



**DEPARTMENT OF THE NAVY**  
COMMANDER  
NAVY REGION HAWAII  
850 TICONDEROGA ST STE 110  
JBPBH, HAWAII 96860-5101

RECEIVED MAY 17 2017 (HW)

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Ser N45/0499  
May 12, 2017

**CERTIFIED NO: 7016 0910 0001 0899 9167**

Mr. Richard Takaba  
Hawaii State Department of Health  
Environmental Management Division  
Solid and Hazardous Waste Branch  
Underground Storage Tank Section  
919 Ala Moana Boulevard, Room 212  
Honolulu, HI 96814

Dear Mr. Takaba:

**SUBJECT: RED HILL TANK COMPLEX**  
**SOIL VAPOR SAMPLING RESULTS FOR APRIL 2017**  
**DOH FACILITY ID NO. 9-102271**  
**DOH RELEASE ID NO. 990051, 010011, 020028, AND 140010**

Soil vapor samples were collected from beneath all active and accessible Red Hill tanks on April 20, 2017.

Soil vapor VOC concentrations were measured in the field using a photo-ionization detector. The soil vapor sampling results are being submitted as Enclosure 1.

A conservative approach is to assess the integrity of the associated tank system if VOC concentrations exceed 280,000 ppbv in soil vapor monitoring points (SVMPs) beneath tanks containing JP-5 or JP-8, or 14,000 ppbv in SVMPs beneath tanks containing marine diesel fuel. These values are 50 percent of the calculated vapor concentration from fuel-saturated water.

At Tank 5, the concentrations of VOCs detected in the front, middle, and outer edge soil vapor monitoring probes were 59,747 ppbv, 8,923 ppbv, and 43,980 ppbv, respectively. Tank 5 was emptied in January 2014 and has not contained fuel since that time. VOC concentrations in all down-gradient soil vapor monitors were below 1,000 ppbv.

The Tank 7 outer edge soil vapor monitoring probe measurement was 112,600 ppbv, or 2 times below the action level. Causative research was conducted and confirmed there was no release to the environment.

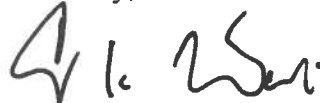
All other VOC concentrations measured in April were about 20 to 875 times below the action levels, with no consistent trends observed. Possible reasons for the results are speculative and may include, but not be limited to, ongoing projects in the tunnel, groundwater level fluctuations, rainfall (or lack thereof), and fuel movement in the tanks and piping.

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Soil vapor VOC concentration trends will continue to be monitored. The next soil vapor sampling event is scheduled for May 2017, and will include collecting samples from soil vapor monitoring probes beneath all active and accessible tanks.

If there are any questions regarding this matter, or if more information is needed, please contact Mr. Melvin Muraoka at (808) 471-3869.

Sincerely,

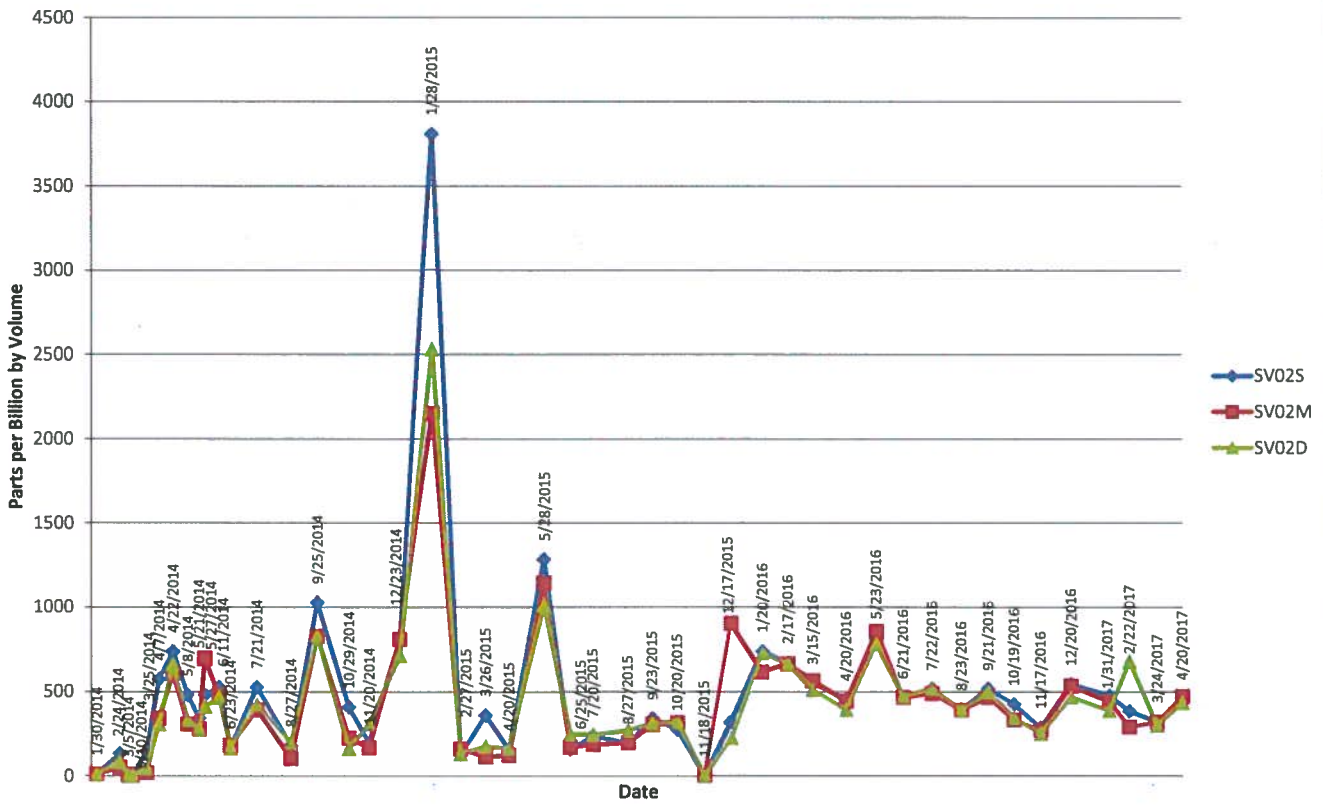


CORY K. WAKI  
Acting Director  
Regional Environmental Department  
By direction of the  
Commander

