Nichols Consulting Engineering
2. Meeting with the City of Richmond on October 3, 2013
3. Revised the Waste Characterization Report and Feasibility Study/Remedial Action Plan (FS/RAP)

*Major Work Items Previously Completed in 2013:*

1. Discussion with the RWQCB regarding the draft IR Site 3 Feasibility Study and Remedial Action Plan (FSRAP; Terraphase 2011s)
2. Developed the internal draft summary of the industrial waste area waste characterization investigation for inclusion in the Waste Characterization Report (Terraphase 2012k)
3. Developed the internal draft estimated costs of remedial alternatives for inclusion in the Waste Characterization Report (Terraphase 2012k)
4. Submitted the internal draft summary of the industrial waste area waste characterization to the City of Richmond and Upstream Point Molate (Upstream)
5. Submitted internal draft estimated costs of remedial alternatives to the City of Richmond and Upstream
6. Meeting on June 11, 2013 with the RWQCB, Upstream and the City of Richmond to discuss the remedial alternatives
7. Preparation and submission of Revised Remediation Scenarios to the RWQCB (Terraphase 2013p)
8. Meeting on July 23, 2013 with the RWQCB, City of Richmond, PMCAC, Nichols Consulting Engineering, and Nelson Environmental Remediation

*Upcoming Work in November 2013:*

1. Discussions with the City of Richmond
2. Continued revisions to the Waste Characterization Report and Feasibility Study/Remedial Action Plan (FS/RAP)

**Task 3b: IR Site 3 Remedial Action Completion Report (Compliance Date: February 3, 2014)**

Not Applicable

**Task 4a: IR Site 4 Interim Remedial Action Work Plan (Compliance Date: April 3, 2012)**

Complete - *IR Site 4 Interim Remedial Action Work Plan submitted to the RWQCB (Terraphase 2011r, 2012gg, 2012ii, and 2012mm)*

**Task 4b: IR Site 4 Interim Remedial Action Completion Report (Compliance Date: November 2, 2012)**

*Work completed in October 2013:*

1. Post-treatment performance monitoring data analysis

*Major Work Items Previously Completed in 2013:*

1. Submitted the Interim Remedial Measures Implementation Report to the RWQCB (Terraphase 2013c)
2. Conducted the first, second round, and third round of post-treatment performance monitoring

*Upcoming Work in November 2013:*

1. None

**Task 4c: IR Site 4 Human Health Risk Assessment (Compliance Date: November 4, 2013)**

Not Applicable

**Task 4d: IR Site 4 Feasibility Study and Remedial Action Plan (Compliance Date: February 3, 2014)**

Not Applicable

**Task 4e: IR Site 4 Remedial Action Completion Report (Compliance Date: February 3, 2015)**

Not Applicable

**Task 5: UST Management Plan (Compliance Date: March 4, 2013)**

*Work completed in October 2013:*

1. None

*Major Work Items Previously Completed in 2013:*

1. Reviewed the current environmental closure status of the USTs
2. Reviewed the current UST Post-Closure Monitoring and Maintenance Plan (ITSI 2005)
3. Submitted the UST Management Plan to the City of Richmond, Upstream, and the RWQCB (Terraphase 2013j)

*Upcoming Work in November 2013:*

1. Respond to RWQCB comments on the UST Management Plan (Terraphase 2013j)

**Task 6: UST Removal Plan (Compliance Date: 90 days prior to UST demolition)**

Not Applicable – No UST demolition scheduled

**Task 7: UST Status Report (Compliance Date: June 3, 2012)**

*Work completed in October 2013:*

1. Conducted the routine monthly UST closure monitoring inspections
2. Prepared the internal draft third quarter UST monitoring report

*Major Work Items Previously Completed in 2013:*

1. Conducted the routine monthly UST closure monitoring inspections
2. Preparation of the combined fourth quarter and annual 2012 monitoring report (Terraphase 2013e).
3. Conducted the biennial UST interior monitoring inspections
4. Submitted the first quarter UST monitoring report to the RWQCB (Terraphase 2013i)

5. Submitted the second quarter UST monitoring report to the RWQCB (Terraphase 2013v)

*Upcoming Work in November 2013:*

1. Conduct routine monthly UST closure monitoring inspections
2. Submit the UST interior inspection report to the RWQCB
3. Submit the third quarter UST monitoring report to the RWQCB

**Task 8: Amended Land Use Controls (Compliance Date: When environmental closure is requested)**

Not Applicable

**Task 9: Remediation Status Reports (Compliance Date: Monthly)**

*Work completed in October 2013:*

1. Submitted the monthly remediation status report for September 2013 to the RWQCB (Terraphase 2013y)

*Major Work Items Previously Completed in 2013:*

1. Submitted the monthly remediation status report for December 2012 to the RWQCB (Terraphase 2013a)
2. Submitted the monthly remediation status report for January 2013 to the RWQCB (Terraphase 2013g)
3. Submitted the monthly remediation status report for February 2013 to the RWQCB (Terraphase 2013i)
4. Submitted the monthly remediation status report for March 2013 to the RWQCB (Terraphase 2013k)
5. Submitted insurance budget summaries and project status updates for December 2012, January, February, and March 2013 to Upstream, the City of Richmond, the US Navy's Base Realignment and Closure (BRAC) Program, and ACE Group
6. Submitted the monthly remediation status report for April 2013 to the RWQCB (Terraphase 2013m)
7. Submitted the monthly remediation status report for May 2013 to the RWQCB (Terraphase 2013q)
8. Submitted the monthly remediation status report for June 2013 to the RWQCB (Terraphase 2013r)
9. Submitted the monthly remediation status report for July 2013 to the RWQCB (Terraphase 2013t)
10. Submitted the monthly remediation status report for August 2013 to the RWQCB (Terraphase 2013x)
11. Submitted the monthly remediation status report for Septmeber 2013 to the RWQCB (Terraphase 2013y)

*Upcoming Work in November 2013:*

1. Submit the monthly remediation status report for October 2013 to the RWQCB
2. Submit the insurance budget summary and project status update for April, May, June, July, and August 2013 to the City of Richmond, the BRAC Program, and the ACE Group

**Task 10: Discoveries During Facility Redevelopment (Compliance Date: 60 days from initial discovery)**

None

**Task 11: IR Site 1 ROD (Compliance Date: None)**

*Work completed in October 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc.
2. Routine operation, maintenance, and monitoring of the landfill treatment system

*Major Work Items Previously Completed in 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc. per the Final Post-Closure Maintenance and Monitoring Plan (TTEMI 2002)
2. Routine operation, maintenance, and monitoring of the landfill treatment system
3. Installation and troubleshooting of new settling tank floats
4. Installation and troubleshooting of a new discharge pump
5. Submission of the fourth quarter 2012 monitoring report to the RWQCB (Terraphase 2013f)
6. Installation and troubleshooting of the new sand filters
7. Preparation and submittal of the first quarter 2013 monitoring report (Terraphase 2013n)
8. Quarterly landfill inspection with Contra Costa County Environmental Health
9. Preparation of an addendum to the post-closure maintenance and monitoring plan (PMMP)
10. Preparation and submittal of the second quarter 2013 monitoring report to the RWQCB (Terraphase 2013w)

*Upcoming Work in November 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc.
2. Routine operation, maintenance, and monitoring of the landfill treatment system
3. Preparation for and execution of annual landfill sampling.
4. Preparation of annual monitoring report
5. Submittal of the Post Closure Performance Monitoring Plan addendum to the RWQCB

**Task 12: Construction Stormwater General Permit (Compliance Date: Prior to field work)**

Not Applicable

**IR Site 3: PGWTP**

Terraphase, under the direction of the City of Richmond, operates, maintains, monitors, and prepares the quarterly and annual monitoring reports for the PGWTP under the existing General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit) (RWQCB 2012a). The following summarizes the activities related to the continued operation, maintenance, and monitoring of the PGWTP.

