



# Health Care Services

## Alameda County Environmental Health Meeting Sign-In Sheet

RO127 Parcel A Good Chevrolet  
6211 San Pablo Avenue, Oakland, CA

Tuesday July 29, 2014  
10:00 AM – 11:00 AM

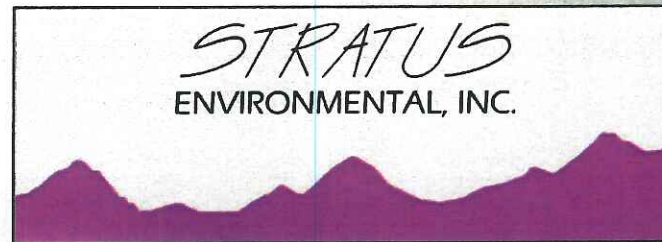
NAME	COMPANY	MAILING ADDRESS	PHONE	Signature	E-MAIL
Karel Detterman Case Worker	Alameda County	1131 Harbor Bay Pkwy, Suite 250 Alameda, CA 94502	(510) 567-6708	<i>Karel Detterman</i>	<a href="mailto:karel.detterman@acgov.org">karel.detterman@acgov.org</a>
Dilan Roe Program Manager	Alameda County	1131 Harbor Bay Pkwy, Suite 250 Alameda, CA 94502	(510) 567-6767	<i>Dilan Roe</i>	<a href="mailto:dilan.roe@acgov.org">dilan.roe@acgov.org</a>
PRITPAUL S. SAPPAL.	ALASKA. GASOLINE	1811 DEL RIO DRIVE LAFAYETTE, CA 94549	925-348-7761	<i>P. Sappal</i>	SAPPALP @ Yahoo.com
<i>Scott Bittling</i>	<i>Stratus</i>		<i>530-676-2007</i>	<i>Scott Bittling</i>	<i>sbittling@stratusinc.net</i>
<i>GOWRI KOWTHA</i>	<i>STRATUS ENV.</i>	<i>3330 CAMERON PARK DRIVE #550 CAMERON PARK, CA 94582</i>	<i>530-676-6001</i>	<i>Gowri Kowtha</i>	<i>gkowtha @ Stratusinc.net</i>

# Environmental Project Summary

Alaska Gas Service Station  
6211 San Pablo Avenue, Oakland, CA

Prepared for Meeting at Alameda  
County Environmental Health  
Department Office

July 29, 2014



Received 7/29/14 next



# Project Overview

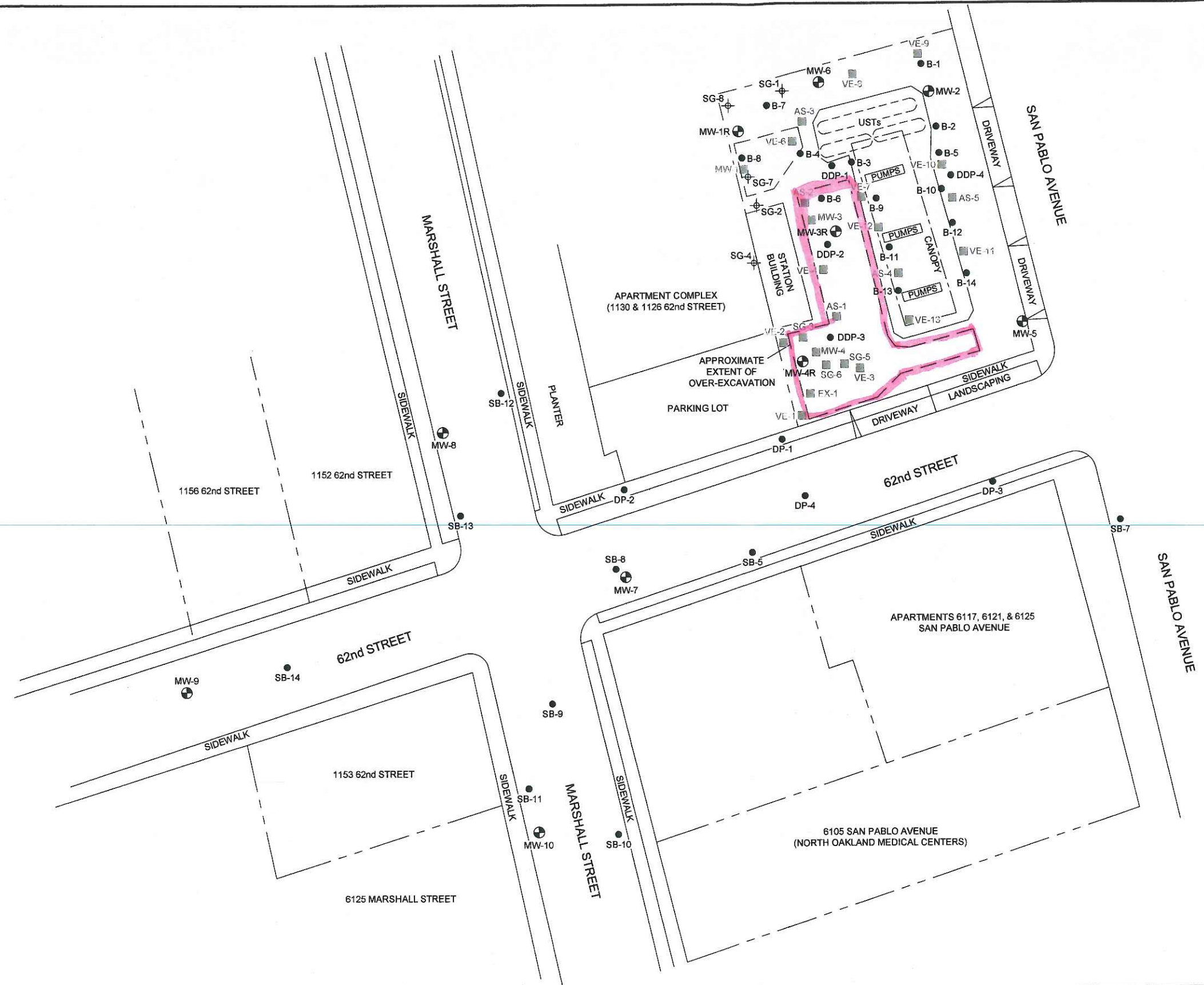
- Environmental site investigations, including implementation of groundwater monitoring & sampling program, began in 1999.
- Numerous environmental investigations were subsequently completed, including the advancement of 67 soil/well borings, installation of 13 SVE wells, 5 sparge wells, 10 monitoring wells (3 later destroyed & replaced), and 8 onsite soil gas monitoring wells.
- The former UST/piping system was removed in 2004 and replaced with the current system. At this time, about 1,100 tons of soil were excavated and removed. An estimated 40,000 to 60,000 gallons of excavation de-watering groundwater was hauled offsite (see figure for former UST and excavation limits).







