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February 7, 2006
14BP.01946.02.0222

Jay Huang
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Underground Storage Tank Program - Request for Additional Information
ARCO Facility 01946
332 Pico Boulevard Santa Monica, California
LARWQCB ID No. 904050034A

Dear Mr. Huang:

On behalf of Atlantic Richfield Company (Atlantic Richfield), SECOR International Incorporated (SECOR) has prepared this response to the California Regional Water Quality Control Board - Los Angeles Region (CRWQCB-LA) November 15, 2005 directive regarding the referenced site (Appendix A). On January 13, 2006 a due date extension was requested and on January 23, 2006 an extension of one month was approved by the CRWQCB-LA (Appendix A). Provided below are the CRWQCB-LA request for information (*in italics*) with SECOR's associated response immediately following.

1. *Facility contact person's name, phone number and email:*

Mr. John Batchelder	Mr. Ray Vose
EnviroSolve Corporation	Atlantic Richfield Company
28215 Agoura Road Suite 200	4 Centerpointe Drive
Agoura Hills, California 90049	La Palma, California 90049
818-889-0090	818-957-1755
jnbatch@envirosolve.com	voserg1@bp.com

2. *Facility mailing address:*

332 Pico Boulevard
Santa Monica, California

3. *Contamination Release Information (copy of site assessment report):*

The Emergency Response Assessment Report is pending and will be submitted to the CRWQCB-LA and the City of Santa Monica (CSM) upon completion.

4. *Tank Removal and/or repair information (include tank size and contents, removal and/or repair date):*

One 9,000-gallon, double walled fiberglass underground storage tank (UST) containing unleaded regular gasoline was damaged during facility upgrade activities on April 15, 2005. Repairs to the UST were conducted by Xerxes beginning on October 11, 2005 and repairs were completed on October 14, 2005. On October 14, 2005, the primary and secondary components of the UST were tested for tightness and integrity and both passed. The pending Facility Upgrade Report will document the UST repair and will be submitted to the CRWQCB-LA and the CSM.

5. *Tank disposal documentation:*

The UST was repaired in-situ. No disposal documentation was warranted.

6. *Copies of all previous site assessment and/or remediation reports, if any:*

On May 5, 2005, SECOR personnel conducted a file review at the CRWQCB-LA office. The site appeared to have documented site assessment activities beginning in 1986 and continuing until 1996, when the site received "no further action" from the CRWQCB-LA. The CRWQCB-LA files contained the following reports.

- October 1986. *HMUSP Application Including Leak Detection Program and Tank Monitoring Program*, EMCON Associates.
- December 18, 1987. *HMUSP Soil and Groundwater Data*, EMCON Associates.
- June 15, 1988. *Site Assessment Progress Letter*, EMCON Associates.
- October 5, 1988. *Site Assessment Progress*, EMCON Associates.
- January 19, 1989. *Unleaded Gasoline Tank Removal*, EMCON Associates.
- June 12, 1989. *Evaluation of Remediation Alternatives*, EMCON Associates.
- February 6, 1990. *Quarterly Progress, Fourth Quarter 1989*, EMCON Associates.
- April 4, 1990. *Groundwater/Vapor-Extraction Well Installation*, EMCON Associates.
- April 15, 1990. *Monthly Reporting of Product Recovery*, EMCON Associates.
- July 2, 1990. *Recommendations from Site Assessment Arco Products Company,*
- *August 15, 1991. Arco Facility 1946*, EMCON Associates.
- July 9, 1992. *Status of Treatment Facility Operation*, EMCON Associates.
- September 3, 1992. *Vapor Extraction Test Report*, EMCON Associates.
- December 15, 1992. *Monthly Product Recovery*, EMCON Associates.
- December 30, 1993. *Arco Facility 1946*, Groundwater Technology.
- July 15, 1993. *Quarterly Progress Letter, Second Quarter 1993*, EMCON Associates.
- January 25, 1994. *Quarterly Progress Letter, Fourth Quarter 1993*, EMCON Associates.
- May 16, 1994. *Remedial Action Plan,* EMCON Associates.

- May 18, 1994. *Decommission Wells at 322 Pico Boulevard*, EMCON Associates.
- July 12, 1994. *Tank Removal Report,* EMCON Associates.
- July 14, 1994. *Quarterly Progress Report, Second Quarter 1994*, EMCON Associates.
- October 10, 1994. *Quarterly Progress Report, Third Quarter 1994*, EMCON Associates.
- December 22, 1994. *Vapor Extraction and Groundwater Sparging Well Installation Technical Report,* EMCON Associates.
- January 4, 1995. *Vapor Extraction and Groundwater Sparging Well Installation Technical Report*, EMCON Associates.
- February 2, 1995. *Arco Quarterly Report, Fourth Quarter 1994*, EMCON Associates.
- April 25, 1995. *Arco Quarterly Report, First Quarter 1995*, EMCON Associates.
- July 28, 1995. *Arco Quarterly Report, Second Quarter 1994,* EMCON Associates.
- July 9, 1996. *Second Quarter 1996 Quarterly Report*, EMCON Associates.

In response to the Unauthorized Release that occurred on April 15, 2005, and the CSM verbal request for a work plan, SECOR submitted a *Response Activity and Proposed Response Activity Report* to the CSM on April 18, 2005. On April 20, 2005, the CSM verbally requested a revised work plan. On April 21, 2005 SECOR submitted a *Revised Response Activity and Proposed Response Activity* Report to the CSM. The work plans are provided in Appendix B.

- April 18, 2005. *Response Activities and Proposed Response Activities,* SECOR International Incorporated.
- April 21, 2005. *Revised Response Activities and Proposed Response Activities,* SECOR International Incorporated.

Emergency response activities were conducted by SECOR between April 16, 2005 and June 17, 2005. During the emergency response phase, SECOR submitted weekly reports to the CSM. The weekly reports are included in Appendix B.

- April 22, 2005. *Weekly Status Summary: April 15 – 21, 2005*, SECOR International Incorporated.
- April 29, 2005. *Weekly Status Summary: April 22 – 28, 2005*, SECOR International Incorporated.
- May 6, 2005. *Weekly Status Summary: April 29 – May 5, 2005*, SECOR International Incorporated.
- May 13, 2005. *Weekly Status Summary: May 6 – 12, 2005*, SECOR International Incorporated.
- May 20, 2005. *Weekly Status Summary: May 13 – 19, 2005*, SECOR International Incorporated
- May 27, 2005. *Weekly Status Summary: May 20 – 26, 2005*, SECOR International Incorporated.
- June 3, 2005. *Weekly Status Summary: May 27 – June 2, 2005*, SECOR International Incorporated.
- June 3, 2005. *Weekly Status Summary: May 27 – June 2, 2005*, SECOR International Incorporated.
- June 17, 2005. *Weekly Status Summary: June 10 – 16, 2005*, SECOR International Incorporated.

7. *Reports of all previous soil and groundwater sample analytical results, if any:*

The site historical soil and groundwater analytical data is included in the reports listed in response number 6.

Soil, groundwater and soil vapor analytical data generated during the emergency response activities will be documented and reported in the pending Emergency Response Assessment Report. The Emergency Response Assessment Report will be submitted to the CRWQCB-LA and the CSM upon completion.

Soil analytical data generated during the facility upgrade activities will be documented and reported in the pending Dispenser, Product Piping and UST Upgrade Report. The Facility Upgrade Report will be submitted to the CRWQCB-LA and the CSM upon completion.

8. *Name, telephone number and email address of your environmental consultant, if any:*

As of January 30, 2006, the environmental consultant for the site is:

Daniel P Dowdy, P.E.
The Source Group, Incorporated
501 Marin Street, Suite 112B
Thousand Oaks, California 91360
805-373-9063 Ext. 214
805-373-9073 fax
www.thesourcegroup.net

Prior to January 30, 2005, the environmental consultant was:

Cathy L. Sanford, PG
SECOR International Incorporated
11085 Knott Avenue, Suite B
Cypress, California 90630
714-379-3366 ext 276
csanford@secor.com

9. *Copies of all correspondence regarding environmental assessment for the site:*

Attached in Appendix C is the UST Monitoring Plan received from the CSM regarding the unauthorized release that occurred at the site on April 15, 2005.

In addition, pursuant to the California Health and Safety Code Chapter 6.75 and Division 7 of the Porter Cologne Water Quality Act, the current fee title holders for the site are listed below.

Betty Pringle Trust
Betty Pringle, Trustee
2470 Calle Narciso
Thousand Oaks, CA 91360-4813
805-370-8801

Pringle Children Irrevocable Trust
Attn: Dennis L. Pringle, Trustee
2314 Ashland Avenue
Santa Monica, CA 90405
310-443-0566

A copy of the trust deed is provided in Appendix D.

If you have any questions regarding the site or this correspondence, please contact the current environmental consultant Mr. Dan P. Dowdy at 805-373-9063 extension 214.

Sincerely,
SECOR International Incorporated

PROFESSIONAL GEOLOGIST
CATHY L. SANFORD
No. 7956
STATE OF CALIFORNIA

Cathy L. Sanford, PG 7956
Associate Geologist

Appendix A – California Regional Water Quality Control Board Correspondence Dated November 15, 2005. SECOR's Correspondence Dated January 25, 2006
Appendix B – Weekly Emergency Response Reports to City of Santa Monica
Appendix C – City of Santa Monica UST Monitoring Plan, Spill Control and Cleanup Methods
Appendix D – Copy of property Deed

cc Ray Vose, Atlantic Richfield Company
Mr. John Batchelder, EnviroSolve Corporationj
Ms. Monica Hanley, City of Santa Monica
Ms. Betty Pringle, Property Owner
Mr. Dennis L. Pringle, Property Owner

APPENDIX A

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

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Alan C. Lloyd, Ph.D.
Agency Secretary

Arnold Schwarzenegger
Governor

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

RECEIVED
NOV 15 2005

RECEIVED
NOV 23 2005
Remediation Management

November 15, 2005

Ms. Teresa Santana Miles
BP West Coast Products LLC
4 Centerpointe Drive
La Palma, CA 90623-2531

UNDERGROUND STORAGE TANK PROGRAM – REQUEST FOR ADDITIONAL INFORMATION
ARCO STATION NO. 1946
332 PICO BOULEVARD, SANTA MONICA (ID NO. 904050034A)

Dear Ms. Miles:

On October 27, 2005, the City of Santa Monica Environmental Program Division transmitted this case to this agency due to concerns of groundwater impact from the subject site. The California Regional Water Quality Control Board, Los Angeles Region, is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within the Los Angeles and Ventura counties. As such, we are the lead regulatory agency for overseeing corrective action (assessment and/or monitoring activities) and cleanup of releases from leaking underground storage tank (UST) systems at the subject site.

To facilitate our review, we would appreciate that you provide the following information regarding the referenced site that has not already been submitted:

1. Facility contact person's name and phone number (email address, if any);
2. Facility mailing address;
3. Contaminant release information (e.g., copy of Site Assessment Report);
4. Tank removal and/or repair information (include tank size and contents, removal and/or repair date);
5. Tank disposal documentation;
6. Copies of all previous site assessment and/or remediation report(s), if any;
7. Reports of all previous soil and groundwater sample analytical results, if any;
8. Name, telephone number and email address of your environmental consultant, if any; and
9. Copies of all correspondence regarding environmental assessment for the subject site.

In addition, pursuant to the California Health and Safety Code Chapter 6.75 (Section 25299.37.2) and Division 7 of the Porter Cologne Water Quality Control Act under AB 681, the Regional Board is required to notify all current fee title holders for the subject site or sites impacted by releases from underground storage tanks prior to considering corrective action and cleanup or case closure. If corrective action data from the site indicate that release(s) from the underground storage tank systems have impacted offsite property, you are required to provide to this Regional Board the name, mailing address, and phone number for any new record fee

title holders for the subject site and any offsite property(ies) impacted by releases from the subject site, together with a copy of county record of current ownership (grant trust deed), available from the County Recorder's Office, for each property affected. Or as an alternative, you can complete this Regional Board's "Certification Declaration for Compliance with Fee Title Holder Notification Requirements," for each site (available at

http://www.waterboards.ca.gov/losangeles/html/programs/ust/AB681_form.pdf).

If this information has been provided in the past, then you need not provide it again. Copies of future technical reports shall also be sent directly to the property owner of the site and to any other property owner(s) impacted by contamination from the site. You are also responsible to provide new contact information if the property owner(s) has been changed. The new owner shall comply with the requirement stated above. The above requested information is due to this Regional Board, no later than **January 15, 2006.**

Regulatory Requirement for Electronic Submission of Laboratory Data to the State Geotracker Internet Database

On September 30, 2004, the State Water Resources Control Board (SWRCB) adopted the resolution to revise regulations in Chapter 30, Division 3 of Title 23 of California Code of Regulations (CCR), which requires persons to ensure electronic submission of laboratory analytical data (i.e., soil or water chemical analysis) and locational data (i.e., location and elevation of groundwater monitoring wells), via the Internet to the SWRCB's GeoTracker database. The regulations and other background information are available at http://geotracker.waterboards.ca.gov.

In accordance with the above regulations, you are required to submit all future laboratory data over the Internet in the Electronic Deliverable Format to the SWRCB's GeoTracker database for any soil and/or groundwater samples obtained after September 1, 2001. This would include any sampling completed for underground storage tank system removal, site assessment activities, periodic groundwater monitoring, and post cleanup verification sampling. Per the same regulations, you are also required to submit locational data for all groundwater monitoring wells (i.e., latitude, longitude, and elevation survey data) together with groundwater information (i.e., elevation, depth to free product, monitoring well status, etc.) and a site map commencing January 1, 2002. Hard copy paper reports for the main contents are still required per Regional Board guidelines available at
http://www.waterboards.ca.gov/losangeles/html/programs/ust/04_0621_e-QMRGuideline6-04.pdf.

Underground Storage Tank Expedited Agency Oversight Program (EAOP)

Based on local agency's case referral, the contamination at the subject site was confirmed. Therefore, you are required to take necessary corrective actions at the site, including site assessment and cleanup as needed.

Per our prioritization criteria, the subject site is classified as a lower priority case. However, this case is qualified under our UST program's Expedited Agency Oversight Program (EAOP) as you have experienced in working with us in the past. In EAOP, the responsible party (RP) implements a reduced regulatory oversight "self-directed" process to complete the necessary assessment and cleanup at the site. After using your own judgement and completing the soil and/or groundwater corrective actions and confirmation sample results, the responsible party may prepare a package requesting for case closure. At that time, we will make a determination on case closure.

If you have any questions regarding this matter, please contact me at (213) 576-6715 or send me an email at jhuang@waterboards.ca.gov.

Sincerely,

Jay C. Huang, P.G., C.E.G.
Associate Engineering Geologist
Underground Tanks/LA Coastal

Enclosures: Leaking UST Program Certification Declaration for Compliance with Fee Title Holder Notification Requirements (Assembly Bill 681)

cc: Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank Cleanup Fund
Richard Berman, City of Santa Monica, Environmental Program Division

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January 24, 2006
PN14BP.01946.02.0222

Mr. Jay Huang
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

RE: Request for Extension to Submit Response to LARWQCB November 15, 2005 Directive
UST Program - Request for Additional Information
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California
LARWQCB ID No. 904050034A

Dear Mr. Huang:

SECOR International Incorporated (SECOR), on behalf of Atlantic Richfield Company, submits this letter documenting SECOR's phone message request for due date extension and phone conversation confirmation of due date extension request in regards to referenced agency directive for the site.

Specifically, on January 13, 2006, Ms. Cathy Sanford of SECOR requested via phone message to Mr. Jay Huang of the Los Angeles Regional Water Quality Control Board (LARWQCB), a due date extension of one month to submit a response to the LARWQCB's November 15, 2005 directive requesting additional information regarding the referenced site. The LARWQCB requested the information be submitted by January 15, 2006. On January 23, 2006, SECOR received a verbal approval of the due date extension request. The additional information regarding the site will be submitted to the LARWQCB by February 15, 2006.

Thank you for your help with this matter. If you have any questions regarding the contents of this letter, please contact me at your earliest convenience at (714) 379-3366, extension 276.

Respectfully submitted,
SECOR International Incorporated

Cathy L. Sanford

Cathy L. Sanford, PG 7956
Associate Geologist

Attachments:

Appendix A - LAWQCB November 15, 2006 Letter

cc: Mr. Ray Vose, Atlantic Richfield Company
Mr. John Batchelder, EnviroSolve Corporation
Ms. Monica Hanley, City of Santa Monica

ATTACHMENT A

CRWQCBLA NOVEMBER 15, 2005 CORRESPONDENCE

California Regional Water Quality Control Board

Los Angeles Region

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November 15, 2005

Ms. Teresa Santana Miles
BP West Coast Products LLC
4 Centerpointe Drive
La Palma, CA 90623-2531

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ARCO STATION NO. 1946
332 PICO BOULEVARD, SANTA MONICA (ID NO. 904050034A)

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To facilitate our review, we would appreciate that you provide the following information regarding the referenced site that has not already been submitted:

1. Facility contact person's name and phone number (email address, if any);
2. Facility mailing address;
3. Contaminant release information (e.g., copy of Site Assessment Report);
4. Tank removal and/or repair information (include tank size and contents, removal and/or repair date);
5. Tank disposal documentation;
6. Copies of all previous site assessment and/or remediation report(s), if any;
7. Reports of all previous soil and groundwater sample analytical results, if any;
8. Name, telephone number and email address of your environmental consultant, if any; and
9. Copies of all correspondence regarding environmental assessment for the subject site.

In addition, pursuant to the California Health and Safety Code Chapter 6.75 (Section 25299.37.2) and Division 7 of the Porter Cologne Water Quality Control Act under AB 681, the Regional Board is required to notify all current fee title holders for the subject site or sites impacted by releases from underground storage tanks prior to considering corrective action and cleanup or case closure. If corrective action data from the site indicate that release(s) from the underground storage tank systems have impacted offsite property, you are required to provide to this Regional Board the name, mailing address, and phone number for any new record fee

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http://www.waterboards.ca.gov/losangeles/html/programs/ust/AB681_form.pdf).

If this information has been provided in the past, then you need not provide it again. Copies of future technical reports shall also be sent directly to the property owner of the site and to any other property owner(s) impacted by contamination from the site. You are also responsible to provide new contact information if the property owner(s) has been changed. The new owner shall comply with the requirement stated above. The above requested information is due to this Regional Board, no later than **January 15, 2006.**

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In accordance with the above regulations, you are required to submit all future laboratory data over the Internet in the Electronic Deliverable Format to the SWRCB's GeoTracker database for any soil and/or groundwater samples obtained after September 1, 2001. This would include any sampling completed for underground storage tank system removal, site assessment activities, periodic groundwater monitoring, and post cleanup verification sampling. Per the same regulations, you are also required to submit locational data for all groundwater monitoring wells (i.e., latitude, longitude, and elevation survey data) together with groundwater information (i.e., elevation, depth to free product, monitoring well status, etc.) and a site map commencing January 1, 2002. Hard copy paper reports for the main contents are still required per Regional Board guidelines available at
http://www.waterboards.ca.gov/losangeles/html/programs/ust/04_0621_e-QMRGuideline6-04.pdf.

Underground Storage Tank Expedited Agency Oversight Program (EAOP)

Based on local agency's case referral, the contamination at the subject site was confirmed. Therefore, you are required to take necessary corrective actions at the site, including site assessment and cleanup as needed.

Per our prioritization criteria, the subject site is classified as a lower priority case. However, this case is qualified under our UST program's Expedited Agency Oversight Program (EAOP) as you have experienced in working with us in the past. In EAOP, the responsible party (RP) implements a reduced regulatory oversight "self-directed" process to complete the necessary assessment and cleanup at the site. After using your own judgement and completing the soil and/or groundwater corrective actions and confirmation sample results, the responsible party may prepare a package requesting for case closure. At that time, we will make a determination on case closure.

If you have any questions regarding this matter, please contact me at (213) 576-6715 or send me an email at jhuang@waterboards.ca.gov.

Sincerely,

Jay C. Huang, P.G., C.E.G.
Associate Engineering Geologist
Underground Tanks/LA Coastal

Enclosures: Leaking UST Program Certification Declaration for Compliance with Fee Title Holder Notification Requirements (Assembly Bill 681)

cc: Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank Cleanup Fund
Richard Berman, City of Santa Monica, Environmental Program Division

APPENDIX B

SECOR

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April 18, 2005
Project No. 14BP.01946.02

Mr. Brian Johnson
City of Santa Monica
Environmental Programs Division
200 Santa Monica Pier, Suite C
Santa Monica, California 90401-3126

Subject: Response Activities and Proposed Response Activities
ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

Dear Mr. Johnson:

SECOR International Incorporated (SECOR), on behalf of Atlantic Richfield Company (Atlantic Richfield), has prepared this work plan proposing activities to implement interim remediation of hydrocarbon-impacted soil and groundwater beneath the subject site in regards to the unauthorized release that occurred on April 15, 2005 at the site of the current underground storage tanks (UST) (Figure 1). This work plan has been prepared in response to the City of Santa Monica's (CSM) verbal request on April 15, 2005 for a work plan to be submitted to the CSM within 72 hours which addresses mitigation of the unauthorized release and a summary of the events that triggered the unauthorized release. The events that lead up to the unauthorized release will be addressed by others in a separate document.

Immediate response actions and Interim remedial measures will be presented in this work plan inclusive of the vacuum truck events to remove liquid phase hydrocarbons (LPH), installation of one recovery well, installation of a vapor extraction well, soil and groundwater sampling, and use of a mobile remediation system (MRS) to extract vapors from the subsurface. The purpose of proposed activities are to capture the maximum amount of hydrocarbons through removal of vapors, LPH, and dissolved phase hydrocarbons while controlling/limiting plume migration.

BACKGROUND

Site Description

The site is currently an operating ARCO am/pm convenience store and retail gasoline station located on the southern corner of Pico Boulevard and 4th Street at 332 Pico Boulevard in Santa Monica, California (Figures 1 and 2). Properties adjacent to the subject site consist of commercial facilities to the south-southwest and residential to the south-southeast. Commercial and residential properties are across 4th Street, the parking lot for Santa Monica Civic Auditorium is across Pico Boulevard, and Santa Monica High School is located diagonally across the intersection of 4th Street and Pico Boulevard (north of the subject site).

Previous Environmental Activities

Based on a review of several historical reports, site assessments, groundwater sampling, and LPH recovery activities were performed at the site by EMCON Associates (EMCON) between approximately 1988 and 1994. Reportedly, eight on-site wells and four off-site wells were previously installed (EMCON, 1994). Some of these wells were subsequently removed. On April 15, 2005, four groundwater wells were located at the site (and others may exist but on-site equipment is currently prohibiting locating these any other wells).

In 1992, a vapor extraction test was performed and reported to be successful (EMCON, 1994). Dual nested vapor extraction wells and dual nested vapor extraction/air sparge wells were proposed as part of the remediation plan. On April 16, 2005, the presence of some of these remedial wells on site in the area of the underground storage tank pit was confirmed. The integrity of some of these wells may be compromised while others may be in good condition. Additionally, some well locations are not yet accessible due to on-site equipment.

Hydrocarbon-impacted soils and groundwater appear to have been concentrated in the area of the former (and current) USTs. LPH removal was performed between 1988 and 1994 utilizing vacuum-truck equipment. Approximately 128 gallons of LPH were recovered (EMCON, 1994).

It is our understanding that closure was given to this site prior to remedial operation of the proposed vapor extraction and air sparging systems. Conditions of the closure are currently unknown; however, it is anticipated this site was closed by the Los Angeles Regional Water Quality Control Board in the mid 1990s

April 15, 2005 Unauthorized Release

In April 2005, UST upgrade activities were being performed at the subject site. On April 15, 2005, Petro Labor Force (PLF) was performing installation of shoring around the existing USTs under the direction of BP Global Alliance. It is SECOR's and Atlantic Richfield's understanding that while drilling to anchor the shoring, the end of the most southern UST at the site was struck causing an unauthorized release into the subsurface. A summary of the activities performed by PLF is being prepared by others and will be submitted under separate cover.

Additionally, it is our understanding that the proper authorities were notified by BP Global Alliance and/or their subcontractors. On April 15, 2005, vacuum trucks were mobilized to the site to begin removal of gasoline from the existing tank pit monitoring wells. Additionally, on April 16, 2005, permits were obtained to install 6-inch recovery wells (maximum of two).

Immediate Response Activities

On April 16 and 17, 2005, activities commenced at the site to begin mitigation of the unauthorized release and are described in the paragraphs below. These activities included installation of a recovery well, installation of a dual nested vapor well, collection of no-purge groundwater samples from existing groundwater monitoring wells, low-flow removal of LPH and groundwater utilizing a vacuum truck, and mobilization and startup of a mobile remediation system (MRS) to remove hydrocarbon in the vadose zone through existing on site vapor extraction wells.

Recovery Well Installation

On April 16, 2005, SECOR personnel supervised the installation of one 6-inch recovery well (RW-1) at the south-southwest end of the UST that was compromised. The purpose of the recovery well is to provide a location near the source through which the groundwater may be extracted and to control migration of a potential plume if gasoline product reaches groundwater.

SECOR supervised the drilling contractor, Cascade Drilling, Inc., during boring advancement and well installation activities. Prior to drilling, the boring location was cleared using hand tools to a depth of five feet below ground surface (bgs). Hollow-stem auger drilling equipment was used to drill the boring and install the well. Throughout drilling of the well borehole, soil cuttings were logged and field-screened for organic vapors using an Organic Vapor Monitor (OVM), and a soil sample was collected from the bottom of the borehole. Soil cuttings were logged according to the Unified Soil Classification System (USCS), as prescribed in ASTM Standard D-2488-93, throughout drilling activities. The collected soil samples will be submitted to a state-certified laboratory for analysis of hydrocarbon constituents.

The boring was drilled to approximately 60 feet bgs. Groundwater was first encountered at a depth of approximately 45 feet bgs. Upon completion, the soil boring was converted to a groundwater recovery well with the installation of 6-inch diameter Schedule 40 PVC casing. The well was screened from approximately 30 feet bgs to 60 feet bgs using Schedule 40 PVC well screen with 0.020 slots. A thirty-foot section of blank Schedule 40 PVC well casing was placed above the well screen to the surface. The well annulus was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a bentonite seal to the surface. A locking cap was placed on the wellhead, which will be enclosed in a flush-mounted traffic-rated vault.

Development of the new groundwater recovery well was performed utilizing the on-site vacuum truck. The well will be surveyed for top-of-casing elevation and horizontal locations in compliance with Assembly Bill 2886B using a California state-certified licensed surveyor following other site activities and prior to the submittal of a Site Assessment Report for the drilling activities.

The soil sample from the bottom of the soil boring will be submitted to a State-certified analytical laboratory, for chemical analyses. The sample will be analyzed for TPH as gasoline (TPH-g) using EPA Method 8015 Modified, and for benzene, toluene, ethyl benzene, and xylenes (collectively BTEX), MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B.

Vapor Well Installation

On April 17, 2005, SECOR supervised the installation of one dual nested vapor well (SVE-2S/D) located at the western corner of the USTs, near the source area. The purpose of the dual nested vapor well is to provide an additional location near the source through which vapors in the vadose zone can be extracted. The screening interval was chosen to maximize access to the anticipated highest interval of vapor concentrations beneath the UST pit bottom (reported to be 16 feet bgs), while not short-circuiting through the UST pit during vacuum extraction.