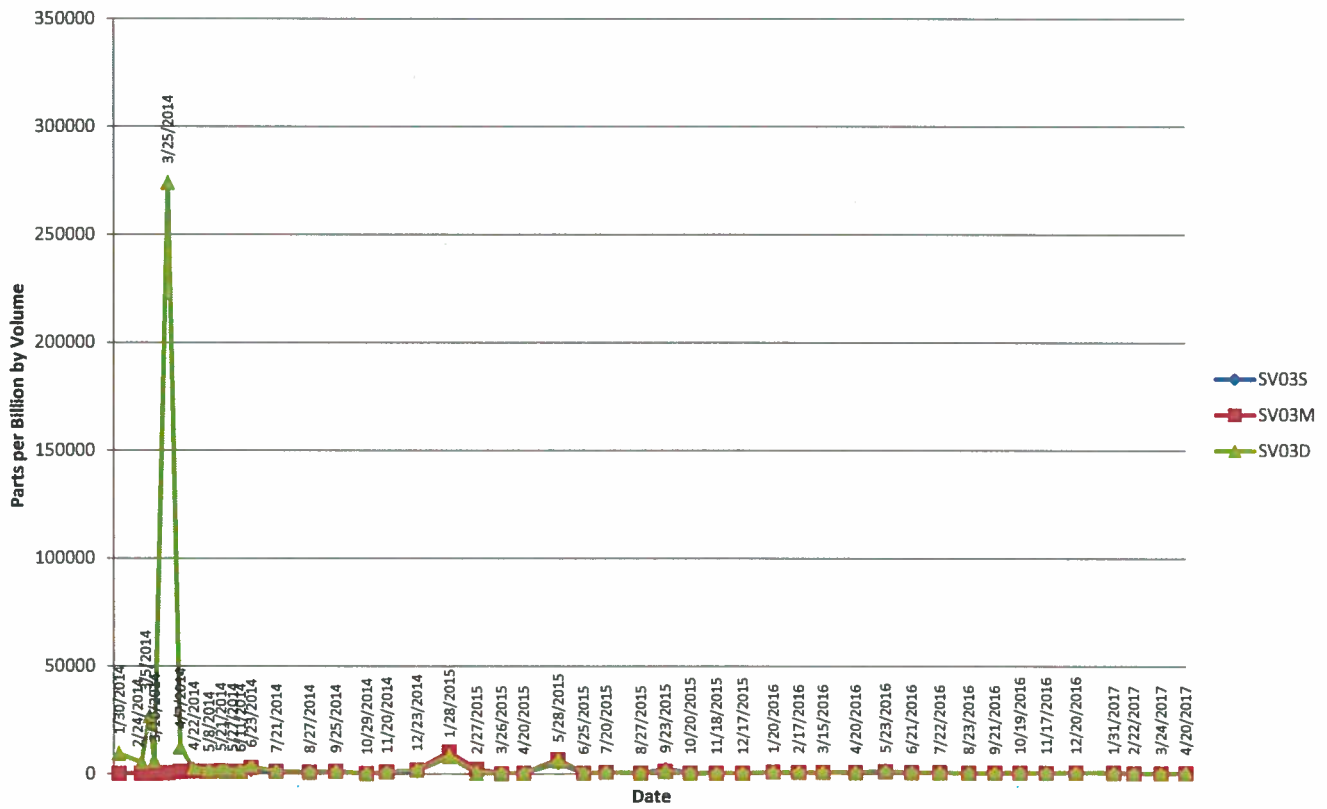
Enclosure: 1. Summary of Soil Vapor Sampling Results for Tanks 2 through 18 and 20 through Apr 2017 (18 pages)

Copy to: Mr. Bob Pallarino, U.S. EPA Region 9, Underground Storage Tank Program Office  
Mr. John Floyd, NAVSUP FLC Pearl Harbor  
Mr. Rockne Krill, DLA Energy Pacific

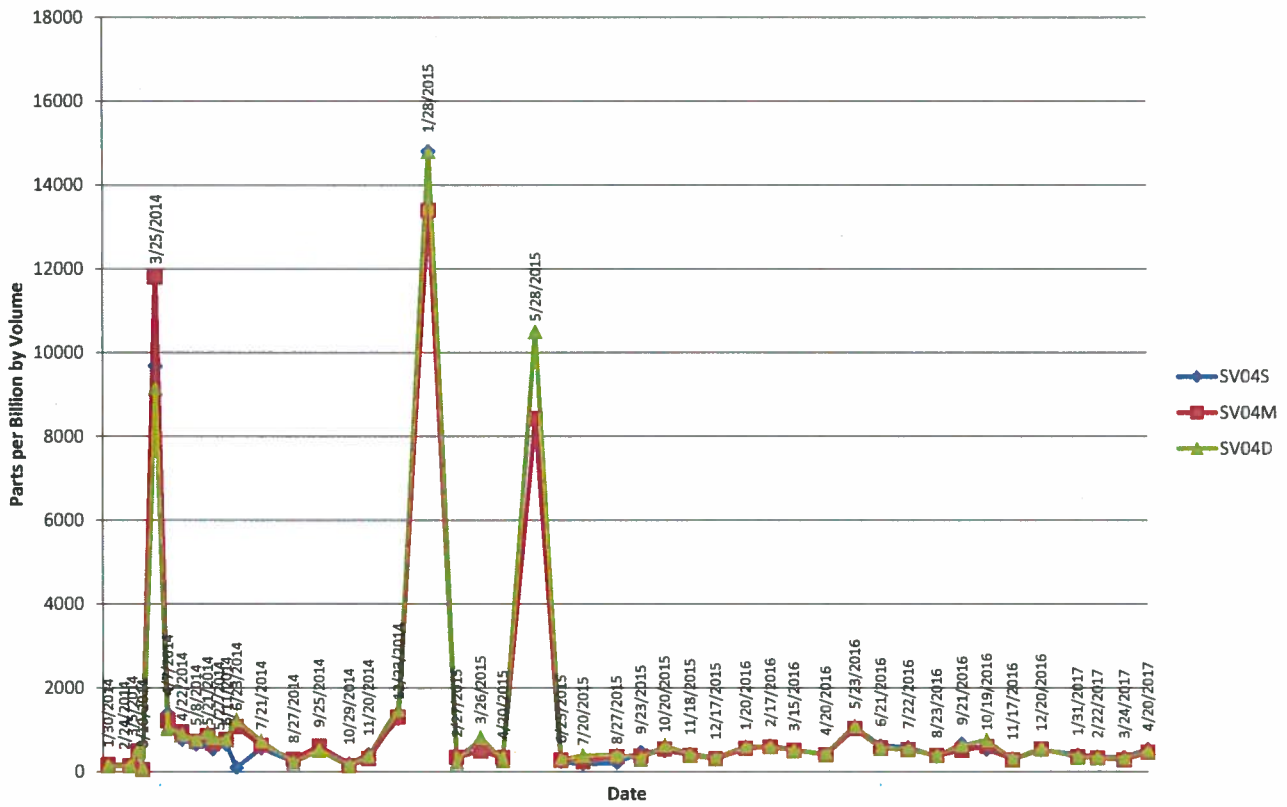
**Figure 1**  
**Soil Vapor Measurements**  
**SV02**



