R0371

ConocoPhillips

ConocoPhillips Company
1230 W. Washington Street, Suite 212
Tempe, AZ 85281

November 6, 2006

Mr. Donald Hwang
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RE: Document Transmittal
Fuel Leak Case
76 Station # 7004
15599 Hesperian Blvd., San Leandro, CA

Dear Mr. Hwang:

Please find attached SECOR's *Addendum to Quarterly Status and Remediation Summary Report - Second Quarter 2006* dated November 6, 2006 for the above referenced site. I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached proposal or report are true and correct.

If you have any questions or need additional information, please call me at (602) 452-2507.

Sincerely,

James F. Trotter
Site Manager
Risk Management & Remediation
ConocoPhillips Company

Enclosure

cc: Diane Barclay, SECOR

SECOR

SECOR
INTERNATIONAL
INCORPORATED

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November 6, 2006

Mr. Donald Hwang
Alameda County Environmental Health Services
1131 Harbor Bay Parkway Suite 250
Alameda, CA 94502

RE: Addendum to Quarterly Status and Remediation Summary Report – Second Quarter 2006
Former 76 Service Station No. 7004
15599 Hesperian Boulevard
San Leandro, California
SECOR Project No.: 77CP.01631.00.0304

Dear Mr. Hwang:

SECOR International Incorporated (SECOR) is submitting this Addendum to supplement the *Quarterly Summary Report, Second Quarter 2006,* dated August 30, 2006, for the subject site. This Addendum is presented to clarify the groundwater gradient discussion, and to present revised engineering calculations.

In the discussion section of the quarterly report, SECOR indicated that the radially inward groundwater gradient evaluated by TRC (*Quarterly Monitoring Report, April through June 2006, dated June 20, 2006)* for the second quarter was likely due to operation of the temporary dual-phase extraction (DPE) system at the site, and that the system was operational during the May 25, 2006 monitoring and sampling event. While the DPE system had been previously operating at the site, and had been using wells MW-5, MW-3, and RW-1 as extraction wells, it had been shut down and was not fully operational again until the week following the May 25 monitoring and sampling event. Inspection of field data sheets in the TRC report indicated that the radially inward gradient reported by TRC was evaluated using depths to water from MW-3 and MW-5 that had been measured after other site wells were purged and sampled. It is possible that the water elevations from wells MW-3 and MW-5 were affected by this purging and sampling, and SECOR believes that this gradient evaluation may not be representative of actual site conditions prior to purging on May 25, 2006. Evaluation of the gradient without using these two data points indicated flow that varied from northwest to southeast.

SECOR revised engineering Tables 2, 3, 4, and 7 and Figures 3 and 5 of the Quarterly Report. The revised tables and figures are included in Attachment A. During the second quarter, the DPE system was approximately 21 percent operational, and ran for approximately 380 hours. Through groundwater extraction (GWE), the system removed an approximate total of 0.107 pounds (0.017 gallons) of TPHg, 0.019 pounds (0.003 gallons) of MTBE, and 0.009 pounds (0.001 gallons) of TBA. Soil vapor extraction (SVE) removed approximately 1.86 pounds (0.31 gallons) of TPHg, and 0.07 pounds (0.01 gallons) of MTBE. Through GWE, a total of approximately 115,340 gallons of water have been removed since system startup. The DPE

system (GWE and SVE combined) removed approximately 1.967 pounds (0.327 gallons) of TPHg, 0.089 pounds (0.013 gallons) of MTBE, and 0.009 pounds (0.001 gallons) of TBA.

If you have any questions or comments regarding the contents of this document, please contact the undersigned at (916) 861-0400.

Sincerely,
SECOR International Incorporated

Diane Barclay, C.H.G.
Senior Geologist

Adrian Pérez, P.E.
Associate Engineer

Attachment Revised Tables and Figures

cc: Mr. Thomas Kosel, ConocoPhillips
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ATTACHMENT
REVISED TABLES AND FIGURES

Addendum to Quarterly Status and Remediation Summary Report – Second Quarter 2006
Former 76 Service Station No. 7004
15599 Hesperian Boulevard
San Leandro, California
SECOR Project No.: 77CP.01631.00.0304
November 6, 2006

