

**ExxonMobil**  
**Environmental Services Company**  
4096 Piedmont Avenue #194  
Oakland, California 94611  
510 547 8196 Telephone  
510 547 8706 Facsimile

**Jennifer C. Sedlachek**  
Project Manager

**ExxonMobil**

March 11, 2013

**RECEIVED**

By Alameda County Environmental Health at 3:04 pm, Mar 12, 2013

Ms. Barbara Jakub  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

**RE: Former Mobil RAS #99105/6301 San Pablo Avenue, Oakland, California.**

Dear Ms. Jakub:

Attached for your review and comment is a copy of the letter report entitled *Semi-Annual Groundwater Monitoring Report, Third Quarter 2012 Addendum*, dated March 11, 2013, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities at the subject site.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,



Jennifer C. Sedlachek  
Project Manager

Attachment: Cardno ERI's *Semi-Annual Groundwater Monitoring Report, Third Quarter 2012 Addendum*, dated March 11, 2013

cc: w/ attachment  
Leroy Griffin, Oakland Fire Department  
On Dan and Nathan Lam

w/o attachment  
Rebekah A. Westrup, Cardno ERI

Cardno ERI  
License A/C10/C36-611383

601 North McDowell Blvd.  
Petaluma, CA 94954

Phone +1 707 766 2000  
Fax +1 707 789 0414  
www.cardno.com

www.cardnoeri.com

March 11, 2013  
Cardno ERI 2783C.Q123a

Ms. Jennifer C. Sedlachek  
ExxonMobil Environmental Services  
4096 Piedmont Avenue, #194  
Oakland, California 94611

**SUBJECT      Semi-Annual Groundwater Monitoring Report, Third Quarter 2012 Addendum**  
Former Mobil Service Station 99105  
6301 San Pablo Avenue, Oakland, California

## INTRODUCTION

At the request of ExxonMobil Environmental Services (EMES), on behalf of ExxonMobil Oil Corporation, Cardno ERI performed third quarter 2012 groundwater monitoring and sampling activities at the subject site. Field activities and analytical results were detailed in Cardno ERI's *Semi-Annual Groundwater Monitoring Report, Third Quarter 2012*, dated August 20, 2012. This addendum was prepared in response to an Alameda County Department of Environmental Health (ACEH) letter dated February 28, 2013 (Appendix A). The ACEH noted that though text and field notes for the third quarter monitoring event referenced the presence of sheen in well MW5, sheen was not noted as part of the cumulative groundwater monitoring and sampling data (Table 1A). The ACEH requested that the table be updated to reflect the presence of sheen and an addendum to the report be submitted.

As requested, Cardno ERI updated the table to indicate the presence of sheen in well MW5. The updated table is presented as Table 1A. Copies of the field notes for the third quarter sampling event are presented as Appendix B.

## LIMITATIONS

For any documents cited that were not generated by Cardno ERI, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno ERI does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document was prepared in accordance with generally accepted standards of environmental, geological, and engineering practices in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

March 11, 2013  
Cardno ERI 2783C.Q123a Former Mobil Service Station 99105, Oakland, California

Please contact Ms. Rebekah A. Westrup, Cardno ERI's project manager for this site, at [rebekah.westrup@cardno.com](mailto:rebekah.westrup@cardno.com) or at (707) 766-2000 with any questions regarding this report.

Sincerely,

*Unscanned Image*  
SCANNED  
IMAGE

Rebekah A Westrup  
Senior Staff Geologist  
for Cardno ERI  
707 766 2000  
Email: [rebekah.westrup@cardno.com](mailto:rebekah.westrup@cardno.com)

*Unscanned Image*  
SCANNED  
IMAGE

David Daniels  
P.G. 8737  
for Cardno ERI  
707 766 2000  
Email: [david.daniels@cardno.com](mailto:david.daniels@cardno.com)



Enclosures:

Acronym List

Table 1A Cumulative Groundwater Monitoring and Sampling Data

Appendix A Correspondence  
Appendix B Field Notes

cc: Barbara Jakub, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor, Alameda, California, 94502

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa, Suite 3341, Oakland, California, 94612