- LEGEND
- MW-1 MONITORING WELL LOCATION
  - SG-2 NESTED VAPOR PROBE LOCATIONS
  - B-1 SOIL BORING LOCATION
  - MW-1 ABANDONED WELL LOCATION



**STRATUS**  
ENVIRONMENTAL, INC.

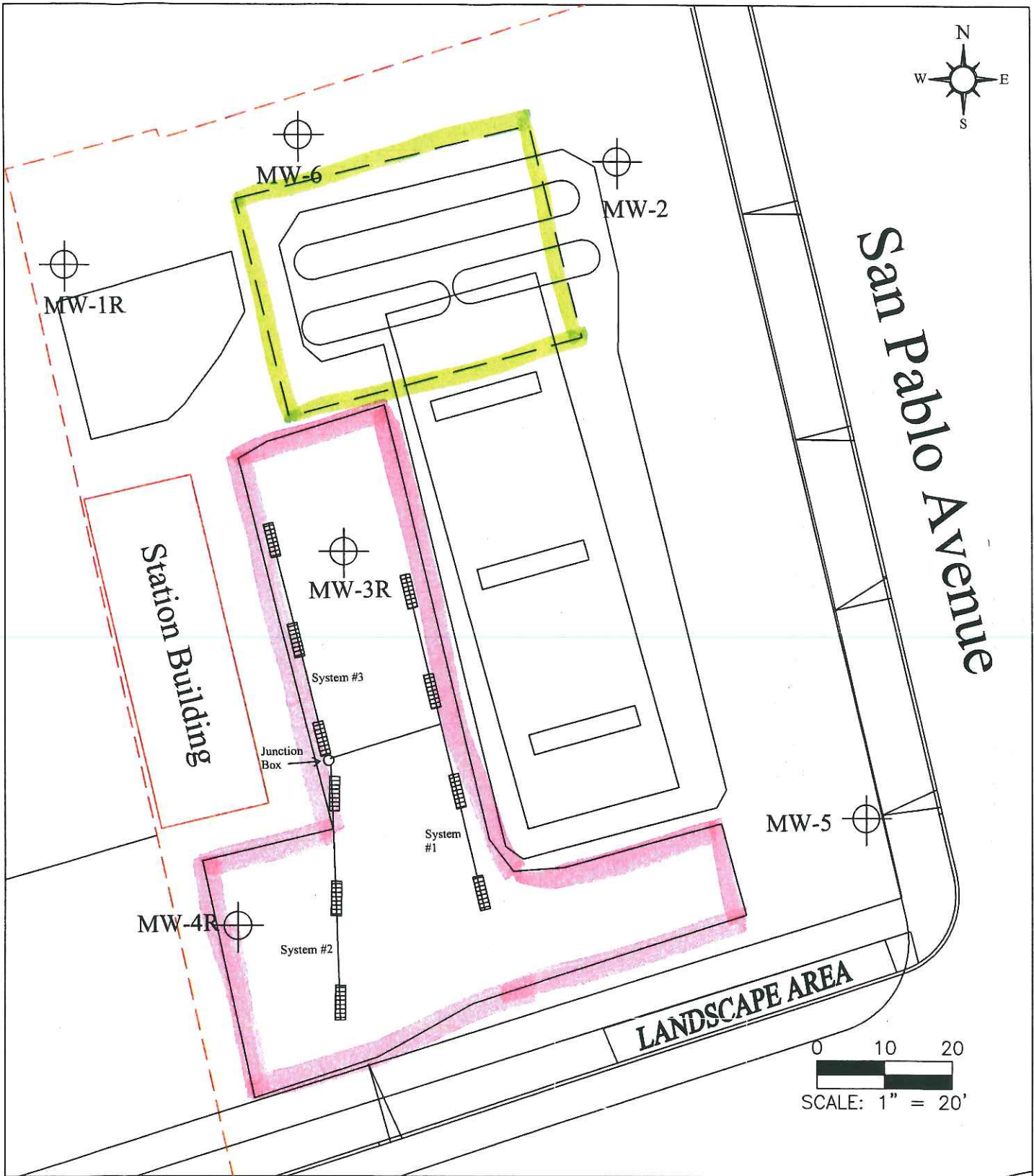
PATH NAME: Alaska Gas  
 DRAFTER INITIALS: JMP  
 DATE LAST REVISED: April 29, 2014  
 FILENAME: Alaska Site Vicinity Map



ALASKA GAS SERVICE STATION  
 6211 SAN PABLO AVENUE  
 OAKLAND, CALIFORNIA

SITE VICINITY MAP

FIGURE  
**2**  
 PROJECT NO.  
 2192-6211-01



**LEGEND**

- |  |                         |  |                          |
|--|-------------------------|--|--------------------------|
|  | MONITORING WELL         |  | UNDERGROUND STORAGE TANK |
|  | PVC BLANK               |  | DISPENSER ISLAND         |
|  | SLOTTED SCREEN          |  | FORMER UST EXCAVATION    |
|  | 2011 EXCAVATION EXTENTS |  |                          |

DRAFTED BY JAS 09-10-08  
 REVISED BY JAS 09-26-11

**AEI CONSULTANTS**  
 2500 CAMINO DIABLO, WALNUT CREEK  
**REMEDATION PIPING LAYOUT**

6211 SAN PABLO AVENUE  
 OAKLAND, CALIFORNIA

**FIGURE 5**  
 PROJECT NO. 280346



## Project Overview, con't

- Soil vapor extraction (SVE) was performed from August 2006 to November 2007. Shallow groundwater levels (ranging from about 2 to 8 feet in depth historically in the monitoring wells) appear to have hindered the effectiveness of SVE. A DPE pilot test was performed in February 2008, but this technology was never implemented full scale.
- Between February and April 2010, bio venting and ozone injection were pilot tested for potential use. Bio venting was deemed non-viable; however ozone injection was deemed viable.
- An excavation was performed on the property in May and June 2011, to the west and south of the site's fuel dispenser islands (see previous figure). The excavation was originally proposed to extend to 10' bgs, but was deepened to 12' bgs based on field observations. About 2228 tons of soil was removed and about 70,560 gallons of de-watering groundwater was generated, treated and discharged. 23 wells (mostly previous remediation wells) were destroyed to facilitate excavation work, or because they were deemed no longer necessary for future project work.