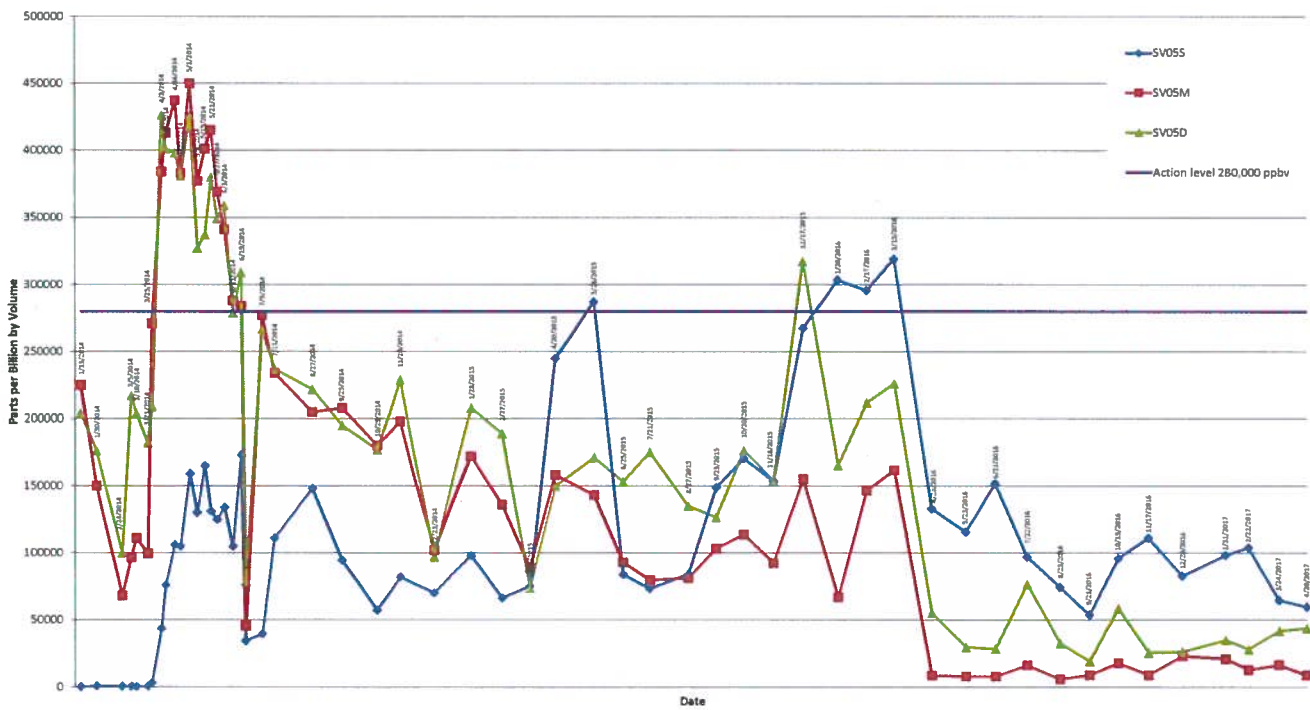
**Figure 2**  
**Soil Vapor Measurements**  
**SV03**



**Figure 3**  
**Soil Vapor Measurements**  
**SV04**



**Figure 4**  
**Soil Vapor Measurements**  