On Dan and Nathan Lam, 200 El Dorado Terrace, San Francisco, California, 94112

March 11, 2013

Cardno ERI 2783C.Q123a Former Mobil Service Station 99105, Oakland, California

**ACRONYM LIST**

µg/L	Micrograms per liter	NEPA	National Environmental Policy Act
µs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acfm	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction potential
bgs	Below ground surface	OSHA	Occupational Safety and Health Administration
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	OVA	Organic vapor analyzer
CEQA	California Environmental Quality Act	P&ID	Process & Instrumentation Diagram
cfm	Cubic feet per minute	PAH	Polycyclic aromatic hydrocarbon
COC	Chain of Custody	PCB	Polychlorinated biphenyl
CPT	Cone Penetration (Penetrometer) Test	PCE	Tetrachloroethene or perchloroethylene
DIPE	Di-isopropyl ether	PID	Photo-ionization detector
DO	Dissolved oxygen	PLC	Programmable logic control
DOT	Department of Transportation	POTW	Publicly owned treatment works
DPE	Dual-phase extraction	ppmv	Parts per million by volume
DTW	Depth to water	PQL	Practical quantitation limit
EDB	1,2-dibromoethane	psi	Pounds per square inch
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ESL	Environmental screening level	QA/QC	Quality assurance/quality control
ETBE	Ethyl tertiary butyl ether	RBSL	Risk-based screening levels
FID	Flame-ionization detector	RCRA	Resource Conservation and Recovery Act
fpm	Feet per minute	RL	Reporting limit
GAC	Granular activated carbon	scfm	Standard cubic feet per minute
gpd	Gallons per day	SSTL	Site-specific target level
gpm	Gallons per minute	STLC	Soluble threshold limit concentration
GWPTS	Groundwater pump and treat system	SVE	Soil vapor extraction
HVOC	Halogenated volatile organic compound	SVOC	Semivolatile organic compound
J	Estimated value between MDL and PQL (RL)	TAME	Tertiary amyl methyl ether
LEL	Lower explosive limit	TBA	Tertiary butyl alcohol
LPC	Liquid-phase carbon	TCE	Trichloroethene
LRP	Liquid-ring pump	TOC	Top of well casing elevation; datum is msl
LUFT	Leaking underground fuel tank	TOG	Total oil and grease
LUST	Leaking underground storage tank	TPHd	Total petroleum hydrocarbons as diesel
MCL	Maximum contaminant level	TPHg	Total petroleum hydrocarbons as gasoline
MDL	Method detection limit	TPHmo	Total petroleum hydrocarbons as motor oil
mg/kg	Milligrams per kilogram	TPHs	Total petroleum hydrocarbons as stoddard solvent
mg/L	Milligrams per liter	TRPH	Total recoverable petroleum hydrocarbons
mg/m <sup>3</sup>	Milligrams per cubic meter	UCL	Upper confidence level
MPE	Multi-phase extraction	USCS	Unified Soil Classification System
MRL	Method reporting limit	USGS	United States Geologic Survey
msl	Mean sea level	UST	Underground storage tank
MTBE	Methyl tertiary butyl ether	VCP	Voluntary Cleanup Program
MTCA	Model Toxics Control Act	VOC	Volatile organic compound
NAI	Natural attenuation indicators	VPC	Vapor-phase carbon
NAPL	Non-aqueous phase liquid		

**TABLE 1A**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
Former Mobil Service Station 99105  
6301 San Pablo Avenue  
Oakland, California  
(Page 1 of 5)