SECOR supervised Cascade Drilling, Inc. during the installation of the borehole and dual nested vapor wells in accordance with the procedures outlined in the aforementioned recovery well installation. The boring was drilled to approximately 45 feet bgs. Upon completion, the soil boring was converted to a dual nested vapor extraction well with the installation of 2-inch diameter Schedule 40 PVC casing. The deeper vapor well was screened from approximately 35 to 45 feet bgs and the shallower vapor well was screened from 20 to 30 feet bgs using Schedule 40 PVC well screen with 0.020 slots. Blank Schedule 40 PVC well casing was placed above the well screen to the surface for each well. The well annulus around the deep well was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a hydrated bentonite seal to the bottom of the shallow well. The well annulus around the shallow well was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a bentonite seal to two feet bgs and capped to the surface with concrete. A locking cap was placed on the wellhead, which will be enclosed in a flush-mounted traffic-rated vault.

The soil sample from the bottom of the soil boring will be submitted to a State-certified analytical laboratory, for chemical analyses. The sample will be analyzed for TPH-gusing EPA Method 8015 Modified, and for BTEX compounds, MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B.

Groundwater Sampling

On April 16 2005, no-purge groundwater samples were collected from four (4) existing and accessible on-site monitoring wells. The purpose of collecting the groundwater samples was to evaluate the presence of dissolved hydrocarbons and/or provide a baseline for potential plume migration monitoring.

Groundwater samples were collected with a clean disposable bailer, immediately transferred to laboratory-provided glass sample containers, capped with Teflon™ septa, and placed in a cooler with ice until they were delivered to a state-certified laboratory for analysis. The samples would be analyzed for TPH-g using EPA Method 8015 Modified, and for BTEX compounds, MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B. Based on the known site history, existing groundwater wells may have had dissolved hydrocarbons prior to the April 15, 2005 unauthorized release. Thus, evaluation of the gasoline carbon range will be requested from the laboratory for the purposes of determining if dissolved hydrocarbons are recent or aged.

LPH Removal

LPH was initially measured in an existing vapor well south-southwest of the USTs on both April 15, 2005 and the morning of April 16, 2005. LPH was removed from the well utilizing a vacuum truck. However, there was no recharge of measurable LPH in this well on April 16 or April 17, 2005.

On April 16, 2005, after removal of LPH, and on April 17, 2005, the vacuum truck was utilized to continuously remove water and any residual LPH (measurable or detected) or dissolved hydrocarbons from both the existing aforementioned well and the newly installed recovery well. Low flow rates were utilized to extract the liquids in an effort to minimize groundwater elevation changes. The height of the stinger in the well was adjusted several times to maximize recovery of any potential LPH on the groundwater table.

On April 17, 2005, LPH was measured in the newly installed deeper vapor extraction well. The vacuum truck was utilized to continuously remove LPH from this well in conjunction with the recovery well.

The estimated volume of LPH removed from the site between April 15 and April 18, 2005 is between 250 gallons. A cumulative table of LPH removal volumes per day will be compiled and submitted in a future report.

Soil Vapor Extraction

On April 16, 2005, a 300-scfm mobile remediation system (MRS) from Vapor Extraction Technologies, Inc. with a various location South Coast Air Quality Management District (SCAQMD) permit was transported to the site and connected to existing dual nested vapor extraction wells and the existing underground remediation piping to extract hydrocarbons from the vadose zone. On April 17, 2005, the MRS was also connected to the newly installed shallow well of the dual nested vapor pair. The MRS is currently operating 24 hours/day.

Soil vapors extracted from the subsurface are being destroyed by thermal oxidation within the combustion chamber of the MRS. Soil vapors with high hydrocarbon concentrations are being diluted with fresh air to ensure that sufficient oxygen is present for combustion of the hydrocarbon vapors and to maintain optimum combustion temperature. The total vacuum applied to the well, system flow rate, influent concentration including dilution, and system temperature can be monitored and adjusted throughout the treatment process to maximize efficiency and remain compliant with the permit. On April 16 and 17, 2005, vapor concentrations measured from the system in the field were approximately 14,000 parts per million by volume (ppmv).

Vapor readings are collected every hour from each well and from the system. Vapor samples are being collected every 12 hours from the system. Selected soil vapor samples will be analyzed for volatile fuel hydrocarbons by EPA Method 8015 (modified), and for BTEX compounds and MTBE by EPA Method 8026B.

GEOLOGY/HYDROGEOLOGY

Regional/Site Geology

The site is located in the Ocean Park Plain of the Santa Monica Basin, approximately 3 miles west of the Charnock fault, 0.5 miles east of the Pacific Ocean, and 3.5 miles north-northwest of the Ballona Creek outlet into the Pacific Ocean.

The Ocean Park Plain includes upper Pleistocene reddish-brown, terrace deposits and fossiliferous, marine sand and gravel of the Palos Verdes Formation (Poland 1959; corresponds to the Lakewood Formation of Fowler et al., 1961; EMCON Report, May 1994). This section is approximately 160 feet thick beneath the site, and unconformably overlies the lower Pleistocene San Pedro Formation (Poland, 1959). The San Pedro Formation consists of partially consolidated san, interbedded fine gravel, and marine clays. The base of the San Pedro Formation is in unconformable contact with marine sand, silt, clay , and interbedded

gravel of the upper Pliocene Pico Formation at an undetermined depth (Fowler et al., 1961, Plate 5).

Based on borehole logs from previous assessment activities by EMCON in 1994, the general lithology beneath the site generally consists of silty sand (SM) and sand (SW and SP) with occasional 2 – 3 foot intervals of clayey silt (ML) or gravelly sand (GW) from the ground surface to approximately 65 feet below ground surface (bgs;). Sand was reported as fine- to medium-grained and loose. Blow counts on the borehole logs reflect medium dense to dense sand.

Regional/Site Hydrogeology

The Ballona aquifer is contained within the upper Pleistocene deposits beneath the subject site and ranges in thickness from 30 to 50 feet, occurring at an approximate depth of 50 feet bgs (Fowler et al., 1961 and Poland, 1959). Well yields from the Ballona aquifer vary from 8 to 100 gallons/minute (Poland, 1959). A maximum transmissivitiy rate of approximately 70,000 gallons/day/foot (gpd/ft) is reported for the Ballona aquifer (Fowler et al., 1961).

The lower Pleistocene Silverado aquifer, is contained within the San Pedro Formation. The aquifer consists of sand and gravel interbedded with silt and clay (Fowler et al., 1961). Beneath the subject site the Silverado aquifer occurs at a depth of approximately 125 feet bgs and is approximately 200 feet thick. The aquifer has a maximum transmissivity of 150,000 gpd/ft (Fowler et al., 1961).

Based on historical data tables, depth to groundwater varied between approximately 45 and 55 feet bgs across the site between the years of 1988 to 1993 (EMCON, 1994). On April 15, 2005, depth to water measured in an on site well was approximately 41 feet bgs. The historical groundwater flow direction was to the south with an approximate gradient of 0.009 ft/ft.

PROPOSED RESPONSE ACTIVITIES

In order to control migration of the unauthorized release, SECOR proposes to continue operation of the MRS, install additional vapor wells as necessary to maximize hydrocarbon vapor recovery, monitor the on-site groundwater wells and the newly installed recovery well for the presence of LPH and utilize a vacuum system to remove LPH, as necessary. Any additional specific tasks necessary to maximize recovery of hydrocarbon vapors and dissolved phase hydrocarbons will be refined and implemented with time. Discussion of continued operations and contingency plans are discussed below.

Soil Vapor Extraction

Three dual nested wells (6 wells total) are currently manifolded into the former remediation compound where the on-site 300-scfm MRS is located. If the system influent concentrations remain at or above the current concentration of 14,000 ppmv at 290 cfm, a larger MRS may be transported to the site to process the influent concentrations. Based on historical reports, it is anticipated that at least two other dual nested VE wells exist on-site. Their presence and integrity will be evaluated with the removal of site facility upgrade equipment which currently prevents access to parts of the site where the wells are located. If the wells are in useable condition, these wells will be connected to the MRS for more

extensive coverage. If these wells are not useful, additional VE wells may be drilled and installed as necessary.

Additional Vapor Wells

Additional vapor wells may be installed if necessary to provide greater coverage in the absence of the anticipated existing dual nested vapor extraction wells, as mentioned above. Vapor extraction well locations would be selected to maximize both the vertical and horizontal coverage above the groundwater table. The screening interval of these wells will generally be restricted to 10 or 15 foot screen lengths to maximize vapor recover. Also, vapor extraction wells may be installed to facilitate removal of LPH. The screening interval would be across the gravel sand zone encountered approximately 30 – 37 feet bgs.

LPH Removal

Monitoring of existing groundwater wells and the recovery well for the presence of LPH will be performed as necessary on a daily basis. Low flow removal of groundwater and LPH by vacuum truck from the recovery well will be performed as necessary. Removal of LPH from vapor wells will be performed continuously until LPH is not detected.

If the measured thickness of LPH continues to increase, vacuum events will be enhanced utilizing a K-packer. The K-packer will be placed in the recovery well at the top of the water column and the bottom of the LPH. A stinger with perforation will then be placed through the LPH and into the packer and connected to a vacuum system. This design allows maximum removal of the LPH with minimum removal of groundwater and limits the elevation changes of the groundwater table. Additionally, with increased LPH thickness, the need for additional recovery wells would be evaluated.

Additional Recovery Well(s)

There has been no measurable LPH in the newly installed recovery well. With the removal or alternate placement of on-site equipment there may be accessible existing air sparge (AS) wells that penetrate beneath the UST cavity. If access into groundwater through the AS wells is possible (pending the construction of the AS well), the presence of potential LPH directly beneath the USTs could be determined.

If determined necessary, an additional recovery well(s) could be installed. Location of the recovery well would be based on the information collected.

Receptor Survey

SECOR will perform a ½-mile radius receptor survey in an effort to identify receptors that could potentially be affected by the unauthorized release. The receptor survey will include the identification of residences, schools, day care, water production wells and surface water bodies. The receptor survey will be documented in a report to the CSM.

Proposed Schedule

A report summarizing the site activities, analytical data, removal quantities (vapor and liquid) will be submitted in 60 days. Inclusive in the report will be a remediation plan and a schedule to convert from the interim plan to a permanent plan

If you have any questions regarding the contents of this document, please call Ms. Marci Richards at 619.296.6195.

Respectfully,

SECOR International Incorporated

REGISTERED GEOLOGIST
KELLY C. BROWN
NO. 6714
Exp. 10/31/05
STATE OF CALIFORNIA

Marci J. Richards
Principal Geologist

Kelly C. Brown, RG 6714
Principal Geologist

References

Attachments: Figure 1 - Site Location Map
Figure 2 - Site Plan

cc:

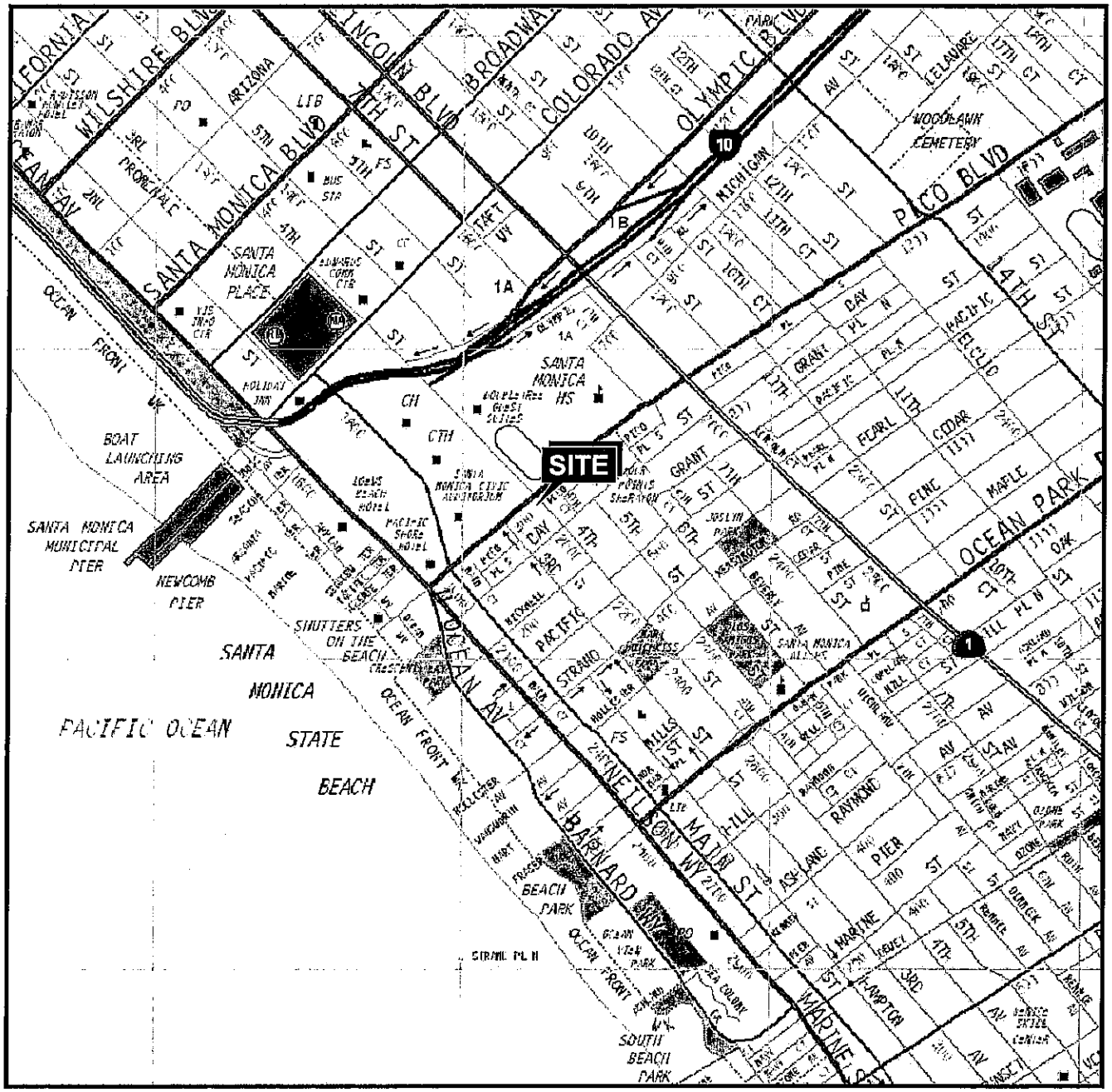
Mr. Darrell Fah, Atlantic Richfield Company
Mr. Roy Thun, Atlantic Richfield Company
Mr. Gary Smith, BP Retail, F&E
Mr. Ron Rogers, BP Retail, F&E

REFERENCES

EMCON, 1994 Site Assessment Report, ARCO Service Station 1946, 332 Pico Boulevard, Santa Monica, California.

Fowler, L.C., et al., 1961. Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County. State of California Department of Water Resources, Bulletin 104, Sacramento, California

Poland, J.F., 1959. Geology Hydrology, and Chemical Character of Groundwaters in the Torrance-Santa Monica Area, California. U.S. Geological Survey, Water Supply Paper 1461, 425p.



REFERENCE: 2003 THE THOMAS GUIDE CD-ROM, PAGE & GRID 671 F3.

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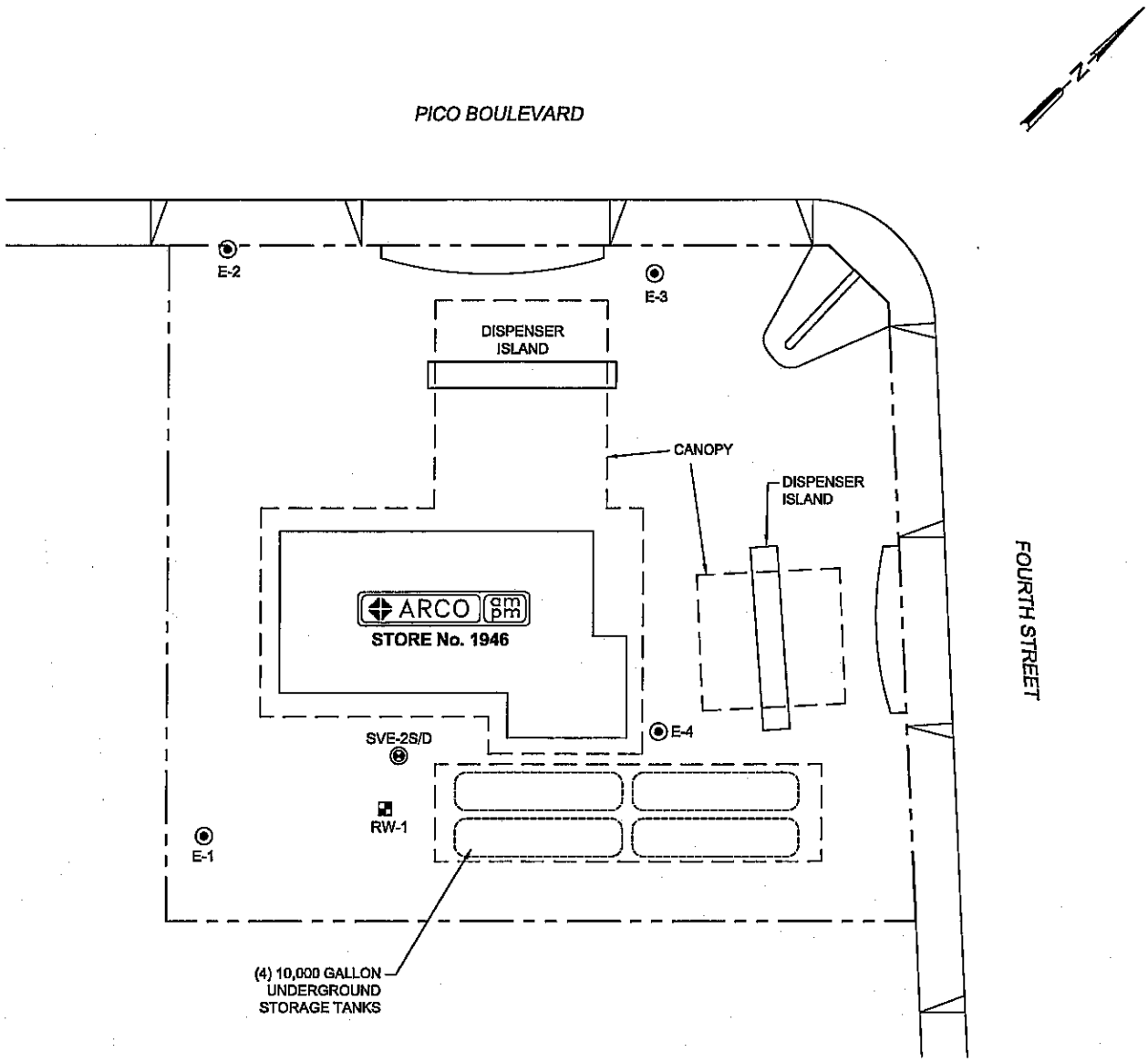
APPROXIMATE SCALE (FEET)

SECOR 2655 CAMINO DEL RIO NORTH, SUITE 302 SAN DIEGO, CALIFORNIA PHONE: (619) 296-6195/296-6199 (FAX)	FOR: ARCO FACILITY #1946 332 Pico Boulevard Santa Monica, California		SITE LOCATION MAP	FIGURE: 1
	JOB NUMBER: 08BP.01946.00	DRAWN BY: RO	CHECKED BY: MR	APPROVED BY:	DATE: 4/16/05

FILEPATH: P:\CAD\ALLPROJECTS2005DWGS\ARCO 2005\1946-2K5\1946-STLOC.DWG MODIFIED BY ROCAMPO ON APR 18, 2005 - 11:08

1946-STLOC



LEGEND:

— — — —	APPROXIMATE SITE BOUNDARY
E-1 ⊙	GROUNDWATER MONITORING WELL
RW-1 ■	GROUNDWATER RECOVERY WELL
SVE-2S/D ⊕	DUAL NESTED SOIL VAPOR EXTRACTION WELL

N O T E S:

1. DIMENSIONS AND LOCATIONS ARE APPROXIMATE

0 30 60

APPROXIMATE SCALE (FEET)

REFERENCE:
FIGURE BASED ON MAP FROM 1994 EMCON SITE ASSESMENT REPORT.

SECOR 2655 CAMINO DEL RIO NORTH, SUITE 302 SAN DIEGO, CALIFORNIA PHONE: (619) 296-6195/296-6199 (FAX)	FOR: ARCO FACILITY #1946 332 Pico Boulevard Santa Monica, California		SITE PLAN		FIGURE: 2
	JOB NUMBER: 08BP.01946.05	DRAWN BY: RO	CHECKED BY: MR	APPROVED BY:	DATE: 4/18/05

FILEPATH:P:\CAD\ALLPROJECTS2005DWGS\ARCO 2005\1946-2K5\1946SP4-05.DWG|ROCAMPO|APR 18, 2005 AT 11:05|LAYOUT: SPTEMPLATE

1946SP4-05

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April 21, 2005
Project No. 14BP.01946.03

Ms. Monica Hanley
City of Santa Monica
Environmental Programs Division
200 Santa Monica Pier, Suite C
Santa Monica, California 90401-3126

Subject: Revised Response Activities and Proposed Response Activities
ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

Dear Ms. Hanley:

SECOR International Incorporated (SECOR), on behalf of Atlantic Richfield Company (Atlantic Richfield), has prepared this revised work plan proposing activities to implement interim remediation of hydrocarbon-impacted soil and groundwater beneath the subject site in regards to the unauthorized release that occurred on April 15, 2005 at the site of the current underground storage tanks (UST) (Figure 1). This original work plan was prepared in response to the City of Santa Monica's (CSM) verbal request on April 15, 2005 for a work plan to be submitted to the CSM within 72 hours that addressed mitigation of the unauthorized release and a summary of the events that triggered the unauthorized release. The revised work plan has been prepared in response to CSM's verbal request on April 20, 2005 to address specifics in the original work plan. The events that lead up to the unauthorized release will be addressed by others in a separate document.

Immediate response actions and Interim remedial measures will be presented in this work plan inclusive of the vacuum truck events to remove liquid phase hydrocarbons (LPH), installation of one recovery well, installation of a vapor extraction well, soil and groundwater sampling, and use of a mobile remediation system (MRS) to extract vapors from the subsurface. The purpose of proposed activities are to capture the maximum amount of hydrocarbons through removal of vapors, LPH, and dissolved phase hydrocarbons while controlling/limiting plume migration.

BACKGROUND

Site Description

The site is currently an operating ARCO am/pm convenience store and retail gasoline station located on the southern corner of Pico Boulevard and 4th Street at 332 Pico Boulevard in Santa Monica, California (Figures 1 and 2). Properties adjacent to the subject site consist of commercial facilities to the south-southwest and residential to the south-southeast. Commercial and residential properties are across 4th Street, the parking lot for Santa Monica

Civic Auditorium is across Pico Boulevard, and Santa Monica High School is located diagonally across the intersection of 4th Street and Pico Boulevard (north of the subject site).

Previous Environmental Activities

Based on a review of several historical reports, site assessments, groundwater sampling, and LPH recovery activities were performed at the site by EMCON Associates (EMCON) between approximately 1988 and 1994. Reportedly, eight on-site wells and four off-site wells were previously installed (EMCON, 1994). Some of these wells were subsequently removed. On April 15, 2005, four previously installed groundwater wells, E-1 through E-4 were located at the site (and others may exist but on-site equipment currently prohibits locating any other wells; Figure 2).

In 1992, a vapor extraction test was performed and reported to be successful (EMCON, 1994). Dual nested vapor extraction wells and dual nested vapor extraction/air sparge wells were proposed as part of the remediation plan. On April 16, 2005, the presence of some of these remedial wells on site in the area of the underground storage tank pit were confirmed, VE-2 and VE-4. Some well locations are not yet accessible due to on-site equipment. The integrity of some of the remaining wells, if they exist, may have been compromised while others may be in good condition.

Hydrocarbon-impacted soils and groundwater appear to have been concentrated in the area of the former (and current) USTs. LPH removal was performed between 1988 and 1994 utilizing vacuum-truck equipment. Approximately 128 gallons of LPH were recovered (EMCON, 1994).

It is our understanding that closure was given to this site prior to remedial operation or after limited operation of the proposed vapor extraction and air sparging systems. Conditions of the closure are currently unknown; however, it is anticipated this site was closed by the Los Angeles Regional Water Quality Control Board in the mid 1990s. Historical data will be requested from BP's archived files and/or the Regional Water Quality Control Board (RWQCB) and presented in a future report.

April 15, 2005 Unauthorized Release

In April 2005, UST upgrade activities were being performed at the subject site. On April 15, 2005, TLM - Petro Labor Force (PLF) was performing installation of shoring around the existing USTs under the direction of BP Global Alliance. It is SECOR's and Atlantic Richfield's understanding that while drilling to anchor the shoring, the end of the most southern UST at the site was struck causing an unauthorized release into the subsurface. A summary of the activities performed by PLF is being prepared by others and will be submitted under separate cover.

Additionally, it is our understanding that the proper authorities were notified by BP Global Alliance and/or their subcontractors. Details of the unauthorized release are being prepared by others and will be submitted under separate cover. On April 15, 2005, vacuum trucks were mobilized to the site to begin removal of gasoline from an existing vapor extraction well (VE-4). Additionally, on April 15, 2005, permits were obtained to install 6-inch recovery wells (maximum of two) from the Los Angeles County Department of Health Services.

Immediate Response Activities

On April 16 and 17, 2005, activities commenced at the site to begin further mitigation of the unauthorized release and are described in the paragraphs below. These activities included installation of a recovery well (RW-1), installation of one dual nested vapor well (SVE-2S/D), collection of no-purge groundwater samples from three existing groundwater monitoring wells (E-1, E-2, and E-3), low-flow removal of LPH and groundwater utilizing a vacuum truck from VE-4 and RW-1, and mobilization and startup of a mobile remediation system (MRS) to remove hydrocarbon in the vadose zone through existing on site vapor extraction wells.

Recovery Well Installation

On April 16, 2005, SECOR personnel supervised the installation of one 6-inch recovery well (RW-1) at the south-southwest end of the UST that was compromised. The purpose of the recovery well is to provide a location near the source through which the groundwater may be extracted and to control migration of a potential plume if gasoline product reaches groundwater.

SECOR supervised the drilling contractor, Cascade Drilling, Inc., during boring advancement and well installation activities. Prior to drilling, the boring location was cleared using hand tools to a depth of five feet below ground surface (bgs). Hollow-stem auger drilling equipment was used to drill the boring and install the well. Throughout drilling of the well borehole, soil cuttings were logged and field-screened for organic vapors using an Organic Vapor Monitor (OVM), and a soil sample was collected from the bottom of the borehole. Soil cuttings were logged according to the Unified Soil Classification System (USCS), as prescribed in ASTM Standard D-2488-93, throughout drilling activities. The collected soil samples will be submitted to a state-certified laboratory for analysis of hydrocarbon constituents.

The boring was drilled to approximately 65 feet bgs. Groundwater was first encountered at a depth of approximately 45 feet bgs. Upon completion, the soil boring was converted to a groundwater recovery well (RW-1) with the installation of 6-inch diameter Schedule 40 PVC casing. The well was screened from approximately 30 feet bgs to 65 feet bgs using Schedule 40 PVC well screen with 0.020 slots. A thirty-foot section of blank Schedule 40 PVC well casing was placed above the well screen to the surface. The well annulus was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a bentonite seal and bentonite slurry to the surface. A locking cap was placed on the wellhead, which will be enclosed in a flush-mounted traffic-rated vault.

Development of the new groundwater recovery well (RW-1) was performed utilizing the on-site vacuum truck. The well will be surveyed for top-of-casing elevation and horizontal locations in compliance with Assembly Bill 2886B using a California state-certified licensed surveyor following other site activities and prior to the submittal of a Site Assessment Report for the drilling activities.