*Work completed in October 2013:*

1. Routine operation, maintenance, and monitoring of the PGWTP
2. Site maintenance
3. Optimization of the treatment system processes
4. Preparation of third quarter monitoring report to the RWQCB.

*Major work items completed previously in 2013:*

1. Routine operation, maintenance, and monitoring of the PGWTP
2. Installation of a new compressor for the automatic influent valve
3. Preparation and submission of the combined annual and fourth quarter 2012 monitoring report to the RWQCB (Terraphase 2013d)
4. Installation of an alarm float on the secondary containment pad

5. Prepared an analysis of costs and designs for a replacement bio-reactor tank
6. Preparation and submittal of the first quarter 2013 monitoring report to the RWQCB (Terraphase 2013o)
7. Repairs to the extraction well pumps and oil-water separator discharge pump
8. Emergency repairs to the bio-reactor and associated equipment
9. Preparation and submittal of the second quarter 2013 monitoring report to the RWQCB (Terraphase 2013u)

*Upcoming Work in November 2013:*

1. Relocation of electrical equipment, rerouting of electrical wiring to treatment equipment
2. Preparation for decommissioning of bioreactor and cleaning out of oil water separation tanks
3. Submittal of the third quarter 2013 monitoring report to the RWQCB

**Site-wide Groundwater Monitoring**

The purpose of the site-wide groundwater monitoring is to provide groundwater quality data that can be evaluated against established screening criteria for the Site. This program will help protect human health and the environment and prevent releases to the San Francisco Bay. Integrating data collected under this program with previous data is intended to support compliance and closure in accordance with regulatory requirements. Groundwater monitoring is being conducted on a semi-annual basis (wet-season and dry-season) per the Site-Wide Groundwater Monitoring Plan (Terraphase 2011n) that was approved by the RWQCB on August 30, 2011 (RWQCB 2011b). Data collected is summarized and submitted as semi-annual monitoring reports to the RWQCB.

*Work completed in October 2013:*

1. Conducted semi-annual dry season groundwater monitoring

*Major work items completed previously in 2013:*

1. Submitted the Dry-Season Semi-Annual Groundwater Monitoring Report (Terraphase 2013b) to the City of Richmond, Upstream, and the RWQCB
2. Disposal of wastes generated during well destruction activities
3. Submitted Well Completion Reports for the well destruction activities to Contra Costa County Environmental Health and the California Department of Water Resources
4. Submitted the final Well Abandonment Completion Report to the RWQCB, the City of Richmond, and Upstream (Terraphase 2013h)
5. Prepared and submitted the semi-annual wet season groundwater monitoring report to the RWQCB (Terraphase 2013s)

*Upcoming Work in November 2013:*

1. Preparation of 2013 Dry-Season Semi-Annual Groundwater Monitoring Report.

**Prohibitions Verification**

As required in Task 9 of the RWQCB Order, the following prohibitions (Section A of the RWQCB Order) were adhered to during the remedial activities in October 2013, to the knowledge of Terraphase.

1. The discharge of wastes and/or non-hazardous or hazardous substances in a manner which will degrade, or threaten to degrade, water quality or adversely affect, or threaten to adversely affect, the beneficial uses of the waters of the State is prohibited.
2. Further migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

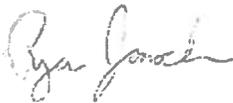
3. Activities associated with the subsurface investigation and cleanup that will cause adverse migration of wastes or hazardous substances are prohibited.
4. The tidal marsh habitat and wetland habitats onsite shall be completely avoided unless encroachment on these areas is required to implement Facility remediation work and resultant impacts to the affected habitat are mitigated through a plan approved by the Executive Officer. A setback of 50 feet shall be established around the tidal marsh and any wetland area as a means of preventing any unintended impacts to it from the remediation.
5. The Site's offshore eel-grass habitat shall be completely avoided during any remedial work to the maximum extent practicable.

### Summary

The above detailed summaries by task provide a look at the ongoing remediation activities at the former Naval Fuel Depot Point Molate. The most significant of which are the IR Site 3 FS/RAP and Waste Characterization Report. The RWQCB's comments on the FS/RAP and Waste Characterization Report (including soil cleanup goals) will be incorporated into the two documents with additional information collected during the soil gas investigation and industrial waste area investigation and re-submitted to the RWQCB as draft final in early 2014. The draft final FS/RAP and Waste Characterization Report will be presented to the PMCAC prior to submittal to the RWQCB.

If you have questions regarding this report, please call Tomer Schetrit or Ryan Janoch at (510) 645-1850.

Sincerely,  
For Terraphase Engineering Inc.



Ryan Janoch, PE (C78735)  
Senior Professional Engineer



Tomer Schetrit, PE (C81411)  
Professional Engineer

cc: Craig Murray, City of Richmond  
Carlos Privat, City of Richmond  
Bruce Goodmiller, City of Richmond  
LaShonda White, City of Richmond  
Michael Leacox, Nichols Consulting Engineers  
David Clark, BRAC Program Management Office  
Venkat Puranapanda, ACE Group  
Eileen Whittey, PMCAC  
Paul Carman, PMCAC  
Joan Garrett, PMCAC