**SV05**



**Figure 5**  
**Soil Vapor Measurements**  
**SV06**

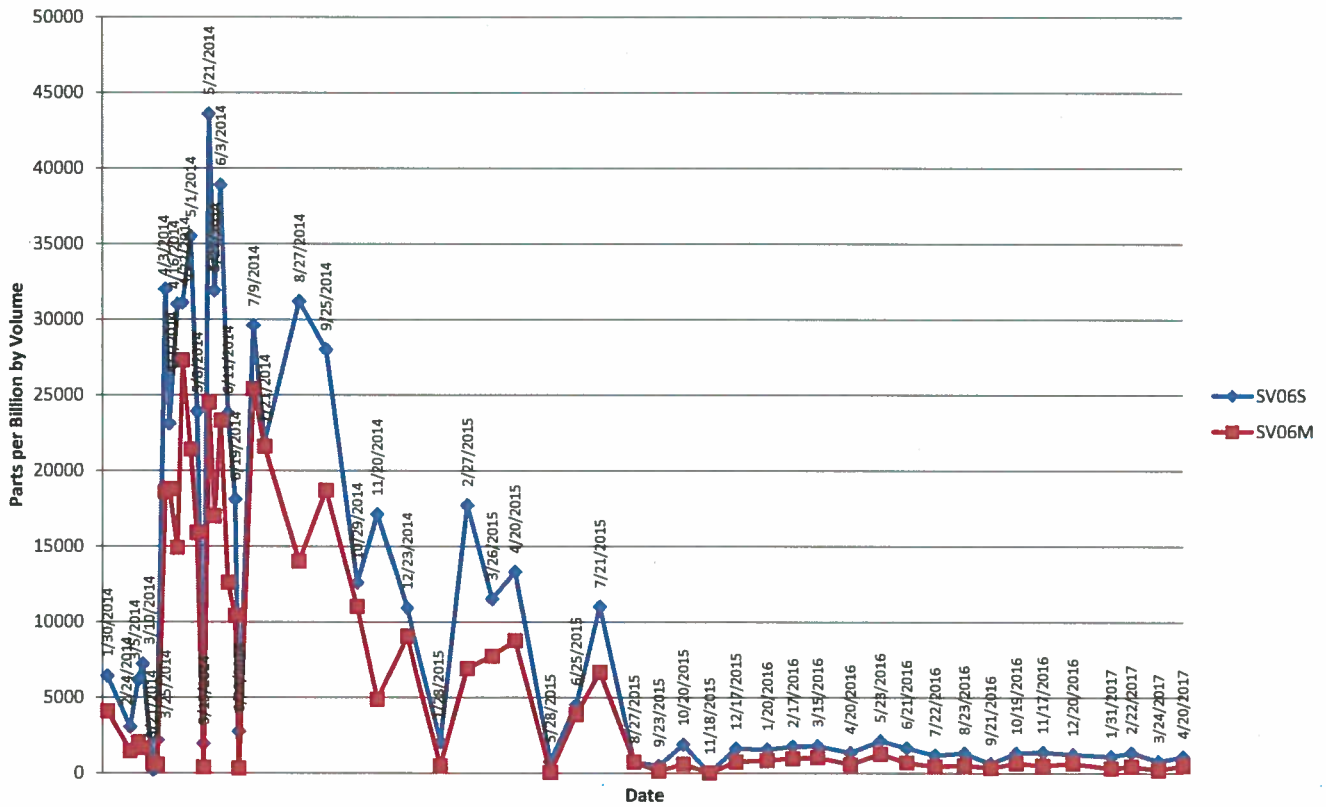
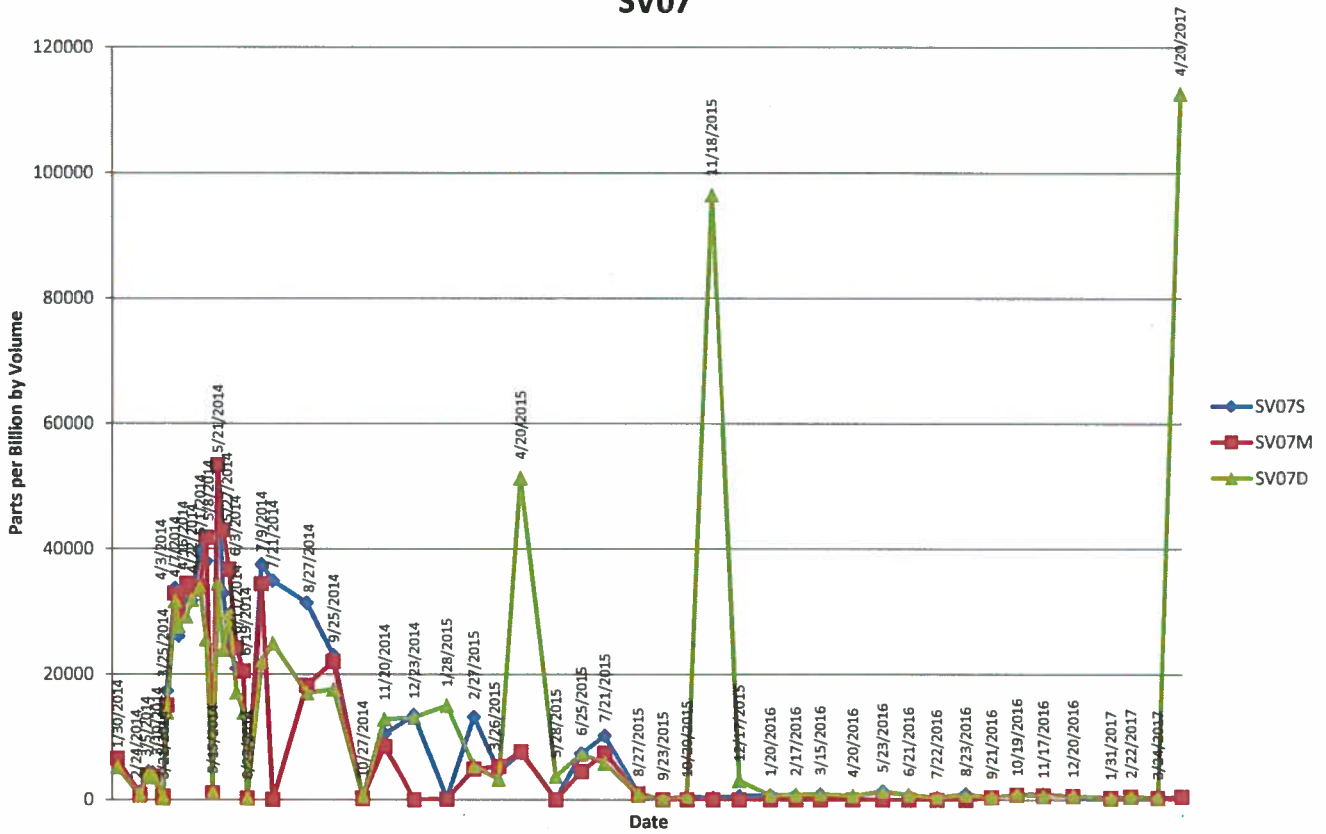
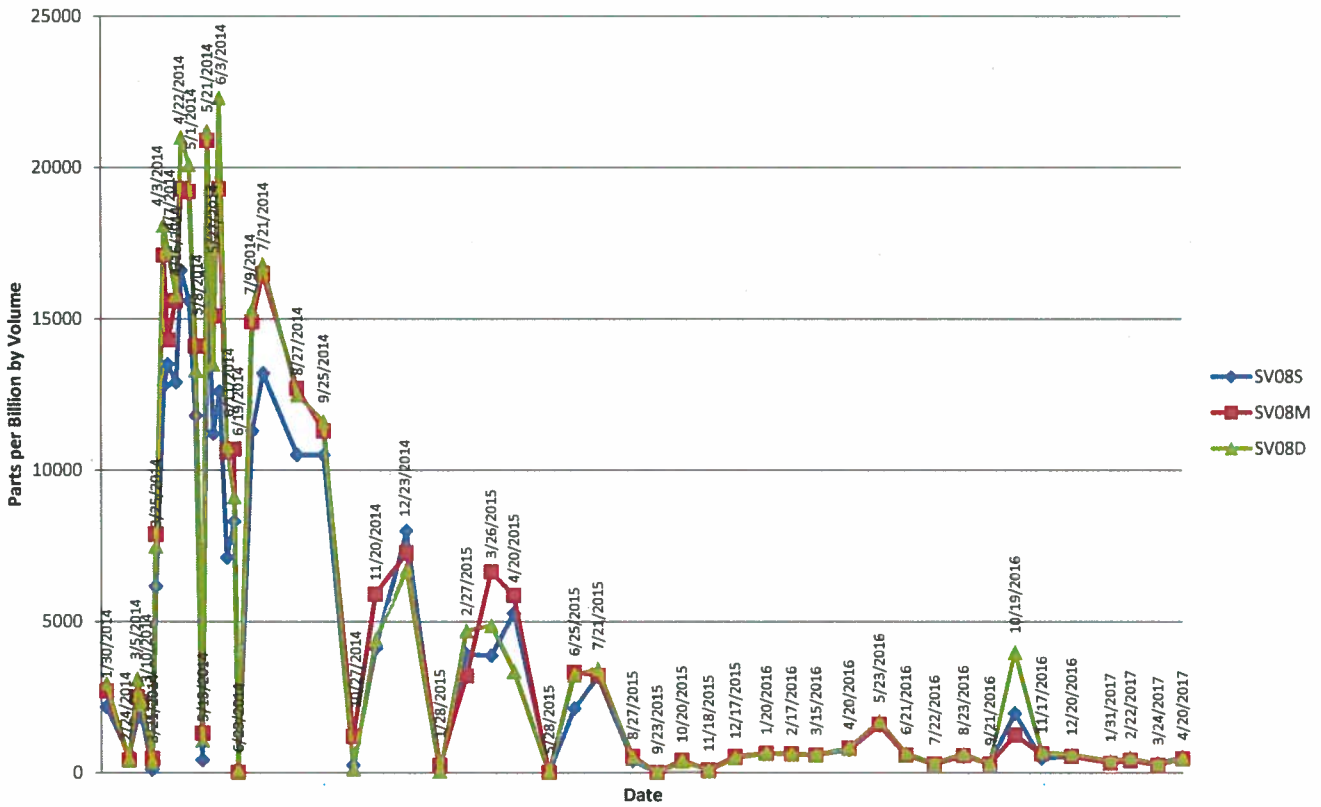