The soil sample from the bottom of the soil boring will be submitted to a State-certified analytical laboratory, for chemical analyses. The sample will be analyzed for TPH as gasoline (TPH-g) using EPA Method 8015 Modified, and for benzene, toluene, ethyl benzene, and xylenes (collectively BTEX), MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B.

Vapor Well Installation

On April 17, 2005, SECOR supervised the installation of one dual nested vapor well (SVE-2S/D) located at the western corner of the USTs, near the source area. The purpose of the dual nested vapor well is to provide an additional location near the source through which vapors in the vadose zone can be extracted. The screening interval was chosen to maximize access to the anticipated highest interval of vapor concentrations beneath the UST pit bottom (reported to be 16 feet bgs), while not short-circuiting through the UST pit during vacuum extraction.

SECOR supervised Cascade Drilling, Inc. during the installation of the borehole and dual nested vapor well (SVE-2S/D) in accordance with the procedures outlined in the aforementioned recovery well installation. The boring was drilled to approximately 45 feet bgs. Upon completion, the soil boring was converted to a dual nested vapor extraction well with the installation of 2-inch diameter Schedule 40 PVC casing. The deeper vapor well was screened from approximately 35 to 45 feet bgs and the shallower vapor well was screened from approximately 18 to 28 feet bgs using Schedule 40 PVC well screen with 0.020 slots. Blank Schedule 40 PVC well casing was placed above the well screen to the surface for each well. The well annulus around the deep well was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a hydrated bentonite seal to the bottom of the shallow well. The well annulus around the shallow well was backfilled with #2/16 or #3 Monterey sand to approximately two feet above the well screen, followed by a bentonite seal and bentonite slurry to the surface. A locking cap was placed on the wellhead, which will be enclosed in a flush-mounted traffic-rated vault.

The soil sample from the bottom of the soil boring will be submitted to a State-certified analytical laboratory, for chemical analyses. The sample will be analyzed for TPH-g using EPA Method 8015 Modified, and for BTEX compounds, MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B.

Groundwater Sampling

On April 16 2005, no-purge groundwater samples were collected from three (3) existing and accessible on-site monitoring wells (E-1, E-2, and E-3). The purpose of collecting the groundwater samples was to evaluate the presence of dissolved hydrocarbons and/or provide a baseline for potential plume migration monitoring. Groundwater monitoring well, E-4, was not accessible due to on-site equipment.

Groundwater samples were collected with a clean disposable bailer, immediately transferred to laboratory-provided glass sample containers, capped with Teflon™ septa, and placed in a cooler with ice until they were delivered to a state-certified laboratory for analysis. The samples would be analyzed for TPH-g using EPA Method 8015 Modified, and for BTEX compounds, MTBE, and other fuel oxygenates (DIPE, ETBE, TAME, and TBA) using EPA Method 8260B. Based on the known site history, existing groundwater wells may have had dissolved hydrocarbons prior to the April 15, 2005 unauthorized release. Thus, evaluation of the gasoline carbon range will be requested from the laboratory for the purposes of determining if dissolved hydrocarbons are recent or aged.

LPH Removal

LPH was initially measured in an existing vapor well (VE-4) south-southwest of the USTs on both April 15, 2005 and the morning of April 16, 2005. LPH was removed from the well utilizing a vacuum truck. However, there was no recharge of measurable LPH in this well on April 16 or April 17, 2005.

On April 16, 2005, after removal of LPH, and on April 17, 2005, the vacuum truck was utilized to continuously remove water and any residual LPH (measurable or detected) or dissolved hydrocarbons from both the existing aforementioned well (VE-4) and the newly installed recovery well (RW-1). Low flow rates were utilized to extract the liquids in an effort to minimize groundwater elevation changes. The height of the stinger in the well was adjusted several times to maximize recovery of any potential LPH on the groundwater table.

On April 17, 2005, LPH was measured in the newly installed deeper vapor extraction well (SVE-2D). The vacuum truck was utilized to continuously remove LPH from this well in conjunction with the recovery well (RW-1) and/or VE-4.

The estimated volume of LPH removed from the site between April 15 and April 18, 2005 is between 250 and 300 gallons. A cumulative table of approximate LPH removal volumes per day by well will be compiled and submitted in a future report.

Soil Vapor Extraction

On April 16, 2005, a 300-scfm mobile remediation system (MRS) from Vapor Extraction Technologies, Inc. with a various location South Coast Air Quality Management District (SCAQMD) permit was transported to the site and connected to an existing dual nested vapor extraction well, VE-4, and existing underground remediation piping which was later discovered to be connected to VE-2 to extract hydrocarbons from the vadose zone. On April 17, 2005, the MRS was also connected to the newly installed shallow well, SVE-2S, of the dual nested vapor pair. The MRS is currently operating 24 hours/day.

Soil vapors extracted from the subsurface are being destroyed by thermal oxidation within the combustion chamber of the MRS. Soil vapors with high hydrocarbon concentrations are being diluted with fresh air to ensure that sufficient oxygen is present for combustion of the hydrocarbon vapors and to maintain optimum combustion temperature. The total vacuum applied to the well, system flow rate, influent concentration including dilution, and system temperature can be monitored and adjusted throughout the treatment process to maximize efficiency and remain compliant with the permit. On April 16 and 17, 2005, vapor concentrations measured from the system in the field were approximately 14,000 parts per million by volume (ppmv).

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In order to control migration of the unauthorized release, SECOR proposes to continue operation of the MRS, install additional vapor wells as necessary to maximize hydrocarbon vapor recovery, monitor the on-site groundwater wells and the newly installed recovery well for the presence of LPH and utilize a vacuum system to remove LPH, as necessary. Any additional specific tasks necessary to maximize recovery of hydrocarbon vapors and dissolved phase hydrocarbons will be refined and implemented with time. Discussion of continued operations and contingency plans are discussed below.

Soil Vapor Extraction

Three dual nested wells, SVE-2S/D, VE-2, and VE-4, are currently manifolded into the on-site 300-scfm MRS is located. Pending site conditions, one or both wells in each pair may be connected to the MRS at a time. If the system influent concentrations remain at or above the current concentration of 14,000 ppmv at 290 cfm, a larger MRS may be transported to the site to process the influent concentrations. Based on historical reports, it is anticipated that at least two other dual nested VE wells exist on-site in the vicinity of the USTs. Their presence and integrity will be evaluated with the removal of site facility upgrade equipment which currently prevents access to parts of the site where the wells are located. If the wells are in useable condition, these wells will be connected to the MRS for more extensive coverage. If these wells are not useful, additional VE wells may be drilled and installed as necessary.

Additional Vapor Wells

Additional vapor wells may be installed if necessary to provide greater coverage in the absence of the anticipated existing dual nested vapor extraction wells, as mentioned above. Vapor extraction well locations would be selected to maximize both the vertical and horizontal coverage above the groundwater table. The screening interval of these wells will generally be restricted to 10 or 15 foot screen lengths to maximize vapor recover. Also, vapor extraction wells may be installed to facilitate removal of LPH. The screening interval would be across the gravel sand zone encountered approximately 30 – 37 feet bgs.

LPH Removal

Monitoring of existing accessible groundwater wells (E-1, E-2, and E-3) and the recovery well for the presence of LPH will be performed as necessary on a daily basis. Monitoring of groundwater well E-4 will be performed once it is accessible. Low flow removal of groundwater and LPH by vacuum truck or hand bailing from the recovery well, RW-1, will be performed as necessary. Removal of LPH from vapor wells, VE-4 and SVE-2D will be performed continuously until LPH is not detected. Removal may be performed by vacuum truck or utilizing the MRS, which ever is most effective.

If the measured thickness of LPH continues to increase, vacuum events will be enhanced utilizing a K-packer. The K-packer will be placed in the recovery well at the top of the water column and the bottom of the LPH. A stinger with perforation will then be placed through the LPH and into the packer and connected to a vacuum system. This design allows maximum removal of the LPH with minimum removal of groundwater and limits the elevation changes of the groundwater table. Additionally, with increased LPH thickness, the need for additional recovery wells would be evaluated.

Additional Recovery Well(s)

There has been no measurable LPH in the newly installed recovery well. With the removal or alternate placement of on-site equipment there may be accessible existing air sparge (AS) wells that penetrate beneath the UST cavity. If access into groundwater through the AS wells is possible (pending the construction of the AS well), the presence of potential LPH directly beneath the USTs could be determined.

If determined necessary, an additional recovery well(s) could be installed. Location of the recovery well would be based on the information collected.

Receptor Survey

SECOR will perform a ½-mile radius receptor survey in an effort to identify receptors that could potentially be affected by the unauthorized release. The receptor survey will include the identification of residences, schools, day care, water production wells and surface water bodies. The receptor survey will be documented in a report to the CSM.

Proposed Schedule

Analytical data will be provided to the SCM after it is received and reviewed by SECOR. Weekly update memos will be provided to the SCM summarizing milestones. A report summarizing the site activities, analytical data, removal quantities (vapor and liquid) will be submitted in 60 days. Inclusive in the report will be a remediation plan and a schedule to convert from the interim plan to a permanent plan

If you have any questions regarding the contents of this document, please call Ms. Marci Richards at 619.296.6195.

Respectfully,

SECOR International Incorporated

REGISTERED GEOLOGIST
KELLY C. BROWN
NO. 6714
Exp. 10/31/05
STATE OF CALIFORNIA

Marci J. Richards for
Principal Geologist

Kelly C. Brown, RG 6714
Principal Geologist

References

Attachments: Figure 1 - Site Location Map
Figure 2 - Site Plan

cc:

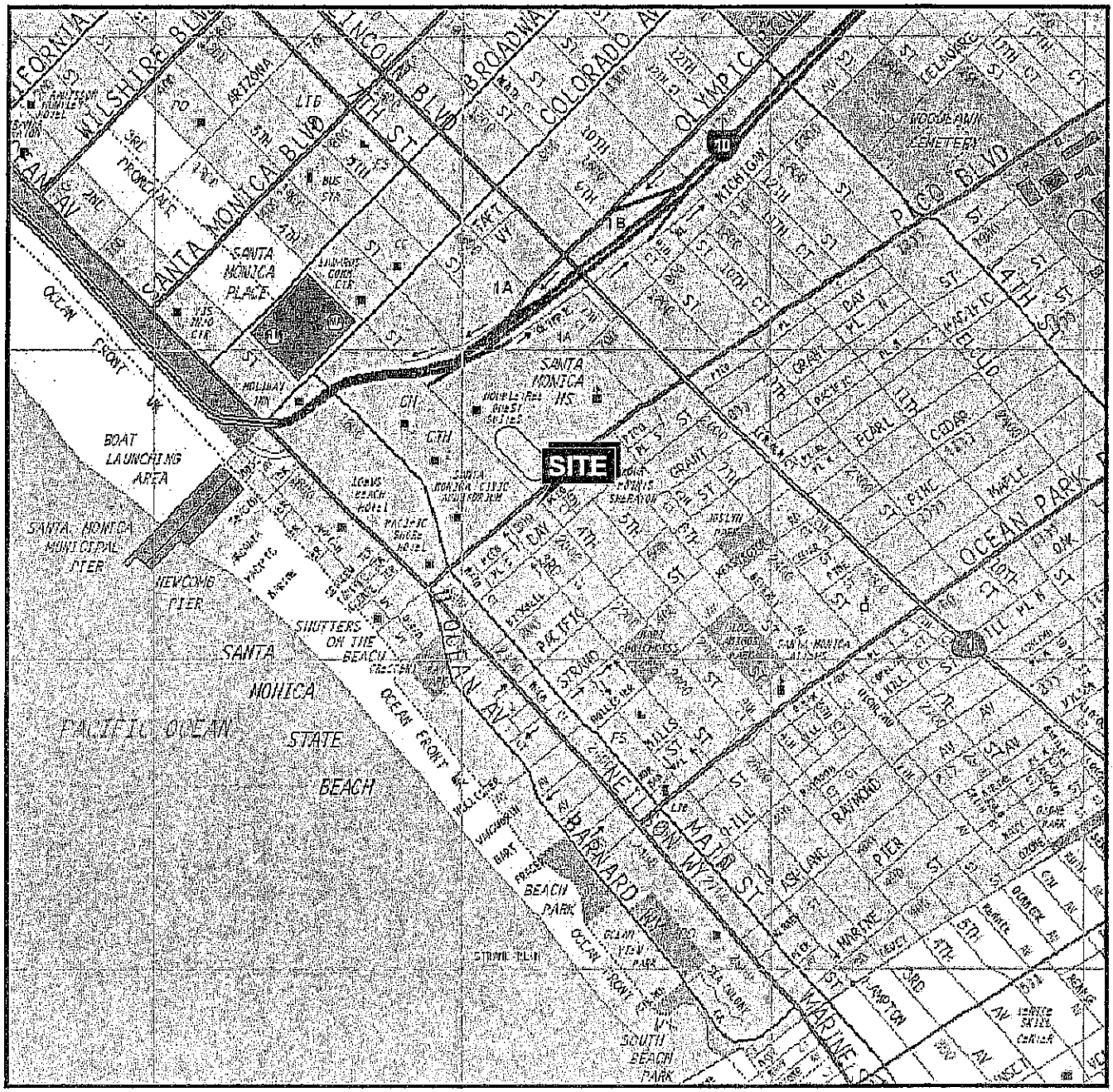
Mr. Darrell Fah, Atlantic Richfield Company
Mr. Roy Thun, Atlantic Richfield Company
Mr. Gary Smith, BP Retail, F&E
Mr. Ron Rogers, BP Retail, F&E

REFERENCES

EMCON, 1994 Site Assessment Report, ARCO Service Station 1946, 332 Pico Boulevard, Santa Monica, California.

Fowler, L.C., et al., 1961. Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County. State of California Department of Water Resources, Bulletin 104, Sacramento, California

Poland, J.F., 1959. Geology Hydrology, and Chemical Character of Groundwaters in the Torrance-Santa Monica Area, California. U.S. Geological Survey, Water Supply Paper 1461, 425p.



REFERENCE: 2003 THE THOMAS GUIDE CD-ROM, PAGE & GRID 671 F3.

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APPROXIMATE SCALE (FEET)

SECOR 2655 CAMINO DEL RIO NORTH, SUITE 302 SAN DIEGO, CALIFORNIA PHONE: (619) 296-6195/296-6199 (FAX)	FOR: ARCO FACILITY #1946 332 Pico Boulevard Santa Monica, California		SITE LOCATION MAP		FIGURE: 1
	JOB NUMBER: 08BP.01946.03	DRAWN BY: RO	CHECKED BY: MR	APPROVED BY:	DATE: 4/16/05

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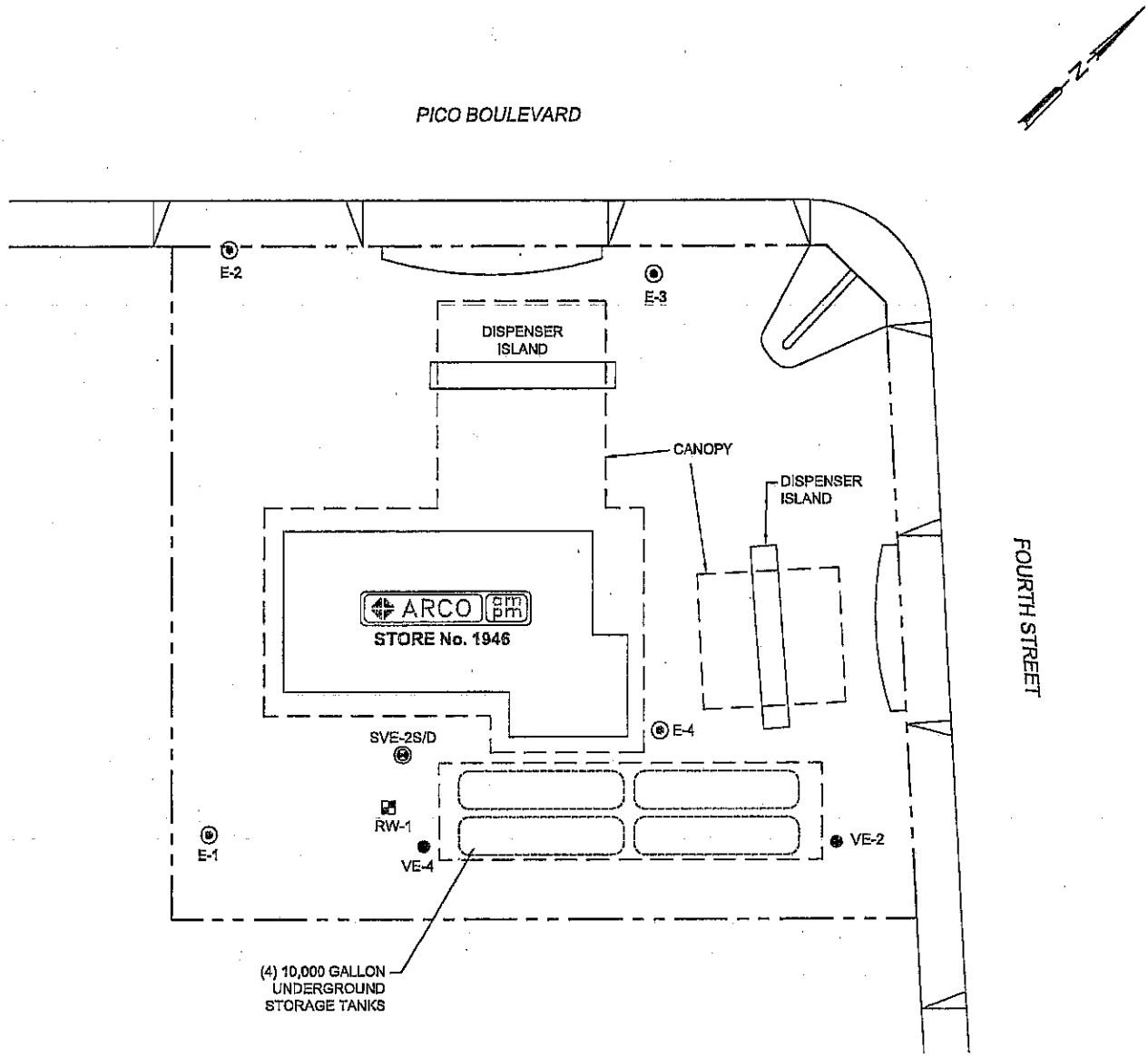
1946-STLOC



LEGEND:

— — — —	APPROXIMATE SITE BOUNDARY
E-1 ◉	GROUNDWATER MONITORING WELLS (INSTALLED PRIOR TO 1994)
RW-1 ⊞	GROUNDWATER RECOVERY WELL (INSTALLED APRIL 16, 2005)
SVE-2S/D ⊛	DUAL NESTED SOIL VAPOR EXTRACTION WELLS (INSTALLED APRIL 17, 2005)
VE-2 ●	DUAL NESTED SOIL VAPOR EXTRACTION WELLS (INSTALLED PRIOR TO 1994)

NOTES:

1. DIMENSIONS AND LOCATIONS ARE APPROXIMATE

0 30 60

APPROXIMATE SCALE (FEET)

REFERENCE:
FIGURE BASED ON MAP FROM 1994 EMCON SITE ASSESMENT REPORT.

SECOR 2655 CAMINO DEL RIO NORTH, SUITE 302 SAN DIEGO, CALIFORNIA PHONE: (619) 296-6185/296-6199 (FAX)	FOR: ARCO FACILITY #1946 332 Pico Boulevard Santa Monica, California		SITE PLAN		FIGURE: 2
	JOB NUMBER: 08BP.01946.03	DRAWN BY: RO	CHECKED BY: MR	APPROVED BY:	DATE: 4/18/05

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1946SP4-05

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
Environmental Programs Division
200 Santa Monica Pier, Suite C
Santa Monica, CA 90401

FROM: Secor International, Inc.

DATE: April 22, 2005

SUBJECT: Weekly Status Summary: April 15 – 21, 2005
ARCO Facility #1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Inc. (SECOR) during the period between April 15, 2005 and April 21, 2005 for the unauthorized release that occurred on April 15, 2005 at the subject site, and proposed activities. On behalf of BP Retail, SECOR performed emergency response activities to maximize recovery of gasoline released into the subsurface. The response activities are part of the work scope described in SECOR's work plans, *Response Activities and Proposed Response Activities*, and *Revised Response Activities and Proposed Response Activities*, dated April 18, 2005 and April 21, 2005, respectively. These work plans were submitted to City of Santa Monica Environmental Programs Division (SMEPD) based on SMEPD's verbal request to BP Retail on April 15, 2005.

Friday April 15, 2005

- Immediately after the release, vacuum trucks were immediately mobilized to the site for removal of liquid phase hydrocarbons (LPH) from an existing on-site vapor extraction well, VE-4, adjacent to the underground storage tanks (USTs). Initially, approximately 2 feet of LPH were measured in VE-4.

- Expedited well permit approval obtained from the Los Angeles County Department of Health Services for the installation of two (2) recovery wells. Planned recovery wells would be utilized to access LPH on the groundwater table for removal.

- Monitored existing accessible on-site monitoring wells, E-1, E-2, and E-3 for the potential presence of LPH. Depth-to-water (DTW) was approximately 45 feet below ground surface (bgs).

- Scheduled Cascade Drilling Company to install wells at the site on Saturday April 16 and Sunday April 17, 2004.

Saturday April 16, 2005

- Installed one recovery well, RW-1, at the western end of the UST complex adjacent to the source area. The 6-inch recovery well was installed to approximately 65 feet (bgs) and screened from 30 – 65 feet bgs. A soil sample was collected from the bottom of the borehole and submitted to a laboratory for hydrocarbon analysis.

- Upon completion of RW-1, removal of apparent residual (old) LPH (measurable or detected) and/or dissolved hydrocarbons were extracted with the vacuum truck. Low flow rates were utilized to extract the liquids in an effort to minimize groundwater elevation changes. BP Retail and SECOR worked together through the night to maximize removal of LPH (raising and lowering the groundwater elevation within acceptable limits) when it was observed to be present on the groundwater.

- LPH removal from VE-4 occurred in the morning until there was no measurable LPH in the well. There was no additional recharge to this well on this day. Therefore liquid extraction efforts were focused on the newly installed RW-1.

- SECOR arranged mobilization of a 300-scfm Soil Vapor Extraction (SVE) unit with a various locations permit from the South Coast Air Quality Management District (SCAQMD) to the site to extract hydrocarbon vapors from the vadose zone. The SVE unit was connected to two (2) existing, accessible dual nested vapor wells, VE-2 and VE-4. The SVE unit commenced 24 hours per day operation, extracting approximately 150 - 200 gallons of gasoline per day.

- No-purge groundwater samples were collected from three (3) existing on-site wells, E-1, E-2, and E-3. Samples were collected for the purpose of evaluating the presence of dissolved hydrocarbons and/or to provide a baseline for potential plume migration monitoring.

Sunday April 17, 2005

- A dual nested vapor well (one shallow and one deep well), SVE-2S/D, was installed at the north-western corner of the UST complex adjacent to the source. This well location will provide additional access to the vadose zone near the source to extract hydrocarbon vapors utilizing the SVE unit. It will also provide access to a gravel lens in the subsurface soils in which the LPH appears to be located.

- The SVE unit was connected to the shallow well of the newly installed SVE-2S/D pair. The SVE unit continues to operate 24 hours per day and is manned by on-site personnel.

- The deep well of the SVE-2S/D pair was connected to vacuum truck to remove LPH in conjunction with removal of liquids from RW-1.

Monday April 18, 2005

- SECOR submitted the initial work plan required by the City of Santa Monica describing the response activities and the proposed activities.

- Three (3) groundwater wells, E-1, E-2, and E-3 were gauged for LPH; none was detected. Gauging of all accessible site wells is performed at least twice per day, and wells adjacent to the source area are gauged hourly.

- Installation of two additional SVE and two monitoring wells was scheduled to begin Thursday April 21st. Utility Clearance for installation of additional wells and a soil vapor assessment were scheduled for Tuesday April 19th, and May 9th, respectively.

- Receptor Survey was started to locate any receptors within a ½-mile radius of the site, inclusive of schools, day care centers, water production wells and surface water bodies.

Tuesday April 19, 2005

- Four (4) groundwater wells were gauged, E-1, E-2, E-3, and E-4 (recently uncovered from equipment on-site) for LPH; none was detected.

- Inquired about permit variance for a larger unit SVE unit (1000 scfm) since there is a high school diagonally across the intersection of Pico Boulevard and 4th Street. The vendor for the SVE unit is in contact with SCAQMD regarding the variance.

- Due to low recovery of LPH from vapor well, SVE-2D and RW-1, the vacuum truck was dismissed from the site around noon (and scheduled for a return visit the next day).

- SVE-2D was connected to the SVE unit for continued vapor removal of LPH that accumulated in the well. Operation of the SVE unit continued 24 hours/day with a recovery rate of approximately 150 to 200 gallons per day.

- Utility clearance was performed for two planned vapor extraction wells on the southern side of the facility building, and two groundwater monitoring wells on the western and northern sides of the facility building. These wells will facilitate additional hydrocarbon vapor recovery and/or LPH removal, serve as sentinel wells for groundwater quality.

Wednesday April 20, 2005

- SVE unit on-site temporarily disconnected from vapor extraction wells and utilized to treat vapor stream from vacuum truck removing gasoline from annular space in the breached UST and remaining gasoline in the UST (~6 hrs). Upon completion, the SVE was reconnected to the vapor extraction wells and resumed previous operations.

- Four (4) groundwater wells were gauged, E-1 through E-4 for LPH; none was detected.

Thursday April 21, 2005

- Two (2) 4-inch vapor extraction wells were installed. One boring was completed to approximately 45 ft bgs. The well was installed with 4-inch casing, screened from 29 to 39 ft bgs and a 5-foot blank trap from 39 to 44 ft bgs. The blank casing is sealed with bentonite chips from 45 ft bgs to approximately 40 ft bgs. The second boring was drilled to 30 feet bgs and a 4-inch casing screened from 20 – 30 feet bgs was installed.

- Variance granted by SCAQMD for use of the 1,000 scfm SVE unit at the site.

- SVE unit connected to existing vapor extraction well S2-D located in the center of the UST complex through native soils and into groundwater (accessed with removal of on-site equipment). SVE unit continues to operate at full capacity 24 hrs/day.

- Vacuum truck on-site to remove measurable LPH in RW-1 and SVE-2D.

- Revised work plan submitted to City of Santa Monica (CSM) providing newly discovered well names (per CSM request).

LPH Cumulative Removal Summary, April 15 - 21, 2005

- SVE operations: 1,080 gallons of LPH
- VacTruck operations: 150 gallons of LPH
- See attached Tables & Chart.