Well ID	Sampling Date	TOC Elev. (feet)	DTW (feet)	GW Elev. (feet)	NAPL (feet)	TPHd (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
<b>Environmental Screening Levels (May 2008)</b>						100	100	5.0	5.0	1.0	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
MW1	03/14/96	32.79	4.50	28.29	No	450	610	---	---	0.75	0.54	1.5	59
MW1	05/21/96	32.79	5.64	27.15	No	ND	ND	---	---	ND	ND	ND	ND
MW1	08/13/96	32.79	9.76	23.03	No	ND	ND	---	---	ND	ND	ND	ND
MW1	11/08/96	32.79	10.24	22.55	No	ND	ND	ND	---	ND	0.92	ND	2.1
MW1	01/31/97	32.79	3.83	28.96	No	ND	ND	2.6	ND	ND	0.85	ND	ND
MW1	04/22/97	32.79	9.14	23.65	No	ND	ND	ND	---	ND	ND	ND	ND
MW1	07/29/97	a 32.79	10.18	22.61	No	60e	ND	36	---	0.84	0.95	ND	1.6
MW1	10/09/97	a 32.79	10.46	22.33	No	56e	ND	ND	---	ND	ND	ND	ND
MW1	01/23/98	a 32.79	3.95	28.84	No	33	ND	ND	---	ND	ND	ND	ND
MW1	04/22/98	32.79	5.33	27.46	No	ND	ND	ND	---	ND	ND	ND	ND
MW1	07/21/98	32.79	9.17	23.62	No	---	ND	ND	---	ND	ND	ND	ND
MW1	10/20/98	32.79	10.41	22.38	No	---	ND	ND	---	ND	ND	ND	ND
MW1	01/27/99	32.79	5.51	27.28	No	---	ND	ND	---	ND	ND	ND	ND
MW1	Apr-99	Destroyed during construction activities.											
MW2	03/14/96	32.80	4.51	28.29	No	250	560	---	---	2.0	0.96	4.3	11
MW2	05/21/96	32.80	5.65	27.15	No	560	730	---	---	5.1	1.4	6.7	5.9
MW2	08/13/96	32.80	10.14	22.66	No	380b	490	---	---	25	3.5	7.2	13
MW2	11/08/96	32.80	10.70	22.10	No	160d	520	6.1	---	80	2.7	14	66
MW2	01/31/97	32.80	3.84	28.96	No	130b	74	ND	---	ND	ND	ND	ND
MW2	04/22/97	32.80	9.61	23.19	No	430	260	ND	---	2.7	ND	2.5	ND
MW2	07/29/97	a 32.80	10.53	22.27	No	150d	320	ND	---	28	1.2	10	ND
MW2	10/09/97	a 32.80	10.87	21.93	No	160b	460	2.6	---	43	2.8	2.0	2.6
MW2	01/23/98	a 32.80	3.75	29.05	No	54	ND	ND	---	ND	ND	ND	ND
MW2	04/22/98	32.80	5.36	27.44	No	540	180	ND	---	1.2	0.3	0.4	ND
MW2	07/21/98	32.80	9.55	23.25	No	---	80	ND	---	8.9	2.1	0.6	2.5
MW2	10/20/98	32.80	10.75	22.05	No	---	50	ND	---	0.8	0.7	ND	0.8
MW2	01/27/99	32.80	5.53	27.27	No	---	ND	ND	---	0.6	ND	ND	ND
MW2	07/27/99	32.80	6.20	26.60	No	---	ND	ND	---	ND	0.6	ND	ND
MW2	12/08/99	32.80	9.98	22.82	No	---	ND	ND	---	1.2	0.43	ND	ND
MW2	10/25/00	39.34	11.30	28.04	No	---	<20	<0.30	---	2.0	0.59	0.46	1.3
MW2	01/15/01	39.34	9.41	29.93	No	---	<20	<0.30	---	<0.20	0.46	<0.20	<0.60
MW2	04/10/01	39.34	6.16	33.18	No	---	23	<1.0	---	0.28	<0.20	<0.20	<0.60
MW2	07/24/01	39.34	10.70	28.64	No	---	<50	<0.30	---	<0.20	0.93	<0.20	0.82
MW2	11/27/01	39.34	10.15	29.19	No	---	<50	<0.30	---	1.2	0.22	<0.20	<0.60
MW2	01/18/02	41.99	5.46	36.53	No	---	<50.0	1.40	---	<0.50	<0.50	<0.50	<0.50
MW2	04/10/02	41.99	6.48	35.51	No	---	<50.0	1.80	---	<0.50	<0.50	<0.50	<0.50
MW2	07/12/02	41.99	10.45	31.54	No	---	<50.0	<0.50	---	<0.50	<0.50	<0.50	<0.50
MW2	10/14/02	41.99	11.46	30.53	No	---	<50.0	<0.5	---	<0.5	4.1	0.6	4.0
MW2	01/20/03	41.99	5.39	36.60	No	---	<50.0	0.6	---	<0.50	<0.50	<0.50	<0.50
MW2	04/28/03	41.99	5.87	36.12	No	---	<50.0	<0.50	---	<0.50	<0.50	<0.50	<0.50

**TABLE 1A**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
Former Mobil Service Station 99105  
6301 San Pablo Avenue  
Oakland, California  
(Page 2 of 5)