Figure 6  
Soil Vapor Measurements  
SV07

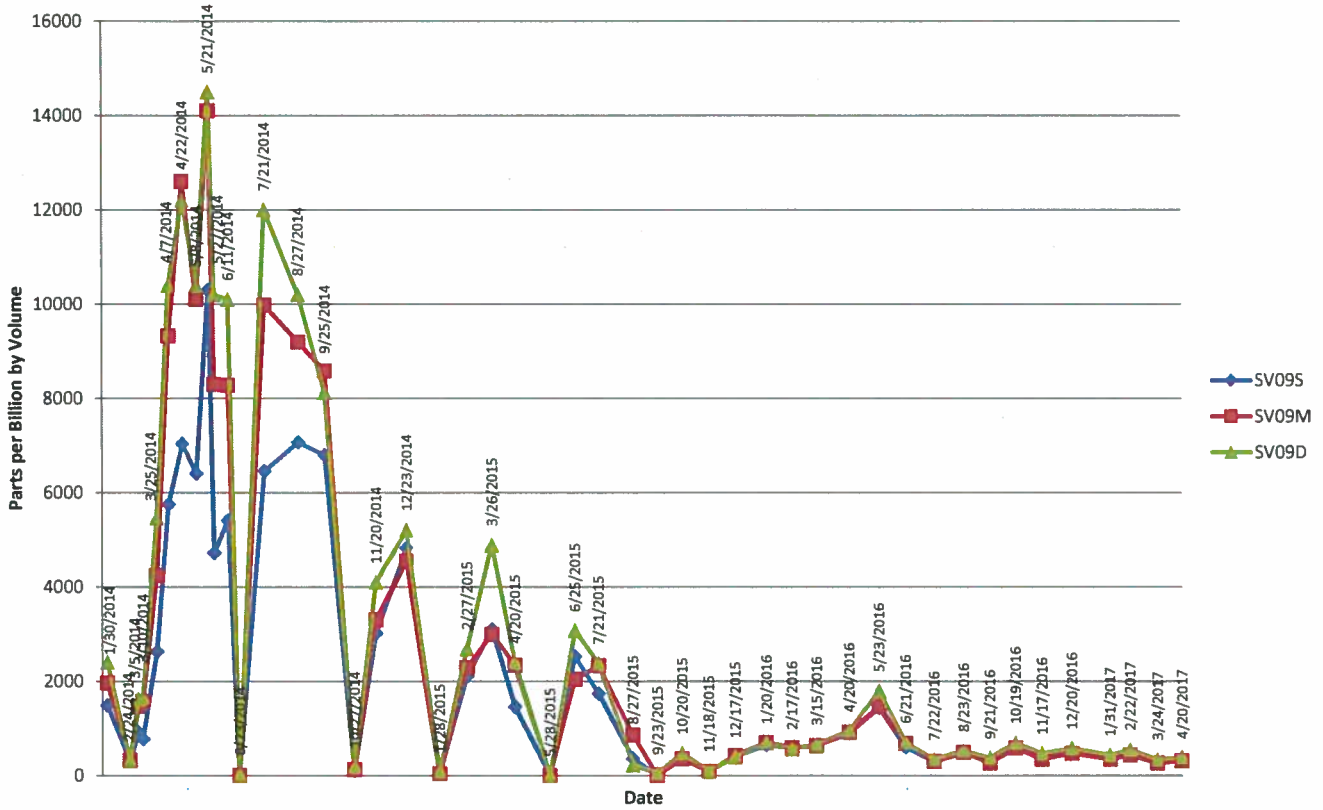




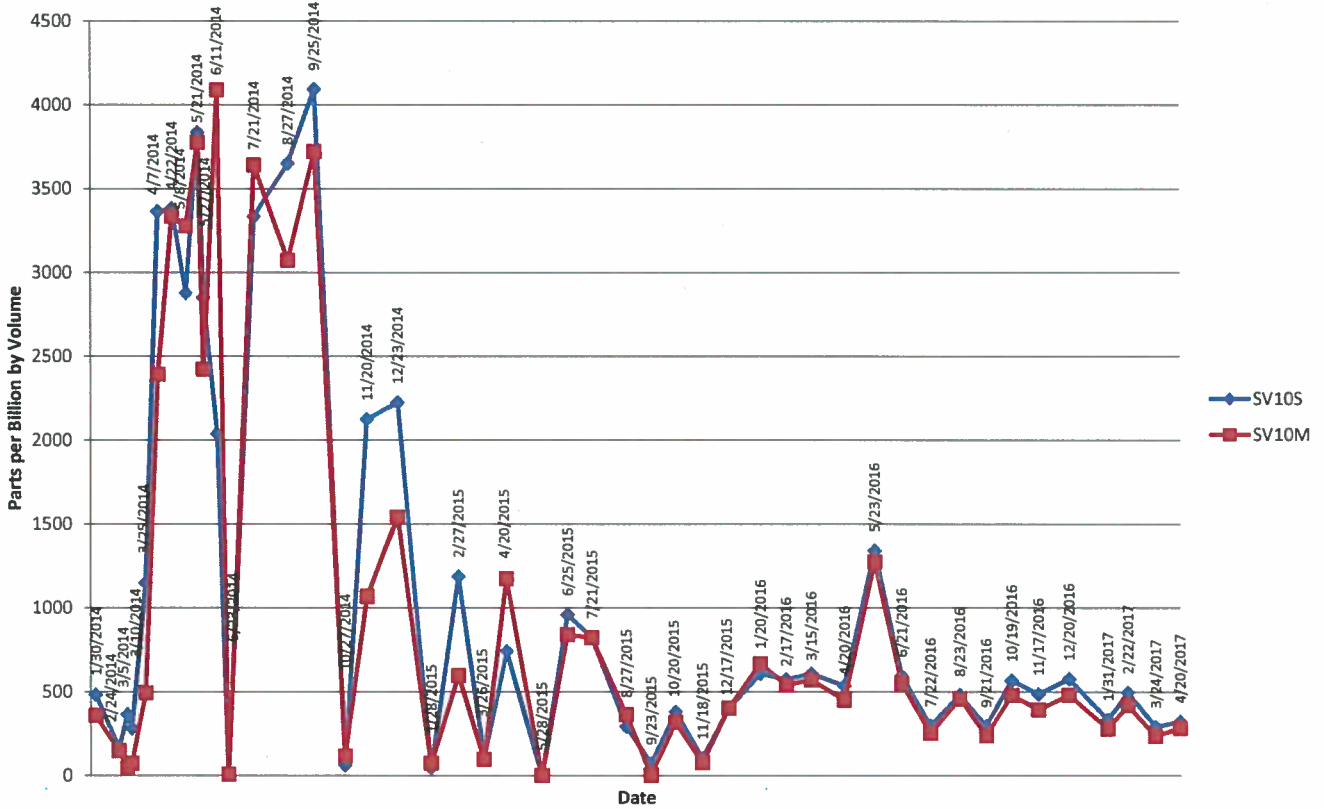
**Figure 7**  
**Soil Vapor Measurements**  
**SV08**



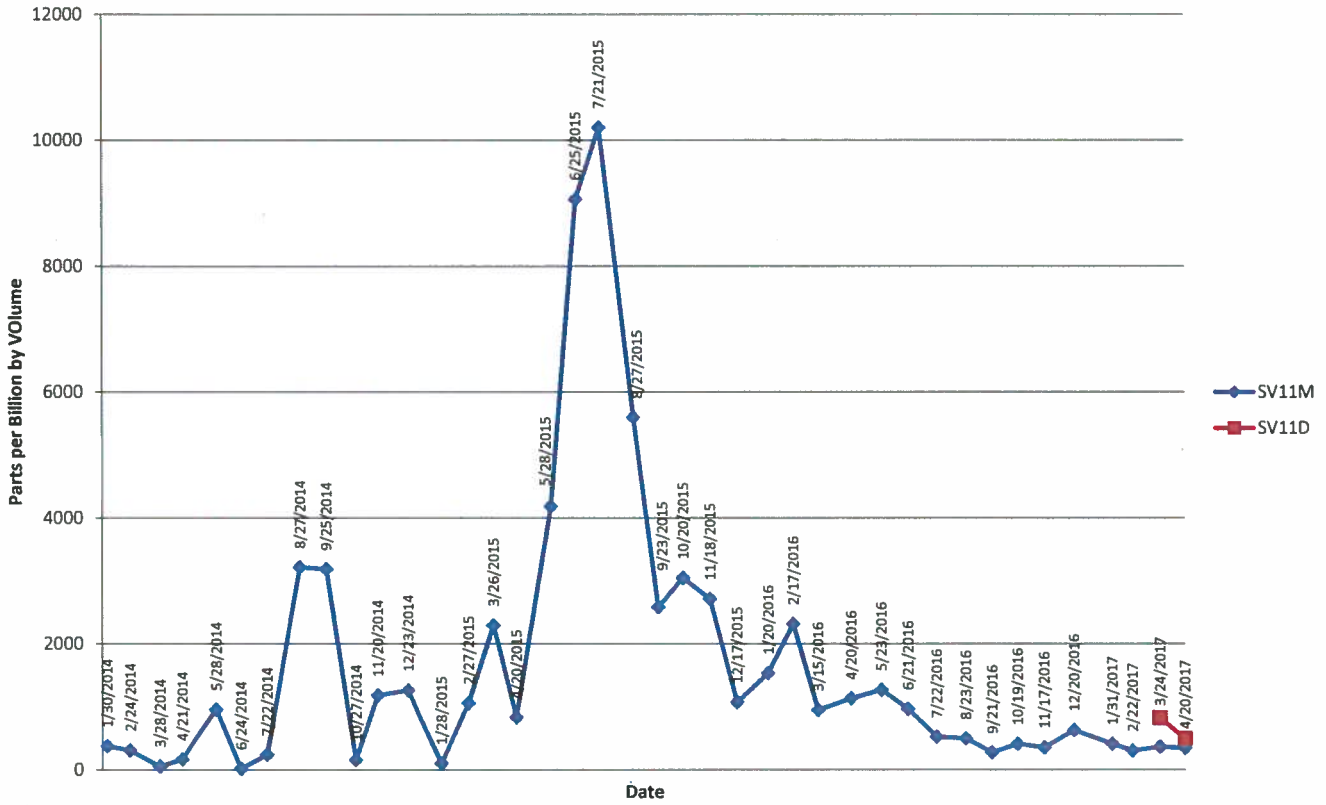
**Figure 8**  
**Soil Vapor Measurements**  
**SV09**