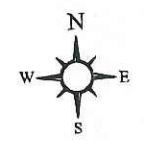
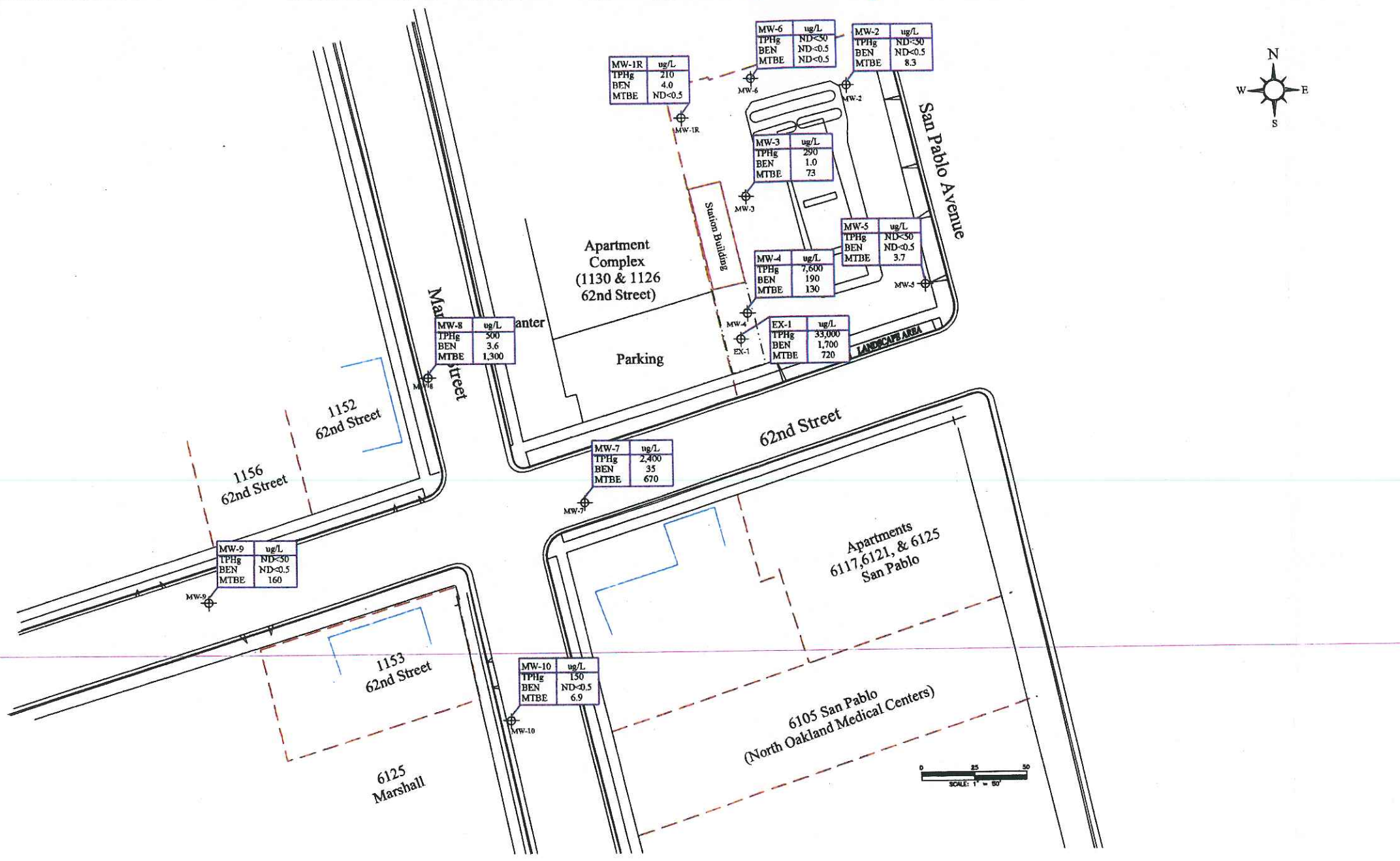


## Project Overview, con't

- After completion of the excavation, two replacement groundwater monitoring wells were installed. Currently, there are six onsite and four offsite wells in the monitoring/sampling program.
- Figures depicting well sampling results for samples collected during the first quarter 2011 (pre-excavation) and during March/May 2014 (most recent sampling event). In general, the data appears to show improvements in groundwater quality at most well locations. An exception to this is at offsite well MW-7, where free phase petroleum hydrocarbons were noted recently (0.03' in March 2014, 0.01' in May 2014).
- GRO, benzene, and MTBE concentrations over time at an onsite well (MW-3/3R) and downgradient offsite well MW-7 are attached. Significant declines in contaminant levels onsite are depicted (larger data set). Smaller declines are noted at MW-7 (data only since 2010).