Well ID	Sampling Date	TOC Elev. (feet)	DTW (feet)	GW Elev. (feet)	NAPL (feet)	TPHd (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
<b>Environmental Screening Levels (May 2008)</b>						100	100	5.0	5.0	1.0	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
MW2	07/15/03	41.99	10.31	31.68	No	---	<50	<0.5	---	<0.5	<0.5	<0.5	<0.5
MW2	10/08/03	41.99	11.20	30.79	No	---	<50	<0.5	---	<0.5	<0.5	<0.5	<0.5
MW2	01/15/04	41.99	5.36	36.63	No	---	63.3	1.0	---	0.70	<0.5	<0.5	<0.5
MW2	Well not sampled from 2004 to 2010.												
MW2	09/17/10	41.99	10.72	31.27	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	12/15/10	42.24	Well resurveyed.										
MW2	09/14/11	42.24	10.02	32.22	No	<b>110g</b>	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	01/18/12	42.24	11.24	31.00	No	---	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	01/27/12	42.24	9.65	32.59	No	<50	---	---	---	---	---	---	---
MW2	07/09/12	42.24	10.07	32.17	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
MW3	03/14/96	32.80	9.55	23.25	No	<b>1,200</b>	<b>4,200</b>	---	---	<b>220</b>	30	<b>140</b>	<b>520</b>
MW3	05/21/96	32.80	10.16	22.64	No	<b>2,800</b>	<b>8,500</b>	---	---	<b>710</b>	<b>110</b>	<b>440</b>	<b>1,700</b>
MW3	08/13/96	32.80	11.18	21.62	No	<b>2,300c</b>	<b>5,000</b>	---	---	<b>430</b>	ND	<b>200</b>	<b>360</b>
MW3	11/08/96	32.80	11.51	21.29	No	<b>2,900b</b>	<b>8,400</b>	<b>73</b>	ND	<b>890</b>	<b>82</b>	<b>790</b>	<b>1,700</b>
MW3	01/31/97	32.80	7.90	24.90	No	<b>7,500b</b>	<b>16,000</b>	ND	---	<b>660</b>	<b>85</b>	<b>960</b>	<b>1,800</b>
MW3	04/22/97	32.80	10.64	22.16	No	<b>2,700</b>	<b>8,000</b>	<b>200</b>	ND	<b>340</b>	33	<b>400</b>	<b>490</b>
MW3	07/29/97	a 32.80	11.36	21.44	No	<b>2,300b</b>	<b>9,800</b>	ND	---	<b>330</b>	ND	<b>530</b>	<b>530</b>
MW3	10/09/97	a 32.80	11.52	21.28	No	<b>2,600b</b>	<b>7,300</b>	<b>270</b>	ND	<b>300</b>	ND	<b>430</b>	<b>460</b>
MW3	01/23/98	a 32.80	7.50	25.30	No	<b>2,300</b>	<b>6,100</b>	ND	---	<b>190</b>	23	<b>330</b>	<b>320</b>
MW3	04/22/98	32.80	6.81	25.99	No	<b>2,600</b>	<b>4,900</b>	ND	ND	<b>140</b>	12	<b>250</b>	<b>230</b>
MW3	07/21/98	32.80	10.65	22.15	No	---	<b>7,400</b>	<b>74</b>	ND	<b>250</b>	16	<b>400</b>	<b>370</b>
MW3	10/20/98	32.80	11.57	21.23	No	---	<b>6,700</b>	ND	ND	<b>200</b>	18	<b>350</b>	<b>350</b>
MW3	01/27/99	32.80	9.11	23.69	No	---	<b>3,100</b>	<b>13</b>	---	<b>74</b>	4	<b>94</b>	<b>39</b>
MW3	07/27/99	32.80	7.27	25.53	No	---	<b>8,900</b>	ND	---	<b>170</b>	21	<b>360</b>	<b>440</b>
MW3	12/08/99	32.80	10.63	22.17	No	---	<b>4,800</b>	ND	---	<b>94</b>	13	<b>170</b>	<b>210</b>
MW3	10/25/00	39.27	12.08	27.19	No	---	<b>3,800</b>	<b>&lt;50</b>	<b>&lt;5</b>	<b>63</b>	2.9	<b>100</b>	<b>65</b>
MW3	01/15/01	39.27	10.29	28.98	No	---	<b>4,300</b>	<b>&lt;5.0</b>	---	<b>76</b>	9.5	<b>47</b>	<b>76</b>
MW3	04/10/01	39.27	10.11	29.16	No	---	<b>2,700</b>	<b>&lt;20</b>	---	<b>55</b>	4.4	<b>100</b>	<b>37</b>
MW3	07/24/01	39.27	11.57	27.70	No	---	<b>3,100</b>	<b>&lt;1.0</b>	---	<b>110</b>	6.9	<b>110</b>	<b>81</b>
MW3	11/27/01	39.27	10.93	28.34	No	---	<b>2,400</b>	<b>&lt;0.30</b>	---	<b>47</b>	8.9	<b>25</b>	<b>35</b>
MW3	01/18/02	41.71	9.47	32.24	No	---	<b>1,130</b>	<b>13.6</b>	---	<b>15.3</b>	2.30	<b>42.0</b>	<b>24.6</b>
MW3	04/10/02	41.71	10.14	31.57	No	---	<b>916</b>	<b>11.2</b>	---	<b>35.1</b>	3.00	<b>22.5</b>	<b>13.8</b>
MW3	07/12/02	41.71	11.34	30.37	No	---	<b>2,330</b>	<b>15.4</b>	---	<b>60.5</b>	2.90	<b>39.8</b>	<b>50.9</b>
MW3	10/14/02	41.71	12.10	29.61	No	---	<b>2,550</b>	<b>&lt;0.5</b>	---	<b>36.9</b>	3.8	<b>20.3</b>	<b>48.0</b>
MW3	01/20/03	41.71	9.20	32.51	No	---	<b>1,750</b>	<b>10.7</b>	---	<b>20.4</b>	<b>304.0</b>	<b>60.7</b>	<b>22.0</b>
MW3	04/28/03	41.71	9.37	32.34	No	---	<b>2,730</b>	<b>11.2</b>	---	<b>10.0</b>	2.7	<b>42.7</b>	<b>20.1</b>
MW3	07/15/03	41.71	11.15	30.56	No	---	<b>1,790</b>	<b>5.6</b>	---	<b>68.8</b>	3.6	<b>39.0</b>	<b>44.7</b>
MW3	10/08/03	41.71	11.89	29.82	No	---	<b>1,320</b>	<b>7.1</b>	---	<b>35.1</b>	4.0	<b>23.6</b>	<b>31.8</b>
MW3	01/15/04	41.71	9.16	32.55	No	---	<b>791</b>	<b>3.4</b>	---	<b>24.4</b>	1.3	<b>40.1</b>	<b>14.7</b>
MW3	Well not sampled from 2004 to 2010.												