Planned Activities for April 22 - 28, 2005

- Continue gauging, SVE operations and VacTruck LPH removal activities
- Complete the two groundwater monitoring well installations (April 22nd and 25th)
- On-site meeting with BP, SECOR, and SMEPD (April 25th)
- Mobilize the 1,000 scfm SVE unit onsite and hookup to SVE wells, demobilize the 300 scfm SVE unit from site (April 26th)
- Transmit laboratory analytical data to SMEPD
- Begin to design and implement SVE remediation compound
- Begin to design and implement LPH recovery system utilizing in-well pumps, controls, compressor, and Baker Tank storage system

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00		200		200
RW-1	Andy Rowe	04/16/05	8:00		50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1 D	Stu Weist	04/21/05	18:00	3	0	20	23
	Total to date			**150**	**355**	**1,210**	**1,715**

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	54.4	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.4	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.6	54.4	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	54.4	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	3.0	54.4	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	3.0	54.4	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.1	54.4	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	54.4	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	54.4	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.7	54.4	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	54.4	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	54.4	298	110	15,400	64.0	1,372.6	221.4

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	23:00	1.00	24.75	3.2	54.4	288	110	15,400	61.9	1,435.6	231.5
04/18/05	0:00	1.00	25.75	5.2	54.4	268	110	15,400	57.6	1,495.3	241.2
	1:00	1.00	26.75	3.1	54.4	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	54.4	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	54.4	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	54.4	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	54.4	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	54.4	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	54.4	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.5	54.4	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	54.4	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	54.4	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	3.0	54.4	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	54.4	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	54.4	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.1	54.4	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	54.4	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	54.4	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.5	54.4	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	54.4	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	54.4	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	197	110	15,400	42.3	2,758.7	444.9
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,810.2	453.3
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,871.7	463.2

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM Inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,933.1	473.1
	2:00	1.00	51.75	3.6	48.0	291	108	15,120	61.4	2,994.0	482.9
04/19/05	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,054.1	492.6
	4:00	1.00	53.75	1.6	21.0	295	103	14,420	59.3	3,113.1	502.1
	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,172.7	511.7
	6:00	1.00	55.75	1.6	21.0	297	104	14,560	60.3	3,232.9	521.4
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,446.9	555.9
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,493.1	563.4
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,538.7	570.8
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,585.5	578.3
	15:00	1.00	63.75	2.5	33.1	293	86	12,040	49.2	3,634.1	586.2
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,684.3	594.2
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,734.5	602.3
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,783.1	610.2
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,830.8	617.9
	20:00	1.00	68.75	3.5	46.6	289	85	11,900	48.0	3,878.5	625.6
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,927.2	633.4
	22:00	1.00	70.75	3.8	51.0	292	84	11,760	47.9	3,975.8	641.3
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,023.8	649.0
04/20/05	0:00	1.00	72.75	3.9	52.0	292	84	11,760	47.9	4,071.8	656.7
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,119.6	664.5
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,167.4	672.2
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,215.7	680.0
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,264.3	687.8
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,313.0	695.6
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,361.6	703.5

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	7:00	1.00	79.75	5.6	75.3	273	84	11,760	44.8	4,408.3	711.0
	8:00	1.00	80.75	5.6	75.2	271	87	12,180	46.0	4,453.7	718.3
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,501.9	726.1
04/20/05	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,551.8	734.2
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,601.0	742.1
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,650.2	750.0
	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,699.4	758.0
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,748.9	766.0
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,798.4	773.9
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,847.8	781.9
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,897.2	789.9
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,946.5	797.8
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	4,995.7	805.8
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,044.8	813.7
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,093.9	821.6
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,143.0	829.5
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,191.9	837.4
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,240.4	845.2
	10:00	1.00	97.75	2.7	36.0	291	84	11,760	47.7	5,288.5	853.0
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,336.6	860.7
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,384.6	868.5
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,432.2	876.2

Notes:
Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm

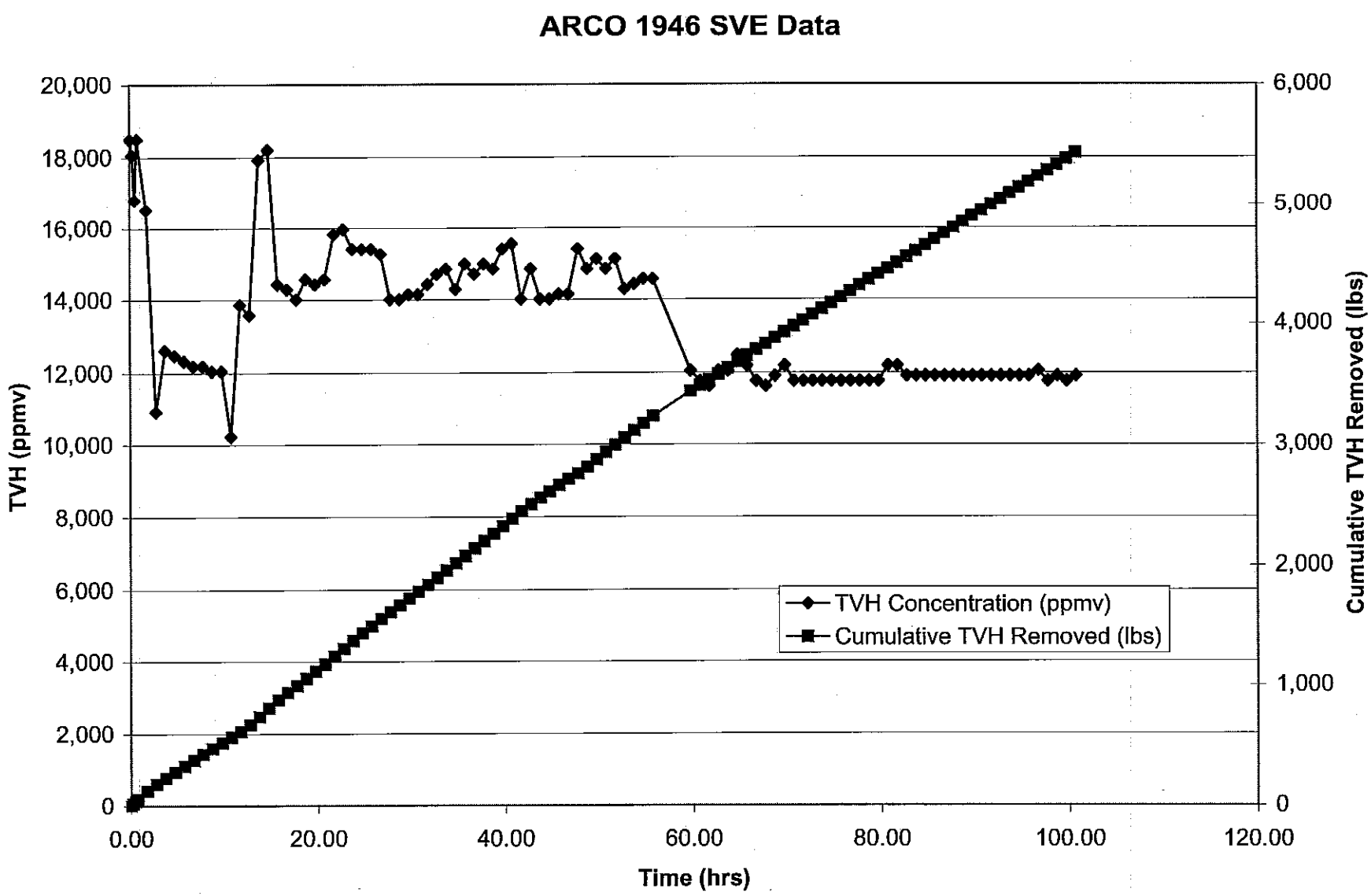
CONC. = Concentration
ppmv = parts per million by volume

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)

TVH = Total volatile hydrocarbons lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 f^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
6,000
5,000
4,000
3,000
2,000
1,000
0
0.00
20.00
40.00
60.00
80.00
100.00
120.00

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
200 Santa Monica Pier, Suite C
Santa Monica, California 90401

FROM: SECOR International, Inc.

DATE: April 29, 2005

SUBJECT: ARCO Facility #1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Inc. (SECOR) on behalf of ARCO Products Company (ARCO)during the period between April 22, 2005 and April 28, 2005 at the subject site, and proposed activities.

Friday April 22, 2005

- Installed 4-inch Vapor Extraction Well SVE-4, screened from 34 to 44 feet bgs
- Vacuum truck on-site to remove measurable LPH in SVE-2D (6 hours)
- SVE unit connected to vapor extraction wells S2-D, SVE-2S, and SVE-2D. 300 cfm SVE unit continues to operate at full capacity 24 hrs/day.
- Gauged groundwater monitoring wells, E-1 through E-4, and vapor extraction wells approximately three times/day for the presence of LPH

Saturday April 23, 2005

- Vacuum truck on-site to remove measurable LPH in SVE-2D (4 hours)
- Performed limited vacuum tests on SVE-3 and SVE-4 to evaluate influent concentrations
- SVE unit connected to vapor extraction wells S2-D, SVE-1 (installed 4/21/05), and SVE-2D. SVE unit continues to operate at full capacity 24 hrs/day.
- Gauged groundwater monitoring wells, E-1 through E-4, and vapor extraction wells approximately three times/day for the presence of LPH

Sunday April 24, 2005

- Vacuum truck on-site to remove measurable LPH in SVE-2D (6 hours)
- SVE unit connected to vapor extraction wells S2-D, SVE-1, and SVE-2D. SVE unit continues to operate at full capacity 24 hrs/day.
- Gauged groundwater monitoring wells, E-1 through E-4, and vapor extraction wells approximately three times/day for the presence of LPH

Monday April 25, 2005

- Installed 4-inch Vapor Extraction Well SVE-5. Well was screened from 29 to 44 feet bgs
- Vacuum truck on-site to remove measurable LPH in SVE-2.
- The 300scfm SVE unit continued operation at the site until approximately 9pm; extracting vapors from SVE-2D, RW-1, and S2-B. The SVE unit was disconnected from the wells and removed from the site (prior to delivery of a larger SVE unit April 26).
- An on-site meeting with BP Retail, SECOR, and the City of Santa Monica to review the previous weeks events and the planned activities.

Tuesday April 26, 2005

- Gauged wells and utilized vacuum truck to remove LPH from SVE-2D and SVE-5
- SECOR arranged mobilization of a 1000-scfm SVE unit with a various locations permit from the South Coast Air Quality Management District (SCAQMD) to the site to continue extraction of hydrocarbon vapors from the vadose zone. This unit's permit was given a variance from the SCAQMD to operate within ½-mile of a school. Piping was connected to nine (9) wells, VE-4 S/D, RW-1, SVE-2 S/D, SVE-1, SVE-3, SVE-4, and SVE-5, and manifolded into the SVE unit for operation. Once connected (7pm) SVE resumed operation at full capacity 24 hrs/day.
- Automatic system safety shutdown features demonstrated by VET for SECOR Senior Engineer in preparation for unmanning the SVE operations at the end of the week.
- Wells were surveyed by a licensed surveyor and for Geotracker coordinates (x, y, and z)

Wednesday April 27, 2005

- Revised laboratory reports with groundwater data were submitted to the City of Santa Monica (CSM). Correspondence from CSM stated that the case would be prepared for transfer of lead agency status to the Regional Board
- The SVE unit was connected to the nine aforementioned wells (4/26/05); operating at 69% LEL (9600 ppmv) at 937 acfm. The unit operated continuously until about 8pm when there was a malfunction with the generator and the system shut-down.
- Gauged groundwater monitoring wells, E-1 through E-4, and vapor extraction wells not connected to SVE operations.

Thursday April 28, 2005

- Piping was connected to the remaining seven (7) wells, 34N S/D, S2-B, VE-1 S/D and VE-2 S/D, and manifolded into the SVE unit.
- The generator was repaired and the SVE unit resumed operation at full capacity 24hrs/day. The SVE unit was connected to 16 wells; operating at 73% LEL (~10,220 ppmv) at 980 acfm

LPH Cumulative Removal Summary, April 15 - 28, 2005

- SVE operations: 1,950 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- See attached Tables & Chart.

Planned Activities for April 29 – May 5, 2005

- Continue gauging and SVE operations (unmanned with daily visits that will transition to longer durations between visits)
- Sample groundwater monitoring wells, purge and no-purge (submit for analyses on std turn around time)
- Will receive additional archive site files from BP on May 3, 2005
- Schedule file review with LARWQCB
- Meet with BP Retail to coordinate site upgrade project with existing SVE operations and plan installation of a permanent SVE system
- Perform 1166 Monitoring during BP Retail upgrade work
- Continue design of long-term SVE remediation piping and compound

Goals/Criteria

The following are the goals/criteria identified to move the site from emergency response activities to "normal" assessment/remediation operations:

- Change 24-hour manned SVE operations to automated SVE operations and change out current 300 scfm unit for higher capacity 1000 scfm unit The larger unit will accommodate influent concentrations from existing vapor wells (maximum 6) and newly installed wells (up to 8). – Completed April 26 and 27, 2005.
- Coordinate installation of permanent remediation system with BP facility upgrades at site; thus minimizing impact to station operations
- Maximize LPH recovery (may require installation of pumps and on-site vapor-tight baker tank if LPH thicknesses increase) – Currently maximum recovery is being achieved by SVE of LPH
- Provide cost effective remediation based on receptor survey and risk

Groundwater Recovery Well RW-1 Gauging Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Technician	Date	Time	Depth to Groundwater Feet btoc	Depth to LPH Feet btoc	Thickness of LPH Feet	Groundwater Elevation Feet amsl
Joe Taormina	04/16/05	23:00	49.31	0.00	0.00	NM
Joe Taormina	04/17/05	2:30	49.30	0.00	0.00	NM
Joe Taormina	04/17/05	17:30	50.28	49.00	1.28	NM
Joe Taormina	04/17/05	19:00	49.54	49.21	0.33	NM
Joe Taormina	04/17/05	19:30	49.54	49.23	0.31	NM
Joe Taormina	04/17/05	20:33	49.55	49.23	0.32	NM
Joe Taormina	04/17/05	22:00	49.55	49.24	0.31	NM
Joe Taormina	04/17/05	22:30	49.31	0.00	0.00	NM
Joe Taormina	04/17/05	23:00	49.31	0.00	0.00	NM
Joe Taormina	04/18/05	2:30	49.30	0.00	0.00	NM
Joe Taormina	04/18/05	7:00	49.32	0.00	0.00	NM
Joe Taormina	04/18/05	9:00	49.31	0.00	0.00	NM
Jason Alcaraz	04/18/05	11:20	49.31	0.00	0.00	NM
Jason Alcaraz	04/18/05	15:11	49.25	0.00	0.00	NM
Chris Repp	04/18/05	23:16	49.35	49.25	0.10	NM
Chris Repp	04/19/05	1:30	49.43	0.00	0.00	NM
Chris Repp	04/19/05	2:30	49.42	0.00	0.00	NM
Chris Repp	04/19/05	3:00	49.40	0.00	0.00	NM
Jason Alcaraz	04/19/05	7:00	49.45	0.00	0.00	NM
Jason Alcaraz	04/19/05	9:00	49.42	0.00	0.00	NM
Jason Alcaraz	04/19/05	11:00	49.46	0.00	0.00	NM
Jason Alcaraz	04/19/05	13:00	49.40	0.00	0.00	NM
Stu Weist	04/19/05	16:00	49.23	0.00	0.00	NM
Stu Weist	04/19/05	18:00	49.23	0.00	0.00	NM
Stu Weist	04/19/05	20:00	49.25	0.00	0.00	NM
Stu Weist	04/19/05	22:00	49.27	0.00	0.00	NM
Chris Repp	04/20/05	0:00	49.25	0.00	0.00	NM
Chris Repp	04/20/05	2:00	49.23	0.00	0.00	NM
Chris Repp	04/20/05	4:00	49.23	0.00	0.00	NM
Jason Alcaraz	04/20/00	12:00	49.24	0.00	0.00	NM
Jason Alcaraz	04/20/05	14:00	49.20	0.00	0.00	NM
Jason Alcaraz	04/20/05	16:00	49.20	0.00	0.00	NM
Stu Weist	04/20/05	18:00	49.21	0.00	0.00	NM
Stu Weist	04/20/05	21:00	49.21	0.00	0.00	NM
Stu Weist	04/20/05	22:00	49.23	0.00	0.00	NM
Stu Weist	04/21/05	0:00	49.21	0.00	0.00	NM
Chris Repp	04/21/05	2:00	49.21	0.00	0.00	NM
Chris Repp	04/21/05	4:00	49.21	0.00	0.00	NM
Chris Repp	04/21/05	6:00	49.21	0.00	0.00	NM
Stu Weist	04/21/05	8:00	49.31	48.98	0.33	NM

Groundwater Recovery Well RW-1 Gauging Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Technician	Date	Time	Depth to Groundwater Feet btoc	Depth to LPH Feet btoc	Thickness of LPH Feet	Groundwater Elevation Feet amsl
Stu Weist	04/21/05	9:00	49.28	48.90	0.38	NM
Stu Weist	04/21/05	11:00	49.27	48.96	0.31	NM
Stu Weist	04/21/05	15:00	49.25	48.94	0.31	NM
Stu Weist	04/21/05	18:00	48.92	0.00	0.00	NM
Stu Weist	04/21/05	20:00	49.05	0.00	0.00	NM
Stu Weist	04/21/05	22:00	49.12	0.00	0.00	NM
Chris Repp	04/22/05	0:00	49.02	0.00	0.00	NM
Chris Repp	04/22/05	2:00	49.02	0.00	0.00	NM
Chris Repp	04/22/05	4:00	49.02	0.00	0.00	NM
Chris Repp	04/22/05	6:00	49.03	0.00	0.00	NM
John Mason	04/22/05	12:00	49.08	49.07	0.01	NM
Stu Weist	04/23/05	0:00	49.03	49.01	0.02	NM
Angel Usi	04/23/05	1:04	49.02	0.00	0.00	NM
Angel Usi	04/23/05	3:00	49.02	0.00	0.00	NM
Ray Newberry	04/23/05	5:00	49.02	0.00	0.00	NM
Ray Newberry	04/23/05	7:00	49.02	0.00	0.00	NM
Ray Newberry	04/23/05	9:10	49.02	0.00	0.00	NM
Ray Newberry	04/23/05	11:05	49.02	0.00	0.00	NM
Ray Newberry	04/23/05	13:00	49.03	0.00	0.00	NM
Stu Weist	04/23/05	15:08	49.01	0.00	0.00	NM
Stu Weist	04/23/05	17:00	49.00	0.00	0.00	NM
Stu Weist	04/23/05	19:00	49.03	49.02	0.01	NM
Stu Weist	04/23/05	21:00	49.00	0.00	0.00	NM
Stu Weist	04/23/05	23:00	49.00	0.00	0.00	NM
Stu Weist	4/24/2005	2:00	49.03	49.00	0.03	NM
Stu Weist	4/24/2005	4:00	49.02	49.00	0.02	NM
Ray Newberry	04/24/05	5:06	49.10	49.06	0.04	NM
Ray Newberry	04/24/05	7:10	49.10	49.06	0.04	NM
Ray Newberry	04/24/05	15:10	49.03	0.00	0.00	NM
Stu Weist	04/24/05	17:00	49.02	0.00	0.00	NM
Stu Weist	04/24/05	19:00	49.01	0.00	0.00	NM
Stu Weist	04/24/05	21:00	49.00	0.00	0.00	NM
Stu Weist	04/24/05	23:00	49.02	49.01	0.01	NM
Stu Weist	04/25/05	1:00	49.02	49.01	0.01	NM
Stu Weist	04/25/05	3:00	49.01	49.00	0.01	NM
Stu Weist	04/25/05	5:00	49.02	49.00	0.02	NM
Jason Alcaraz	04/25/05	7:00	49.30	49.10	0.20	NM
Jason Alcaraz	04/25/05	11:30	48.99	48.97	0.02	NM
Stu Weist	04/25/05	17:00	48.99	48.95	0.04	NM
Chris Repp	04/26/05	1:00	48.97	0.00	0.00	NM
Jason Alcaraz	04/26/05	9:00	49.00	0.00	0.00	NM
Stu Weist	04/26/05	18:00	49.00	0.00	0.00	NM
Chris Repp	04/27/05	1:00	49.64	0.00	0.00	NM
Jason Alcaraz	04/28/05	7:00	50.03	49.67	0.36	NM

Notes:
btoc = below top of casing
LPH = Liquid Phase Hydrocarbons
amsl = above mean seal level
NM = Not Measured

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00	0	200	0	200
RW-1	Andy Rowe	04/16/05	8:00	0	50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1	Stu Weist	04/21/05	18:00	3	0	20	23
RW-1	Stu Weist	04/21/05	20:00	3	0	20	23

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
SVE-2 D	Stu Weist	04/22/05	17:30	11	45	0	56
RW-1	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
SVE-1	Stu Weist	04/22/05	19:00	0	0	0.5	0.5
SVE-2 D	Stu Weist	04/23/05	20:00	12	49	0	61
SVE-1	Stu Weist	04/23/05	20:30	0	0	5	5
RW-1	Stu Weist	04/23/05	21:00	0.5	0	20	20.5
SVE-2 D	Ray Newberry	04/24/05	7:30	53	0	50	103
SVE-2 D	Jason Alcaraz	04/25/05	17:00	5	0	43	48
SVE-1	Stu Weist	04/25/05	18:00	0	0	2	2
RW-1	Stu Weist	04/25/05	19:00	0	17	0	17
SVE-5	Stu Weist	04/25/05	20:00	0	7	0	7
SVE-2 D	Jason Alcaraz	04/26/05	8:45	25	15	0	40
SVE-2 D	Jason Alcaraz	04/26/05	11:21	5	32	0	37
SVE-2 D	Jason Alcaraz	04/26/05	12:00	4	0	0	4
	Total to date			**269**	**520**	**1,374**	**2,163**

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0

Hydrocarbon Mass Removed
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	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1

Hydrocarbon Mass Removed
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	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

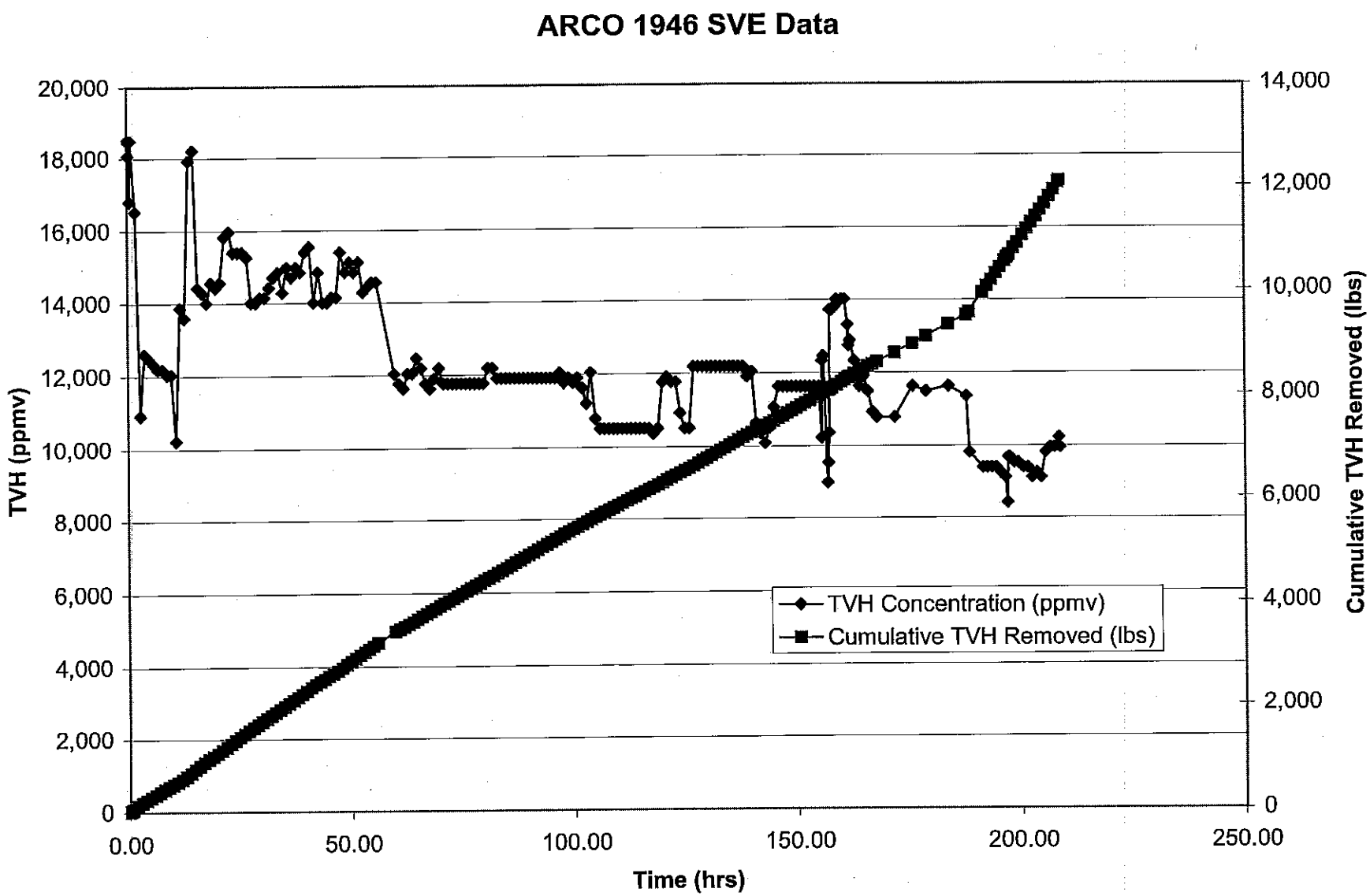
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 ft^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
0.00
50.00
100.00
150.00
200.00
250.00
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
Environmental Programs Division
200 Santa Monica Pier, Suite C
Santa Monica, CA 90401

FROM: SECOR International, Inc.

DATE: May 6, 2005

SUBJECT: ARCO Facility #1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Inc. (SECOR) during the period between April 29, 2005 and May 5, 2005 at the subject site, and proposed activities.

Friday April 29, 2005

- 1,000 scfm SVE unit connected to vapor extraction wells VE-1A, VE-1B, VE-2A, VE-2B, S-2B, 34N-S, 34N-D, VE-4A, VE-4B, SVE-1, SVE-2S, SVE-2D, SVE-3, SVE-4, and SVE-5; and to groundwater extraction well RW-1. The SVE unit continues to operate at full capacity 24 hrs/day.

Saturday April 30, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day.

Sunday May 1, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day.

Monday May 2, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day. Well VE-1A removed from extraction system due to lower vapor influent concentration (<7% LEL) at well head.
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4. No LPH was observed in these wells.

Tuesday May 3, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day. Well SVE-3 removed from extraction system due to zero vapor influent concentration (= 0% LEL) at well head.
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4. No LPH was observed in these wells.

Wednesday May 4, 2005

- 1,000 scfm SVE unit continues to operate at full capacity for approximately 19 hours. System shut in for approximately 5 hours during groundwater sampling activities (see next item). Wells SVE-2S, and SVE-4 removed from extraction system due to lower vapor influent concentrations (< 6% LEL, and < 10% LEL, respectively) at well heads.
- Gauged and sampled groundwater in groundwater monitoring wells E-1 through E-4, and groundwater extraction well RW-1. No LPH was observed in these wells.
- Gauged vapor extractions wells VE-4D (0.84 ft LPH), SVE-2D (1.38 ft LPH) and SVE-1 (no LPH observed).

Thursday May 5, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 23 hours today, at 11pm the system was automatically shut down due to high water in the demister trap. Well SV-2A removed from extraction system due to lower vapor influent concentration (< 6% LEL) at well head.

LPH Cumulative Removal Summary, April 29 – May 5, 2005

- SVE operations: 5,785 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- See attached Tables & Chart.

Planned Activities for May 6 – May 14, 2005

- Continue gauging and SVE operations (unmanned SVE operation to continue with periodic site visits). Gauging will be performed weekly.
- Perform LPH removal weekly by hand bailing from wells SVE-2D and VE-4D.
- Remove 1,000 scfm SVE unit from site on Saturday May 14th to accommodate continuance of UST upgrade project construction activities.
- Prepare design of long-term SVE remediation piping and compound.