Table 2
Temporary Dual Phase Extraction System-Operating Data

Former 76 Station #7004
15599 Hesperian Blvd
San Leandro, California

Date	Notes	Hourmeter Reading (hours)	Totalizer Reading (gallons)	Well Field Temperature (°F)	System Vacuum (inHg)	Flow Rate (acfm)	Flow Rate (scfm) [1]	MW-3 FID (ppmv)	MW-5 FID (ppmv)	RW-1 FID (ppmv)	Well Field FID (ppmv)
3/20/06	a	12,076.5	43,900	60	26	57.0	8	51.1	60.2	15.0	60
3/27/06		12,099.8	54,000	60	26	62.9	9	398	187	17.9	389
4/10/06	b,c	12,345.4	90,210	60	25	79.5	13	51	365	87.2	59.1
4/17/06	d	12,464.8	114,700	--	--	--	--	--	--	--	--
6/1/06	e	12,464.8	114,700	79.1	25	77.2	13	380.2	140.0	14.0	375
6/5/06	f	12,557.7	126,390	78.1	25	70.1	11	109	75 F/O	25 F/O	100 F/O
6/9/06		12,581.9	131,450	--	--	--	--	--	--	--	--
6/12/06		12,604.2	136,030	--	--	--	--	--	--	--	--
6/22/06	g	12,650.0	145,670	75.2	25	68.2	11	104.2	4.2	7.5	103
6/28/06	h	12,725.8	159,240	98	25	71.2	11	--	--	--	--

REPORTING PERIOD: Second Quarter

Period Operation (hours):	380
Period Operational (%):	21%
Period Extracted (gals):	69,030
Period Average Discharge Rate (gpm):	3.0
Total Operation (hours):	649
Total Operation (%):	28%
Total Liquid Extracted Historical (gals):	115,340
Average Historical Discharge Rate (gpm):	3.0

Definitions:

--	Data not available or not applicable
ATC	Authority to Construct
acfm	Actual cubic feet per minute
°F	Degrees Fahrenheit
FID	Flame Ionization Detector
F/O	Flame Out
ft^3	Cubic feet
inHg	Inches of mercury
ppmv	Parts per million by volume
scfm	Standard cubic feet per minute
gals	Gallons
[ ]	Indicates reference to equation
gpm	Gallons Per Minute

Equations:

[1] $$SCFM = \frac{ACFM \cdot T_{std} \cdot (P_{abs})}{(460 + T) \cdot P_{atm}}$$

T_{std} Temperature at standard conditions (528 Rankine)
P_{abs} Atmospheric pressure at standard conditions minus manifold vacuum (inHg)
P_{atm} Atmospheric pressure at standard conditions (29.92 inHg)
T Manifold vapor temperature reading (°F).

Notes:

a = system start-up on 3/20/06
b = effluent reporting limits are assumed as the effluent concentration; vapor control system efficiency equation is not an accurate reflection of actual system efficiency
c = system down and restarted, set slurp tubes to top of casing
d = system down, generator unoperational and needs to be replaced
e = new generator installed and system restarted
f = system down, high level switch on baker tank triggered shut down of system on 6/4/06, system restarted
g = system resampled on 6/21/06 w/ less 10 ppmv reporting limits
h = system down, generator shut down due to high water temperature, system cooled down and restarted

Permits:

Air emissions are permitted under Bay Area Air Quality Management District Application Number 13031 and MTS Plant Number 13708.

Table 3
Temporary Dual Phase Extraction System - Soil Vapor Influent Analytical Data and Mass Recovery

Former 76 Station #7004
15599 Hesperian Blvd
San Leandro, California

Date Sampled	Sample ID	Notes	Hour Meter Reading (hours)	Well Field Flow Rate (scfm)	Influent Concentrations							TPHg Recovery			Benzene Recovery			MtBE Recovery		
					TPHg (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Total Xylenes (ppmv)	MtBE (ppmv)	VOC (ppmv)	Recovery Rate (lbs/day) [1]	Period Net Recovery (lbs) [2]	Cumulative Recovery (lbs) [3]	Recovery Rate (lbs/day) [1]	Period Net Recovery (lbs) [2]	Cumulative Recovery (lbs) [3]	Recovery Rate (lbs/day) [1]	Period Net Recovery (lbs) [2]	Cumulative Recovery (lbs) [3]
3/20/2006	INF		12077	12	18	<0.31	<0.26	<0.23	<0.23	0.48	<16.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/10/2006	INF		12,345.4	13	<14	<0.31	<0.26	0.27	<0.23	0.67	<15.7	0.07	0.79	0.79	0.00	0.00	0.00	0.00	0.03	0.03
6/5/2006	INF		12,557.7	11	24	<0.31	<0.26	<0.23	<0.23	0.93	<25.2	0.10	0.92	1.71	0.00	0.00	0.00	0.00	0.03	0.06
6/22/2006	INF		12,725.8	11	5.1	<0.02	0.031	<0.02	<0.02	0.67	<5.86	0.02	0.15	1.86	0.00	0.00	0.000	0.00	0.02	0.07
REPORTING PERIOD: Second Quarter																				
Period Pounds Removed [4]:													1.86			0.00			0.07	
Period Gallons Removed [5]:													0.31			0.00			0.01	
Total Pounds Removed [6]:													1.86			0.00			0.07	
Total Gallons Removed [7]:													0.31			0.00			0.01	