**TABLE 1A**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
Former Mobil Service Station 99105  
6301 San Pablo Avenue  
Oakland, California  
(Page 3 of 5)

Well ID	Sampling Date	TOC Elev. (feet)	DTW (feet)	GW Elev. (feet)	NAPL (feet)	TPHd (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
<b>Environmental Screening Levels (May 2008)</b>						100	100	5.0	5.0	1.0	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
MW3	09/17/10	41.71	11.46	30.25	No	99	2,500	---	<0.50	2.6	0.31f	1.8	1.8
MW3	12/15/10	42.18	Well resurveyed.										
MW3	09/14/11	42.18	11.37	30.81	No	270g	1,200	---	<0.50	18	0.95	1.7	1.3
MW3	01/18/12	42.18	12.11	30.07	No	---	910g	---	<0.50	0.89	<0.50	<0.50	0.88
MW3	01/27/12	42.18	10.18	32.00	No	1,000g	---	---	---	---	---	---	---
MW3	07/09/12	42.18	11.15	31.03	No	420g	350g	---	<0.50	7.9	<0.50	<0.50	<0.50
MW4	03/14/96	31.50	4.92	26.58	No	3,500	12,000	---	---	2,200	140	880	2,000
MW4	05/21/96	31.50	8.60	22.90	No	4,200	11,000	---	---	1,700	ND	930	470
MW4	08/13/96	31.50	10.02	21.50	0.02	---	---	---	---	---	---	---	---
MW4	11/08/96	31.50	10.28	21.33	0.15	---	---	---	---	---	---	---	---
MW4	01/31/97	31.50	7.88	23.62	No	8,200b	23,000	ND	---	980	68	1,100	1,400
MW4	04/22/97	31.50	7.40	24.10	No	4,500	8,800	ND	---	950	ND	610	130
MW4	07/29/97	31.50	9.85	21.74	0.12	---	---	---	---	---	---	---	---
MW4	10/09/97	31.50	10.35	21.38	0.30	---	---	---	---	---	---	---	---
MW4	01/23/98	31.50	4.68	27.51	0.92	---	---	---	---	---	---	---	---
MW4	04/22/98	31.50	6.39	25.22	0.14	---	---	---	---	---	---	---	---
MW4	07/21/98	31.50	7.10	24.55	0.20	---	---	---	---	---	---	---	---
MW4	10/20/98	31.50	9.03	22.60	0.17	---	---	---	---	---	---	---	---
MW4	01/27/99	31.50	5.37	26.18	0.07	---	---	---	---	---	---	---	---
MW4	Apr-99	Destroyed during construction activities.											
MW5	10/25/00	39.18	10.92	28.26	No	---	2,500	<20	---	79	3.8	66	<20
MW5	01/15/01	39.18	8.32	30.86	No	---	3,900	<5.0	---	120	7.9	280	52
MW5	04/10/01	39.18	7.21	31.97	No	---	8,000	<50	<5	280	4.4	410	100
MW5	07/24/01	39.18	9.54	29.64	No	---	7,000	<1.0	---	360	7.4	380	67
MW5	11/27/01	39.18	8.84	30.34	No	---	5,000	8.9	<2	64	11	340	52
MW5	01/18/02	41.59	6.52	35.07	No	---	6,330	21.8	---	99.1	2.30	103	19.6
MW5	04/10/02	41.59	7.20	34.39	No	---	2,140	<2.50	---	275	8.00	183	24.5
MW5	07/12/02	41.59	8.83	32.76	No	---	3,940	20	<0.50	350	<0.50	268	14
MW5	10/14/02	41.59	10.74	30.85	No	---	4,040	<2.5	---	98.5	9.0	169	29.0
MW5	01/20/03	41.59	6.45	35.14	No	---	7,660	59	<0.50	421	10.0	743	96.0
MW5	04/28/03	41.59	6.68	34.91	No	---	7,510	47	<0.50	403	5.5	524	50.5
MW5	07/15/03	41.59	8.68	32.91	No	---	6,080	52.9	<2.5	406	19.8	412	34.7
MW5	10/08/03	41.59	10.56	31.03	No	---	2,460	54.3	<0.5	160	12.8	173	31.7
MW5	01/15/04	41.59	6.56	35.03	No	---	4,630	37.4	<0.5	181	6.0	312	38.5
MW5	Well not sampled from 2004 to 2010.												
MW5	09/17/10	41.59	9.99	31.60	No	5,700	6,600	---	<5.0	19	<5.0	16	1.4f
MW5	12/15/10	41.86	Well resurveyed.										
MW5	09/14/11	41.86	7.33	34.53	No	1,600g	7,200	---	<2.0	23	<2.0	8.6	<2.0
MW5	01/18/12	41.86	9.46	32.40	No	---	3,600g	---	<1.0	14	<1.0	7.6	<1.0