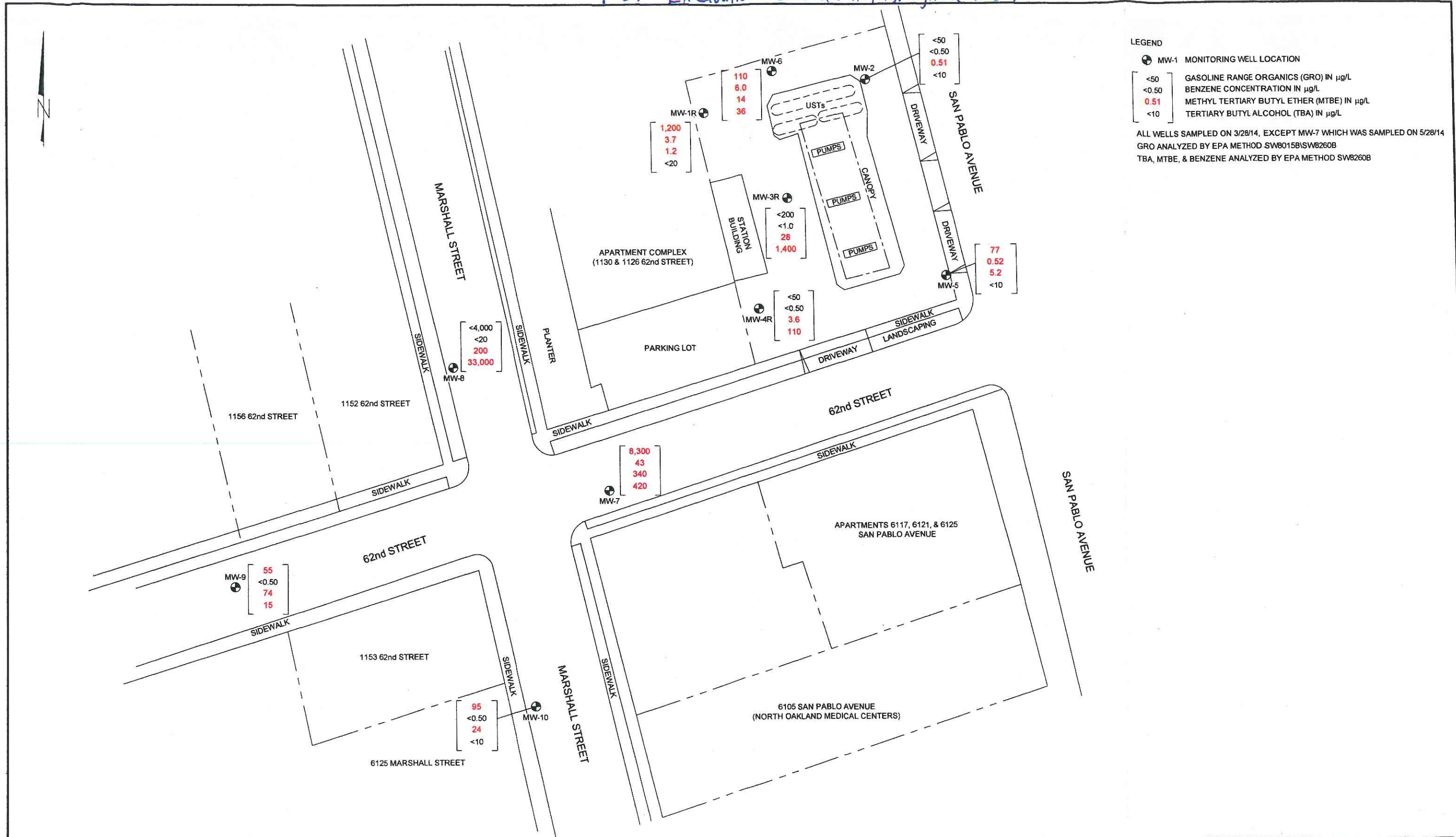
# Pre-Excavation Groundwater Analytical Results



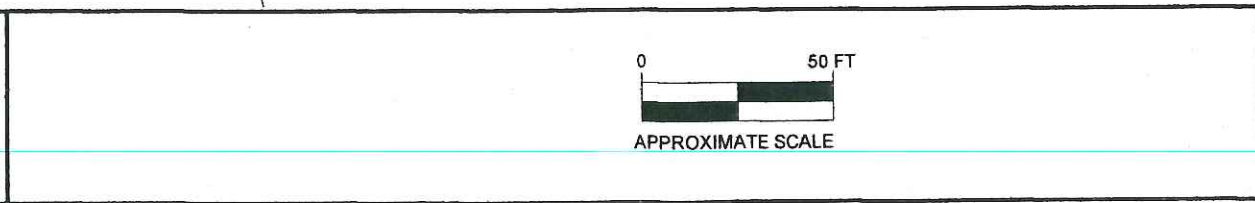
<p><b>LEGEND</b></p> <p>⊕ MONITORING WELL</p> <p>TPHg = Total Petroleum Hydrocarbons as Gasoline          BEN = Benzene          MTBE = Methyl Ter-butyl Ether          ug/L = Micrograms per Liter (ppb)</p>	<p>DRAFTED BY JAS 9/10/08          REVISED BY JAS 5/10/10</p>	<p><b>AEI CONSULTANTS</b>          2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK</p> <p><b>GROUNDWATER ANALYTICAL</b>  <b>MAP - February 17, 2011</b></p> <p>6211 SAN PABLO AVENUE          OAKLAND, CALIFORNIA</p> <p><b>FIGURE 5</b>          PROJECT NO. 280346</p>
---	---	--



# Post-Excavation Groundwater Analytical Results



PATH NAME: Alaska GasQuarterly Figures  
 DRAFTER INITIALS: JMP  
 DATE LAST REVISED: June 10, 2014  
 FILENAME: Alaska Quarterly Figures