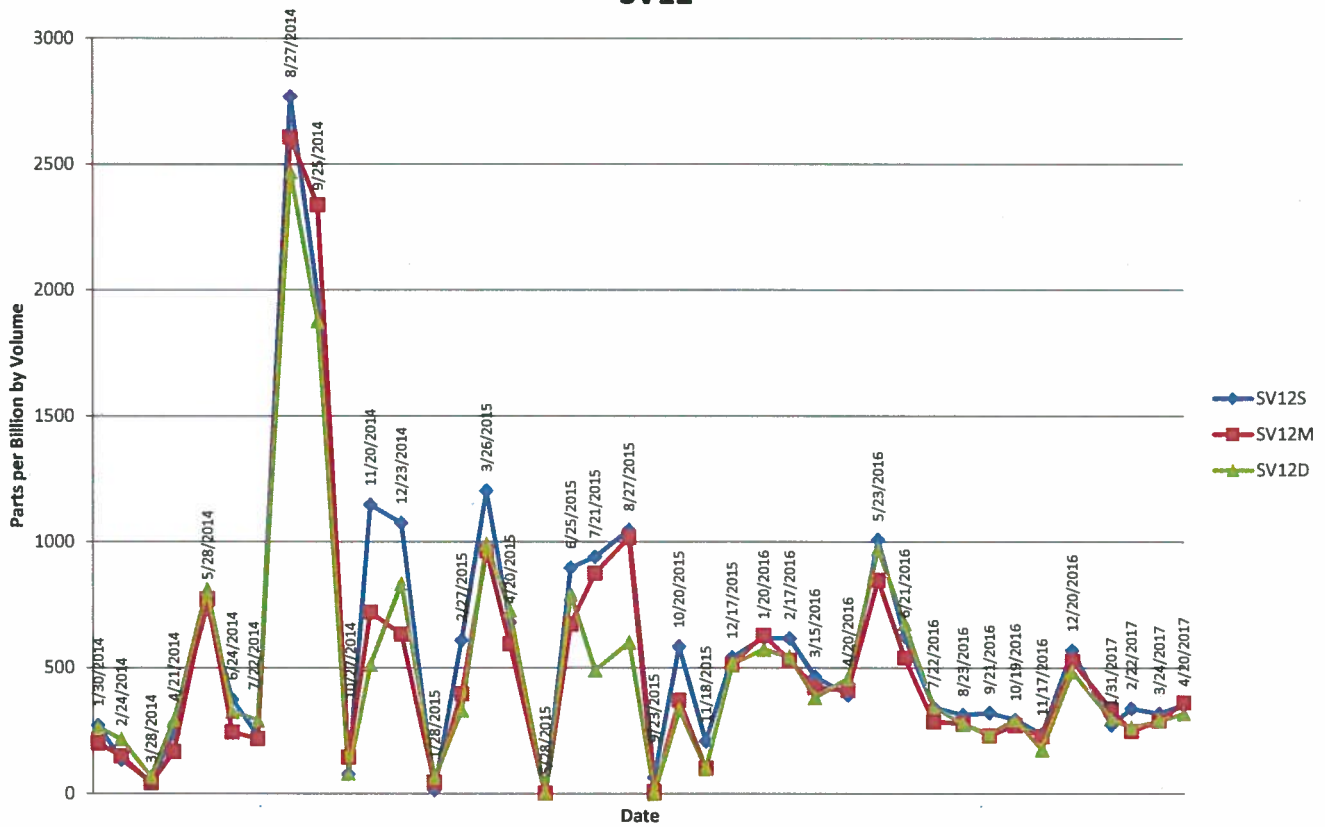
**Figure 9**  
**Soil Vapor Measurements**  
**SV10**



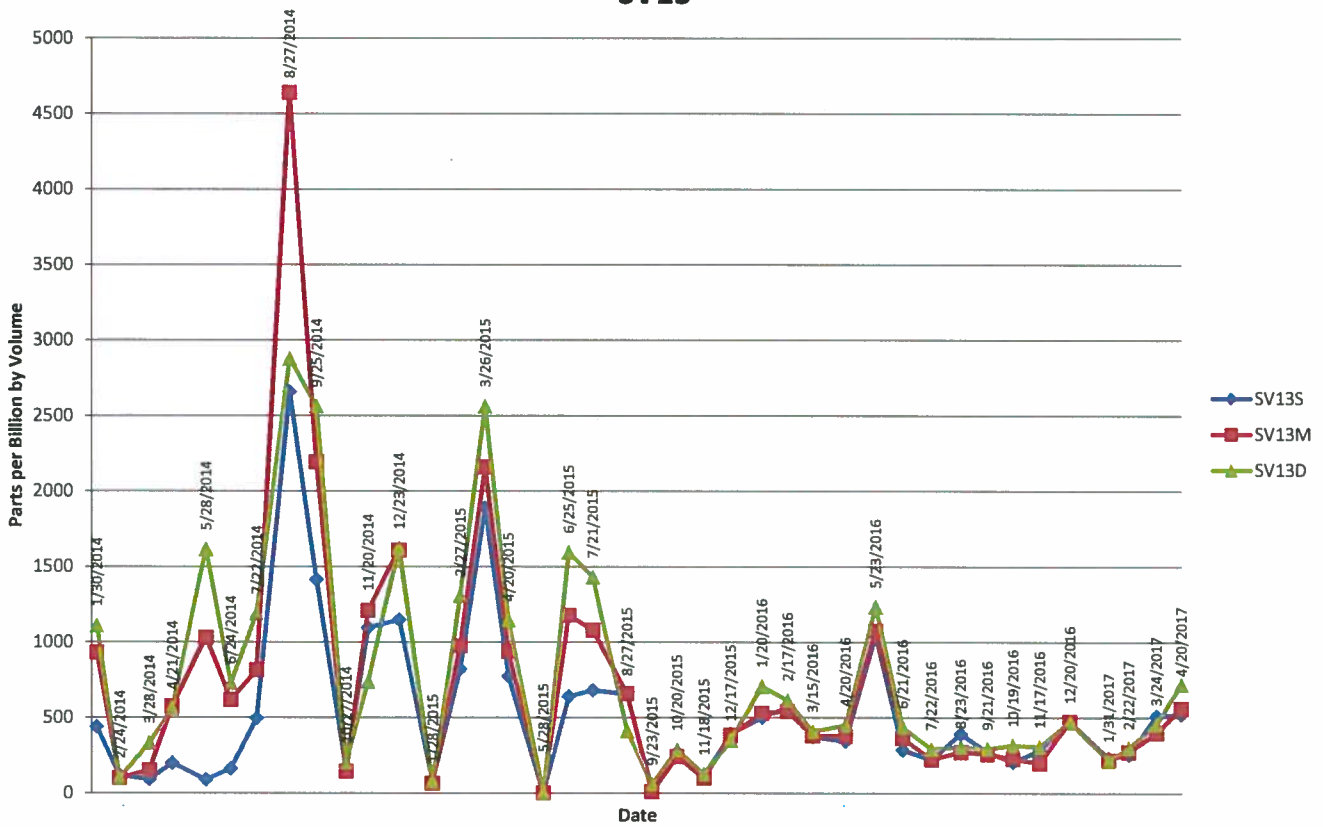
**Figure 10**  
**Soil Vapor Measurements**  
**SV11**