**TABLE 1A**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
Former Mobil Service Station 99105  
6301 San Pablo Avenue  
Oakland, California  
(Page 4 of 5)

Well ID	Sampling Date	TOC Elev. (feet)	DTW (feet)	GW Elev. (feet)	NAPL (feet)	TPHd (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
<b>Environmental Screening Levels (May 2008)</b>						100	100	5.0	5.0	1.0	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
MW5	01/27/12	41.86	8.81	33.05	No	<b>3,100g</b>	---	---	---	---	---	---	---
MW5	07/09/12	41.86	8.91	32.95	Sheen	<b>29,000g</b>	<b>9,300g</b>	---	<2.5	<b>21</b>	<2.5	6.9	<2.5
<b>Grab Groundwater Samples</b>													
<i>Former Gasoline Tank Cavity</i>													
TW1	01/04/96	---	6.00	---	No	<b>700</b>	ND	---	---	ND	ND	ND	ND
<i>Used-Oil Tank Cavity</i>													
WW1	01/04/96	---	3.00	---	No	---	ND	---	---	ND	ND	ND	ND
AB1	03/05/98	---	4.5	---	No	---	<b>1,600</b>	ND	---	<b>31</b>	5.3	<b>79</b>	<b>130</b>
AB2	03/05/98	---	8.0	---	No	---	ND	ND	---	ND	2.9	0.9	5.7
AB3	03/05/98	---	5.5	---	No	---	<b>6,800</b>	<b>230</b>	---	<b>680</b>	100	<b>1,500</b>	<b>2,300</b>
AB4	03/05/98	---	4.0	---	No	---	<b>8,500</b>	ND	---	<b>240</b>	ND	<b>260</b>	<b>720</b>
AB6	03/05/98	---	4.5	---	No	---	<b>12,000</b>	ND	---	<b>350</b>	ND	<b>310</b>	<b>100</b>
AB9	03/05/98	---	6.0	---	No	---	<b>1,000</b>	ND	---	<b>57</b>	12	<b>44</b>	<b>93</b>
AB10	03/05/98	---	2.0	---	No	---	<b>200</b>	ND	---	<b>3.0</b>	1.2	3.2	2.8
AB11	03/05/98	---	8.5	---	No	---	ND	ND	---	ND	ND	ND	ND
AB12	03/05/98	---	6.0	---	No	---	<b>8,800</b>	<b>37</b>	---	<b>660</b>	50	<b>630</b>	940
AB13	03/05/98	---	8.0	---	No	---	<b>210</b>	ND	---	<b>11</b>	0.8	10	15
HA1	01/25/00	---	---	---	---	---	<b>&lt;500</b>	<b>&lt;5.0</b>	---	<0.3	<0.3	<0.3	<0.6
B1	11/18/10	---	Dry	---	---	---	---	---	---	---	---	---	---
B2	11/19/10	---	Dry	---	---	---	---	---	---	---	---	---	---
B3	11/19/10	---	8.45	---	---	<50	<50	---	<0.50	<0.50	<0.50	0.053f	0.21f
B4	11/19/10	---	Dry	---	---	---	---	---	---	---	---	---	---
B5	11/18/10	---	8.95	---	---	<50	<50	---	<0.50	<0.50	<0.50	0.047f	0.21f
W-15-B6	06/19/12	---	15	---	---	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
W-15-B7	06/19/12	---	15	---	---	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50
W-9.5-B8	06/19/12	---	9.5	---	---	<b>230g</b>	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50