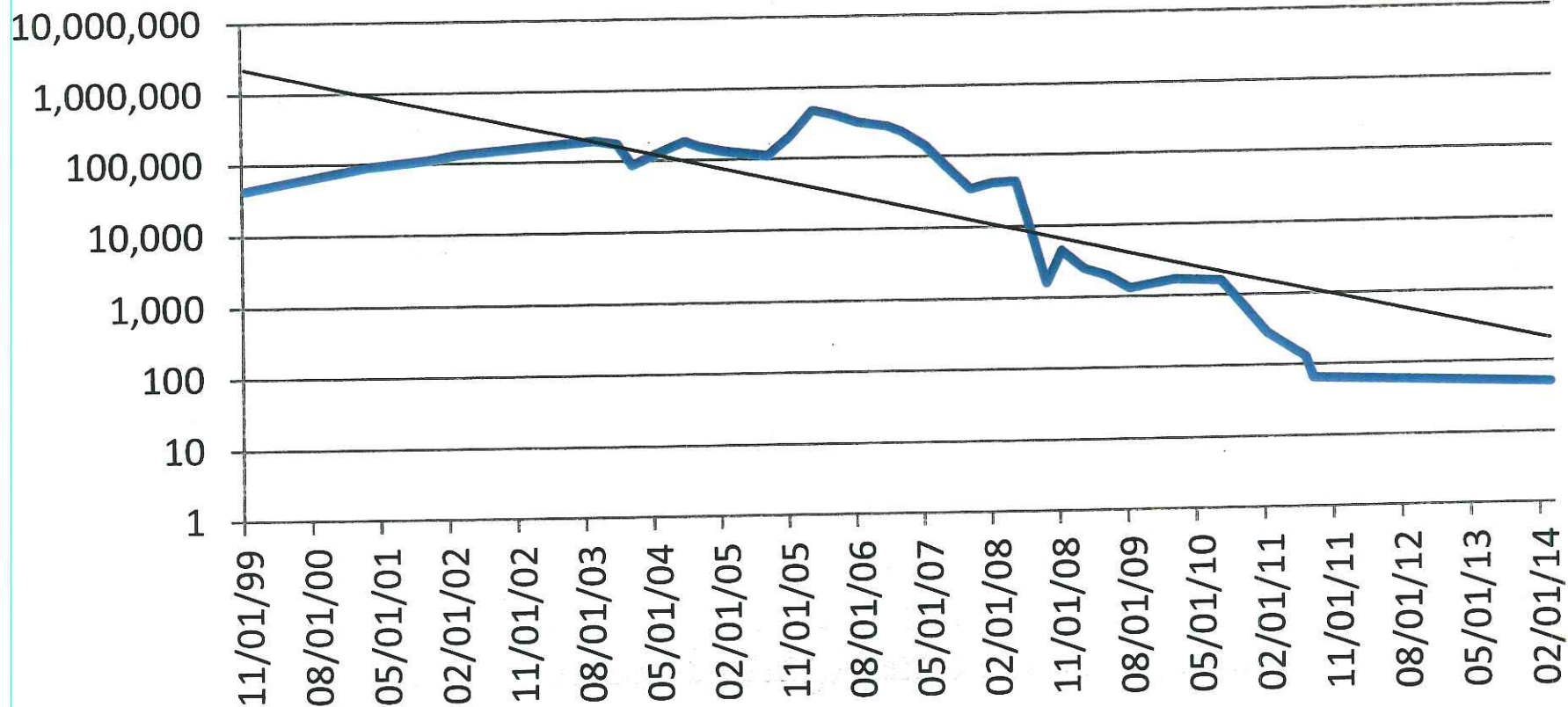
ALASKA GAS SERVICE STATION  
 6211 SAN PABLO AVENUE  
 OAKLAND, CALIFORNIA

GROUNDWATER ANALYTICAL SUMMARY  
 SPRING 2014

FIGURE  
**4**  
 PROJECT NO.  
 2192-6211-01

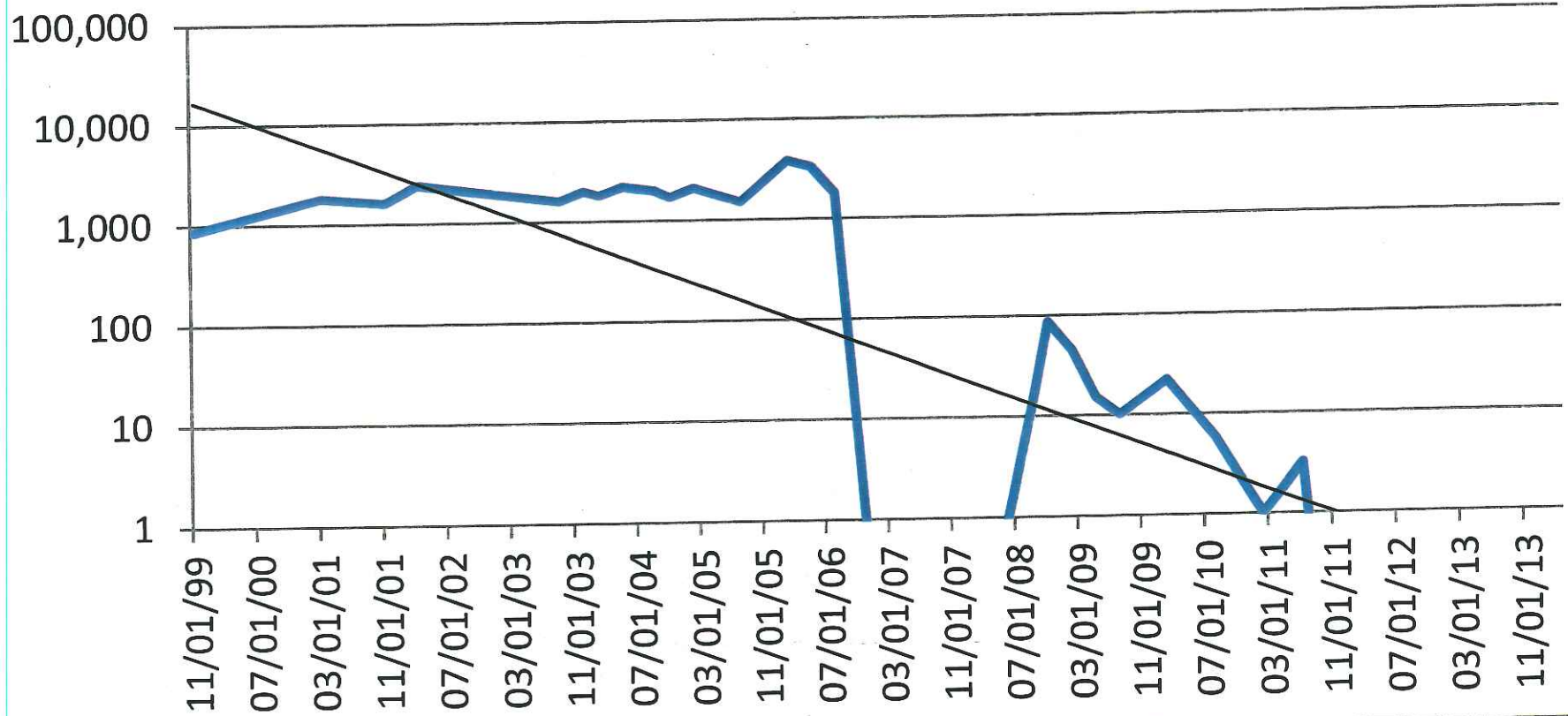


# GRO in Groundwater, MW-3/3R



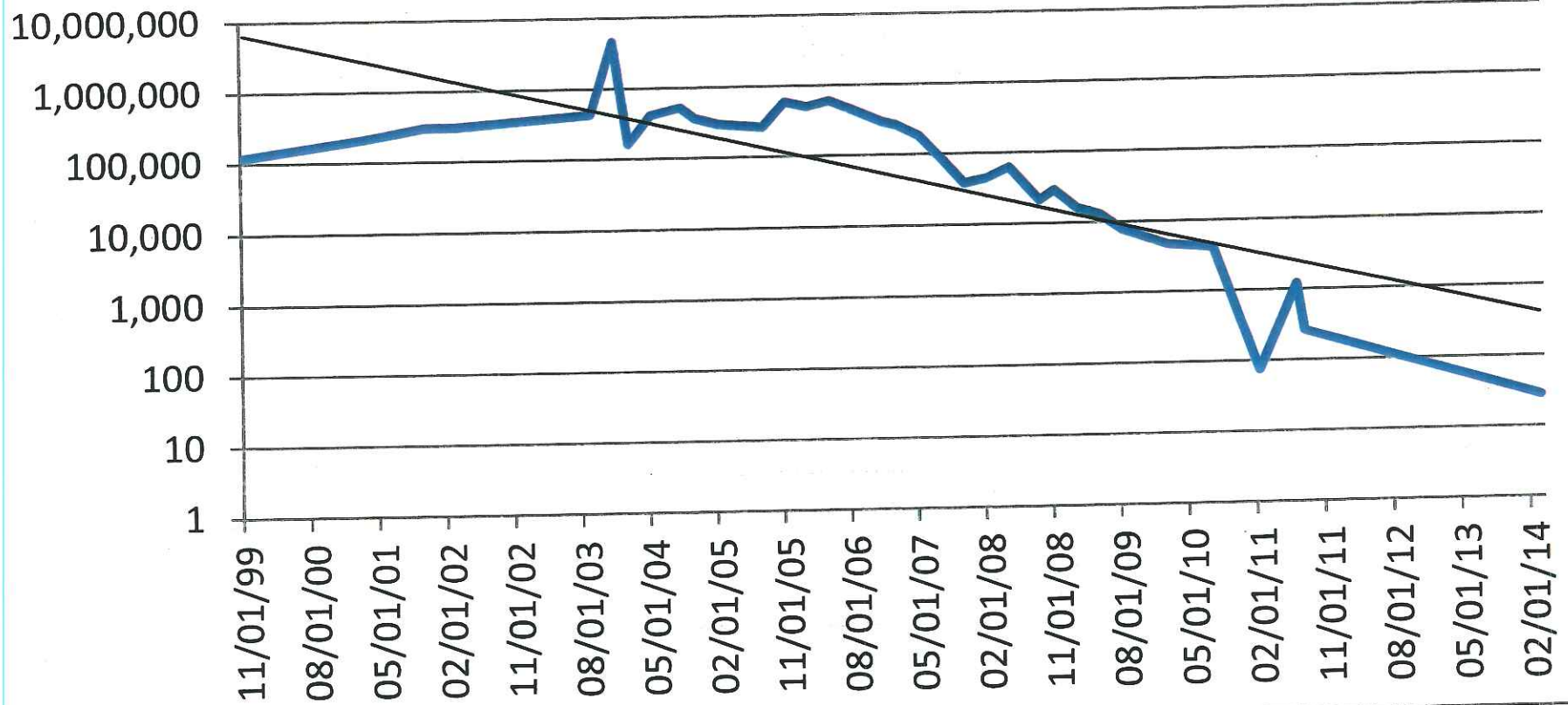


### Benzene in Groundwater, MW-3/3R



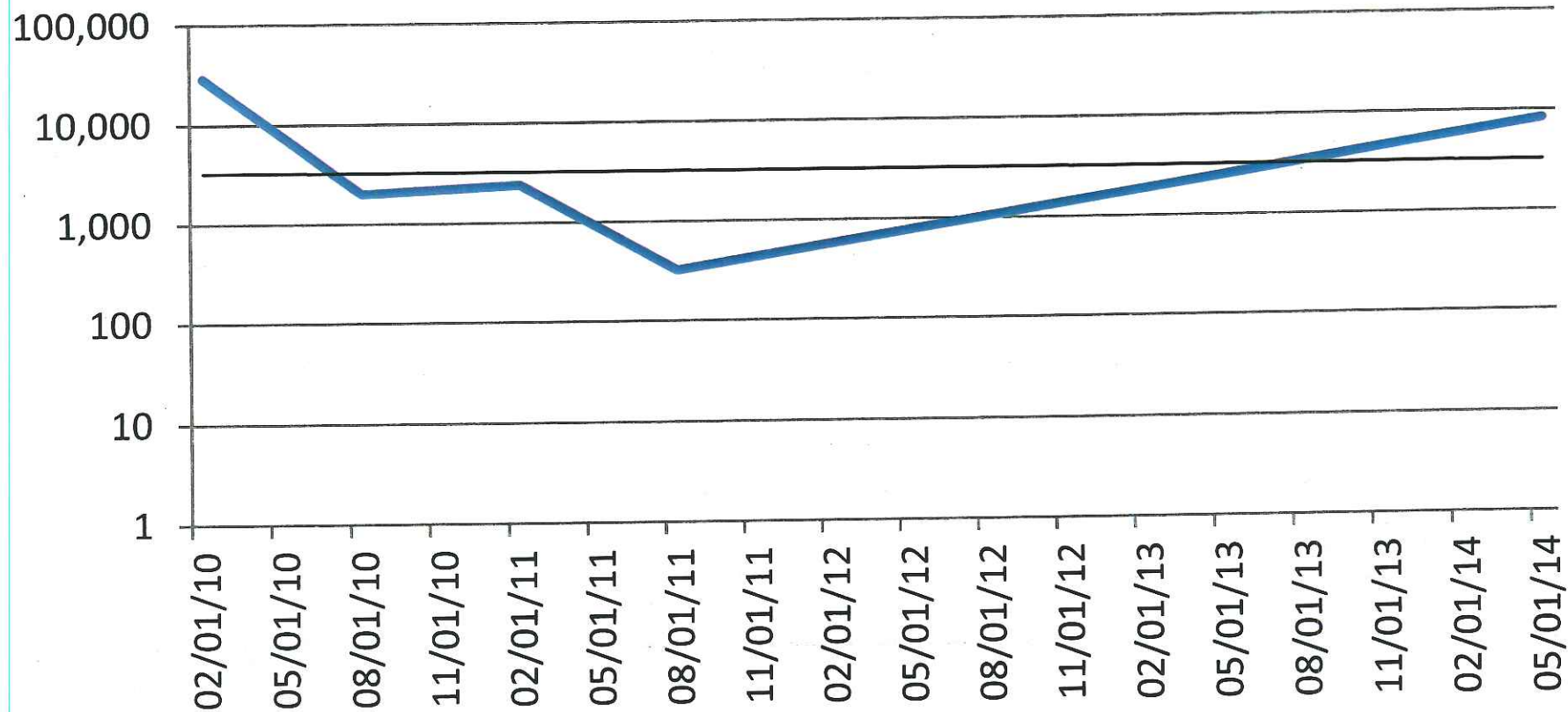


## MTBE in Groundwater, MW-3/3R



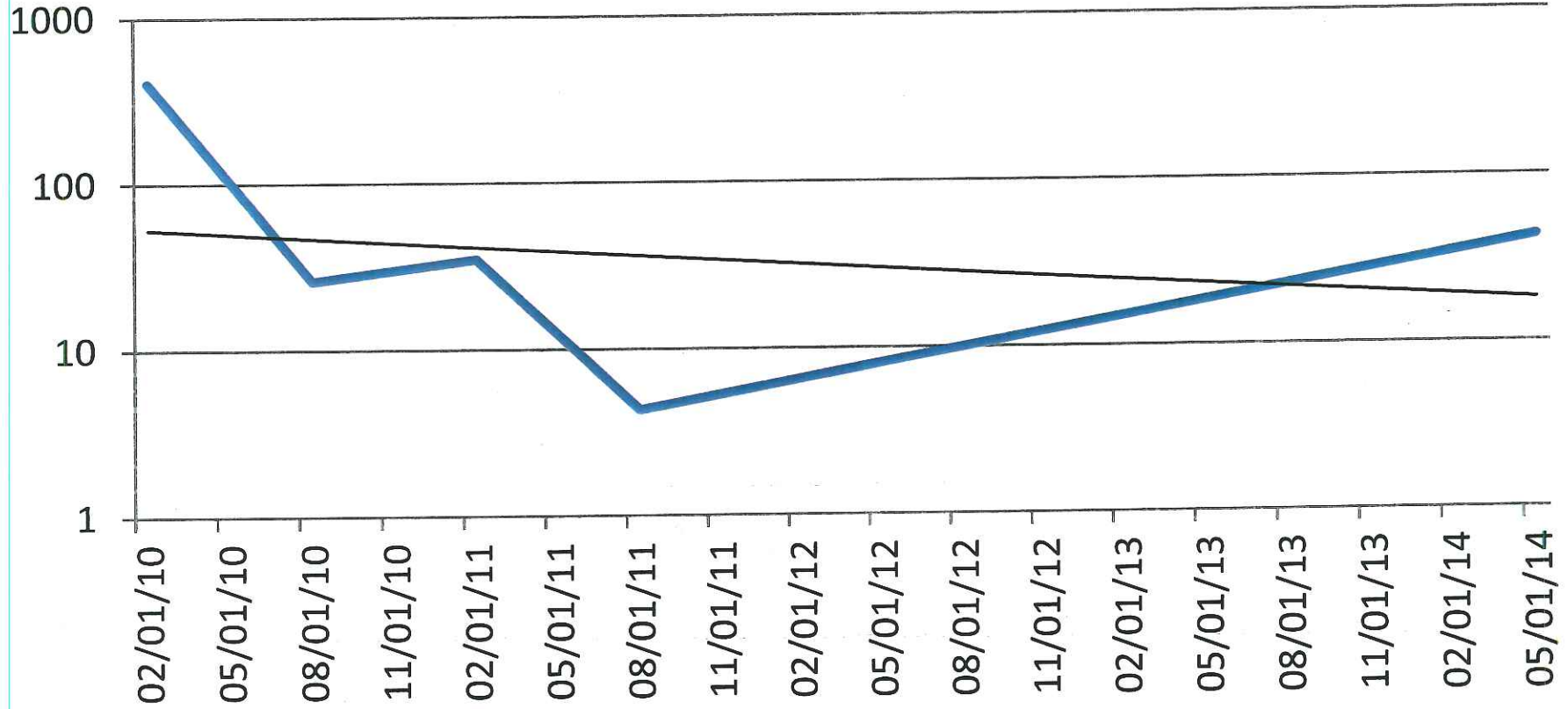