Attachments: Point Molate Bibliography

### Point Molate Bibliography

- City of Richmond. 2012. Letter from Richard Mitchell (Planning Department) to Mr. Tristan Tozer (California Office of Historic Preservation) RE: *Section 106 Consultation for the Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate, Richmond, CA*. April 3.
- Innovative Technical Solutions, Inc. (ITSI). 2005. Post-Closure UST Maintenance and Monitoring Plan. December.
- Regional Water Quality Control Board - San Francisco Bay Region (RWQCB). 2006. Order No. R2-2006-0075 NPDES No. CAG912002 General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Fuel Leaks and Other Related Wastes at Service Stations and Similar Sites. November 13.
- RWQCB. 2007. Letter from Ms. Lila Tang to United States Navy Subject: *Notice of General Permit Coverage for Discharges from the Packaged Groundwater Treatment Plant located at Naval Fuel Depot Point Molate, Richmond, Contra Costa County, CA 94801, under the Requirements of Order No. R2-2006-0075, NPDES Permit No. CAG912002 (Fuels General Permit)*. June 6.
- RWQCB. 2010. Letter from Mr. George Leyva to Mr. Levine RE: *Approval of Field Assessment Methodology for Potentially Mobile Free Petroleum Product at Installation Restoration (IR) Site 3 at the former Naval Fuel Depot (NFD) Point Molate, Richmond, Contra Costa County*. November 30.
- RWQCB. 2011a. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Excavation Delineation Work Plan for Former Point Molate NFD Site-3 Richmond, Contra Costa County*. August 26.
- RWQCB. 2011b. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Site-Wide Groundwater Monitoring Plan for the Former Point Molate Naval Fuel Depot, Richmond, Contra Costa County*. August 30.
- RWQCB. 2011c. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Draft Groundwater Remediation Work Plan, IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond*. November 8.
- RWQCB. 2011d. Order No. R2-2011-0087 Updated Site Cleanup Requirements and Recission of Order Nos. 95-235, 97-124 and 97-125, City of Richmond and United States Department of Defense, Department of the Navy for the: *Former Point Molate Naval Fuel Depot, Located at 1009 Western Drive, Richmond, Contra Costa County*. December 19.
- RWQCB. 2012a. Order No. R2-2012-0012 NPDES No. CAG912002 General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit). February 8.
- RWQCB. 2012b. Letter from Mr. George Levya to Mr. Bruce Goodmiller RE: *Review and Comments - Draft FS/RAP, Former Naval Fuel Depot Point Molate, Richmond, Contra Costa County*. February 17.
- RWQCB. 2012c. Letter from Ms. Lila Tang to Mr. Steve Duran RE: *Reauthorization to Discharge from the Packaged Groundwater Treatment Plant (PGWTP) located at the former Naval Fuel Depot, Point Molate, Western Drive, City of Richmond, Contra Costa County under the Requirements of Order No. R2-2012-0012, NPDES Permit No. CAG912002 (VOC and Fuel General Permit)*. March 22.

- Terraphase. 2010a. Work Plan to Develop a Field Assessment Methodology for Mobile Free Product, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. November 8.
- Terraphase. 2010b. Notice of Increased Flow through the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075 NPDES No. CAG912002). November 17.
- Terraphase. 2011a. Fourth Quarter 2010 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. January 25.
- Terraphase. 2011b. Combined Fourth Quarter and Annual 2010 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002. February 15.
- Terraphase. 2011c. Response to Comments and Questions Regarding the Fourth Quarter and Annual 2010 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California Order No. R2-2006-0075, NPDES Permit No. CAG912002). March 23.
- Terraphase. 2011d. First Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. April 22.
- Terraphase. 2011e. First Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). April 22.
- Terraphase. 2011f. First Five Year Review Former Point Molate Naval Fuel Depot Installation Restoration Site 1, Richmond, California. June 6.
- Terraphase. 2011g. Notice of Temporary Shutdown of the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order Number R2-2006-0075, NPDES Permit Number CAG912002). June 7.
- Terraphase. 2011h. Field and Laboratory Assessment of Mobile Free Product Report, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. June 15.
- Terraphase. 2011i. Notice of Intent (Discharge Permit Application) for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075 NPDES Number CAG912002). July 11.
- Terraphase. 2011j. Second Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. July 18.
- Terraphase. 2011k. Second Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). July 23.
- Terraphase. 2011l. Start-Up Phase Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit Number CAG912002). August 2.
- Terraphase. 2011m. Work Plan for Excavation Delineation and Waste Characterization of Petroleum-Affected Soil, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. August 17.
- Terraphase. 2011n. Site-Wide Groundwater Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 19.

- Terraphase. 2011o. Third Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002. October 18.
- Terraphase. 2011p. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. October 27.
- Terraphase. 2011q. Third Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. October 28.
- Terraphase. 2011r. Groundwater Remediation Work Plan IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate Richmond, California. November 30.
- Terraphase. 2011s. Draft Investigation Restoration Site 3 Feasibility Study/ Remedial Action Plan, Former NFD Point Molate, Richmond, California Installation Restoration Site 3. December 19.
- Terraphase. 2012a. Monthly Summary Report for Work through December 2011, Former Naval Fuel Depot Point Molate Richmond, California. January 9.
- Terraphase. 2012b. Comments Regarding the Tentative Order No. R2-2012-XXXX NPDES No. CAG912002, VOC and Fuel General Permit. January 11.
- Terraphase. 2012c. Fourth Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. January 19.
- Terraphase. 2012d. Annual 2011 Underground Storage Tank (UST) Monitoring Report. January 20.
- Terraphase. 2012e. Supplemental Information Regarding the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Tentative Order No. R2-2012-XXX NPDES No. CAG912002, VOC and Fuel General Permit). January 27.
- Terraphase. 2012f. Combined Fourth Quarter and Annual 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). January 28.
- Terraphase. 2012g. Application for 401 Water Quality Certification for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 10.
- Terraphase. 2012h. Application for Nationwide Permit Number 38 Coverage for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 10.
- Terraphase. 2012i. Installation Restoration Site 3 Remediation Nationwide Permit No. 38 Pre-Construction Notification, Former Naval Fuel Depot Point Molate Richmond, California. February 8.
- Terraphase. 2012j. Monthly Summary Report for Work through January 2012, Former Naval Fuel Depot Point Molate Richmond, California. February 13.
- Terraphase. 2012k. Draft Excavation Delineation and Waste Characterization of Petroleum-Affected Soil Report, IR Site 3, Former Naval Fuel Depot Point Molate Richmond, California. February 13.
- Terraphase. 2012l. Application for Administrative Permit for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 20.
- Terraphase. 2012m. Monthly Summary Report for Work through February 2012, Former Naval Fuel Depot Point Molate Richmond, California. March 13.
- Terraphase. 2012n. Monthly Summary Report for Work through March 2012, Former Naval Fuel Depot Point Molate Richmond, California. April 13.

- Terraphase. 2012o. Dry-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. April 19.
- Terraphase. 2012p. Wetland Mitigation and Monitoring Plan IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate, Richmond, California. April 23.
- Terraphase. 2012q. Response to Comments - Point Molate Community Advisory Committee Letter on Proposed Treatment and Study of IR Site 4 Drum Lot 2, Building 87 Area Point Molate. May 3.
- Terraphase. 2012r. Addendum to the Revised Final Groundwater Remediation Work Plan for IR Site 4, Drum Lot 2/Building 87 Area, Former NFD Point Molate, Richmond, California. May 3.
- Terraphase. 2012s. First Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California. May 3.
- Terraphase. 2012t. First Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2012u. First Quarter 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2012v. Monthly Remediation Status Report for Work in April 2012, Former Naval Fuel Depot Point Molate Richmond, California. May 15.
- Terraphase. 2012w. Soil Gas Survey Work Plan, Installation Restoration Site 3, Former Naval Fuel Depot Point Molate, Richmond, California. May 22.
- Terraphase. 2012x. Monthly Remediation Status Report for Work in May 2012, Former Naval Fuel Depot Point Molate Richmond, California. June 15.
- Terraphase. 2012y. Monthly Remediation Status Report for Work in June 2012, Former Naval Fuel Depot Point Molate Richmond, California. July 15.
- Terraphase. 2012z. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 3.
- Terraphase. 2012aa. Second Quarter 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 6.
- Terraphase. 2012bb. Second Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 6.
- Terraphase. 2012cc. Second Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California. August 6.
- Terraphase. 2012dd. Well Abandonment Work Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 8.
- Terraphase. 2012ee. Data Summary for Soil Gas Survey at Former Naval Fuel Depot Point Molate, Richmond, California. August 13.
- Terraphase. 2012ff. Monthly Remediation Status Report for Work in July 2012, Former Naval Fuel Depot Point Molate Richmond, California. August 15.
- Terraphase. 2012gg. Step Out Investigation, IR Site 4, Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.