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00	0	200	0	200
RW-1	Andy Rowe	04/16/05	8:00	0	50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1	Stu Weist	04/21/05	18:00	3	0	20	23
RW-1	Stu Weist	04/21/05	20:00	3	0	20	23

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
SVE-2 D	Stu Weist	04/22/05	17:30	11	45	0	56
RW-1	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
SVE-1	Stu Weist	04/22/05	19:00	0	0	0.5	0.5
SVE-2 D	Stu Weist	04/23/05	20:00	12	49	0	61
SVE-1	Stu Weist	04/23/05	20:30	0	0	5	5
RW-1	Stu Weist	04/23/05	21:00	0.5	0	20	20.5
SVE-2 D	Ray Newberry	04/24/05	7:30	53	0	50	103
SVE-2 D	Jason Alcaraz	04/25/05	17:00	5	0	43	48
SVE-1	Stu Weist	04/25/05	18:00	0	0	2	2
RW-1	Stu Weist	04/25/05	19:00	0	17	0	17
SVE-5	Stu Weist	04/25/05	20:00	0	7	0	7
SVE-2 D	Jason Alcaraz	04/26/05	8:45	25	15	0	40
SVE-2 D	Jason Alcaraz	04/26/05	11:21	5	32	0	37
SVE-2 D	Jason Alcaraz	04/26/05	12:00	4	0	0	4
	Total to date			**269**	**520**	**1,374**	**2,163**

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7

Hydrocarbon Mass Removed
ARCO Facility 01946
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM Inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0
	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7

Hydrocarbon Mass Removed
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	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1
	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9

Hydrocarbon Mass Removed
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	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6

Hydrocarbon Mass Removed
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	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	937	71	9,940	129.9	12,089.1	1,949.9
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,067.5	2,430.2
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,744.6	2,700.7
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,034.8	2,747.5
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,276.0	3,109.0
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,450.4	3,137.2
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,785.4	3,675.1

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

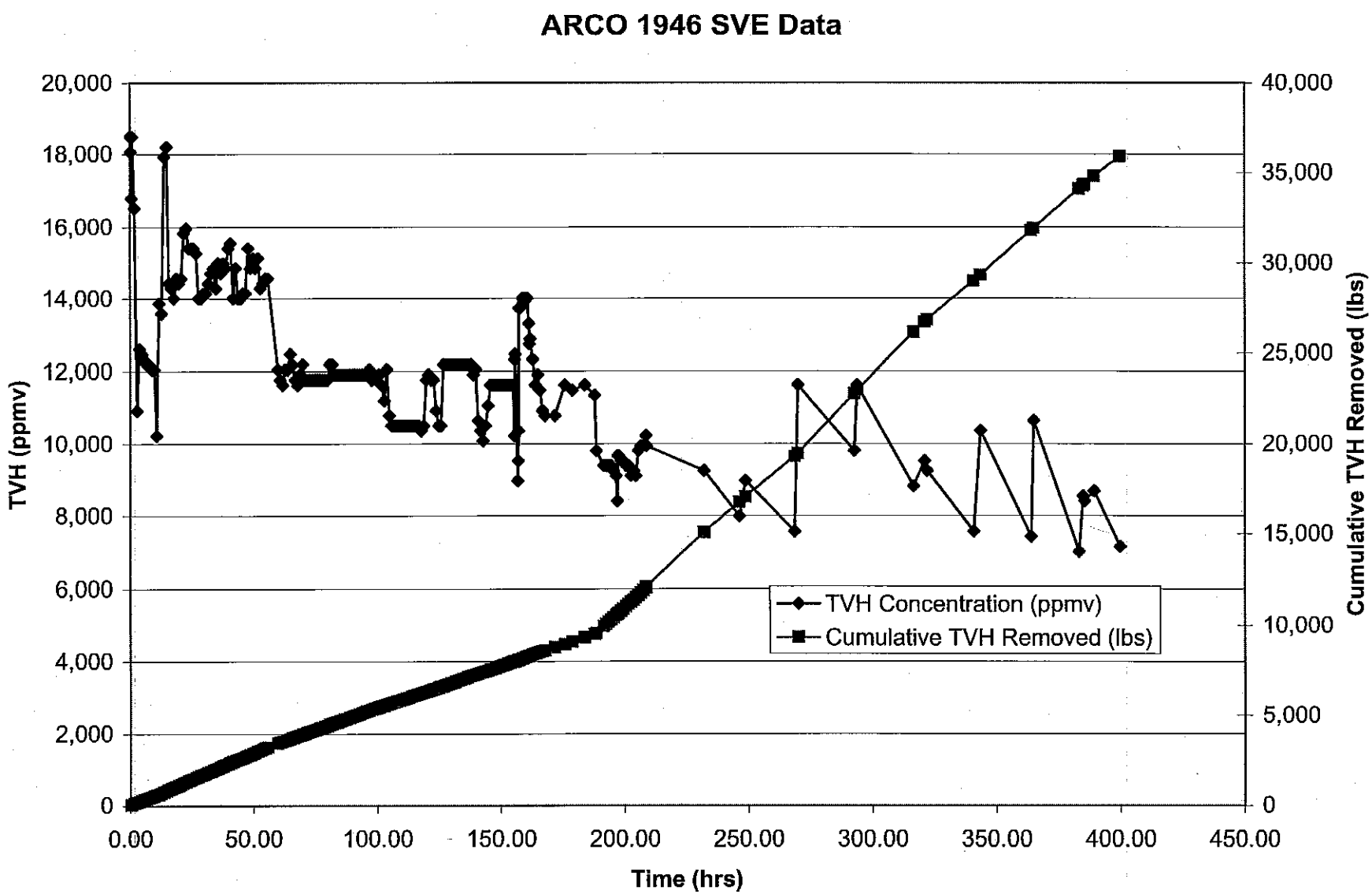
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	22,943.4	3,700.6
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,128.5	4,214.3
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,693.9	4,305.5
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,822.4	4,326.2
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	28,976.1	4,673.6
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,311.9	4,727.7
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,808.5	5,130.4
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,932.0	5,150.3
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,123.2	5,503.7
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,299.8	5,532.2
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,366.6	5,543.0
	12:30	3.75	389.17	8.8	120.0	981	62	8,680	118.8	34,803.7	5,613.5
5/6/2005	6:30	10.50	399.67	7.9	107.0	850	51	7,140	84.6	35,871.6	5,785.7

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 f^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System shut down due to high water in inline trap between 11pm 5/5 and 6:30am 5/6


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
0.00
50.00
100.00
150.00
200.00
250.00
300.00
350.00
400.00
450.00

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
Environmental Programs Division
200 Santa Monica Pier, Suite C
Santa Monica, CA 90401

FROM: SECOR International, Inc.

DATE: May 13, 2005

SUBJECT: ARCO Facility #1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Inc. (SECOR) during the period between May 6, 2005 and May 13, 2005 at the subject site, and proposed activities.

Friday May 6, 2005

- 1,000 scfm SVE unit continues to operate at full capacity.
- Install 1,500 holding tank for knock-out water from SVE unit to mitigate demister tank overflows.

Saturday May 7, 2005

- 1,000 scfm SVE unit continues to operate at full capacity.

Sunday May 8, 2005

- 1,000 scfm SVE unit continues to operate at full capacity.

Monday May 9, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day. Well VE-1A removed from extraction system due to lower vapor influent concentration (<7% LEL) at well head.
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, VE-2D, and VE-4D. No LPH was observed in these wells except SVE-2D with 0.22 ft LPH.

Tuesday May 10, 2005

- 1,000 scfm SVE unit continues to operate at full capacity 24 hrs/day.
- Southern California Edison (SCE) work crew onsite to trim ivy and palm tree entangled with utility lines and utility pole per SCE work scope on easement off the southern site boundary.
- Perform file review at LARWQCB.

Wednesday May 11, 2005

- 1,000 scfm SVE unit continues to operate at full capacity.

Thursday May 12, 2005

- 1,000 scfm SVE unit continues to operate at full capacity during evening of 5/11 and early morning of 5/12.
- SVE unit shut in following morning O&M.

LPH Cumulative Removal Summary, May 6 – May 12, 2005

- SVE operations: 7,541 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- See attached Tables & Chart.

Planned Activities for May 6 – May 14, 2005

- Demobize 1,000 scfm SVE unit, propane tanks and associated SVE piping on May 13th.
- Gauging will be performed weekly.
- Perform LPH removal weekly by hand bailing from any LPH-impacted wells.
- Prepare design of long-term SVE remediation piping and compound.
- Perform SCAQMD Rule 1166 Monitoring during BP Retail upgrade work

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6

Hydrocarbon Mass Removed
ARCO Facility 01946
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	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0

Hydrocarbon Mass Removed
ARCO Facility 01946
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	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7

Hydrocarbon Mass Removed
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332 Pico Boulevard
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	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0
	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1
	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,132.7	2,440.8
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,809.7	2,711.2
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,099.9	2,758.1
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,341.2	3,119.5
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,515.5	3,147.7
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,850.6	3,685.6

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
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	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	23,008.6	3,711.1
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,193.6	4,224.8
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,759.1	4,316.0
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,887.5	4,336.7
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	29,041.2	4,684.1
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,377.1	4,738.2
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,873.6	5,140.9
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,997.2	5,160.8
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,188.4	5,514.3
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,364.9	5,542.7
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,431.8	5,553.5
5/6/2005	7:45	14.25	399.67	8.8	120.0	981	62	8,680	118.8	36,092.7	5,821.4
	8:45	1.00	400.67	7.9	107.0	851	51	7,140	84.7	36,194.5	5,837.8
5/8/2005	7:00	46.25	446.92	9.3	127.0	976	42	5,880	80.0	40,005.3	6,452.5
	8:00	1.00	447.92	9.3	127.0	976	44	6,160	83.9	40,087.2	6,465.7
5/9/2005	8:15	24.25	472.17	9.3	127.0	976	35	4,900	66.7	41,912.8	6,760.1
	11:30	3.25	475.42	9.1	124.0	975	39	5,460	74.3	42,141.8	6,797.1
5/10/2005	7:15	19.75	495.17	9.3	127.0	976	34	4,760	64.8	43,514.9	7,018.5
	11:55	4.67	499.84	8.7	118.0	978	37	5,180	70.7	43,831.2	7,069.5
5/11/2005	6:45	18.83	518.67	9.1	124.0	976	33	4,620	62.9	45,088.6	7,272.4
	8:00	1.25	519.92	9.1	124.0	976	34	4,760	64.8	45,168.4	7,285.2
5/12/2005	7:45	23.75	543.67	9.1	124.0	976	31	4,340	59.1	46,639.4	7,522.5
	9:45	2.00	545.67	9.0	123.0	976	31	4,340	59.1	46,757.6	7,541.5

Hydrocarbon Mass Removed
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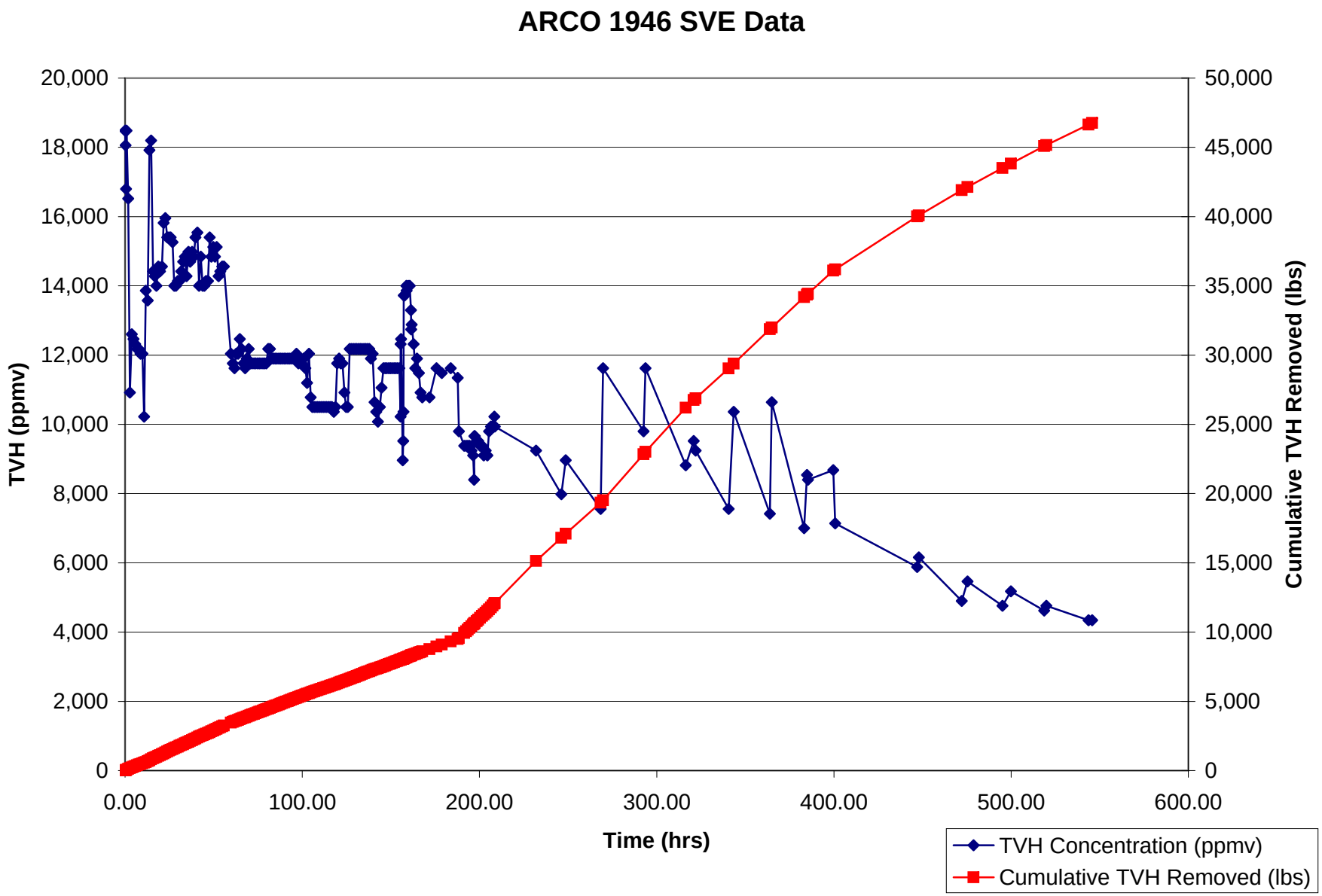
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured
CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 f^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System was shut down from 11pm 5/5/05 until 0745 am 5/6/05 (8.75 hours)


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
0.00
100.00
200.00
300.00
400.00
500.00
600.00
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
200 Santa Monica Pier, Suite C
Santa Monica, California 90401

FROM: SECOR International, Incorporated

DATE: May 20, 2005

SUBJECT: ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Incorporated (SECOR) during the period between May 13, 2005 and May 19, 2005 at the subject site, and proposed activities.

Friday May 13, 2005

- 1,000 scfm SVE unit removed from site.
- X Y Z Survey of all available groundwater and SVE wells (VE-2 and Well 3, located on Third Street, were inaccessible).
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, S2-D and VE-4D. LPH was only observed in well SVE-2D at 0.04 feet LPH.

Saturday May 14, 2005

- No activity on site.

Sunday May 15, 2005

- No activity on site.

Monday May 16, 2005

- Tanker on site to remove product from other USTs (prior to continuation of BP construction activities).
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, S2-D, VE-4D and VE-5D. LPH was observed in well SVE-2D at 0.01 feet, in well VE-4D at 0.01 feet and in well VE-5D at 0.01 feet.

Tuesday May 17, 2005

- UST product removal and de-gassing activities continue.
- Well survey data received.

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

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04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM Inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0

Hydrocarbon Mass Removed
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	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1

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	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,132.7	2,440.8
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,809.7	2,711.2
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,099.9	2,758.1
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,341.2	3,119.5
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,515.5	3,147.7
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,850.6	3,685.6
	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	23,008.6	3,711.1
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,193.6	4,224.8
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,759.1	4,316.0
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,887.5	4,336.7
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	29,041.2	4,684.1
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,377.1	4,738.2
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,873.6	5,140.9
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,997.2	5,160.8

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

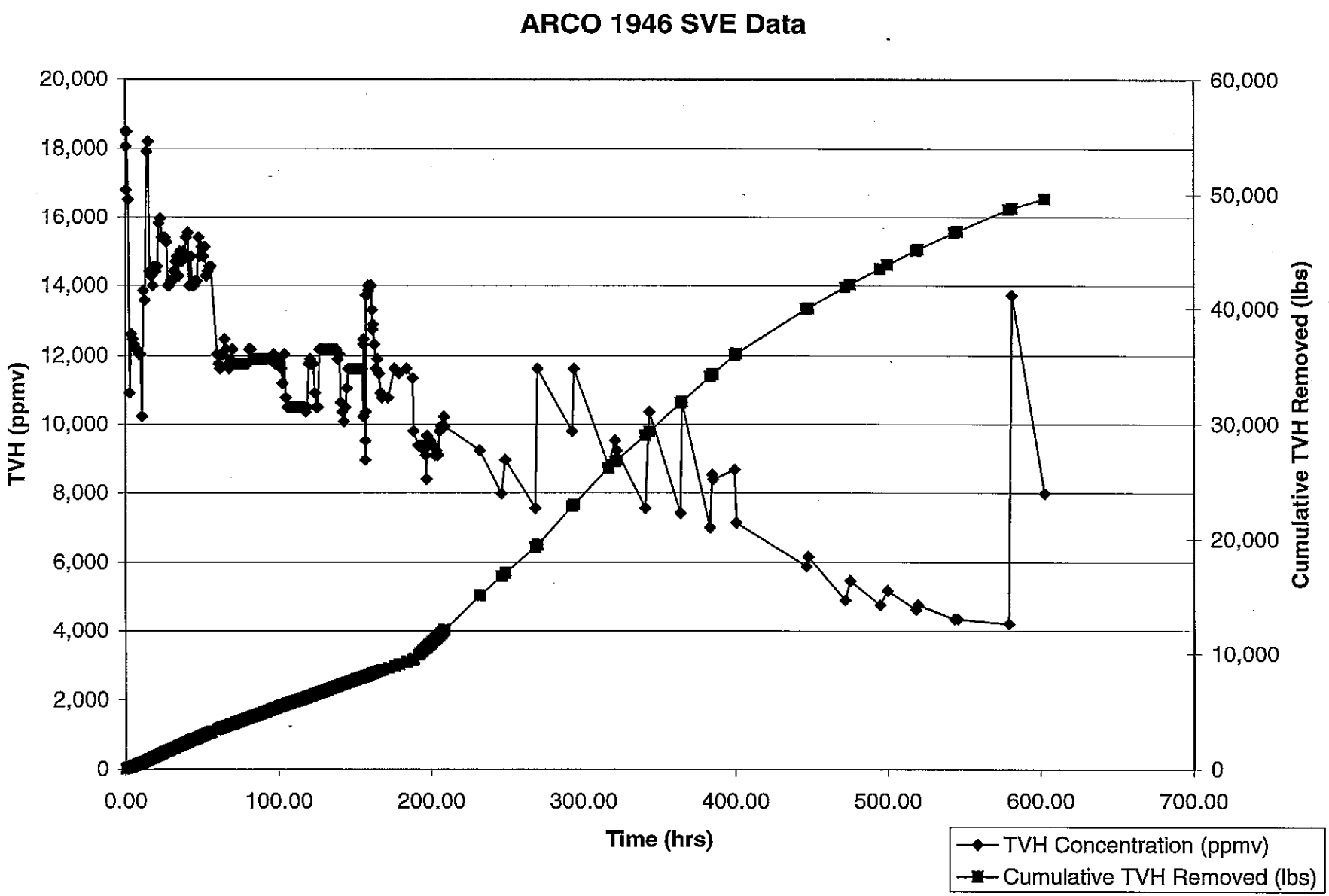
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,188.4	5,514.3
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,364.9	5,542.7
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,431.8	5,553.5
5/6/2005	7:45	14.25	399.67	8.8	120.0	981	62	8,680	118.8	36,092.7	5,821.4
	8:45	1.00	400.67	7.9	107.0	851	51	7,140	84.7	36,194.5	5,837.8
5/8/2005	7:00	46.25	446.92	9.3	127.0	976	42	5,880	80.0	40,005.3	6,452.5
	8:00	1.00	447.92	9.3	127.0	976	44	6,160	83.9	40,087.2	6,465.7
5/9/2005	8:15	24.25	472.17	9.3	127.0	976	35	4,900	66.7	41,912.8	6,760.1
	11:30	3.25	475.42	9.1	124.0	975	39	5,460	74.3	42,141.8	6,797.1
5/10/2005	7:15	19.75	495.17	9.3	127.0	976	34	4,760	64.8	43,514.9	7,018.5
	11:55	4.67	499.84	8.7	118.0	978	37	5,180	70.7	43,831.2	7,069.5
5/11/2005	6:45	18.83	518.67	9.1	124.0	976	33	4,620	62.9	45,088.6	7,272.4
	8:00	1.25	519.92	9.1	124.0	976	34	4,760	64.8	45,168.4	7,285.2
5/12/2005	7:45	23.75	543.67	9.1	124.0	976	31	4,340	59.1	46,639.4	7,522.5
	9:45	2.00	545.67	9.0	123.0	976	31	4,340	59.1	46,757.6	7,541.5
5/13/2005	19:20	33.58	579.25	9.2	125.0	976	30	4,200	57.2	48,709.5	7,856.4
5/18/2005	10:15	2.25	581.50	7.5	102.0	264	98	13,720	50.5	48,830.7	7,875.9
5/19/2005	7:30	21.25	602.75	7.4	101.0	255	57	7,980	28.4	49,669.0	8,011.1

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 ft^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System was shut down from 11pm 5/5/05 until 0745 am 5/6/05 (8.75 hours)
6. 5/13/05 data taken fromVET's Table 1 Summary of Vapor Extracted and Treated Hydrocarbons
7. System was shut down and replaced with a new system 5/13/05 through 5/19/05.


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
60,000
50,000
40,000
30,000
20,000
10,000
0
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00	0	200	0	200
RW-1	Andy Rowe	04/16/05	8:00	0	50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1	Stu Weist	04/21/05	18:00	3	0	20	23
RW-1	Stu Weist	04/21/05	20:00	3	0	20	23

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
SVE-2 D	Stu Weist	04/22/05	17:30	11	45	0	56
RW-1	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
SVE-1	Stu Weist	04/22/05	19:00	0	0	0.5	0.5
SVE-2 D	Stu Weist	04/23/05	20:00	12	49	0	61
SVE-1	Stu Weist	04/23/05	20:30	0	0	5	5
RW-1	Stu Weist	04/23/05	21:00	0.5	0	20	20.5
SVE-2 D	Ray Newberry	04/24/05	7:30	53	0	50	103
SVE-2 D	Jason Alcaraz	04/25/05	17:00	5	0	43	48
SVE-1	Stu Weist	04/25/05	18:00	0	0	2	2
RW-1	Stu Weist	04/25/05	19:00	0	17	0	17
SVE-5	Stu Weist	04/25/05	20:00	0	7	0	7
SVE-2 D	Jason Alcaraz	04/26/05	8:45	25	15	0	40
SVE-2 D	Jason Alcaraz	04/26/05	11:21	5	32	0	37
SVE-2 D	Jason Alcaraz	04/26/05	12:00	4	0	0	4
	Total to date			**269**	**520**	**1,374**	**2,163**

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
200 Santa Monica Pier, Suite C
Santa Monica, California 90401

FROM: SECOR International, Incorporated

DATE: May 27, 2005

SUBJECT: ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Incorporated (SECOR) during the period between May 20, 2005 and May 26, 2005 at the subject site, and proposed activities.

Friday May 20, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; and vapor extraction wells SVE-1, SVE-2S, SVE-3, SVE-4, SVE-5, VE-1D, VE-1S, VE-2D, VE-4S and VE-5S. LPH was observed in well VE-4D at 0.01 feet and in well SVE-5 at 0.05 feet.
- 300 scfm SVE unit, connected to wells RW-1 and SVE-2D, VE-5D, S-2D, is shut off for the weekend.
- Following SVE system shut down, gauged groundwater recovery well RW-1 and vapor extraction wells SVE-2D and S-2D. LPH was observed in well SVE-2D at 0.48 feet.

Saturday May 21, 2005

- No activity on site.

Sunday May 22, 2005

- No activity on site.

Monday May 23, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-3, SVE-4, SVE-5, VE-1D, VE-1S, VE-4D, VE-4S, VE-5S and S-2S. LPH was observed in well SVE-2D at 0.60 feet, in well VE-4D at 0.02 feet and in well SVE-5 at 0.01 feet.
- 300 scfm SVE unit is re-started and continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Tuesday May 24, 2005

- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Wednesday May 25, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-1D, VE-1S, VE-4D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 0.50 feet, in well SVE-5 at 0.01 feet and in well VE-4D at 0.02 feet.
- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Thursday May 26, 2005

- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

LPH Cumulative Removal Summary, April 15 – May 26, 2005

- SVE operations: 8,246 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- See attached Tables & Chart.

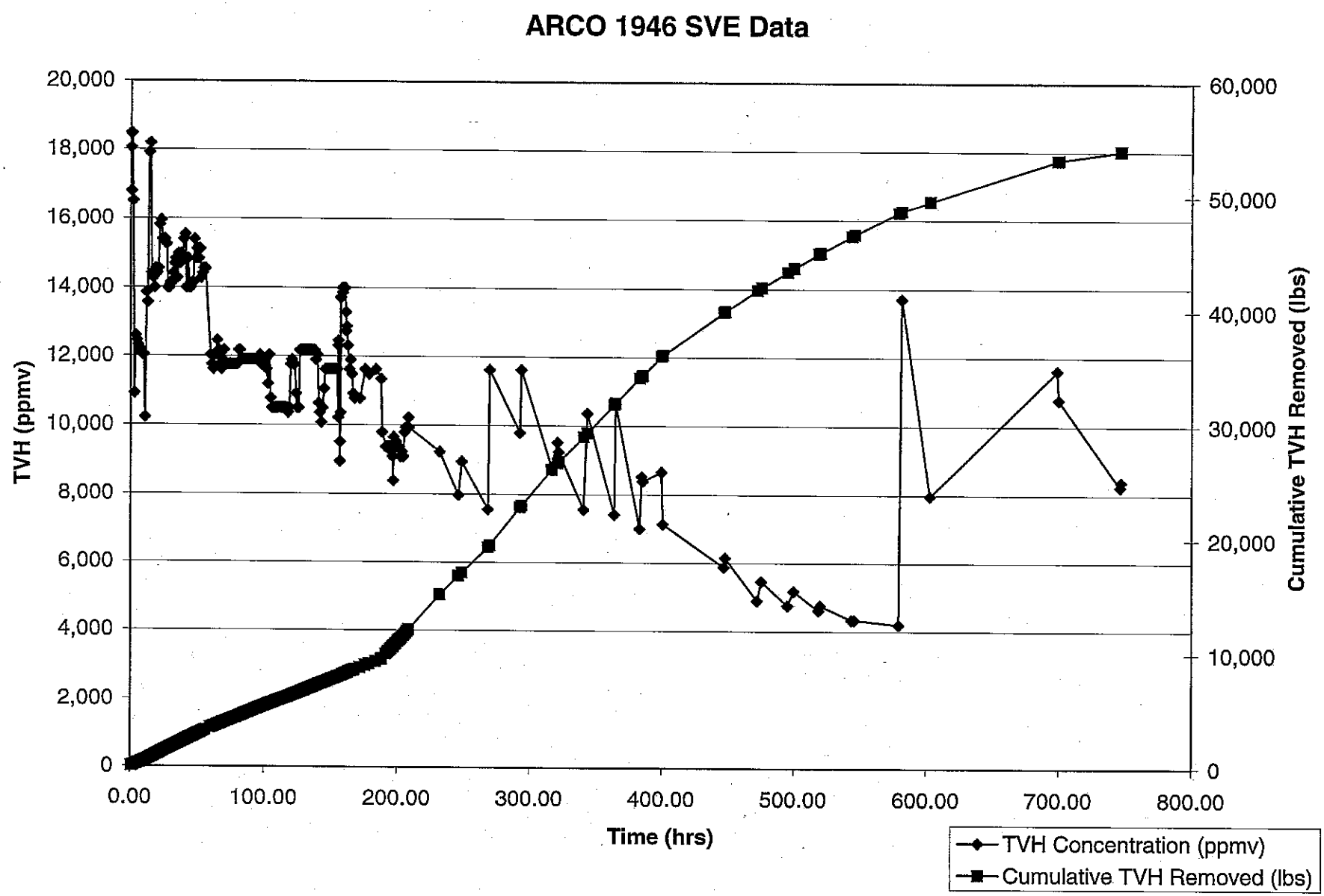
Planned Activities for May 27 – June 2, 2005

- At the request of BP, continue Monday through Friday, 24 hour/day operation of 300 scfm SVE unit during BP upgrade activities.
- Weekly well gauging.
- Perform LPH removal by hand bailing as necessary.
- Continue design of long-term SVE remediation piping and compound.
- Perform SCAQMD Rule 1166 Monitoring during BP Retail upgrade work

Goals/Criteria

The goals/criteria identified below have been completed, transitioning the site from emergency response activities to "normal" assessment/remediation operations:

- 24-hour manned SVE emergency response operations transitioned to automated SVE operations and finally cessation of emergency SVE. Note: To minimize vapors during upgrade UST shoring "hot work", BP has requested that SVE operations continue.
- Coordinated installation of permanent remediation system with BP facility upgrades at site; thus minimizing impact to station operations.
- Maximize LPH recovery (may require installation of pumps and on-site vapor-tight baker tank if LPH thicknesses increase) – Currently maximum recovery of LPH is still being achieved by SVE operations; will transition to hand bailing LPH, as necessary.
- A cost effective remediation plan, based on receptor survey and risk, will be implemented.