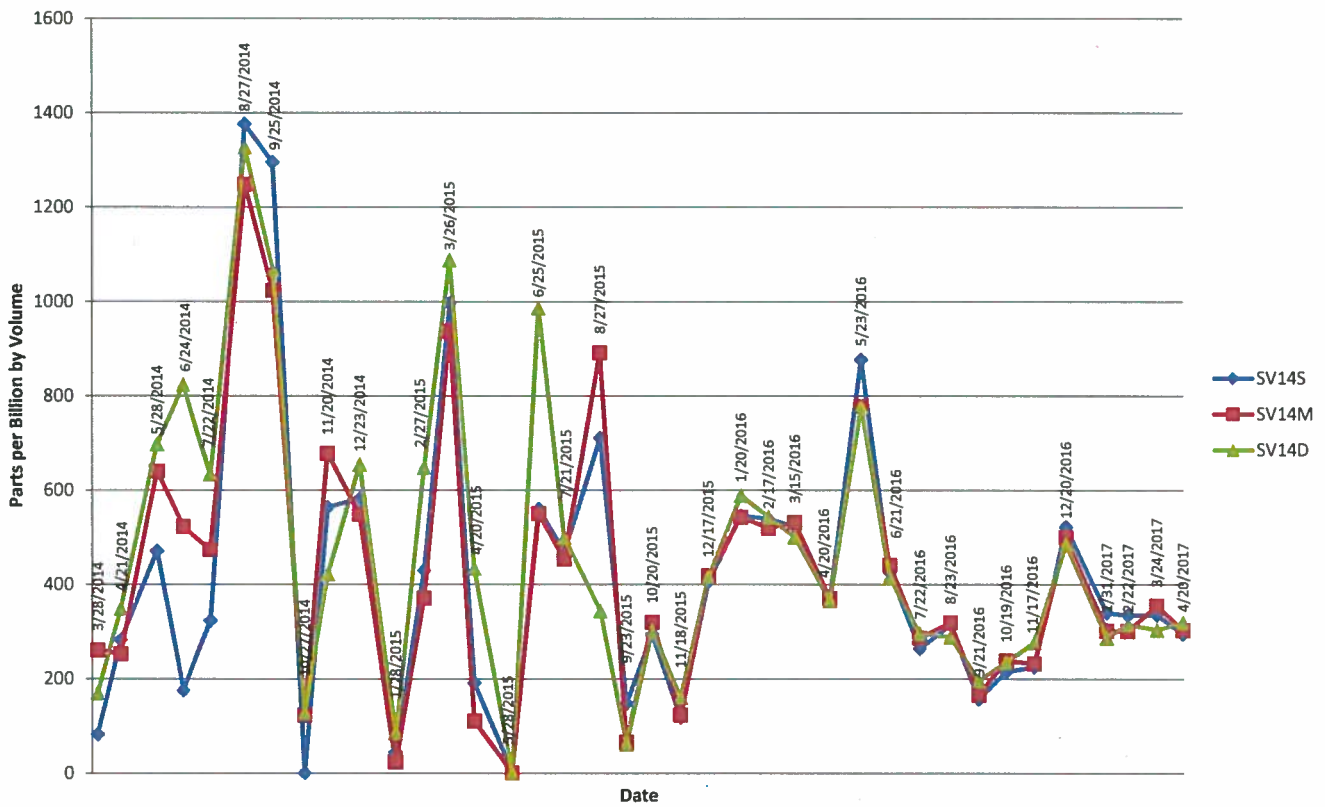
**Figure 11**  
**Soil Vapor Measurements**  
**SV12**



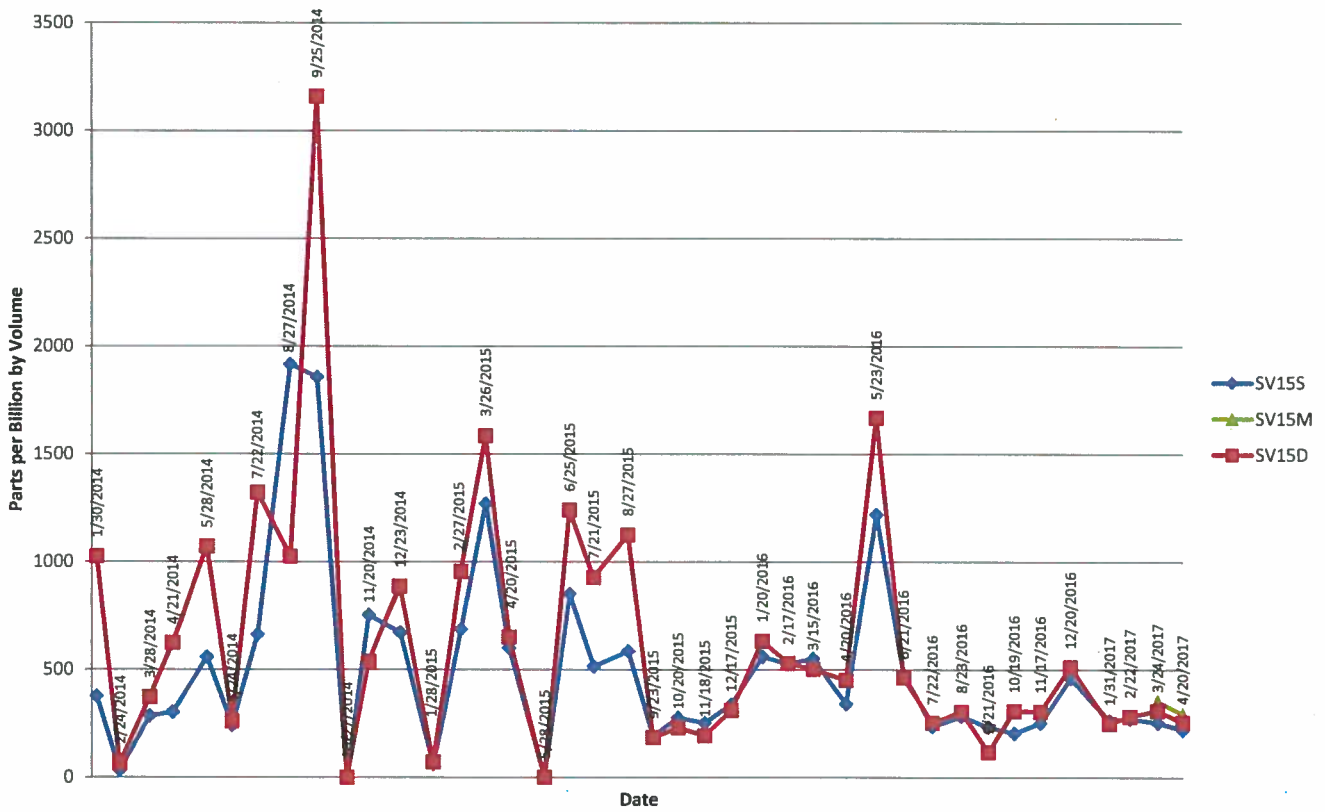
**Figure 12**  
**Soil Vapor Measurements**  
**SV13**