- Terraphase. 2012hh. Monthly Remediation Status Report for Work in August 2012, Former Naval Fuel Depot Point Molate Richmond, California. September 17.
- Terraphase. 2012ii. Step Out Investigation, IR Site 4 Drum Lot 2, Building 87 Area Point Molate, Richmond, California. September 17.
- Terraphase. 2012jj. Soil and Groundwater Management Plan, Former Naval Fuel Depot Point Molate, Richmond, California. September 21.
- Terraphase. 2012kk. Monthly Remediation Status Report for Work in September 2012, Former Naval Fuel Depot Point Molate Richmond, California. October 15.
- Terraphase. 2012ll. Work Plan for Delineating Characteristically Hazardous Waste, IR Site 3, Former Naval Fuel Depot Point Molate Richmond, California. October 19.
- Terraphase. 2012mm. Draft Second Addendum to the Revised Final Groundwater Remediation Work Plan for IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. October 26.
- Terraphase. 2012nn. Third Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. November 1.
- Terraphase. 2012oo. Third Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California (CIWQS 657165 Order No. R2-2012-0012, NPDES No CAG912002. November 1.
- Terraphase. 2012pp. Third Quarter 2012 Underground Storage tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. November 1.
- Terraphase. 2012qq. Monthly Remediation Status Report for Work in October 2012, Former Naval Fuel Depot Point Molate, Richmond, California. November 15.
- Terraphase. 2012rr. Monthly Remediation Status Report for Work in November 2012, Former Naval Fuel Depot Point Molate, Richmond, California. December 14.
- Terraphase. 2013a. Monthly Remediation Status Report for Work in December 2012, Former Naval Fuel Depot Point Molate, Richmond, California. January 15.
- Terraphase. 2013b. Dry-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. January 31.
- Terraphase. 2013c. Interim Remedial Measures Implementation Report, IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. January 31.
- Terraphase. 2013d. Combined Fourth Quarter and Annual 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. February 4.
- Terraphase. 2013e. Combined Fourth Quarter and Annual 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. February 10.
- Terraphase. 2013f. 4<sup>th</sup> Quarter 2012 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.
- Terraphase. 2013g. Monthly Remediation Status Report for Work in January 2013, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.
- Terraphase. 2013h. Well Abandonment Completion Report, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.

- Terraphase. 2013i. Monthly Remediation Status Report for Work in February 2013, Former Naval Fuel Depot Point Molate, Richmond, California. March 15.
- Terraphase. 2013j. Underground Storage Tank Management Plan, Former Naval Fuel Depot Point Molate, Richmond, California. March 22.
- Terraphase. 2013k. Monthly Remediation Status Report for Work in March 2013, Former Naval Fuel Depot Point Molate, Richmond, California. March 15.
- Terraphase. 2013l. 1<sup>st</sup> 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013m. Monthly Remediation Status Report for Work in April 2013, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013n. 1<sup>st</sup> Quarter 2013 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013o. 1<sup>st</sup> Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013p. Revised Remediation Scenarios for Installation Restoration Site 3, Former Naval Fuel Depot Point Molate, Richmond, California. June 5.
- Terraphase. 2013q. Monthly Remediation Status Report for Work in May 2013, Former Naval Fuel Depot Point Molate, Richmond, California. June 14.
- Terraphase. 2013r. Monthly Remediation Status Report for Work in June 2013, Former Naval Fuel Depot Point Molate, Richmond, California. July 12.
- Terraphase. 2013s. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. July 31.
- Terraphase. 2013t. Monthly Remediation Status Report for Work in July 2013, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013u. 2<sup>nd</sup> Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013v. 2<sup>nd</sup> Quarter 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013w. 2<sup>nd</sup> Quarter 2013 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013x. Monthly Remediation Status Report for Work in August 2013, Former Naval Fuel Depot Point Molate, Richmond, California. September 16.
- Terraphase. 2013y. Monthly Remediation Status Report for Work in September 2013, Former Naval Fuel Depot Point Molate, Richmond, California. October 14.
- Tetra Tech EM Inc. (TTEMI). 2002. Final Postclosure Maintenance and Monitoring Plan, Site 1, Final Cover, Naval Fuel Depot Point Molate, Richmond, California. August 30.





December 6, 2013

Mr. George Leyva  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

*sent via: email*

**Subject:** Monthly Remediation Status Report for Work in November 2013, Former Naval Fuel Depot Point Molate, Richmond, California

Dear Mr. Leyva:

This monthly remediation status report summarizes the remediation activities conducted by Terraphase Engineering Inc. (Terraphase) on behalf of the City of Richmond at the former Naval Fuel Depot Point Molate (the Site). This remediation status report is intended to meet the requirements of Task 9 in the Regional Water Quality Control Board (RWQCB) Order R2-2011-0087 (RWQCB 2011d). The requirements of Task 9 are as follows:

*The Discharger shall submit a report to the Regional Water Board, 30 days prior to the start of any onsite remediation activities, and then on a monthly basis beginning 30 days after the start of the remediation activities, outlining the onsite remediation activities accomplished during the past month and those planned for the following month. The first monthly report at the beginning of each quarter shall include monitoring and test results and any conclusions or proposed changes to the remediation process based on those results. If any changes to the remediation are proposed during any monthly report, applicable supporting monitoring or test data will be submitted at that time. The status report shall also verify that the Prohibitions in Section A, stipulated above, have been adhered to. Should any of those prohibitions be trespassed, the report shall propose a recommendation acceptable to the Executive Officer to correct the trespass.*

This remediation status report provides a monthly update on the progress of environmental investigations, remediation, maintenance, and monitoring at the Site. This report is organized around each task listed in the RWQCB Order R2-2011-0087 (RWQCB 2011d). Additional tasks related to the Installation Restoration (IR) Site 3 Packaged Groundwater Treatment Plant (PGWTP) and site-wide groundwater monitoring are also included below. For major work tasks completed in 2012, please see the monthly status report for December 2012 (Terraphase 2013a). A reference list of reports and submittals is included as an attachment to this letter.