Definitions:

lbs	Pounds
MtBE	Methyl tert-butyl ether
ppmv	Parts per million by volume
scfm	Standard cubic feet per minute
TPHg	Total petroleum hydrocarbons as gasoline
VOC	Volatile organic compound

Notes:

Molecular Weights:

TPHg	102 g/mol
Benzene	78 g/mol
MtBE	88 g/mol

Densities:

TPHg	0.22 lbs/ft^3
Benzene	0.2027 lbs/ft^3
MtBE	0.2288 lbs/ft^3

Vapor densities are at 1 atmosphere and 68 degrees Farhenheit

Equations:

[1] $$\text{Recovery Rate}\left(\frac{lb}{day}\right) = \frac{\text{Concentration (ppmv)} \cdot \text{Molecular Weight} \cdot \text{Flow}\left(\frac{ft^3}{min}\right) \cdot 60\left(\frac{min}{hour}\right) \cdot 24\left(\frac{hour}{day}\right)}{V_{ideal}\,(ft^3) \cdot 10^6}$$

[2] $$\text{Period Net Recovery (lbs)} = \frac{\text{Recovery Rate}\left(\frac{lb}{day}\right) \cdot (\text{Hour Meter Reading}_{\,i} - \text{Hour Meter Reading}_{\,i-1})(\text{hour})}{24\left(\frac{hour}{day}\right)}$$

[3] $$\text{Cumulative Recovery (lbs)} = \sum \text{Period Net Recovery (lbs)}$$

[4] $$\text{Period Pounds Removed (lbs)} = \text{Reporting Period Net Recovery (lbs)}$$

[5] $$\text{Period Gallons Removed (gallons)} = \frac{\text{Period Pounds Removed (lbs)}}{\text{Density}\left(\frac{lb}{gal}\right)}$$

[6] $$\text{Total Pounds Removed (lbs)} = \text{Cumulative Recovery (lbs)}$$

[7] $$\text{Total Gallons Removed (gallons)} = \frac{\text{Total Pounds Removed (lbs)}}{\text{Density}\left(\frac{lb}{gal}\right)}$$

V_{ideal} = Volume of 1.0 mole of an ideal gas is 386.6 ft^3 at 70°F and 29.92 inHg

Table 4
Temporary Dual Phase Extraction System - Soil Vapor Emissions Data

Former 76 Station #7004
15599 Hesperian Blvd
San Leandro, California

Date Sampled	Sample ID	Notes	Hour Meter Reading (hours)	Total System Flow Rate (scfm)	TPHg (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Total Xylenes (ppmv)	MTBE (ppmv)	VOC (ppmv)	VOC Emissions Rate (lbs/day)	VOC Emissions Cumulative Emissions (lbs)	Benzene Emissions Rate (lbs/day)	Benzene Emissions Cumulative Emissions (lbs)
3/20/2006	EFF	a,b	12,076.5	12	<14	<0.31	<0.26	<0.23	<0.23	<0.14	<15.17	0	0	0	0
4/10/2006	EFF		12,345.4	13	<14	<0.31	<0.26	<0.23	<0.23	<0.14	<15.17	0.07	0.82	0.001	0.01
6/5/2006	EFF		12,557.7	11	<14	<0.31	<0.26	<0.23	<0.23	<0.14	<15.17	0.07	1.46	0.001	0.02
6/22/2006	EFF	c	12,725.8	11	**1.8**	<0.020	**0.022**	<0.020	<0.020	<0.020	<1.90	0.01	1.59	0.000	0.02

Definitions:

--	Data not available
lbs	Pounds
MTBE	Methyl tert-butyl ether
ppmv	Parts per million by volume
scfm	Standard cubic feet per minute
TPHg	Total petroleum hydrocarbons as gasoline
VOCs	Volatile organic compounds as measured with a Flame Ionization Detector

Permit Conditions (Application No. 13031):