**TABLE 1A**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**

Former Mobil Service Station 99105

6301 San Pablo Avenue

Oakland, California

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Notes:	Adapted from ETIC's <i>Report of Groundwater Monitoring, Third Quarter 2010</i> .	
TOC Elev.	=	Top of casing elevation.
DTW	=	Depth to water.
GW Elev.	=	Groundwater elevation.
NAPL	=	Non-aqueous phase liquid.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015B.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE 8020/8021	=	Methyl tertiary butyl ether analyzed using EPA Method 8020 or 8021B.
MTBE 8240/8260	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B or 8240.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-dichloroethane analyzed using EPA Method 8260B.
EDB	=	1,2-dibromoethane analyzed using EPA Method 8260B.
Ethanol	=	Ethanol analyzed using EPA Method 8260B.
ND	=	Not detected at or above the laboratory reporting limit.
µg/L	=	Micrograms per liter.
<	=	Less than the stated laboratory reporting limit.
---	=	Not analyzed/Not applicable.
a	=	Well sampled using no-purge method.
b	=	Diesel and unidentified hydrocarbons <C15.
c	=	Diesel and unidentified hydrocarbons <C15>C25.
d	=	Diesel and unidentified hydrocarbons >C20.
e	=	Unidentified hydrocarbons >C18.
f	=	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit.
g	=	Chromatographic pattern does not match that of the specified standard.

**APPENDIX A**  
**CORRESPONDENCE**

ALAMEDA COUNTY  
**HEALTH CARE SERVICES**  
AGENCY  
ALEX BRISCOE, Agency Director



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

February 28, 2013

Jennifer Sedlachek  
ExxonMobil  
4096 Piedmont, Ave., #194  
Oakland, CA 94611

On Dan and Nathan Lam  
200 El Dorado Terrace  
San Francisco, CA 94112

Subject: Fuel Leak Case No. RO0000445 and Geotracker Global ID T0600101855, Mobil#99-105 / Cars Rent A Car, 6301 San Pablo Avenue, Oakland, CA 94608

Dear Ms. Sedlachek and Messrs. Lam:

Thank you for the recently submitted reports entitled, *Site Conceptual Model Update, Low-Threat Closure Evaluation, and Feasibility Study/Corrective Action Plan* dated October 25, 2012 and *Semi-Annual Groundwater Monitoring Report, Third Quarter 2012* dated August 20, 2012 prepared by Cardno ERI for the subject site. Alameda County Environmental Health (ACEH) staff has reviewed the case file including the above-mentioned reports for the above-referenced site.

The above-mentioned report does not include cleanup levels, detailed cost estimates of the evaluated remedial alternatives or the timeframe to cleanup. Therefore, an adequate evaluation could not be performed. ACEH requests that you address the following technical comments and send us a draft corrective action plan addendum as requested below.

**TECHNICAL COMMENTS**

1. **Free Product Observed in MW-5** – The text and field notes of the groundwater monitoring report referenced above state that sheen was present in MW-5. However, the presence of free product is not noted in the table. Please update the table to reflect the presence of sheen and submit an addendum to the groundwater monitoring report.
2. **Low Threat Closure Policy Review** – Cardno ERI presented an evaluation of the site using the LTCP and concluded that the site passes for all criteria except petroleum intrusion to indoor air. ACEH has also reviewed the site under the LTCP and finds that in addition to not meeting the media specific criteria for petroleum vapor intrusion to indoor air, the site does not meet the media specific criteria for groundwater since free product has recently been detected in MW-5, demonstrating an increasing petroleum hydrocarbon trend.
3. **Cleanup Levels** – The corrective action plan (CAP) proposes using Environmental Screening levels (ESLs) as clean up goals. These cleanup goals are appropriate for long-term closure goals. However, site cleanup levels, the levels at which the system will be turned off and groundwater and soil expected to continue to naturally attenuate, and the timeframe to reach these levels have not been specified. Please present the clean up levels for active remediation and the timeframe to reach them in the addendum requested below. An evaluation of the costs for each alternative cannot be made if the length of time for the remediation is not specified. Please present the proposed cleanup levels for active

remediation and time frame to reach them for the proposed viable alternatives in the Draft FS/CAP Addendum requested below.

4. **Cost Evaluation** – Please provide costs for the remedial options evaluated in your corrective action plan. Please specify the breakout costs for each option including groundwater monitoring by year, for the projected duration of the cleanup and include well installation costs, waste disposal costs, etc. Please submit this information in the addendum requested below.
  
5. **Baseline Environmental Project Schedule** – The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a Path to Closure Plan by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates by calendar quarter which will achieve site cleanup and case closure in a timely and efficient manner that minimizes the cost of corrective action. The Project Schedule should include, but not be limited to, the following key environmental elements and milestones as appropriate:
  - Preferential Pathway Study
  - Soil, Groundwater, and Soil Vapor Investigations
  - Initial, Updated, and Final/Validated SCMs
  - Interim Remedial Actions
  - Feasibility Study/Corrective Action Plan
  - Pilot Tests
  - Remedial Actions
  - Soil Vapor and Groundwater Monitoring Well Installation and Monitoring
  - Public Participation Program (Fact Sheet Preparation/Distribution/Public Comment Period, Community Meetings, etc.)
  - Case Closure Tasks (Request for closure documents, ACEH Case Closure Summary Preparation and Review, Site Management Plan, Institutional Controls, Public Participation, Landowner Notification, Well Decommissioning, Waste Removal, and Reporting.)