**Task 1: Soil Cleanup Goals (Compliance Date: February 13, 2012)**

*Work completed in November 2013:*

1. None

*Major Work Items Previously Completed in 2013:*

1. Analysis of the existing soil data compared to the proposed soil cleanup goals

*Upcoming Work in December 2013:*

1. None

**Task 2: Soil and Groundwater Management Plan (Compliance Date: March 15, 2012)**

Complete - *Final Soil and Groundwater Management Plan submitted to the RWQCB September 21, 2012 (Terraphase 2012jj)*

**Task 3a: IR Site 3 Feasibility Study and Remedial Action Plan (Compliance Date: May 4, 2012)**

*Work completed in November 2013:*

1. Discussions with City of Richmond regarding the Waste Characterization Report and Feasibility Study/Remedial Action Plan (FS/RAP)

*Revisions to the FS/RAP Major Work Items Previously Completed in 2013:*

1. Discussion with the RWQCB regarding the draft IR Site 3 Feasibility Study and Remedial Action Plan (FSRAP; Terraphase 2011s)
2. Developed the internal draft summary of the industrial waste area waste characterization investigation for inclusion in the Waste Characterization Report (Terraphase 2012k)
3. Developed the internal draft estimated costs of remedial alternatives for inclusion in the Waste Characterization Report (Terraphase 2012k)
4. Submitted the internal draft summary of the industrial waste area waste characterization to the City of Richmond and Upstream Point Molate (Upstream)
5. Submitted internal draft estimated costs of remedial alternatives to the City of Richmond and Upstream
6. Meeting on June 11, 2013 with the RWQCB, Upstream and the City of Richmond to discuss the remedial alternatives
7. Preparation and submission of Revised Remediation Scenarios to the RWQCB (Terraphase 2013p)
8. Meeting on July 23, 2013 with the RWQCB, City of Richmond, PMCAC, Nichols Consulting Engineering, and Nelson Environmental Remediation

*Upcoming Work in December 2013:*

1. Continued revisions to the FS/RAP
2. Preparation of the Title 27 equivalency for proposed engineered alternatives to Waste Management Unit (WMU) closure

**Task 3b: IR Site 3 Remedial Action Completion Report (Compliance Date: February 3, 2014)**

Not Applicable

**Task 4a: IR Site 4 Interim Remedial Action Work Plan (Compliance Date: April 3, 2012)**

Complete - *IR Site 4 Interim Remedial Action Work Plan submitted to the RWQCB (Terraphase 2011r, 2012gg, 2012ii, and 2012mm)*

**Task 4b: IR Site 4 Interim Remedial Action Completion Report (Compliance Date: November 2, 2012)**

*Work completed in November 2013:*

1. None

*Major Work Items Previously Completed in 2013:*

1. Submitted the Interim Remedial Measures Implementation Report to the RWQCB (Terraphase 2013c)
2. Conducted the first, second round, and third round of post-treatment performance monitoring

*Upcoming Work in December 2013:*

1. Conduct the fourth round of post-treatment performance monitoring at IR Site 4

**Task 4c: IR Site 4 Human Health Risk Assessment (Compliance Date: November 4, 2013)**

Not Applicable

**Task 4d: IR Site 4 Feasibility Study and Remedial Action Plan (Compliance Date: February 3, 2014)**

Not Applicable

**Task 4e: IR Site 4 Remedial Action Completion Report (Compliance Date: February 3, 2015)**

Not Applicable

**Task 5: UST Management Plan (Compliance Date: March 4, 2013)**

*Work completed in November 2013:*

1. Response to RWQCB comments on the Underground Storage Tank (UST) Management Plan (Terraphase 2013j)

*Major Work Items Previously Completed in 2013:*

1. Reviewed the current environmental closure status of the USTs
2. Reviewed the current UST Post-Closure Monitoring and Maintenance Plan (ITSI 2005)
3. Submitted the UST Management Plan to the City of Richmond, Upstream, and the RWQCB (Terraphase 2013j)

*Upcoming Work in December 2013:*

1. Preparation of tank closure requests to the RWQCB for USTs 2,15,18,19.

**Task 6: UST Removal Plan (Compliance Date: 90 days prior to UST demolition)**

Not Applicable – No UST demolition scheduled

**Task 7: UST Status Report (Compliance Date: June 3, 2012)**

*Work completed in November 2013:*

1. Conducted the routine monthly UST closure monitoring inspections
2. Prepared and submitted the third quarter UST monitoring report to the RWQCB (Terraphase 2013z)

*Major Work Items Previously Completed in 2013:*

1. Conducted the routine monthly UST closure monitoring inspections
2. Preparation of the combined fourth quarter and annual 2012 monitoring report (Terraphase 2013e).

3. Conducted the biennial UST interior monitoring inspections
4. Submitted the first quarter UST monitoring report to the RWQCB (Terraphase 2013l)
5. Submitted the second quarter UST monitoring report to the RWQCB (Terraphase 2013v)

*Upcoming Work in December 2013:*

1. Conduct routine monthly UST closure monitoring inspections

**Task 8: Amended Land Use Controls (Compliance Date: When environmental closure is requested)**

Not Applicable

**Task 9: Remediation Status Reports (Compliance Date: Monthly)**

*Work completed in November 2013:*

1. Submitted the monthly remediation status report for October 2013 to the RWQCB (Terraphase 2013cc)

*Major Work Items Previously Completed in 2013:*

1. Submitted the monthly remediation status report for January 2013 to the RWQCB (Terraphase 2013g)
2. Submitted the monthly remediation status report for February 2013 to the RWQCB (Terraphase 2013i)
3. Submitted the monthly remediation status report for March 2013 to the RWQCB (Terraphase 2013k)
4. Submitted insurance budget summaries and project status updates for December 2012, January, February, and March 2013 to Upstream, the City of Richmond, the US Navy's Base Realignment and Closure (BRAC) Program, and ACE Group
5. Submitted the monthly remediation status report for April 2013 to the RWQCB (Terraphase 2013m)
6. Submitted the monthly remediation status report for May 2013 to the RWQCB (Terraphase 2013q)
7. Submitted the monthly remediation status report for June 2013 to the RWQCB (Terraphase 2013r)
8. Submitted the monthly remediation status report for July 2013 to the RWQCB (Terraphase 2013t)
9. Submitted the monthly remediation status report for August 2013 to the RWQCB (Terraphase 2013x)
10. Submitted the monthly remediation status report for September 2013 to the RWQCB (Terraphase 2013y)

*Upcoming Work in December 2013:*

1. Submit the monthly remediation status report for November 2013 to the RWQCB
2. Submit the insurance budget summary and project status update for September, October and November 2013 to the City of Richmond, the BRAC Program, and the ACE Group

**Task 10: Discoveries During Facility Redevelopment (Compliance Date: 60 days from initial discovery)**

None

**Task 11: IR Site 1 ROD (Compliance Date: None)**

*Work completed in November 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc.