VOC Control Efficiency > 98.5% (For inlet concetrations ≥ 2000 ppmv)
VOC Control Efficiency > 97% (For inlet concetrations ≥ 200 ppmv and < 2000 ppmv)
VOC Control Efficiency > 90% (For inlet concetrations < 200 ppmv)
VOC Control Efficiency Waived for Oulet Efficiencies < 10 ppmv

Notes:

a = system start-up
b = effluent reporting limits are assumed as effluent concentration; vapor control system efficiency is not an accurate reflection of system efficiency
c = outlet efficiencies less than 10 ppmv
* we have assumed the detection limits to provide a maximum estimate for vapor emissions to the atmosphere, which is a conservative estimate

Table 7
Temporary Dual Phase Extraction System - Groundwater Mass Recovery

CP 7004
15599 Hesperian Blvd
San Leandro, California

Influent						Influent Concentrations				TPHg Recovery			Benzene Recovery			MtBE Recovery			TBA Recovery		
Date Sampled	Sample ID	Notes	Hour Meter Reading (hours)	Totalizer Reading (gallons)	Period Volume Extracted (gallons)	TPHg (µg/L)	Benzene (µg/L)	MtBE (µg/L)	TBA (µg/L)	Adsorption Rate (lbs/day) [1]	Period Net Adsorbed (lbs) [2]	Cumulative Adsorbed (lbs) [3]	Adsorption Rate (lbs/day) [1]	Period Net Adsorbed (lbs) [2]	Cumulative Adsorbed (lbs) [3]	Adsorption Rate (lbs/day) [1]	Period Net Adsorbed (lbs) [2]	Cumulative Adsorbed (lbs) [3]	Adsorption Rate (lbs/day) [1]	Period Net Adsorbed (lbs) [2]	Cumulative Adsorbed (lbs) [3]
3/20/2006	KO		12076.5	43,900	–	260	<0.5	28	18	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
4/10/2006	KO		12345.4	90,210	46,310	58	<0.50	13	14	0.005	0.061	0.061	0.000	0.000	0.000	0.0007	0.008	0.008	0.0006	0.006	0.006
6/5/2006	KO		12557.7	126,390	36,180	150	<0.50	38	10	0.008	0.045	0.107	0.000	0.000	0.000	0.0012	0.011	0.019	0.0003	0.003	0.009
REPORTING PERIOD: Second Quarter																					
Period Pounds Removed [4]:											0.107			0.000			0.019			0.009	
Period Gallons Removed [5]:											0.017			0.000			0.003			0.001	
Total Pounds Removed [6]:											0.107			0.000			0.019			0.009	
Total Gallons Removed [7]:											0.017			0.000			0.003			0.001	

Definitions:

lbs	Pounds
MtBE	Methyl tert-butyl ether
NA	Not sampled or not analyzed
TBA	Tert-butyl alcohol
TPHg	Total petroleum hydrocarbons as gasoline
(µg/L)	micrograms per Liter
KO	Knockout

Notes:

Physical Properties:
Density of gasoline = 6.1 pounds per gallon
Density of diesel = 7.18 pounds per gallon
Density of motor oil = 7.62 pounds per gallon
Density of benzene = 7.4 pounds per gallon
Density of MtBE = 6.18 pounds per gallon
Density of TBA = 6.8 pounds per gallon

Equations:

[1] $$\text{Removal Rate}\left(\frac{\text{lbs}}{\text{day}}\right)=\frac{\text{Period Net Removed (lbs)}\cdot 24\left(\frac{\text{hour}}{\text{day}}\right)}{(\text{Hour Meter Reading}_{1}-\text{Hour Meter Reading}_{0})}$$

[2] $$\text{Period Net Removed (lbs)}=(\text{Concentration})\left(\frac{\mu g}{L}\right)\cdot 3.785\left(\frac{L}{\text{gallon}}\right)\cdot 2.205\times 10^{-9}\left(\frac{\text{lbs}}{\mu g}\right)\cdot \text{Period Extracted (gallons)}$$

[3] $$\text{Cumulative Removed (lbs)}=(\text{Period Net Removed})\text{(lbs)}+\text{Cumulative Removed (lbs)}$$

[4] $$\text{Period Pounds Removed (lbs)}=\sum \text{Period Net Removed (lbs)}$$

[5] $$\text{Period Gallons Removed (gallons)}=\frac{\text{Period Pounds Removed (lbs)}}{\text{Density of Constituent}\left(\frac{\text{lbs}}{\text{gallon}}\right)}$$

[6] $$\text{Total Pounds Removed (lbs)}=\text{Cumulative Adsorbed (lbs)}$$

[7] $$\text{Total Gallons Removed (gallons)}=\frac{\text{Total Pounds Removed (lbs)}}{\text{Density of Constituent}\left(\frac{\text{lbs}}{\text{gallon}}\right)}$$

In order to show best estimate, recovery calculations assume one-half of the laboratory reporting limit when an analyte is reported as non-detect.