Please include time for regulatory and RP in house review, permitting, off-site access agreements, and utility connections, etc.

Please use a critical path methodology/tool to construct a schedule with sufficient detail to support a realistic and achievable Path to Closure Schedule. The schedule is to include at a minimum:

- Defined work breakdown structure including summary tasks required to accomplish the project objectives and required deliverables
  
- Summary task decomposition into smaller more manageable components that can be scheduled, monitored, and controlled

Ms. Sedlachek and Messrs. Lam  
RO0000445  
February 28, 2013, Page 3

- Sequencing of activities to identify and document relationships among the project activities using logical relationships
- Identification of critical paths, linkages, predecessor and successor activities, leads and lags, and key milestones
- Identification of entity responsible for executing work
- Estimated activity durations (60-day ACEH review times are based on calendar days)

Please submit an electronic copy of the Path to Closure Schedule by the date listed below. ACEH will review the schedule to ensure that all key elements are included.

#### TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Barbara Jakub), according to the following schedule:

- **March 15, 2013** – Groundwater Monitoring Report Addendum (Third Quarter 2012)  
(File to be named GWM\_R\_ADEND\_yyyy-mm-dd)
- **May 15, 2013** – Draft Corrective Action Plan Addendum  
(File to be named: CAP\_ADD\_R\_yyyy-mm-dd)
- **May 15, 2013** – Path to Closure and Schedule  
(File to be named PROJ\_SCH\_yyyy-mm-dd)

Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 639-1287 or send me an electronic mail message at [barbara.jakub@acgov.org](mailto:barbara.jakub@acgov.org).

Sincerely,



Digitally signed by Barbara J. Jakub  
DN: cn=Barbara J. Jakub, o, ou,  
email=barbara.jakub@acgov.org, c=US  
Date: 2013.02.28 14:22:54 -08'00'

Barbara J. Jakub, P.G.  
Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations  
ACEH Electronic Report Upload (ftp) Instructions

cc: Rebekah Westrup, Cardno ERI, 601 North McDowell Blvd., Petaluma, CA 94954-2312 (Sent via e-mail to: [rwestrup@ERI-US.com](mailto:rwestrup@ERI-US.com))  
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (Sent via E-mail to: [lgriffin@oaklandnet.com](mailto:lgriffin@oaklandnet.com))  
Donna Drogos, ACEH (Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org))  
Barbara Jakub, ACEH (Sent via E-mail to: [barbara.jakub@acgov.org](mailto:barbara.jakub@acgov.org))  
GeoTracker, File

**APPENDIX B**

**FIELD NOTES**

DAILY FIELD REPORT



PROJECT: 99105	JOB # + ACTIVITY: 2783
SUBJECT: Mats	DATE: 7-9-12
EQUIPMENT USED:	SHEET: 1 OF 1
NAME: DH	PROJECT MNGR: Paule
Onsite 0845	
H&S Meeting	
Open Wells	
DIW Wells	
Purge & Sample MW 2 MW3 MW5	
Purge 41	
Decon 20	
Total 61	
Offsite 1245	
*MW5 - Strong odor & sheen. Very dirty color.	







# WATER SAMPLING SITE STATUS

Date: 7-9-12  
 Inspected by: DH

ERI Job Number: 2783 Station No.: 99105

Site Address: 6301 San Pablo Ave Emeryville

Well ID	Well Head Screws	Rubber Gasket	Well Cap Locking	Lock on Well Cap	Concrete Well Seal	Well Head PVC	Water in Well Vault	Well Cover	Fence/Gate Condition	# Drums	Drum Contents	Building Condition	Site Appearance	Comments / Well Covers	
	N/R/ok	N/R/ok	N/R/ok	N/R/ok	N/R/ok	N/R/ok	Y/N	N/R/ok	N/R/ok	N/R/ok	s/w/e	g/v/o	N/R/ok		
MW2	OK	OK	OK	OK	OK	OK	N	OK	OK	OK	7	3	g	OK	OK
MW3							N							OK	
MW3							Y							H2O	

N = Not repairable in time available-see comments.      Y = Yes.      s = Soil.      g = Graffiti on walls.  
 R = Repaired-see comments      N = No.      w = Water.      v = Vagrants (or evidence of).  
 ok = No action needed.      e = Empty.      o = Open (not secured).