2. Routine operation, maintenance, and monitoring of the landfill treatment system
3. Conducted annual landfill sampling
4. Prepared and submitted the Post Closure Performance Monitoring Plan addendum to the RWQCB (Terraphase 2013dd)
5. Preparation and submittal of the third quarter 2013 monitoring report to the RWQCB (Terraphase 2013bb)

*Major Work Items Previously Completed in 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc. per the Final Post-Closure Maintenance and Monitoring Plan (TTEMI 2002)
2. Routine operation, maintenance, and monitoring of the landfill treatment system
3. Installation and troubleshooting of new settling tank floats
4. Installation and troubleshooting of a new discharge pump
5. Submission of the fourth quarter 2012 monitoring report to the RWQCB (Terraphase 2013f)
6. Installation and troubleshooting of the new sand filters
7. Preparation and submittal of the first quarter 2013 monitoring report (Terraphase 2013n)
8. Quarterly landfill inspection with Contra Costa County Environmental Health
9. Preparation of an addendum to the post-closure maintenance and monitoring plan (PMMP)
10. Preparation and submittal of the second quarter 2013 monitoring report to the RWQCB (Terraphase 2013w)

*Upcoming Work in December 2013:*

1. Routine monthly landfill inspection of signs, gates, locks, etc.
2. Routine operation, maintenance, and monitoring of the landfill treatment system
3. Preparation of the combined fourth quarter 2013 and annual monitoring report

**Task 12: Construction Stormwater General Permit (Compliance Date: Prior to field work)**

Not Applicable

**IR Site 3: PGWTP**

Terraphase, under the direction of the City of Richmond, operates, maintains, monitors, and prepares the quarterly and annual monitoring reports for the PGWTP under the existing General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit) (RWQCB 2012a). The following summarizes the activities related to the continued operation, maintenance, and monitoring of the PGWTP.

*Work completed in November 2013:*

1. Routine operation, maintenance, and monitoring of the PGWTP
2. Relocation of electrical equipment, rerouting of electrical wiring to treatment equipment
3. Preparation for decommissioning of bioreactor
4. Preparation and submittal of the third quarter 2013 monitoring report to the RWQCB (Terraphase 2013aa)

*Major work items completed previously in 2013:*

1. Routine operation, maintenance, and monitoring of the PGWTP
2. Installation of a new compressor for the automatic influent valve
3. Preparation and submission of the combined annual and fourth quarter 2012 monitoring report to the RWQCB (Terraphase 2013d)

4. Installation of an alarm float on the secondary containment pad
5. Prepared an analysis of costs and designs for a replacement bio-reactor tank
6. Preparation and submittal of the first quarter 2013 monitoring report to the RWQCB (Terraphase 2013o)
7. Repairs to the extraction well pumps and oil-water separator discharge pump
8. Emergency repairs to the bio-reactor and associated equipment
9. Preparation and submittal of the second quarter 2013 monitoring report to the RWQCB (Terraphase 2013u)

*Upcoming Work in December 2013:*

1. Routine operation, maintenance, and monitoring of the PGWTP
2. Decommissioning of bioreactor and cleaning out of oil water separation tanks

**Site-wide Groundwater Monitoring**

The purpose of the site-wide groundwater monitoring is to provide groundwater quality data that can be evaluated against established screening criteria for the Site. This program will help protect human health and the environment and prevent releases to the San Francisco Bay. Integrating data collected under this program with previous data is intended to support compliance and closure in accordance with regulatory requirements. Groundwater monitoring is being conducted on a semi-annual basis (wet-season and dry-season) per the Site-Wide Groundwater Monitoring Plan (Terraphase 2011n) that was approved by the RWQCB on August 30, 2011 (RWQCB 2011b). Data collected is summarized and submitted as semi-annual monitoring reports to the RWQCB.

*Work completed in November 2013:*

1. Preparation of the internal draft 2013 Dry-Season Semi-Annual Groundwater Monitoring Report

*Major work items completed previously in 2013:*

1. Submitted the 2012 Dry-Season Semi-Annual Groundwater Monitoring Report (Terraphase 2013b) to the City of Richmond, Upstream, and the RWQCB
2. Disposal of wastes generated during well destruction activities
3. Submitted Well Completion Reports for the well destruction activities to Contra Costa County Environmental Health and the California Department of Water Resources
4. Submitted the final Well Abandonment Completion Report to the RWQCB, the City of Richmond, and Upstream (Terraphase 2013h)
5. Prepared and submitted the semi-annual wet season groundwater monitoring report to the RWQCB (Terraphase 2013s)

*Upcoming Work in December 2013:*

1. Preparation of the 2013 Dry-Season Semi-Annual Groundwater Monitoring Report

**Prohibitions Verification**

As required in Task 9 of the RWQCB Order, the following prohibitions (Section A of the RWQCB Order) were adhered to during the remedial activities in November 2013, to the knowledge of Terraphase.

1. The discharge of wastes and/or non-hazardous or hazardous substances in a manner which will degrade, or threaten to degrade, water quality or adversely affect, or threaten to adversely affect, the beneficial uses of the waters of the State is prohibited.
2. Further migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup that will cause adverse migration of wastes or hazardous substances are prohibited.
4. The tidal marsh habitat and wetland habitats onsite shall be completely avoided unless encroachment on these areas is required to implement Facility remediation work and resultant impacts to the affected habitat are mitigated through a plan approved by the Executive Officer. A setback of 50 feet shall be established around the tidal marsh and any wetland area as a means of preventing any unintended impacts to it from the remediation.
5. The Site's offshore eel-grass habitat shall be completely avoided during any remedial work to the maximum extent practicable.

### Summary

The above detailed summaries by task provide a look at the ongoing remediation activities at the former Naval Fuel Depot Point Molate. The most significant of which are the IR Site 3 FS/RAP and Waste Characterization Report. The RWQCB's comments on the FS/RAP and Waste Characterization Report (including soil cleanup goals) will be incorporated into the two documents with additional information collected during the soil gas investigation and industrial waste area investigation and re-submitted to the RWQCB as draft final in early 2014. The draft final FS/RAP and Waste Characterization Report will be presented to the PMCAC prior to submittal to the RWQCB.

If you have questions regarding this report, please call Tomer Schetrit or Ryan Janoch at (510) 645-1850.

Sincerely,  
For Terraphase Engineering Inc.



Ryan Janoch, PE (C78735)  
Senior Professional Engineer



Tomer Schetrit, PE (C81411)  
Professional Engineer

cc: Craig Murray, City of Richmond  
Carlos Privat, City of Richmond  
Bruce Goodmiller, City of Richmond  
LaShonda White, City of Richmond  
Michael Leacox, Nichols Consulting Engineers  
David Clark, BRAC Program Management Office  
Venkat Puranapanda, ACE Group  
Eileen Whittey, PMCAC  
Paul Carman, PMCAC  
Joan Garrett, PMCAC