ARCO 1946 SVE Data
TVH (ppmv)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Cumulative TVH Removed (lbs)
60,000
50,000
40,000
30,000
20,000
10,000
0
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
800.00
Time (hrs)
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0

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	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1

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	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9

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	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM Inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,132.7	2,440.8
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,809.7	2,711.2
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,099.9	2,758.1
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,341.2	3,119.5
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,515.5	3,147.7
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,850.6	3,685.6
	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	23,008.6	3,711.1
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,193.6	4,224.8
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,759.1	4,316.0
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,887.5	4,336.7
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	29,041.2	4,684.1
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,377.1	4,738.2
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,873.6	5,140.9
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,997.2	5,160.8

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,188.4	5,514.3
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,364.9	5,542.7
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,431.8	5,553.5
5/6/2005	7:45	14.25	399.67	8.8	120.0	981	62	8,680	118.8	36,092.7	5,821.4
	8:45	1.00	400.67	7.9	107.0	851	51	7,140	84.7	36,194.5	5,837.8
5/8/2005	7:00	46.25	446.92	9.3	127.0	976	42	5,880	80.0	40,005.3	6,452.5
	8:00	1.00	447.92	9.3	127.0	976	44	6,160	83.9	40,087.2	6,465.7
5/9/2005	8:15	24.25	472.17	9.3	127.0	976	35	4,900	66.7	41,912.8	6,760.1
	11:30	3.25	475.42	9.1	124.0	975	39	5,460	74.3	42,141.8	6,797.1
5/10/2005	7:15	19.75	495.17	9.3	127.0	976	34	4,760	64.8	43,514.9	7,018.5
	11:55	4.67	499.84	8.7	118.0	978	37	5,180	70.7	43,831.2	7,069.5
5/11/2005	6:45	18.83	518.67	9.1	124.0	976	33	4,620	62.9	45,088.6	7,272.4
	8:00	1.25	519.92	9.1	124.0	976	34	4,760	64.8	45,168.4	7,285.2
5/12/2005	7:45	23.75	543.67	9.1	124.0	976	31	4,340	59.1	46,639.4	7,522.5
	9:45	2.00	545.67	9.0	123.0	976	31	4,340	59.1	46,757.6	7,541.5
5/13/2005	19:20	33.58	579.25	9.2	125.0	976	30	4,200	57.2	48,709.5	7,856.4
5/18/2005	10:15	2.25	581.50	7.5	102.0	264	98	13,720	50.5	48,830.7	7,875.9
5/19/2005	7:30	21.25	602.75	7.4	101.0	255	57	7,980	28.4	49,669.0	8,011.1
5/23/2005	7:30	96.00	698.75	4.1	56.0	288	83	11,620	46.7	53,271.8	8,592.2
5/23/2005	8:30	1.00	699.75	4.6	63.0	297	77	10,780	44.7	53,317.5	8,599.6
5/25/2005	7:00	46.50	746.25	4.9	67.0	291	59	8,260	33.5	54,110.9	8,727.6
5/25/2005	7:30	0.50	746.75	5.0	68.0	299	60	8,400	35.0	54,128.0	8,730.3

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 ft^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System was shut down from 11pm 5/5/05 until 0745 am 5/6/05 (8.75 hours)
6. 5/13/05 data taken fromVET's Table 1 Summary of Vapor Extracted and Treated Hydrocarbons
7. System was shut down and replaced with a new system 5/13/05 through 5/19/05.

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00	0	200	0	200
RW-1	Andy Rowe	04/16/05	8:00	0	50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1	Stu Weist	04/21/05	18:00	3	0	20	23
RW-1	Stu Weist	04/21/05	20:00	3	0	20	23

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
SVE-2 D	Stu Weist	04/22/05	17:30	11	45	0	56
RW-1	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
SVE-1	Stu Weist	04/22/05	19:00	0	0	0.5	0.5
SVE-2 D	Stu Weist	04/23/05	20:00	12	49	0	61
SVE-1	Stu Weist	04/23/05	20:30	0	0	5	5
RW-1	Stu Weist	04/23/05	21:00	0.5	0	20	20.5
SVE-2 D	Ray Newberry	04/24/05	7:30	53	0	50	103
SVE-2 D	Jason Alcaraz	04/25/05	17:00	5	0	43	48
SVE-1	Stu Weist	04/25/05	18:00	0	0	2	2
RW-1	Stu Weist	04/25/05	19:00	0	17	0	17
SVE-5	Stu Weist	04/25/05	20:00	0	7	0	7
SVE-2 D	Jason Alcaraz	04/26/05	8:45	25	15	0	40
SVE-2 D	Jason Alcaraz	04/26/05	11:21	5	32	0	37
SVE-2 D	Jason Alcaraz	04/26/05	12:00	4	0	0	4
	Total to date			**269**	**520**	**1,374**	**2,163**

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
200 Santa Monica Pier, Suite C
Santa Monica, California 90401

FROM: SECOR International, Incorporated

DATE: June 3, 2005

SUBJECT: ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Incorporated (SECOR) during the period between May 27, 2005 and June 2, 2005 at the subject site, and proposed activities.

Friday May 27, 2005

- 300 scfm SVE unit is shut off for the weekend.

Saturday May 28, 2005

- No activity on site.

Sunday May 29, 2005

- No activity on site.

Monday May 30, 2005

- No activity on site.

Tuesday May 31, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-1D, VE-1S, VE-4D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 0.42 feet, in well VE-5D at 0.09 feet and in well VE-4D at 0.02 feet.
- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Wednesday June 1, 2005

- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Thursday June 2, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-1D, VE-1S, VE-4D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 0.30 feet and in well VE-4D at 0.02 feet.
- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

LPH Cumulative Removal Summary, April 15 – June 6, 2005

- SVE operations: 9,022.9 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- See attached Tables & Chart.

Planned Activities for June 3 – June 9, 2005

- At the request of BP, continue Monday through Friday, 24 hour/day operation of 300 scfm SVE unit during BP upgrade activities.
- Weekly well gauging.
- Perform LPH removal by hand bailing as necessary.
- Continue design of long-term SVE remediation piping and compound.
- Perform SCAQMD Rule 1166 Monitoring during BP Retail upgrade work

Goals/Criteria

The goals/criteria identified below have been completed, transitioning the site from emergency response activities to "normal" assessment/remediation operations:

- 24-hour manned SVE emergency response operations transitioned to automated SVE operations and finally cessation of emergency SVE. Note: To minimize vapors during upgrade UST shoring "hot work", BP has requested that SVE operations continue.
- Coordinated installation of permanent remediation system with BP facility upgrades at site; thus minimizing impact to station operations.
- Maximize LPH recovery (may require installation of pumps and on-site vapor-tight baker tank if LPH thicknesses increase) – Currently maximum recovery of LPH is still being achieved by SVE operations; will transition to hand bailing LPH, as necessary.
- A cost effective remediation plan, based on receptor survey and risk, will be implemented.

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4	Jason Alcaraz	04/15/05	18:00	0	200	0	200
RW-1	Andy Rowe	04/16/05	8:00	0	50	900	950
RW-1	Joe Taormina	04/17/05	17:30	4	0	31	35
RW-1	Joe Taormina	04/17/05	19:00	2	0	40	42
SVE-2 D	Joe Taormina	04/17/05	20:50	5	0	10	15
SVE-2 D	Joe Taormina	04/17/05	22:00	4	0	20	24
RW-1	Joe Taormina	04/17/05	22:30	1	0	19	20
SVE-2 D	Joe Taormina	04/18/05	8:00	20	0	50	70
SVE-2 D	Jason Alcaraz	04/18/05	9:00	5	0	5	10
SVE-2 D	Jason Alcaraz	04/18/05	12:49	5	0	12	17
SVE-2 D	Tony Nickleson	04/18/05	19:00	5	0	20	25
SVE-2 D	Tony Nickleson	04/18/05	20:00	5	0	10	15
SVE-2 D	Tony Nickleson	04/18/05	22:00	7	0	23	30
SVE-2 D	Chris Repp	04/19/05	0:00	3	0	12	15
SVE-2 D	Chris Repp	04/19/05	3:30	5	0	5	10
SVE-2 D	Jason Alcaraz	04/19/05	8:09	8	0	23	31
SVE-2 D	Jason Alcaraz	04/19/05	14:20	7	0	10	17
SVE-2 D	Jason Alcaraz	04/20/05	11:55	11	42	0	53
UST annular	Stu Weist	04/20/05	12:00	20	0	0	20
SVE-2 D	Stu Weist	04/20/05	15:00	5	30	0	35
UST annular	Stu Weist	04/20/05	17:00	15	0	0	15
SVE-2 D	Stu Weist	04/21/05	17:00	10	33	0	43
SVE-1	Stu Weist	04/21/05	18:00	3	0	20	23
RW-1	Stu Weist	04/21/05	20:00	3	0	20	23

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
SVE-2 D	Stu Weist	04/22/05	17:30	11	45	0	56
RW-1	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
SVE-1	Stu Weist	04/22/05	19:00	0	0	0.5	0.5
SVE-2 D	Stu Weist	04/23/05	20:00	12	49	0	61
SVE-1	Stu Weist	04/23/05	20:30	0	0	5	5
RW-1	Stu Weist	04/23/05	21:00	0.5	0	20	20.5
SVE-2 D	Ray Newberry	04/24/05	7:30	53	0	50	103
SVE-2 D	Jason Alcaraz	04/25/05	17:00	5	0	43	48
SVE-1	Stu Weist	04/25/05	18:00	0	0	2	2
RW-1	Stu Weist	04/25/05	19:00	0	17	0	17
SVE-5	Stu Weist	04/25/05	20:00	0	7	0	7
SVE-2 D	Jason Alcaraz	04/26/05	8:45	25	15	0	40
SVE-2 D	Jason Alcaraz	04/26/05	11:21	5	32	0	37
SVE-2 D	Jason Alcaraz	04/26/05	12:00	4	0	0	4
	Total to date			**269**	**520**	**1,374**	**2,163**

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

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04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2

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04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4
	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1

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	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6
	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6

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	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0
	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1

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	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1
	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2

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	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,132.7	2,440.8
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,809.7	2,711.2
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,099.9	2,758.1
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,341.2	3,119.5
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,515.5	3,147.7
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,850.6	3,685.6
	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	23,008.6	3,711.1
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,193.6	4,224.8
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,759.1	4,316.0
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,887.5	4,336.7
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	29,041.2	4,684.1
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,377.1	4,738.2
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,873.6	5,140.9
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,997.2	5,160.8
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,188.4	5,514.3

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,364.9	5,542.7
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,431.8	5,553.5
5/6/2005	7:45	14.25	399.67	8.8	120.0	981	62	8,680	118.8	36,092.7	5,821.4
	8:45	1.00	400.67	7.9	107.0	851	51	7,140	84.7	36,194.5	5,837.8
5/8/2005	7:00	46.25	446.92	9.3	127.0	976	42	5,880	80.0	40,005.3	6,452.5
	8:00	1.00	447.92	9.3	127.0	976	44	6,160	83.9	40,087.2	6,465.7
5/9/2005	8:15	24.25	472.17	9.3	127.0	976	35	4,900	66.7	41,912.8	6,760.1
	11:30	3.25	475.42	9.1	124.0	975	39	5,460	74.3	42,141.8	6,797.1
5/10/2005	7:15	19.75	495.17	9.3	127.0	976	34	4,760	64.8	43,514.9	7,018.5
	11:55	4.67	499.84	8.7	118.0	978	37	5,180	70.7	43,831.2	7,069.5
5/11/2005	6:45	18.83	518.67	9.1	124.0	976	33	4,620	62.9	45,088.6	7,272.4
	8:00	1.25	519.92	9.1	124.0	976	34	4,760	64.8	45,168.4	7,285.2
5/12/2005	7:45	23.75	543.67	9.1	124.0	976	31	4,340	59.1	46,639.4	7,522.5
	9:45	2.00	545.67	9.0	123.0	976	31	4,340	59.1	46,757.6	7,541.5
5/13/2005	19:20	33.58	579.25	9.2	125.0	976	30	4,200	57.2	48,709.5	7,856.4
5/18/2005	10:15	2.25	581.50	7.5	102.0	264	98	13,720	50.5	48,830.7	7,875.9
5/19/2005	7:30	21.25	602.75	7.4	101.0	255	57	7,980	28.4	49,669.0	8,011.1
5/23/2005	7:30	96.00	698.75	4.1	56.0	288	83	11,620	46.7	53,271.8	8,592.2
5/23/2005	8:30	1.00	699.75	4.6	63.0	297	77	10,780	44.7	53,317.5	8,599.6
5/25/2005	7:00	46.50	746.25	4.9	67.0	291	59	8,260	33.5	54,110.9	8,727.6
5/25/2005	7:30	0.50	746.75	5.0	68.0	299	60	8,400	35.0	54,128.0	8,730.3
5/27/2005	12:00	52.50	799.25	5.4	73.0	298	54	7,560	31.4	55,872.4	9,011.7
5/31/2005	9:30	2.00	801.25	5.2	71.0	298	66	9,240	38.4	55,942.2	9,022.9

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

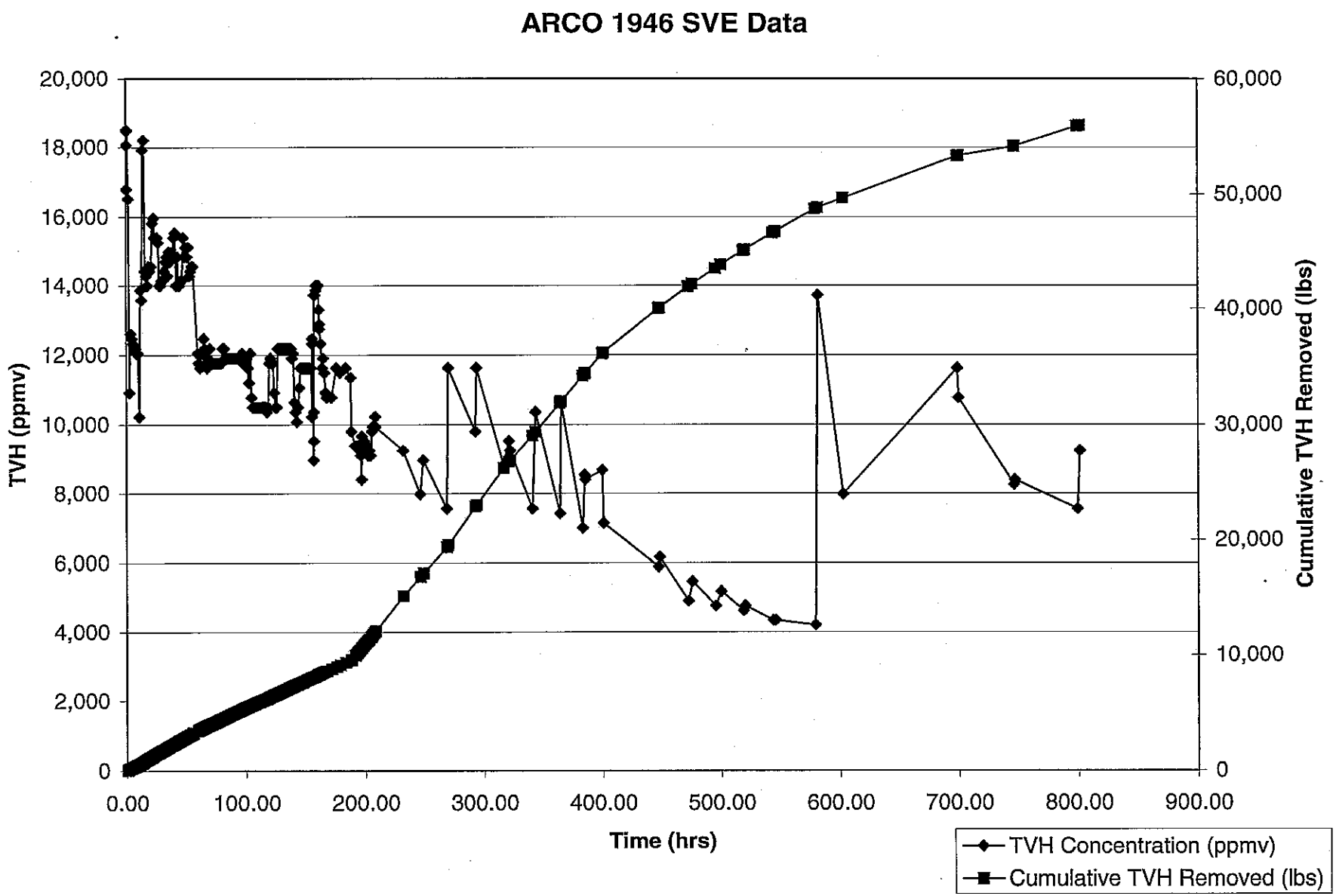
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 ft^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*($1/1x10^6$) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System was shut down from 11pm 5/5/05 until 0745 am 5/6/05 (8.75 hours)
6. 5/13/05 data taken fromVET's Table 1 Summary of Vapor Extracted and Treated Hydrocarbons
7. System was shut down and replaced with a new system 5/13/05 through 5/19/05.
8. System was shut down 5/27/05 through 5/31/05.


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
60,000
50,000
40,000
30,000
20,000
10,000
0
0.00
100.00
200.00
300.00
400.00
500.00
600.00
700.00
800.00
900.00
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

TO: Ms. Monica Hanley
Environmental Compliance Specialist
City of Santa Monica
200 Santa Monica Pier, Suite C
Santa Monica, California 90401

FROM: SECOR International, Incorporated

DATE: June 17, 2005

SUBJECT: ARCO Facility 1946
332 Pico Boulevard
Santa Monica, California

The following is a summary of response activities conducted by SECOR International, Incorporated (SECOR) during the period between June 10, 2005 and June 16, 2005 at the subject site, and proposed activities. As there are no emergency response activities currently being conducted at the site, SECOR will no longer submit "weekly emergency response" reports. SECOR plans to submit monthly reports to the City of Santa Monica regarding site activities.

Friday June 10, 2005

- 300 scfm SVE unit is shut off for the weekend.
- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-1D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 0.02 feet.

Saturday June 11, 2005

- No activity on site.

Sunday June 12, 2005

- No activity on site.

Monday June 13, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-4D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 0.29 feet.
- LPH sample collected from well SVE-2D for fingerprint analysis.
- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Tuesday June 14, 2005

- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Wednesday June 15, 2005

- Gauged groundwater monitoring wells E-1, E-2, E-3, and E-4; groundwater extraction well RW-1; and vapor extraction wells SVE-1, SVE-2D, SVE-2S, SVE-3, SVE-4, SVE-5, VE-4D, VE-4S, VE-5D, VE-5S, S-2D and S-2S. LPH was observed in well SVE-2D at 1.05 feet and in well VE-4D at 0.01 foot.
- Manually recovered approximately 0.2 gallons of LPH from well SVE-2D.
- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

Thursday June 16, 2005

- 300 scfm SVE unit continues to operate at full capacity connected to wells RW-1, SVE-2D, VE-5D and S-2D.

LPH Cumulative Removal Summary, April 15 – June 16, 2005

- SVE operations: 10,198.8 gallons of LPH
- VacTruck operations: 269 gallons of LPH
- Manual LPH recovery: 0.2 gallons
- See attached Tables & Chart.

Planned Activities for June 3 – June 9, 2005

- At the request of BP, continue Monday through Friday, 24 hour/day operation of 300 scfm SVE unit during BP upgrade activities.
- Weekly well gauging.
- Perform LPH removal by hand bailing as necessary.
- Continue design of long-term SVE remediation piping and compound.
- Perform SCAQMD Rule 1166 Monitoring during BP Retail upgrade work

Goals/Criteria

The goals/criteria identified below have been completed, transitioning the site from emergency response activities to "normal" assessment/remediation operations:

- 24-hour manned SVE emergency response operations transitioned to automated SVE operations and finally cessation of emergency SVE. Note: To minimize vapors during upgrade UST shoring "hot work", BP has requested that SVE operations continue.
- Coordinated installation of permanent remediation system with BP facility upgrades at site; thus minimizing impact to station operations.
- Maximize LPH recovery (may require installation of pumps and on-site vapor-tight baker tank if LPH thicknesses increase) – Currently maximum recovery of LPH is still being achieved by SVE operations; will transition to hand bailing LPH, as necessary.
- A cost effective remediation plan, based on receptor survey and risk, will be implemented.

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
VE-4D	Jason Alcaraz	04/15/05	18:00	0.0	200.0	0.0	200.0
RW-1	Andy Rowe	04/16/05	8:00	0.0	50.0	900.0	950.0
	Joe Taormina	04/17/05	17:30	4.0	0.0	31.0	35.0
	Joe Taormina	04/17/05	19:00	2.0	0.0	40.0	42.0
	Joe Taormina	04/17/05	22:30	1.0	0.0	19.0	20.0
	Stu Weist	04/21/05	20:00	3.0	0.0	20.0	23.0
	Stu Weist	04/22/05	18:00	0.5	0.0	23.0	23.5
	Stu Weist	04/23/05	21:00	0.5	0.0	20.0	20.5
	Stu Weist	04/25/05	19:00	0.0	17.0	0.0	17.0
SVE-2 D	Joe Taormina	04/17/05	20:50	5.0	0.0	10.0	15.0
	Joe Taormina	04/17/05	22:00	4.0	0.0	20.0	24.0
	Joe Taormina	04/18/05	8:00	20.0	0.0	50.0	70.0
	Jason Alcaraz	04/18/05	9:00	5.0	0.0	5.0	10.0
	Jason Alcaraz	04/18/05	12:49	5.0	0.0	12.0	17.0
	Tony Nickleson	04/18/05	19:00	5.0	0.0	20.0	25.0
	Tony Nickleson	04/18/05	20:00	5.0	0.0	10.0	15.0
	Tony Nickleson	04/18/05	22:00	7.0	0.0	23.0	30.0
	Chris Repp	04/19/05	0:00	3.0	0.0	12.0	15.0
	Chris Repp	04/19/05	3:30	5.0	0.0	5.0	10.0
	Jason Alcaraz	04/19/05	8:09	8.0	0.0	23.0	31.0
	Jason Alcaraz	04/19/05	14:20	7.0	0.0	10.0	17.0
	Jason Alcaraz	04/20/05	11:55	11.0	42.0	0.0	53.0
	Stu Weist	04/20/05	15:00	5.0	30.0	0.0	35.0
	Stu Weist	04/21/05	17:00	10.0	33.0	0.0	43.0
	Stu Weist	04/22/05	17:30	11.0	45.0	0.0	56.0
	Stu Weist	04/23/05	20:00	12.0	49.0	0.0	61.0
	Ray Newberry	04/24/05	7:30	53.0	0.0	50.0	103.0
	Jason Alcaraz	04/25/05	17:00	5.0	0.0	43.0	48.0
	Jason Alcaraz	04/26/05	8:45	25.0	15.0	0.0	40.0
	Jason Alcaraz	04/26/05	11:21	5.0	32.0	0.0	37.0
	Jason Alcaraz	04/26/05	12:00	4.0	0.0	0.0	4.0
	Jason Alcaraz	06/15/05	8:00	0.2	0.0	3.8	4.0

Vacuum Truck Liquid Phase Hydrocarbon Recovery Data
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

Well ID	Technician	Date	Time	Estimated Volume of LPH Removed Gallons	Estimated Volume of Mixed Groundwater and LPH Removed Gallons	Estimated Volume of Groundwater Removed Gallons	Estimated Total Volume of Groundwater and LPH Removed Gallons
UST annular	Stu Weist	04/20/05	12:00	20.0	0.0	0.0	20.0
	Stu Weist	04/20/05	17:00	15.0	0.0	0.0	15.0
SVE-1	Stu Weist	04/21/05	18:00	3.0	0.0	20.0	23.0
	Stu Weist	04/22/05	19:00	0.0	0.0	0.5	0.5
	Stu Weist	04/23/05	20:30	0.0	0.0	5.0	5.0
	Stu Weist	04/25/05	18:00	0.0	0.0	2.0	2.0
SVE-5	Stu Weist	04/25/05	20:00	0.0	7.0	0.0	7.0
	Total to date			**269.2**	**520.0**	**1,377.3**	**2,166.5**

note:

VE-4 is existing vapor well located SE corner of UST compound
screened 25 - 35 and 40 - 50 (Total depth is now ~45 fbg)

RW-1 installed4/16/05 is 6" groundwater recovery well
screened 40 - 65 fbg

SVE-2 D installed 4/17/05 is 2" dual nested deep (D) SVE well
screened 18 - 28 and 35 - 45 fbg

SVE-1 D installed 4/21/05 is 4" SVE well
screened 29 - 39 fbg with a 5 foot blank casing LPH trap from 39 - 44 fbg