Figure 3
Temporary DPE Soil Vapor Mass Recovery

CP 7004
15599 Hesperian Blvd
San Leandro California

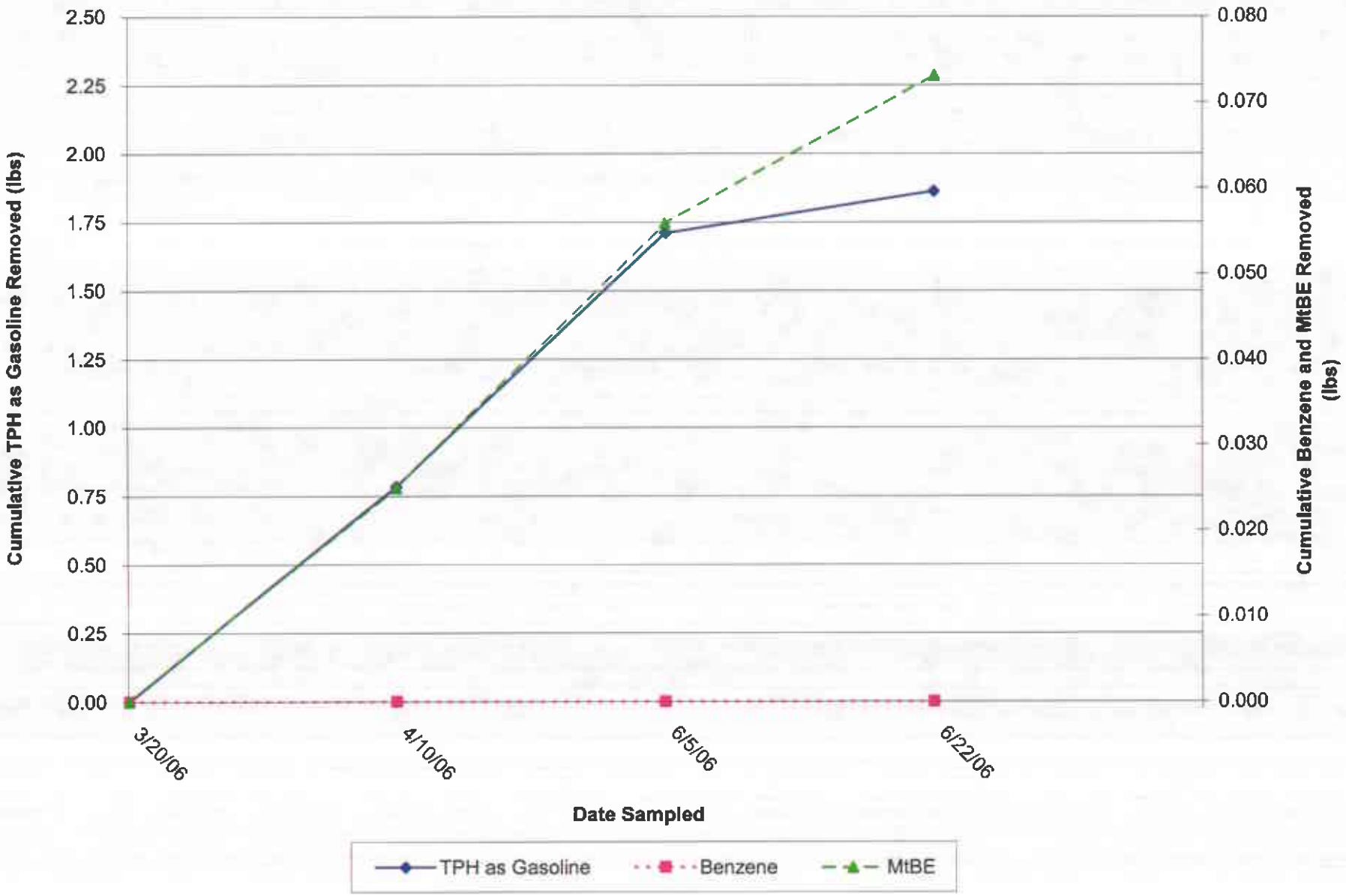

Figure 5
Temporary DPE Groundwater Mass Recovery

CP 7004
15599 Hesperian Blvd
San Leandro, California