Attachments: Point Molate Bibliography

### **Point Molate Bibliography**

- City of Richmond. 2012. Letter from Richard Mitchell (Planning Department) to Mr. Tristan Tozer (California Office of Historic Preservation) RE: *Section 106 Consultation for the Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate, Richmond, CA.* April 3.
- Innovative Technical Solutions, Inc. (ITSI). 2005. Post-Closure UST Maintenance and Monitoring Plan. December.
- Regional Water Quality Control Board - San Francisco Bay Region (RWQCB). 2006. Order No. R2-2006-0075 NPDES No. CAG912002 General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Fuel Leaks and Other Related Wastes at Service Stations and Similar Sites. November 13.
- RWQCB. 2007. Letter from Ms. Lila Tang to United States Navy Subject: *Notice of General Permit Coverage for Discharges from the Packaged Groundwater Treatment Plant located at Naval Fuel Depot Point Molate, Richmond, Contra Costa County, CA 94801, under the Requirements of Order No. R2-2006-0075, NPDES Permit No. CAG912002 (Fuels General Permit).* June 6.
- RWQCB. 2010. Letter from Mr. George Leyva to Mr. Levine RE: *Approval of Field Assessment Methodology for Potentially Mobile Free Petroleum Product at Installation Restoration (IR) Site 3 at the former Naval Fuel Depot (NFD) Point Molate, Richmond, Contra Costa County.* November 30.
- RWQCB. 2011a. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Excavation Delineation Work Plan for Former Point Molate NFD Site-3 Richmond, Contra Costa County.* August 26.
- RWQCB. 2011b. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Site-Wide Groundwater Monitoring Plan for the Former Point Molate Naval Fuel Depot, Richmond, Contra Costa County.* August 30.
- RWQCB. 2011c. Letter from Mr. George Levya to Mr. Steve Duran RE: *Approval of Draft Groundwater Remediation Work Plan, IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond.* November 8.
- RWQCB. 2011d. Order No. R2-2011-0087 Updated Site Cleanup Requirements and Recission of Order Nos. 95-235, 97-124 and 97-125, City of Richmond and United States Department of Defense, Department of the Navy for the: *Former Point Molate Naval Fuel Depot, Located at 1009 Western Drive, Richmond, Contra Costa County.* December 19.
- RWQCB. 2012a. Order No. R2-2012-0012 NPDES No. CAG912002 General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit). February 8.
- RWQCB. 2012b. Letter from Mr. George Levya to Mr. Bruce Goodmiller RE: *Review and Comments - Draft FS/RAP, Former Naval Fuel Depot Point Molate, Richmond, Contra Costa County.* February 17.
- RWQCB. 2012c. Letter from Ms. Lila Tang to Mr. Steve Duran RE: *Reauthorization to Discharge from the Packaged Groundwater Treatment Plant (PGWTP) located at the former Naval Fuel Depot, Point Molate, Western Drive, City of Richmond, Contra Costa County under the Requirements of Order No. R2-2012-0012, NPDES Permit No. CAG912002 (VOC and Fuel General Permit).* March 22.

- Terraphase. 2010a. Work Plan to Develop a Field Assessment Methodology for Mobile Free Product, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. November 8.
- Terraphase. 2010b. Notice of Increased Flow through the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075 NPDES No. CAG912002). November 17.
- Terraphase. 2011a. Fourth Quarter 2010 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. January 25.
- Terraphase. 2011b. Combined Fourth Quarter and Annual 2010 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). February 15.
- Terraphase. 2011c. Response to Comments and Questions Regarding the Fourth Quarter and Annual 2010 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California Order No. R2-2006-0075, NPDES Permit No. CAG912002). March 23.
- Terraphase. 2011d. First Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. April 22.
- Terraphase. 2011e. First Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). April 22.
- Terraphase. 2011f. First Five Year Review Former Point Molate Naval Fuel Depot Installation Restoration Site 1, Richmond, California. June 6.
- Terraphase. 2011g. Notice of Temporary Shutdown of the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order Number R2-2006-0075, NPDES Permit Number CAG912002). June 7.
- Terraphase. 2011h. Field and Laboratory Assessment of Mobile Free Product Report, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. June 15.
- Terraphase. 2011i. Notice of Intent (Discharge Permit Application) for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075 NPDES Number CAG912002). July 11.
- Terraphase. 2011j. Second Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. July 18.
- Terraphase. 2011k. Second Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). July 23.
- Terraphase. 2011l. Start-Up Phase Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit Number CAG912002). August 2.
- Terraphase. 2011m. Work Plan for Excavation Delineation and Waste Characterization of Petroleum-Affected Soil, IR Site 3, Former Point Molate Naval Fuel Depot, Richmond, California. August 17.
- Terraphase. 2011n. Site-Wide Groundwater Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 19.

- Terraphase. 2011o. Third Quarter 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002. October 18.
- Terraphase. 2011p. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. October 27.
- Terraphase. 2011q. Third Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. October 28.
- Terraphase. 2011r. Groundwater Remediation Work Plan IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate Richmond, California. November 30.
- Terraphase. 2011s. Draft Investigation Restoration Site 3 Feasibility Study/ Remedial Action Plan, Former NFD Point Molate, Richmond, California Installation Restoration Site 3. December 19.
- Terraphase. 2012a. Monthly Summary Report for Work through December 2011, Former Naval Fuel Depot Point Molate Richmond, California. January 9.
- Terraphase. 2012b. Comments Regarding the Tentative Order No. R2-2012-XXXX NPDES No. CAG912002, VOC and Fuel General Permit. January 11.
- Terraphase. 2012c. Fourth Quarter 2011 Landfill Monitoring Report IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. January 19.
- Terraphase. 2012d. Annual 2011 Underground Storage Tank (UST) Monitoring Report. January 20.
- Terraphase. 2012e. Supplemental Information Regarding the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Tentative Order No. R2-2012-XXX NPDES No. CAG912002, VOC and Fuel General Permit). January 27.
- Terraphase. 2012f. Combined Fourth Quarter and Annual 2011 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California (Order No. R2-2006-0075, NPDES Permit No. CAG912002). January 28.
- Terraphase. 2012g. Application for 401 Water Quality Certification for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 10.
- Terraphase. 2012h. Application for Nationwide Permit Number 38 Coverage for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 10.
- Terraphase. 2012i. Installation Restoration Site 3 Remediation Nationwide Permit No. 38 Pre-Construction Notification, Former Naval Fuel Depot Point Molate Richmond, California. February 8.
- Terraphase. 2012j. Monthly Summary Report for Work through January 2012, Former Naval Fuel Depot Point Molate Richmond, California. February 13.
- Terraphase. 2012k. Draft Excavation Delineation and Waste Characterization of Petroleum-Affected Soil Report, IR Site 3, Former Naval Fuel Depot Point Molate Richmond, California. February 13.
- Terraphase. 2012l. Application for Administrative Permit for Point Molate IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate Richmond, California. February 20.
- Terraphase. 2012m. Monthly Summary Report for Work through February 2012, Former Naval Fuel Depot Point Molate Richmond, California. March 13.
- Terraphase. 2012n. Monthly Summary Report for Work through March 2012, Former Naval Fuel Depot Point Molate Richmond, California. April 13.