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/16/05	22:15	0.00	0.00	4.0	54.4	298	132	18,480	76.8	0.0	0.0
	22:30	0.25	0.25	4.0	54.4	290	129	18,060	73.0	18.7	3.0
	22:45	0.25	0.50	3.0	40.8	294	120	16,800	68.9	36.5	5.9
	23:00	0.25	0.75	4.0	54.4	273	132	18,480	70.4	53.9	8.7
04/17/05	0:00	1.00	1.75	6.0	81.7	293	118	16,520	67.5	122.8	19.8
	1:00	1.00	2.75	4.0	54.4	293	78	10,920	44.6	178.9	28.9
	2:00	1.00	3.75	4.5	61.2	291	90	12,600	51.1	226.8	36.6
	3:00	1.00	4.75	4.5	61.2	289	89	12,460	50.2	277.5	44.8
	4:00	1.00	5.75	4.5	61.2	292	88	12,320	50.2	327.7	52.8
	5:00	1.00	6.75	4.5	61.2	292	87	12,180	49.6	377.5	60.9
	6:00	1.00	7.75	4.5	61.2	291	87	12,180	49.4	427.1	68.9
	7:00	1.00	8.75	4.5	61.2	288	86	12,040	48.4	476.0	76.8
	8:00	1.00	9.75	4.6	62.6	291	86	12,040	48.9	524.6	84.6
	9:00	1.00	10.75	4.0	54.4	287	73	10,220	40.9	569.5	91.9
	10:00	1.00	11.75	6.8	92.5	286	99	13,860	55.3	617.6	99.6
	11:00	1.00	12.75	4.3	58.0	297	97	13,580	56.3	673.3	108.6
	12:00	1.00	13.75	4.0	54.0	296	128	17,920	74.0	738.5	119.1
	13:00	1.00	14.75	3.5	48.0	298	130	18,200	75.6	813.3	131.2
	14:00	1.00	15.75	3.1	42.0	297	103	14,420	59.7	881.0	142.1
	15:00	1.00	16.75	2.9	40.0	298	102	14,280	59.4	940.5	151.7
	16:00	1.00	17.75	2.9	40.0	297	100	14,000	58.0	999.2	161.2
	17:00	1.00	18.75	3.0	41.0	298	104	14,560	60.5	1,058.4	170.7
	18:00	1.00	19.75	2.8	37.7	296	103	14,420	59.5	1,118.5	180.4
	19:00	1.00	20.75	2.7	36.5	297	104	14,560	60.3	1,178.4	190.1
	20:00	1.00	21.75	2.6	35.8	299	113	15,820	66.0	1,241.5	200.2
	21:00	1.00	22.75	2.7	36.5	297	114	15,960	66.1	1,307.6	210.9
	22:00	1.00	23.75	2.7	36.6	298	110	15,400	64.0	1,372.6	221.4
	23:00	1.00	24.75	3.2	43.1	288	110	15,400	61.9	1,435.6	231.5

Hydrocarbon Mass Removed
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DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
04/18/05	0:00	1.00	25.75	5.1	70.0	268	110	15,400	57.6	1,495.3	241.2
04/18/05	1:00	1.00	26.75	3.1	42.0	287	109	15,260	61.1	1,554.6	250.7
	2:00	1.00	27.75	2.7	37.0	294	100	14,000	57.4	1,613.9	260.3
	3:00	1.00	28.75	2.7	37.0	293	100	14,000	57.2	1,671.2	269.5
	4:00	1.00	29.75	2.2	30.0	288	101	14,140	56.8	1,728.2	278.7
	5:00	1.00	30.75	2.4	32.0	281	101	14,140	55.4	1,784.3	287.8
	6:00	1.00	31.75	2.4	32.0	285	103	14,420	57.3	1,840.7	296.9
	7:00	1.00	32.75	2.4	32.1	291	105	14,700	59.7	1,899.1	306.3
	8:00	1.00	33.75	2.4	33.3	293	106	14,840	60.6	1,959.3	316.0
	9:00	1.00	34.75	2.9	39.8	292	102	14,280	58.2	2,018.7	325.6
	10:00	1.00	35.75	2.9	39.5	298	107	14,980	62.3	2,078.9	335.3
	11:00	1.00	36.75	2.9	40.1	293	105	14,700	60.1	2,140.1	345.2
	12:00	1.00	37.75	2.5	34.2	291	107	14,980	60.8	2,200.5	354.9
	13:00	1.00	38.75	2.9	39.5	288	106	14,840	59.6	2,260.7	364.6
	14:00	1.00	39.75	3.0	41.3	289	110	15,400	62.1	2,321.6	374.4
	15:00	1.00	40.75	3.4	45.6	291	111	15,540	63.1	2,384.1	384.5
	16:00	1.00	41.75	1.3	18.2	298	100	14,000	58.2	2,444.8	394.3
	17:00	1.00	42.75	2.4	33.1	281	106	14,840	58.2	2,503.0	403.7
	18:00	1.00	43.75	2.8	38.0	264	100	14,000	51.6	2,557.8	412.6
	19:00	1.00	44.75	0.4	6.0	255	100	14,000	49.8	2,608.5	420.7
	20:00	1.00	45.75	2.7	37.0	265	101	14,140	52.3	2,659.5	429.0
	21:00	1.00	46.75	0.7	10.0	263	101	14,140	51.9	2,711.6	437.4
	22:00	1.00	47.75	1.1	15.3	297	110	15,400	63.8	2,769.4	446.7
	23:00	1.00	48.75	2.8	38.0	293	106	14,840	60.6	2,831.6	456.7
04/19/05	0:00	1.00	49.75	3.5	47.0	296	108	15,120	62.4	2,893.2	466.6
	1:00	1.00	50.75	2.5	34.0	292	106	14,840	60.4	2,954.6	476.5
	2:00	1.00	51.75	3.5	48.0	291	108	15,120	61.4	3,015.5	486.4

Hydrocarbon Mass Removed
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	3:00	1.00	52.75	1.6	22.0	295	102	14,280	58.8	3,075.6	496.1
	4:00	1.00	53.75	1.5	21.0	295	103	14,420	59.3	3,134.6	505.6
04/19/05	5:00	1.00	54.75	1.5	20.0	295	104	14,560	59.9	3,194.2	515.2
	6:00	1.00	55.75	1.5	21.0	297	104	14,560	60.3	3,254.3	524.9
	11:00	4.00	59.75	3.4	46.5	278	86	12,040	46.7	3,468.3	559.4
	12:00	1.00	60.75	3.4	45.7	279	84	11,760	45.8	3,514.6	566.9
	13:00	1.00	61.75	3.4	46.4	281	83	11,620	45.5	3,560.2	574.2
	14:00	1.00	62.75	1.8	24.0	286	86	12,040	48.0	3,607.0	581.8
	15:00	1.00	63.75	2.4	33.1	293	86	12,040	49.2	3,655.6	589.6
	16:00	1.00	64.75	2.6	35.4	294	89	12,460	51.1	3,705.8	597.7
	17:00	1.00	65.75	2.9	39.2	290	87	12,180	49.3	3,755.9	605.8
	18:00	1.00	66.75	3.2	43.7	293	84	11,760	48.1	3,804.6	613.6
	19:00	1.00	67.75	3.3	44.7	292	83	11,620	47.3	3,852.3	621.3
	20:00	1.00	68.75	3.4	46.6	289	85	11,900	48.0	3,899.9	629.0
	21:00	1.00	69.75	3.7	49.7	291	87	12,180	49.4	3,948.6	636.9
	22:00	1.00	70.75	3.7	51.0	292	84	11,760	47.9	3,997.3	644.7
	23:00	1.00	71.75	3.7	50.0	293	84	11,760	48.1	4,045.3	652.5
04/20/05	0:00	1.00	72.75	3.8	52.0	292	84	11,760	47.9	4,093.3	660.2
	1:00	1.00	73.75	3.9	53.0	291	84	11,760	47.7	4,141.1	667.9
	2:00	1.00	74.75	3.9	53.0	292	84	11,760	47.9	4,188.9	675.6
	3:00	1.00	75.75	4.0	54.0	297	84	11,760	48.7	4,237.2	683.4
	4:00	1.00	76.75	4.1	56.0	296	84	11,760	48.6	4,285.8	691.3
	5:00	1.00	77.75	4.2	57.0	297	84	11,760	48.7	4,334.5	699.1
	6:00	1.00	78.75	4.2	57.0	296	84	11,760	48.6	4,383.1	707.0
	7:00	1.00	79.75	5.5	75.3	273	84	11,760	44.8	4,429.8	714.5
	8:00	1.00	80.75	5.5	75.2	271	87	12,180	46.0	4,475.2	721.8
	18:00	1.00	81.75	2.4	33.0	297	87	12,180	50.5	4,523.4	729.6

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	19:00	1.00	82.75	2.3	31.0	297	85	11,900	49.3	4,573.3	737.6
	20:00	1.00	83.75	2.2	30.0	296	85	11,900	49.1	4,622.5	745.6
	21:00	1.00	84.75	2.2	30.0	296	85	11,900	49.1	4,671.6	753.5
04/20/05	22:00	1.00	85.75	2.1	29.0	298	85	11,900	49.5	4,720.9	761.4
	23:00	1.00	86.75	2.1	29.0	298	85	11,900	49.5	4,770.4	769.4
04/21/05	0:00	1.00	87.75	2.2	30.0	298	85	11,900	49.5	4,819.9	777.4
	1:00	1.00	88.75	2.2	30.0	298	85	11,900	49.5	4,869.3	785.4
	2:00	1.00	89.75	2.1	28.0	297	85	11,900	49.3	4,918.7	793.3
	3:00	1.00	90.75	2.2	30.0	297	85	11,900	49.3	4,968.0	801.3
	4:00	1.00	91.75	2.3	31.0	296	85	11,900	49.1	5,017.2	809.2
	5:00	1.00	92.75	2.4	32.0	296	85	11,900	49.1	5,066.3	817.1
	6:00	1.00	93.75	2.5	34.0	295	85	11,900	49.0	5,115.4	825.1
	7:00	1.00	94.75	2.3	31.0	297	85	11,900	49.3	5,164.5	833.0
	8:00	1.00	95.75	2.6	35.0	292	85	11,900	48.5	5,213.4	840.9
	9:00	1.00	96.75	2.7	37.0	289	86	12,040	48.5	5,261.9	848.7
	10:00	1.00	97.75	2.6	36.0	291	84	11,760	47.7	5,310.0	856.5
	11:00	1.00	98.75	2.6	35.0	292	85	11,900	48.5	5,358.1	864.2
	12:00	1.00	99.75	2.6	35.0	290	84	11,760	47.6	5,406.1	872.0
	13:00	1.00	100.75	2.9	39.0	286	85	11,900	47.5	5,453.6	879.6
	14:00	1.00	101.75	2.9	40.0	284	83	11,620	46.0	5,500.4	887.2
	15:00	1.00	102.75	3.0	41.0	286	80	11,200	44.7	5,545.7	894.5
	21:00	1.00	103.75	2.7	37.0	295	86	12,040	49.5	5,592.9	902.1
	22:00	1.00	104.75	2.5	34.0	299	77	10,780	45.0	5,640.1	909.7
	23:00	1.00	105.75	2.5	34.0	299	75	10,500	43.8	5,684.5	916.9
04/22/05	0:00	1.00	106.75	2.6	36.0	299	75	10,500	43.8	5,728.3	923.9
	1:00	1.00	107.75	2.6	35.0	299	75	10,500	43.8	5,772.1	931.0
	2:00	1.00	108.75	2.6	36.0	299	75	10,500	43.8	5,815.8	938.0

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	3:00	1.00	109.75	2.6	36.0	299	75	10,500	43.8	5,859.6	945.1
	4:00	1.00	110.75	2.6	36.0	299	75	10,500	43.8	5,903.4	952.2
	5:00	1.00	111.75	2.7	37.0	299	75	10,500	43.8	5,947.2	959.2
	6:00	1.00	112.75	2.7	37.0	299	75	10,500	43.8	5,991.0	966.3
04/22/05	7:00	1.00	113.75	2.8	38.0	299	75	10,500	43.8	6,034.8	973.4
	8:00	1.00	114.75	2.8	38.0	299	75	10,500	43.8	6,078.6	980.4
	9:00	1.00	115.75	2.1	28.0	299	75	10,500	43.8	6,122.4	987.5
	10:00	1.00	116.75	2.6	35.0	298	75	10,500	43.6	6,166.1	994.5
	11:00	1.00	117.75	2.5	34.0	299	74	10,360	43.2	6,209.5	1,001.5
	12:00	1.00	118.75	2.5	34.0	299	75	10,500	43.8	6,253.0	1,008.5
	13:00	1.00	119.75	2.8	38.0	292	84	11,760	47.9	6,298.8	1,015.9
	14:00	1.00	120.75	2.8	38.0	293	85	11,900	48.6	6,347.1	1,023.7
	15:00	1.00	121.75	2.8	38.0	292	84	11,760	47.9	6,395.4	1,031.5
	16:00	1.00	122.75	2.8	38.0	290	84	11,760	47.6	6,443.1	1,039.2
	21:00	1.00	123.75	2.8	38.0	299	78	10,920	45.5	6,489.7	1,046.7
	22:00	1.00	124.75	3.1	42.0	295	75	10,500	43.2	6,534.0	1,053.9
	23:00	1.00	125.75	3.1	42.0	295	75	10,500	43.2	6,577.2	1,060.8
4/23/2005	0:00	1.00	126.75	3.7	50.0	295	87	12,180	50.1	6,623.9	1,068.4
	1:00	1.00	127.75	3.6	49.0	295	87	12,180	50.1	6,674.0	1,076.5
	2:00	1.00	128.75	3.5	48.0	295	87	12,180	50.1	6,724.1	1,084.5
	3:00	1.00	129.75	3.5	48.0	295	87	12,180	50.1	6,774.2	1,092.6
	4:00	1.00	130.75	3.6	49.0	295	87	12,180	50.1	6,824.3	1,100.7
	5:00	1.00	131.75	3.6	49.0	295	87	12,180	50.1	6,874.5	1,108.8
	6:00	1.00	132.75	3.7	50.0	295	87	12,180	50.1	6,924.6	1,116.9
	7:00	1.00	133.75	3.7	51.0	295	87	12,180	50.1	6,974.7	1,125.0
	8:00	1.00	134.75	3.7	50.0	295	87	12,180	50.1	7,024.8	1,133.0
	9:00	1.00	135.75	3.7	50.0	295	87	12,180	50.1	7,074.9	1,141.1

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	10:00	1.00	136.75	3.7	51.0	295	87	12,180	50.1	7,125.0	1,149.2
	11:00	1.00	137.75	3.7	51.0	295	87	12,180	50.1	7,175.2	1,157.3
	12:00	1.00	138.75	3.7	51.0	286	85	11,900	47.5	7,223.9	1,165.2
	13:00	1.00	139.75	3.7	50.0	285	86	12,040	47.9	7,271.6	1,172.8
	14:00	1.00	140.75	3.5	48.0	294	76	10,640	43.6	7,317.4	1,180.2
4/23/2005	15:00	1.00	141.75	3.0	41.0	293	74	10,360	42.3	7,360.3	1,187.2
	16:00	1.00	142.75	3.0	41.0	294	72	10,080	41.3	7,402.2	1,193.9
	17:00	1.00	143.75	3.1	42.0	298	75	10,500	43.6	7,444.7	1,200.8
	21:00	1.00	144.75	3.2	43.0	299	79	11,060	46.1	7,489.6	1,208.0
	22:00	1.00	145.75	3.5	47.0	299	83	11,620	48.5	7,536.8	1,215.6
	23:00	1.00	146.75	3.5	48.0	299	83	11,620	48.5	7,585.3	1,223.4
4/24/2005	0:00	1.00	147.75	3.5	47.0	298	83	11,620	48.3	7,633.7	1,231.2
	1:00	1.00	148.75	3.5	48.0	298	83	11,620	48.3	7,682.0	1,239.0
	2:00	1.00	149.75	3.7	50.0	298	83	11,620	48.3	7,730.3	1,246.8
	3:00	1.00	150.75	3.7	51.0	297	83	11,620	48.1	7,778.5	1,254.6
	4:00	1.00	151.75	3.7	51.0	296	83	11,620	48.0	7,826.5	1,262.3
	5:00	1.00	152.75	3.8	52.0	296	83	11,620	48.0	7,874.5	1,270.1
	6:00	1.00	153.75	3.8	52.0	296	83	11,620	48.0	7,922.5	1,277.8
	7:00	1.00	154.75	3.8	52.0	288	83	11,620	46.7	7,969.8	1,285.5
	7:42	0.70	155.45	3.8	52.0	297	73	10,220	42.3	8,001.0	1,290.5
	7:45	0.05	155.50	3.8	52.0	300	88	12,320	51.6	8,003.3	1,290.9
	8:00	0.25	155.75	2.9	40.0	300	89	12,460	52.1	8,016.3	1,292.9
	9:00	1.00	156.75	2.6	35.3	299	64	8,960	37.4	8,061.0	1,300.2
	9:10	0.17	156.92	2.8	38.2	287	68	9,520	38.1	8,067.4	1,301.2
	9:20	0.17	157.09	2.8	38.2	287	74	10,360	41.5	8,074.2	1,302.3
	9:30	0.17	157.26	3.5	48.0	273	98	13,720	52.2	8,082.2	1,303.6
	10:00	0.50	157.76	3.3	45.4	287	98	13,720	54.9	8,109.0	1,307.9

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM Inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	11:00	1.00	158.76	3.3	45.4	288	100	14,000	56.2	8,164.5	1,316.9
	11:05	0.08	158.84	3.3	45.0	282	99	13,860	54.5	8,169.0	1,317.6
	12:05	1.00	159.84	3.3	44.7	280	100	14,000	54.7	8,223.6	1,326.4
	12:50	0.75	160.59	3.2	43.4	282	100	14,000	55.1	8,264.7	1,333.0
	13:30	0.67	161.26	2.9	40.0	286	95	13,300	53.1	8,300.9	1,338.9
	13:40	0.17	161.43	3.0	40.5	287	91	12,740	51.0	8,309.8	1,340.3
4/24/2005	14:00	0.33	161.76	3.0	40.8	288	92	12,880	51.7	8,326.7	1,343.0
	15:00	1.00	162.76	3.0	41.4	284	88	12,320	48.8	8,377.0	1,351.1
	16:05	1.08	163.84	3.1	41.7	288	83	11,620	46.7	8,428.6	1,359.4
	17:00	0.92	164.76	3.1	41.7	283	85	11,900	47.0	8,471.6	1,366.4
	18:00	1.00	165.76	3.4	46.1	283	82	11,480	45.3	8,517.8	1,373.8
	19:00	1.00	166.76	3.4	46.3	282	78	10,920	43.0	8,561.9	1,381.0
	20:00	1.00	167.76	3.4	46.3	285	77	10,780	42.9	8,604.8	1,387.9
4/25/2005	0:00	4.00	171.76	3.3	45.1	285	77	10,780	42.9	8,776.2	1,415.5
	4:00	4.00	175.76	3.5	48.0	285	83	11,620	46.2	8,954.3	1,444.2
	7:00	3.00	178.76	3.4	46.0	285	82	11,480	45.6	9,092.1	1,466.5
	12:00	5.00	183.76	3.5	47.0	283	83	11,620	45.9	9,320.8	1,503.4
	16:00	4.00	187.76	3.4	46.0	284	81	11,340	44.9	9,502.4	1,532.6
4/26/2005	23:00	0.67	188.43	0.0	NM	937	70	9,800	128.1	9,560.3	1,542.0
4/27/2005	2:00	3.00	191.43	0.0	NM	937	67	9,380	122.6	9,936.3	1,602.6
	3:00	1.00	192.43	0.0	NM	937	67	9,380	122.6	10,058.9	1,622.4
	4:00	1.00	193.43	0.0	NM	937	67	9,380	122.6	10,181.5	1,642.2
	5:00	1.00	194.43	0.0	NM	937	67	9,380	122.6	10,304.1	1,661.9
	6:00	1.00	195.43	0.0	NM	937	66	9,240	120.8	10,425.8	1,681.6
	7:00	1.00	196.43	0.0	NM	937	65	9,100	118.9	10,545.6	1,700.9
	7:30	0.50	196.93	4.5	61.2	937	60	8,400	109.8	10,602.8	1,710.1
	7:42	0.20	197.13	4.75	64.6	950	69	9,660	128.0	10,626.6	1,714.0

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
	8:00	0.30	197.43	4.6	62.6	942	69	9,660	126.9	10,664.8	1,720.1
	9:00	1.00	198.43	4.5	61.2	937	68	9,520	124.4	10,790.5	1,740.4
	9:50	0.83	199.26	4.55	61.9	937	68	9,520	124.4	10,893.7	1,757.1
	11:00	1.17	200.43	4.6	62.6	937	67	9,380	122.6	11,038.2	1,780.4
	12:00	1.00	201.43	4.6	62.6	941	67	9,380	123.1	11,161.1	1,800.2
	13:00	1.00	202.43	4.5	61.2	937	65	9,100	118.9	11,282.1	1,819.7
	14:00	1.00	203.43	4.5	61.2	937	66	9,240	120.8	11,401.9	1,839.0
4/27/2005	15:00	1.00	204.43	4.5	61.2	937	65	9,100	118.9	11,521.8	1,858.4
	16:00	1.00	205.43	4.6	62.6	954	70	9,800	130.4	11,646.4	1,878.5
	17:00	1.00	206.43	4.7	64.0	988	71	9,940	137.0	11,780.1	1,900.0
	18:00	1.00	207.43	4.7	64.0	988	71	9,940	137.0	11,917.1	1,922.1
	19:00	1.00	208.43	5.2	70.8	980	73	10,220	139.7	12,055.4	1,944.4
	19:15	0.25	208.68	5.3	72.1	977	71	9,940	135.5	12,089.8	1,950.0
4/28/2005	18:30	23.25	231.93	2.9	40.0	980	66	9,240	126.3	15,132.7	2,440.8
4/29/2005	8:45	14.25	246.18	3.2	43.0	980	57	7,980	109.1	16,809.7	2,711.2
	11:15	2.50	248.68	3.6	49.0	985	64	8,960	123.1	17,099.9	2,758.1
4/30/2005	7:00	19.75	268.43	4.0	54.4	985	54	7,560	103.9	19,341.2	3,119.5
	8:20	1.33	269.76	4.0	54.4	977	83	11,620	158.3	19,515.5	3,147.7
5/1/2005	7:10	22.83	292.59	4.8	65.0	979	70	9,800	133.8	22,850.6	3,685.6
	8:15	1.08	293.67	5.3	72.0	980	83	11,620	158.8	23,008.6	3,711.1
5/2/2005	7:00	22.75	316.42	5.3	72.0	985	63	8,820	121.2	26,193.6	4,224.8
	11:30	4.50	320.92	6.0	81.0	980	68	9,520	130.1	26,759.1	4,316.0
	12:30	1.00	321.92	6.0	81.0	984	66	9,240	126.8	26,887.5	4,336.7
5/3/2005	7:15	18.75	340.67	6.0	82.0	976	54	7,560	102.9	29,041.2	4,684.1
	10:00	2.75	343.42	6.7	91.0	978	74	10,360	141.3	29,377.1	4,738.2
5/4/2005	6:30	20.50	363.92	7.0	95.0	988	53	7,420	102.2	31,873.6	5,140.9
	12:15	1.00	364.92	7.9	108.0	976	76	10,640	144.8	31,997.2	5,160.8

Hydrocarbon Mass Removed
ARCO Facility 01946
332 Pico Boulevard
Santa Monica, California

DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
5/5/2005	6:30	18.25	383.17	8.0	109.0	976	50	7,000	95.3	34,188.4	5,514.3
	8:10	1.67	384.84	9.3	126.0	975	61	8,540	116.1	34,364.9	5,542.7
	8:45	0.58	385.42	9.3	126.0	976	60	8,400	114.3	34,431.8	5,553.5
5/6/2005	7:45	14.25	399.67	8.8	120.0	981	62	8,680	118.8	36,092.7	5,821.4
	8:45	1.00	400.67	7.9	107.0	851	51	7,140	84.7	36,194.5	5,837.8
5/8/2005	7:00	46.25	446.92	9.3	127.0	976	42	5,880	80.0	40,005.3	6,452.5
	8:00	1.00	447.92	9.3	127.0	976	44	6,160	83.9	40,087.2	6,465.7
5/9/2005	8:15	24.25	472.17	9.3	127.0	976	35	4,900	66.7	41,912.8	6,760.1
	11:30	3.25	475.42	9.1	124.0	975	39	5,460	74.3	42,141.8	6,797.1
5/10/2005	7:15	19.75	495.17	9.3	127.0	976	34	4,760	64.8	43,514.9	7,018.5
	11:55	4.67	499.84	8.7	118.0	978	37	5,180	70.7	43,831.2	7,069.5
5/11/2005	6:45	18.83	518.67	9.1	124.0	976	33	4,620	62.9	45,088.6	7,272.4
	8:00	1.25	519.92	9.1	124.0	976	34	4,760	64.8	45,168.4	7,285.2
5/12/2005	7:45	23.75	543.67	9.1	124.0	976	31	4,340	59.1	46,639.4	7,522.5
	9:45	2.00	545.67	9.0	123.0	976	31	4,340	59.1	46,757.6	7,541.5
5/13/2005	19:20	33.58	579.25	9.2	125.0	976	30	4,200	57.2	48,709.5	7,856.4
5/18/2005	10:15	2.25	581.50	7.5	102.0	264	98	13,720	50.5	48,830.7	7,875.9
5/19/2005	7:30	21.25	602.75	7.4	101.0	255	57	7,980	28.4	49,669.0	8,011.1
5/23/2005	7:30	96.00	698.75	4.1	56.0	288	83	11,620	46.7	53,271.8	8,592.2
5/23/2005	8:30	1.00	699.75	4.6	63.0	297	77	10,780	44.7	53,317.5	8,599.6
5/25/2005	7:00	46.50	746.25	4.9	67.0	291	59	8,260	33.5	54,110.9	8,727.6
5/25/2005	7:30	0.50	746.75	5.0	68.0	299	60	8,400	35.0	54,128.0	8,730.3
5/27/2005	12:00	52.50	799.25	5.4	73.0	298	54	7,560	31.4	55,872.4	9,011.7
5/31/2005	9:30	2.00	801.25	5.2	71.0	298	66	9,240	38.4	55,942.2	9,022.9
6/2/2005	7:30	48.00	849.25	5.0	68.0	296	51	7,140	29.5	57,571.4	9,285.7
6/2/2005	8:00	0.50	849.75	4.9	67.0	297	52	7,280	30.2	57,586.3	9,288.1
6/3/2005	13:00	29.00	878.75	4.7	64.0	298	65	9,100	37.8	58,572.1	9,447.1