## GRO in Groundwater, MW-7

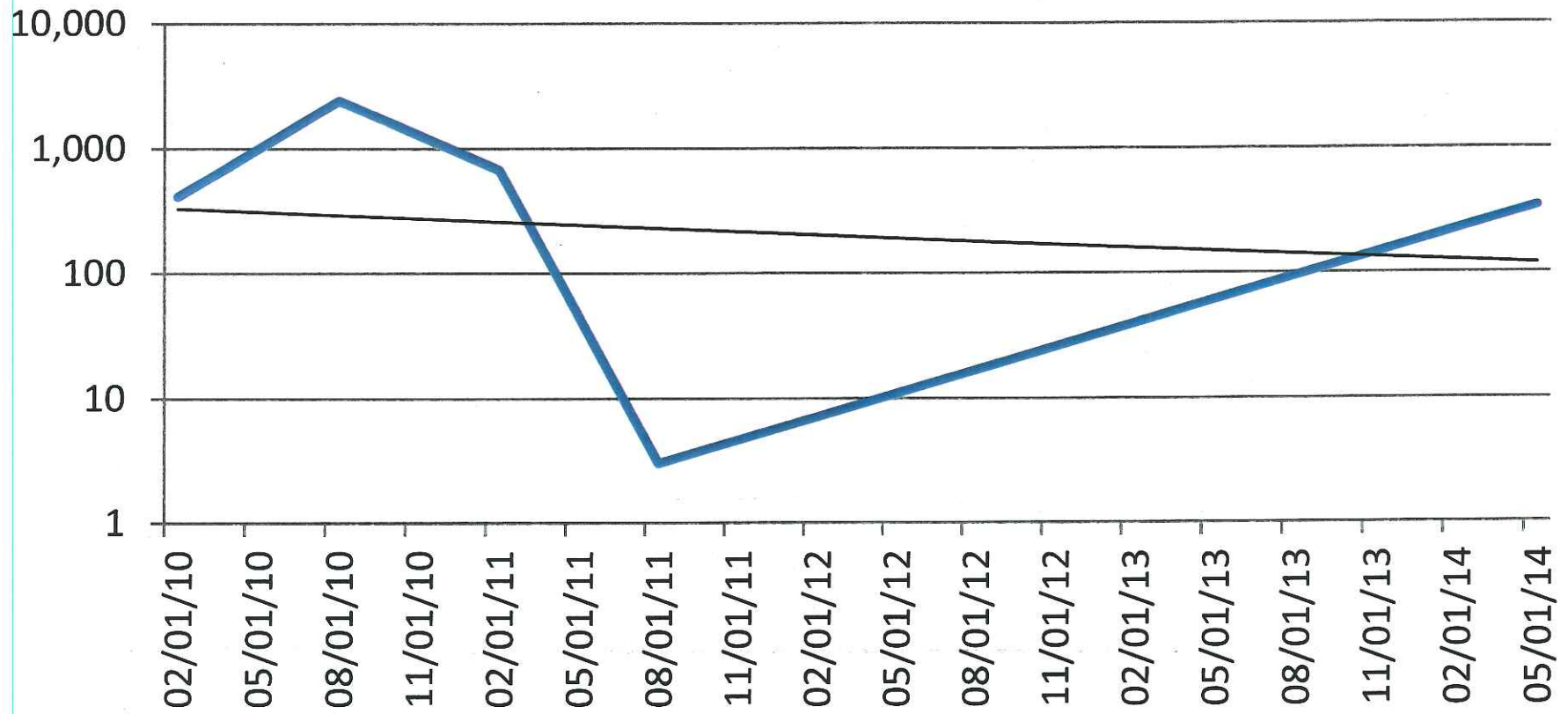




# Benzene in Groundwater, MW-7



### MTBE in Groundwater, MW-7

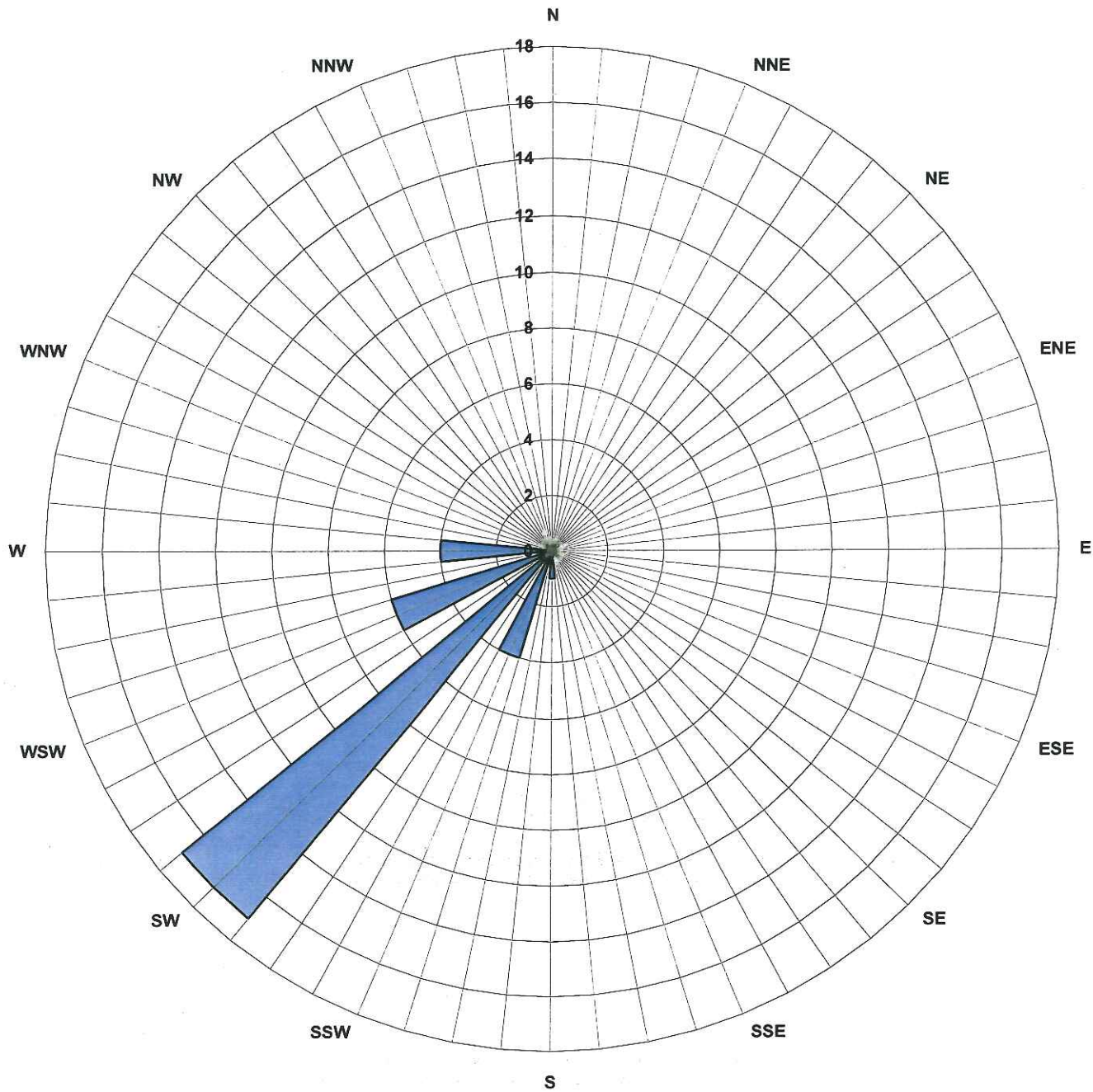




## Project Overview, con't

- Groundwater flow has historically been to the west-southwest (see attached rose diagram).
- A water supply well survey completed in 2008. Based on this data, it appears unlikely that water wells will be impacted by site contaminants, as there does not appear to be any water wells within 1,000' of the site to the west-southwest.
- Given shallow groundwater levels, underground utility corridors in the area, in particular along 62<sup>nd</sup> St., could potentially be impacted with petroleum hydrocarbons.

# Historical Groundwater Flow Direction





# Pathway to Closure

- The lateral extent of fuel contaminant impact to groundwater is not fully assessed. However, development of the surrounding neighborhood places substantial limitations on the viability of completing additional offsite soil borings / groundwater monitoring wells at many locations.
- Besides delineating the extent of groundwater, are there any other issues of concern to ACEHD impeding eventual site closure?
- To date, about \$1.2 million has been spent on environmental work. Currently, an annual budget of \$27,500 has been allocated (VM classification).