- Terraphase. 2012o. Dry-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. April 19.
- Terraphase. 2012p. Wetland Mitigation and Monitoring Plan IR Site 3 Remediation Project, Former Naval Fuel Depot Point Molate, Richmond, California. April 23.
- Terraphase. 2012q. Response to Comments - Point Molate Community Advisory Committee Letter on Proposed Treatment and Study of IR Site 4 Drum Lot 2, Building 87 Area Point Molate. May 3.
- Terraphase. 2012r. Addendum to the Revised Final Groundwater Remediation Work Plan for IR Site 4, Drum Lot 2/Building 87 Area, Former NFD Point Molate, Richmond, California. May 3.
- Terraphase. 2012s. First Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California. May 3.
- Terraphase. 2012t. First Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2012u. First Quarter 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2012v. Monthly Remediation Status Report for Work in April 2012, Former Naval Fuel Depot Point Molate Richmond, California. May 15.
- Terraphase. 2012w. Soil Gas Survey Work Plan, Installation Restoration Site 3, Former Naval Fuel Depot Point Molate, Richmond, California. May 22.
- Terraphase. 2012x. Monthly Remediation Status Report for Work in May 2012, Former Naval Fuel Depot Point Molate Richmond, California. June 15.
- Terraphase. 2012y. Monthly Remediation Status Report for Work in June 2012, Former Naval Fuel Depot Point Molate Richmond, California. July 15.
- Terraphase. 2012z. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 3.
- Terraphase. 2012aa. Second Quarter 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 6.
- Terraphase. 2012bb. Second Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 6.
- Terraphase. 2012cc. Second Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California. August 6.
- Terraphase. 2012dd. Well Abandonment Work Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 8.
- Terraphase. 2012ee. Data Summary for Soil Gas Survey at Former Naval Fuel Depot Point Molate, Richmond, California. August 13.
- Terraphase. 2012ff. Monthly Remediation Status Report for Work in July 2012, Former Naval Fuel Depot Point Molate Richmond, California. August 15.
- Terraphase. 2012gg. Step Out Investigation, IR Site 4, Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.

- Terraphase. 2012hh. Monthly Remediation Status Report for Work in August 2012, Former Naval Fuel Depot Point Molate Richmond, California. September 17.
- Terraphase. 2012ii. Step Out Investigation, IR Site 4 Drum Lot 2, Building 87 Area Point Molate, Richmond, California. September 17.
- Terraphase. 2012jj. Soil and Groundwater Management Plan, Former Naval Fuel Depot Point Molate, Richmond, California. September 21.
- Terraphase. 2012kk. Monthly Remediation Status Report for Work in September 2012, Former Naval Fuel Depot Point Molate Richmond, California. October 15.
- Terraphase. 2012ll. Work Plan for Delineating Characteristically Hazardous Waste, IR Site 3, Former Naval Fuel Depot Point Molate Richmond, California. October 19.
- Terraphase. 2012mm. Draft Second Addendum to the Revised Final Groundwater Remediation Work Plan for IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. October 26.
- Terraphase. 2012nn. Third Quarter 2012 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. November 1.
- Terraphase. 2012oo. Third Quarter 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Western Drive, Richmond, California (CIWQS 657165 Order No. R2-2012-0012, NPDES No CAG912002. November 1.
- Terraphase. 2012pp. Third Quarter 2012 Underground Storage tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. November 1.
- Terraphase. 2012qq. Monthly Remediation Status Report for Work in October 2012, Former Naval Fuel Depot Point Molate, Richmond, California. November 15.
- Terraphase. 2012rr. Monthly Remediation Status Report for Work in November 2012, Former Naval Fuel Depot Point Molate, Richmond, California. December 14.
- Terraphase. 2013a. Monthly Remediation Status Report for Work in December 2012, Former Naval Fuel Depot Point Molate, Richmond, California. January 15.
- Terraphase. 2013b. Dry-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. January 31.
- Terraphase. 2013c. Interim Remedial Measures Implementation Report, IR Site 4, Drum Lot 2/Building 87 Area, Former Naval Fuel Depot Point Molate, Richmond, California. January 31.
- Terraphase. 2013d. Combined Fourth Quarter and Annual 2012 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. February 4.
- Terraphase. 2013e. Combined Fourth Quarter and Annual 2012 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. February 10.
- Terraphase. 2013f. 4<sup>th</sup> Quarter 2012 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.
- Terraphase. 2013g. Monthly Remediation Status Report for Work in January 2013, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.
- Terraphase. 2013h. Well Abandonment Completion Report, Former Naval Fuel Depot Point Molate, Richmond, California. February 15.

- Terraphase. 2013i. Monthly Remediation Status Report for Work in February 2013, Former Naval Fuel Depot Point Molate, Richmond, California. March 15.
- Terraphase. 2013j. Underground Storage Tank Management Plan, Former Naval Fuel Depot Point Molate, Richmond, California. March 22.
- Terraphase. 2013k. Monthly Remediation Status Report for Work in March 2013, Former Naval Fuel Depot Point Molate, Richmond, California. March 15.
- Terraphase. 2013l. 1<sup>st</sup> 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013m. Monthly Remediation Status Report for Work in April 2013, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013n. 1<sup>st</sup> Quarter 2013 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013o. 1<sup>st</sup> Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. May 15.
- Terraphase. 2013p. Revised Remediation Scenarios for Installation Restoration Site 3, Former Naval Fuel Depot Point Molate, Richmond, California. June 5.
- Terraphase. 2013q. Monthly Remediation Status Report for Work in May 2013, Former Naval Fuel Depot Point Molate, Richmond, California. June 14.
- Terraphase. 2013r. Monthly Remediation Status Report for Work in June 2013, Former Naval Fuel Depot Point Molate, Richmond, California. July 12.
- Terraphase. 2013s. Wet-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. July 31.
- Terraphase. 2013t. Monthly Remediation Status Report for Work in July 2013, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013u. 2<sup>nd</sup> Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013v. 2<sup>nd</sup> Quarter 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013w. 2<sup>nd</sup> Quarter 2013 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. August 15.
- Terraphase. 2013x. Monthly Remediation Status Report for Work in August 2013, Former Naval Fuel Depot Point Molate, Richmond, California. September 16.
- Terraphase. 2013y. Monthly Remediation Status Report for Work in September 2013, Former Naval Fuel Depot Point Molate, Richmond, California. October 14.
- Terraphase. 2013z. 3<sup>rd</sup> Quarter 2013 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. October 30.
- Terraphase. 2013aa. 3<sup>rd</sup> Quarter 2013 Self-Monitoring Report for the Packaged Groundwater Treatment Plant, Former Naval Fuel Depot Point Molate, Richmond, California. October 30.
- Terraphase. 2013bb. 3<sup>rd</sup> Quarter 2013 Landfill Monitoring Report, IR Site 1, Former Naval Fuel Depot Point Molate, Richmond, California. October 30.

Terraphase. 2013cc. Monthly Remediation Status Report for Work in October 2013, Former Naval Fuel Depot Point Molate, Richmond, California. November 6.

Terraphase. 2013dd. Addendum to the Installation Restoration Site 1 Landfill Post-Closure Maintenance and Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. November 11.

Tetra Tech EM Inc. (TTEMI). 2002. Final Postclosure Maintenance and Monitoring Plan, Site 1, Final Cover, Naval Fuel Depot Point Molate, Richmond, California. August 30.