Hydrocarbon Mass Removed
ARCO Facility 01946
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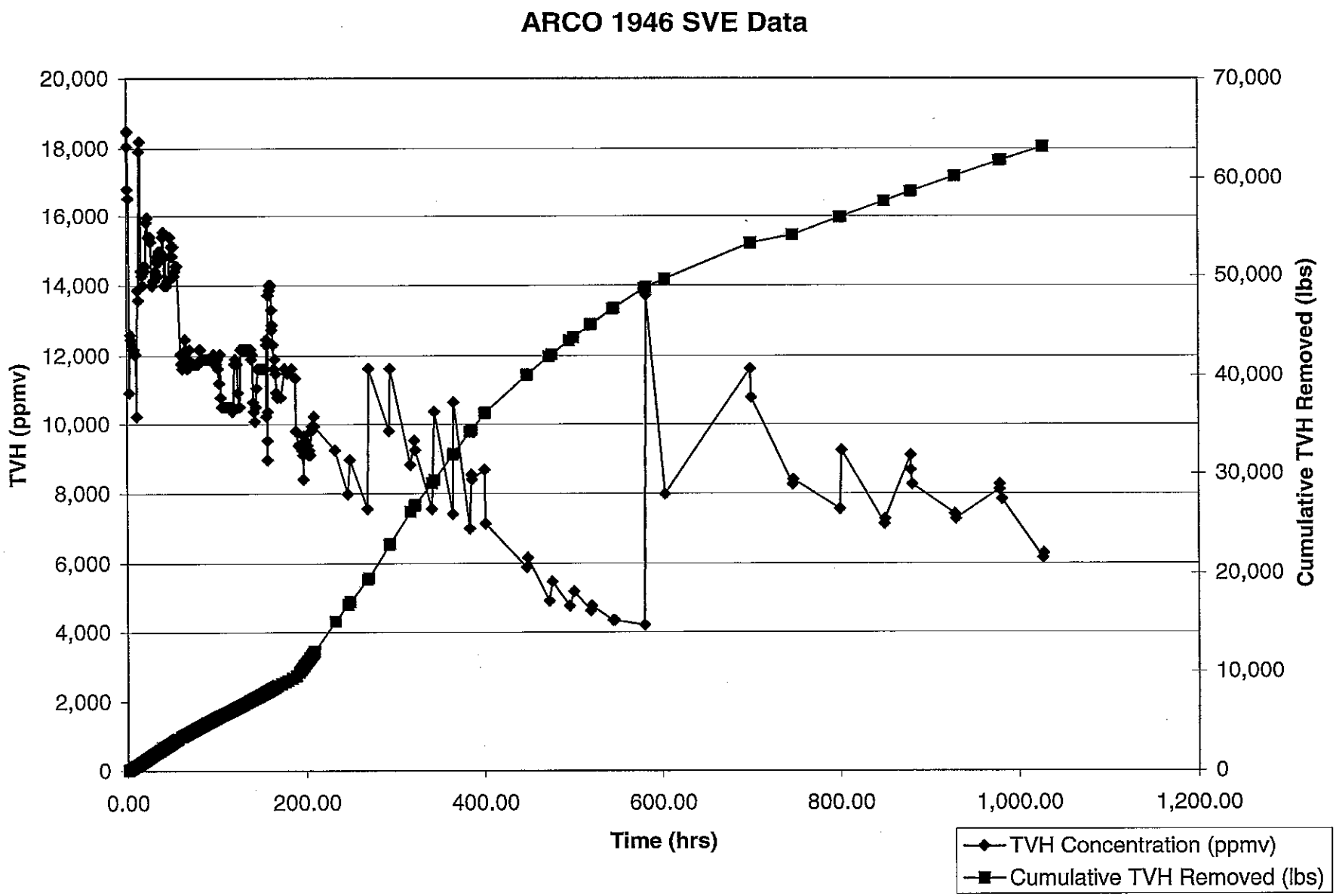
DATE	TIME	OPERATING (hrs)	CUMULATIVE OPERATING (hrs)	TOTAL VACUUM inches Hg	TOTAL VACUUM (inches water)	FLOW RATE (acfm)	LOWER EXPLOSIVE LIMIT (% LEL)	INFLUENT TVH CONC. (ppmv)	TVH MASS REMOVAL RATE (lbs/hr)	CUMULATIVE TVH MASS REMOVED (lbs)	CUMULATIVE TVH MASS REMOVED (gallons)
6/6/2005	6:30	0.00	878.75	5.1	69.0	299	62	8,680	36.2	58,572.1	9,447.1
6/6/2005	8:00	1.50	880.25	5.0	68.0	298	59	8,260	34.3	58,625.0	9,455.6
6/8/2005	8:00	48.00	928.25	5.1	69.0	299	53	7,420	30.9	60,191.6	9,708.3
6/8/2005	9:00	1.00	929.25	5.0	68.0	298	52	7,280	30.3	60,222.2	9,713.3
6/10/2005	10:00	49.00	978.25	5.1	69.0	298	58	8,120	33.8	61,790.4	9,966.2
6/13/2005	6:45	0.00	978.25	4.7	64.0	299	59	8,260	34.4	61,790.4	9,966.2
6/13/2005	9:00	2.3	980.50	4.6	62.0	299	56	7,840	32.7	61,865.9	9,978.4
6/15/2005	7:00	46.0	1,026.50	4.9	67.0	298	44	6,160	25.6	63,206.8	10,194.6
6/15/2005	8:00	1.0	1,027.50	5.0	68.0	299	45	6,300	26.3	63,232.7	10,198.8

Notes:

Hg = Mercury
acfm = actual cubic feet per minute @ 100 degrees F and 1 atm
TVH = Total volatile hydrocarbons
NM = Not measured

CONC. = Concentration
ppmv = parts per million by volume
lbs = Pounds

1. Mass Removal Rate Calculation= Flowrate (acfm@100F & 1 atm) * TVH Concentration (ppmv)* (1/408 ft^3/lb*mol)*(60 min/hour)* TVH Molecular Weight 95 (lbs/lb*mol)*(1/1x10^6) [=] TVH lbs/hr
2. 1 inch Hg = 13.61 inches water
3. 100% lower explosive limit = 14,000 ppmv TVH
4. System was shut down for groundwater measurements on 5/4/05 for approximately 4.75 hours.
5. System was shut down from 11pm 5/5/05 until 0745 am 5/6/05 (8.75 hours)
6. 5/13/05 data taken fromVET's Table 1 Summary of Vapor Extracted and Treated Hydrocarbons
7. System was shut down and replaced with a new system 5/13/05 through 5/19/05.
8. System was shut down 5/27/05 through 5/31/05.
9. System was shut down 6/3/05 for the weekend.
10. System was shut down 6/10/05 for the weekend.


ARCO 1946 SVE Data
TVH (ppmv)
Cumulative TVH Removed (lbs)
Time (hrs)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
0.00
200.00
400.00
600.00
800.00
1,000.00
1,200.00
TVH Concentration (ppmv)
Cumulative TVH Removed (lbs)

APPENDIX C

UNDERGROUND STORAGE TANK

MONITORING PLAN – PAGE 1

TYPE OF ACTION ☐ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION M01.

PLAN TYPE (Check one item only) ☐ MONITORING IS IDENTICAL FOR ALL USTs AT THIS FACILITY. M02.
☐ THIS PLAN COVERS ONLY THE FOLLOWING UST SYSTEM(S): _____

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)*

BUSINESS NAME (Same as FACILITY NAME) M03.

BUSINESS SITE ADDRESS M04. CITY M05.

II. EQUIPMENT TESTING AND PREVENTIVE MAINTENANCE

State law requires that testing, preventive maintenance, and calibration of monitoring equipment (e.g., sensors, probes, line leak detectors, etc.) be performed at the frequency specified by the equipment manufacturers' instructions, or annually, whichever is more frequent, and that such work must be performed by qualified personnel.

MONITORING EQUIPMENT IS SERVICED ☐ 1. ANNUALLY M06. ☐ 99. OTHER (Specify): _____ M07.

III. MONITORING LOCATIONS

This monitoring plan must include a Site Plan showing the general tank and piping layouts and the locations where monitoring is performed (i.e., location of each sensor, line leak detector, monitoring system control panel, etc.). If you already have a diagram (e.g., current UST Monitoring Site Plan from a Monitoring System Certification form, Hazardous Materials Business Plan map, etc.) which shows all required information, include it with this plan.

IV. TANK MONITORING

MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S): (Check all that apply) M10.

☐ 1. CONTINUOUS ELECTRONIC MONITORING OF TANK ANNULAR (INTERSTITIAL) SPACE(S) OR SECONDARY CONTAINMENT VAULT(S)

SECONDARY CONTAINMENT IS: ☐ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. VACUUM M11.

PANEL MANUFACTURER: _____ M12. MODEL #: _____ M13.

LEAK SENSOR MANUFACTURER: _____ M14. MODEL #(S): _____ M15.

☐ 2. AUTOMATIC TANK GAUGING (ATG) SYSTEM USED TO MONITOR SINGLE WALL TANK(S)

PANEL MANUFACTURER: _____ M16. MODEL #: _____ M17.

IN-TANK PROBE MANUFACTURER: _____ M18. MODEL #(S): _____ M19.

LEAK TEST FREQUENCY: ☐ a. CONTINUOUS ☐ b. DAILY/NIGHTLY ☐ c. WEEKLY M20.
☐ d. MONTHLY ☐ e. OTHER (Specify): _____ M21.

PROGRAMMED TESTS: ☐ a. 0.1 g.p.h. ☐ b. 0.2 g.p.h. ☐ c. OTHER (Specify): _____ M22. M23.

☐ 3. INVENTORY RECONCILIATION ☐ a. MANUAL PER 23 CCR §2646 ☐ b. STATISTICAL PER 23 CCR §2646.1 M24.

☐ 4. WEEKLY MANUAL TANK GAUGING (MTG) PER 23 CCR §2645

TESTING PERIOD: ☐ a. 36 HOURS ☐ b. 60 HOURS M25.

☐ 5. INTEGRITY TESTING PER 23 CCR §2643.1

TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. BIENNIALLY ☐ c. OTHER (Specify): _____ M26. M27.

☐ 6. VISUAL MONITORING: ☐ a. DAILY ☐ b. WEEKLY

☐ 99. OTHER (Specify): _____ M28.

V. PIPE MONITORING

MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply) M30.

☐ 1. CONTINUOUS MONITORING OF PIPING SUMP(S)/TRENCH(ES) AND OTHER SECONDARY CONTAINMENT

SECONDARY CONTAINMENT IS: ☐ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. VACUUM M31.

PANEL MANUFACTURER: _____ M32. MODEL #: _____ M33.

LEAK SENSOR MANUFACTURER: _____ M34. MODEL #(S): _____ M35.

WILL A PIPING LEAK ALARM TRIGGER AUTOMATIC PUMP (i.e., TURBINE) SHUTDOWN? ☐ a. YES ☐ b. NO M36.

WILL FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGER AUTOMATIC PUMP SHUTDOWN? ☐ a. YES ☐ b. NO M37.

☐ 2. MECHANICAL LINE LEAK DETECTOR (MLLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS AND RESTRICTS OR SHUTS OFF PRODUCT FLOW WHEN A LEAK IS DETECTED

MLLD MANUFACTURER(s): _____ M38. MODEL #(S): _____ M39.

☐ 3. ELECTRONIC LINE LEAK DETECTOR (ELLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS

ELLD MANUFACTURER(s): _____ M40. MODEL #(S): _____ M41.

PROGRAMMED IN LINE TESTING: ☐ a. MINIMUM MONTHLY 0.2 g.p.h. ☐ b. MINIMUM ANNUAL 0.1 g.p.h. M42.

WILL ELLD DETECTION OF A PIPING LEAK TRIGGER AUTOMATIC PUMP SHUTDOWN? ☐ a. YES ☐ b. NO M43.

WILL ELLD FAILURE/DISCONNECTION TRIGGER AUTOMATIC PUMP SHUTDOWN? ☐ a. YES ☐ b. NO M44.

☐ 4. INTEGRITY TESTING

TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. EVERY 3 YEARS ☐ c. OTHER (Specify) _____ M45. M46.

☐ 5. VISUAL MONITORING: ☐ a. DAILY ☐ b. WEEKLY ☐ c. MIN. MONTHLY & EACH TIME SYSTEM OPERATED* M47.

* Allowed for monitoring of unburied emergency generator fuel piping only per HSC §25281.5(b)(3)

☐ 6. SUCTION PIPING MEETS EXEMPTION CRITERIA PER 23 CCR §2636(a)(3)

☐ 7. NO PRODUCT OR REMOTE FILL PIPING IS CONNECTED TO THE UST(s)

☐ 99. OTHER (Specify) _____ M48.

UNDERGROUND STORAGE TANK

MONITORING PLAN – PAGE 2

VI. DISPENSER MONITORING

MONITORING OF AREAS BENEATH DISPENSER(S) IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply) M50.

☐ 1. CONTINUOUS MONITORING OF UNDER DISPENSER CONTAINMENT (UDC)

PANEL MANUFACTURER: _____ M51. MODEL #: _____ M52.

LEAK SENSOR MANUFACTURER: _____ M53. MODEL #(S): _____ M54.

WILL DETECTION OF A LEAK IN THE UDC TRIGGER AUDIBLE AND VISUAL ALARMS? ☐ a. YES ☐ b. NO M55.

WILL A UDC LEAK ALARM TRIGGER AUTOMATIC PUMP SHUTDOWN? ☐ a. YES ☐ b. NO M56.

WILL FAILURE/DISCONNECTION OF UDC MONITORING SYSTEM TRIGGER AUTOMATIC PUMP SHUTDOWN? ☐ a. YES ☐ b. NO M57.

☐ 2. MECHANICAL CONTINUOS MONITORING (e.g., FLOAT AND CHAIN ASSEMBLY) IN UDC TRIPS SHEAR VALVE IN CASE OF LEAK

MANUFACTURER: _____ M58. MODEL #(S): _____ M59.

☐ 3. VISUAL MONITORING DONE: ☐ a. DAILY ☐ b. WEEKLY M60.

☐ 4. NO DISPENSERS

☐ 99. OTHER (Specify) _____ M61.

VII. ENHANCED LEAK DETECTION

☐ 1. WE HAVE BEEN NOTIFIED BY THE STATE WATER RESOURCES CONTROL BOARD THAT WE MUST PERFORM ENHANCED LEAK DETECTION (ELD) FOR THE UST(S) COVERED BY THIS PLAN. PER 23 CCR §2644.1, ELD IS PERFORMED EVERY 36 MONTHS AS REQUIRED M70.

VIII. TRAINING

REFERENCE DOCUMENTS MAINTAINED AT FACILITY (Check all that apply) M80.

1. ☐ THIS UNDERGROUND STORAGE TANK MONITORING PLAN **(Required)**
2. ☐ OPERATING MANUALS FOR ELECTRONIC MONITORING EQUIPMENT **(Required)**
3. ☐ THE FACILITY'S BEST MANAGEMENT PRACTICES **(Required as of January 1, 2005)**
4. ☐ CALIFORNIA UNDERGROUND STORAGE TANK REGULATIONS
5. ☐ CALIFORNIA UNDERGROUND STORAGE TANK LAW
6. ☐ STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION: "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION"
7. ☐ SWRCB PUBLICATION: "WEEKLY MANUAL TANK GAUGING FOR SMALL UNDERGROUND STORAGE TANKS"

99. ☐ OTHER (Specify): _____ M81.

Personnel with UST monitoring responsibilities are familiar with all of the above documents relevant to their job duties and can access those documents when needed. By January 1, 2005, this facility will have a "Designated UST Operator" who has passed the California UST Sytem Operator Exam administered by the International Code Council (ICC). By July 1, 2005, and annually thereafter, the "Designated UST Operator" will train facility employees in the proper operation and maintenance of the UST systems. This training will include, but is not limited to, the following:

- Operation of the UST systems in a manner consistent with the facility's best management practices.
- The facility employee's role with regard to the leak detection equipment.
- The facility employee's role with regard to spills and overfills.
- Whom to contact for emergencies and leak detection alarms.

For facility employees hired on or after July 1, 2005, the initial training will be conducted within 30 days of the date of hire.

IX. COMMENTS/ADDITIONAL INFORMATION

Please use this section to include any additional UST system monitoring-related information (e.g., additional information required by your local agency): M85.

X. PERSONNEL RESPONSIBILITIES

AS OF JANUARY 1, 2005, THE "DESIGNATED UST OPERATOR" IDENTIFIED IN SECTION III OF THE CURRENT UST OPERATING PERMIT APPLICATION – FACILITY FORM WILL HAVE ULTIMATE AUTHORITY FOR PERFORMING THE MONITORING ACTIVITIES AND MAINTAINING LEAK DETECTION EQUIPMENT COVERED BY THIS PLAN TITLE 23 CCR § 2715(c), AND WILL PERFORM AND DOCUMENT MINIMUM MONTHLY VISUAL INSPECTIONS OF THE FACILITY'S UST SYSTEMS IN ACCORDANCE WITH TITLE 23 CCR § 2715(c).

XI. OWNER/OPERATOR SIGNATURE

CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

OWNER/OPERATOR SIGNATURE	REPRESENTING ☐ Owner ☐ Operator M90.	DATE: M91.
OWNER/OPERATOR NAME (print): M92.		OWNER/OPERATOR TITLE: M93.

(Agency Use Only) This plan has been reviewed and: ☐ Approved ☐ Approved With Conditions ☐ Disapproved

Local Agency Signature: _____ Date: _____

Comments/Special Conditions: _____

UNDERGROUND STORAGE TANK

RESPONSE PLAN – PAGE 1

(One form per facility)

TYPE OF ACTION ☐ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION R01.

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)*

BUSINESS NAME (Same as FACILITY NAME) R02.

BUSINESS SITE ADDRESS R03. CITY R04.

II. SPILL CONTROL AND CLEANUP METHODS

This plan addresses unauthorized releases from UST systems and supplements the emergency response plans and procedures in the facility's Hazardous Materials Business Plan.

- If safe to do so, facility personnel will take immediate measures to control or stop any release (e.g., activate pump shut-off, etc.) and, if necessary, safely remove remaining hazardous material from the UST system.
- Any release to secondary containment will be pumped or otherwise removed within a time consistent with the ability of the secondary containment system to contain the hazardous material, but not greater than 30 calendar days, or sooner if required by the local agency. Recovered hazardous materials, unless still suitable for their intended use, will be managed as hazardous waste.
- Absorbent material will be used to contain and clean up manageable spills of hazardous materials. Absorbent material may be reused until it becomes too saturated to be effective. It will then be managed properly. Used absorbent material, reusable or waste, will be stored in a properly labeled and sealed container.
- Facility personnel will determine whether any water removed from secondary containment systems, or from clean-up activity, has been in contact with any hazardous material. If the water is contaminated, it will be managed as hazardous waste. If the water has a petroleum sheen (i.e., rainbow colors), it is contaminated. A thick floating petroleum layer may not necessarily display rainbow colors. Water (hazardous or non-hazardous) from sumps, spill containers, etc. will not be disposed to storm water systems.
- We will review secondary containment systems for possible deterioration if any of the following conditions occur:
  1. Hazardous material in contact with secondary containment is not compatible with the material used for secondary containment;
  2. Secondary containment is prone to damage from any equipment used to remove or clean up hazardous material collected in secondary containment;
  3. Hazardous material, other than the product/waste stored in the primary containment system, is placed inside secondary containment to treat or neutralize released product/waste, and the added material or resulting material from such a combination is not compatible with secondary containment.

III. SPILL CONTROL AND CLEAN-UP EQUIPMENT

PERIODIC MAINTENANCE: Spill control and clean-up equipment kept permanently on-site is listed in the facility's Hazardous Materials Business Plan. This equipment is inspected at least monthly, and after each use, supplies are replenished as needed. Defective equipment is repaired or replaced as necessary.

EQUIPMENT NOT PERMANENTLY ON-SITE, BUT AVAILABLE FOR USE IF NEEDED: (Complete only if applicable)

EQUIPMENT	LOCATION	AVAILABILITY
R10.	R20.	R30.
R11.	R21.	R31.
R12.	R22.	R32.
R13.	R23.	R33.
R14.	R24.	R34.
R15.	R25.	R35.

IV. RESPONSIBLE PERSONS

THE FOLLOWING PERSON(S) IS/ARE RESPONSIBLE FOR AUTHORIZING ANY WORK NECESSARY UNDER THIS RESPONSE PLAN:

NAME	TITLE
R40.	R50.
R41.	R51.
R42.	R52.
R43.	R53.

V. INDIRECT HAZARD DETERMINATION

This information is required only when the presence of the hazardous substance can not be verified directly by the monitoring method used (e.g., where liquid level measurements in a tank annular space or secondary piping are used as the basis for leak determination).

THE FOLLOWING STEPS WILL BE TAKEN TO VERIFY THE PRESENCE OR ABSENCE OF HAZARDOUS SUBSTANCE IN THE SECONDARY CONTAINMENT IF MONITORING INDICATES A POSSIBLE UNAUTHORIZED RELEASE:

R60.

UNDERGROUND STORAGE TANK

RESPONSE PLAN – PAGE 2

VI. LEAK INTERCEPTION AND DETECTION SYSTEM

This information is required only for motor vehicle fuel UST systems constructed per the Alternate Construction Requirements of 23 CCR §2633, and only if the Leak Interception and Detection System (LIDS) does not meet the volumetric requirements of 23 CCR §2631(d)(1) through (5) (i.e., when accounting for rainfall and backfill material, the secondary containment volume is less than 100% of primary tank volume for a single UST; or in the case of multiple USTs in shared secondary containment, 150% of the largest primary tank volume or 10% of aggregate primary tank volume, whichever is greater).

ATTACH AN ADDITIONAL PAGE TO THIS PLAN CONTAINING THE FOLLOWING INFORMATION:

- The volume of the LIDS in relation to the volume of the primary container;
- The amount of time the LIDS shall provide containment related to the time between detection of an unauthorized release and cleanup of the leaked substance;
- The depth from the bottom of the LIDS to the highest anticipated level of groundwater;
- The nature of the unsaturated soils under the LIDS and their ability to absorb contaminants or to allow movement of contaminants;
- The methods and scheduling for removal of all hazardous substances which may have been discharged from primary containment and are located in the unsaturated soils between the primary containment and groundwater, including the LIDS sump.

VII. REPORTING AND RECORD KEEPING

We will report/record any overfill, spill, or unauthorized release from a UST system as indicated in this plan.

Recordable Releases: Any unauthorized release from primary containment which the UST operator is able to clean up within eight (8) hours after the release was detected or should reasonably have been detected, and which does not escape from secondary containment, does not increase the hazard of fire or explosion, and does not cause any deterioration of secondary containment, must be recorded in the facility's monitoring records. Monitoring records must include:

- The UST operator's name and telephone number;
- A list of the types, quantities, and concentrations of hazardous substances released;
- A description of the actions taken to control and clean up the release;
- The method and location of disposal of the released hazardous substances, and whether a hazardous waste manifest was or will be used;
- A description of actions taken to repair the UST and to prevent future releases;
- A description of the method used to reactivate interstitial monitoring after replacement or repair of primary containment.

Reportable Releases: Any overfill, spill, or unauthorized release which escapes from secondary containment (or primary containment if no secondary containment exists), increases the hazard of fire or explosion, or causes any deterioration of secondary containment, is a reportable release. Reportable releases are also recordable.

Within 24 hours after a reportable release has been detected, or should have been detected, we will notify the local agency administering the UST program of the release, investigate the release, and take immediate measures to stop the release. If necessary, or if required by the local agency, remaining stored product/waste will be removed from the UST to prevent further releases or facilitate corrective action. If an emergency exists, we will notify the State Office of Emergency Services.

Within five (5) working days of a reportable release, we will submit to the local agency a full written report containing all of the following information to the extent that the information is known at the time of filing the report:

- The UST owner's or operator's name and telephone number;
- A list of the types, quantities, and concentrations of hazardous materials released;
- The approximate date of the release;
- The date on which the release was discovered;
- The date on which the release was stopped;
- A description of actions taken to control and/or stop the release;
- A description of corrective and remedial actions, including investigations which were undertaken and will be conducted to determine the nature and extent of soil, ground water or surface water contamination due to the release;
- The method(s) of cleanup implemented to date, proposed cleanup actions, and a schedule for implementing the proposed actions;
- The method(s) and location(s) of disposal of released hazardous materials and any contaminated soils, groundwater, or surface water.
- Copies of any hazardous waste manifests used for off-site transport of hazardous wastes associated with clean-up activity;
- A description of proposed methods for any repair or replacement of UST system primary/secondary containment systems;
- A description of additional actions taken to prevent future releases.

We will follow the reporting procedures described above if any of the following conditions occur:

- A recordable unauthorized release can not be cleaned up or is still under investigation within eight (8) hours of detection;
- Released hazardous substances are discovered at the UST site or in the surrounding area;
- Unusual operating conditions are observed, including erratic behavior of product dispensing equipment, sudden loss of product, or the unexplained presence of water in the tank, unless system equipment is found to be defective and is immediately repaired or replaced, and no leak has occurred;
- Monitoring results from UST system monitoring equipment/methods indicate that a release may have occurred, unless the monitoring equipment is found to be defective and is immediately repaired, recalibrated, or replaced, and additional monitoring does not confirm the initial results.

Record Retention: Monitoring records and written reports of unauthorized releases must be maintained on-site (or off-site at a readily available location, if approved by the local agency) for at least 3 years. Hazardous waste shipping/disposal records (e.g., manifests) must be maintained for at least 3 years from the date of shipment.

VIII. OWNER/OPERATOR SIGNATURE

CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

OWNER/OPERATOR SIGNATURE	DATE R70.
OWNER/OPERATOR NAME (print) R71.	OWNER/OPERATOR TITLE R72.

(Agency Use Only) This plan has been reviewed and: ☐ Approved ☐ Approved With Conditions ☐ Disapproved

Local Agency Signature: _____ Date: _____

APPENDIX D

01-0706802

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RECORDING REQUESTED BY
JOHN B. JAKLE, Esq.

MAIL TAX STATEMENTS TO
AND WHEN RECORDED MAIL TO

Name	DENNIS L. PRINGLE
Street Address	2314 Ashland Avenue
City State	Santa Monica, CA 90405

SPACE ABOVE THIS LINE FOR RECORDER'S USE

QUITCLAIM DEED

The undersigned Grantor(s) declare(s) under penalty of perjury that the following is true and correct:
THERE IS NO CONSIDERATION FOR THIS TRANSFER.
Documentary transfer tax is $ -0-.
[X] There is no Documentary transfer tax due. (state reason and give Code § or Ordinance number) THIS IS A BONAFIDE GIFT AND THE GRANTOR RECEIVED NOTHING IN RETURN, R & T. 11911.
[ ] Unincorporated area: [ ] City of _____ and

GRANTOR(S): **BETTY PRINGLE, DENNIS L. PRINGLE and DONNA J. DIXON, co-trustees of the October 1, 1990 Betty Pringle Trust, a revocable living trust**

hereby REMISES, RELEASES AND FOREVER QUITCLAIMS a **twenty-six percent (26%)*** interest of the entire fee to: **BETTY PRINGLE, an unmarried woman as her sole and separate property**

the following described real property in the County of Los Angeles, State of California, described as:

Lots 1 and 2 in Block of Lucas Tract, as per map recorded in Book 6, Page 221, of Miscellaneous Records, in the office of the County Recorder of said county.
Commonly known as: 332 Pico Boulevard, Santa Monica, CA 90405
APN: 4289-012-005

*** This conveyance transfers a twenty-six percent (26%) undivided interest in the entire fee in the property as a whole, not 26% of the undivided partial interest owned by Grantors. As of the date of this transfer the Transferor (Grantor) owned an undivided forty-four (44%) interest. After this transfer the Transferor (Grantor) will own eighteen percent (18%).**

Dated: 3-1, 2001

Betty Pringle
BETTY PRINGLE, Trustee

DENNIS L. PRINGLE, Trustee

Donna J. Dixon
DONNA J. DIXON, Trustee

STATE OF CALIFORNIA }
COUNTY OF LOS ANGELES }

On this 1ST day of MARCH, 2001, before me, MAY YEE-MASTERSON, Notary Public, personally appeared BETTY PRINGLE, DENNIS PRINGLE, DONNA J. DIXON [X] personally known to me - OR - [ ] proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity(ies) upon behalf of which the person(s) acted, executed the instrument.

May Yee-Masterson
Signature of Notary

MAY YEE-MASTERSON
Commission # 1203422
Notary Public - California
Los Angeles County
My Comm. Expires Dec 26, 2002

(Official Seal)

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01-0706802

State of California)
)
County of CA)

On 3-11-01 before me, MAY YEE-MASTERSON,
personally appeared BETTY PRINGLE, DENNIS PRINGLE
+ DONNA J. DIXON,

personally known to me ~~(or proved to me the basis of satisfactory evidence)~~ to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he~~/~~she~~/they executed the same in ~~his~~/~~her~~/their authorized capacity(ies), and that by ~~his~~/~~her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature May Yee-Masterson

MAY YEE-MASTERSON
Commission # 1203422
Notary Public - California
Los Angeles County
My Comm. Expires Dec 26, 2002