**Figure 13**  
**Soil Vapor Measurements**  
**SV14**

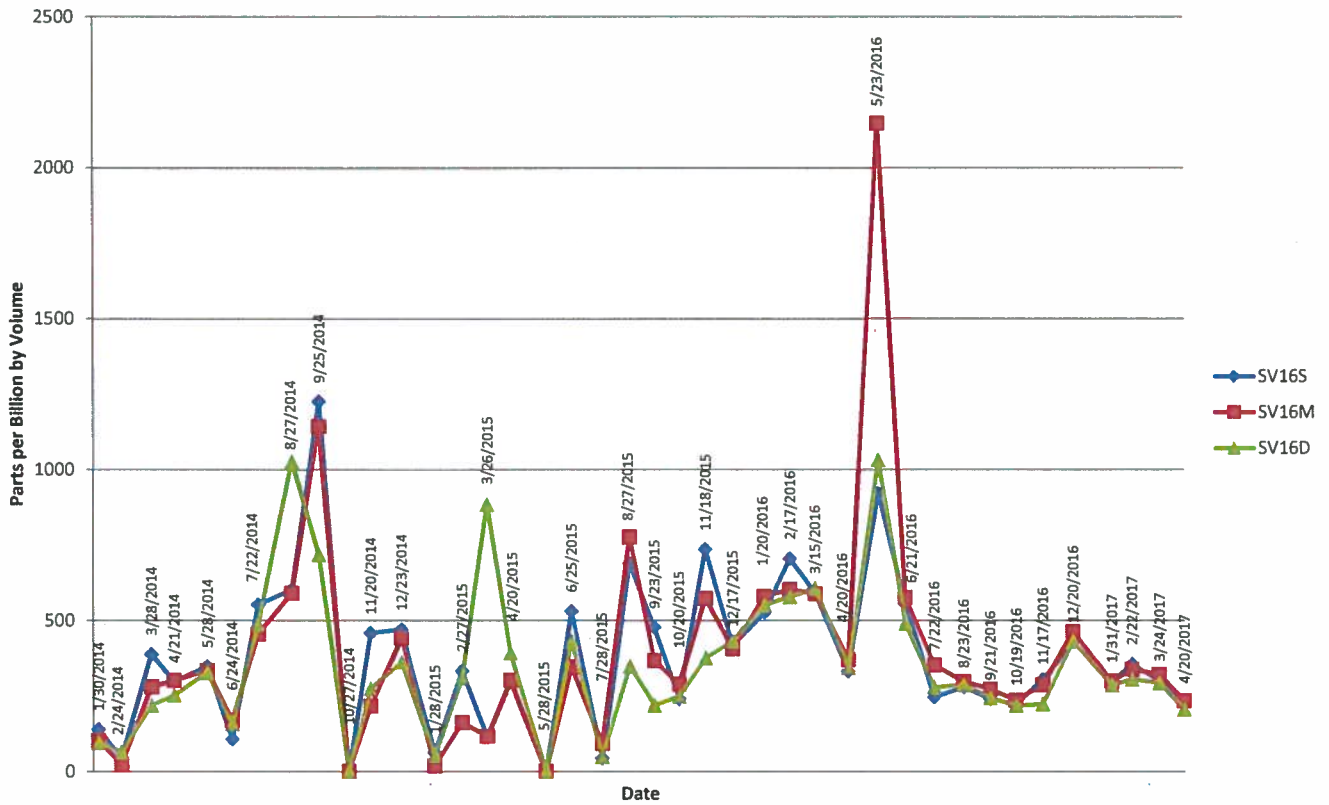


**Figure 14**  
**Soil Vapor Measurements**  
**SV15**

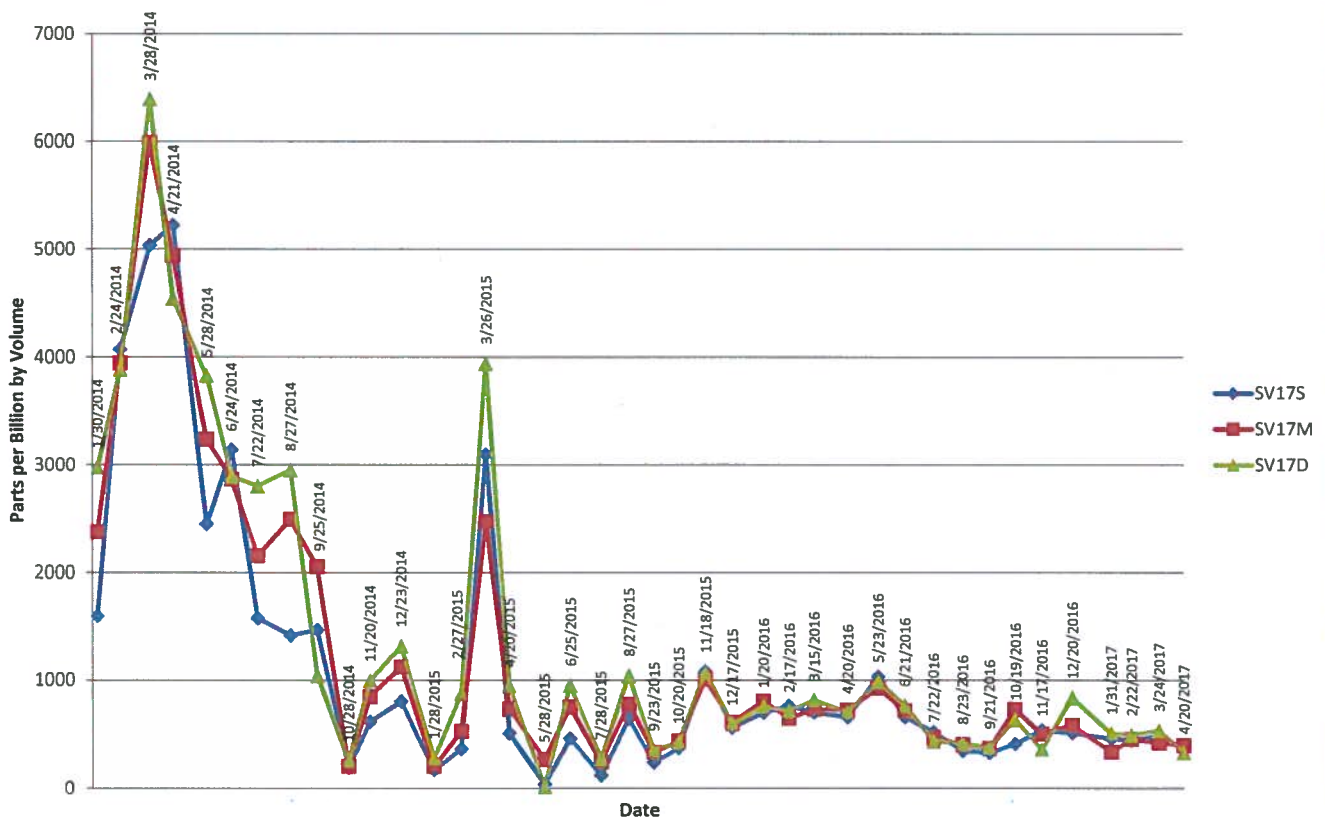




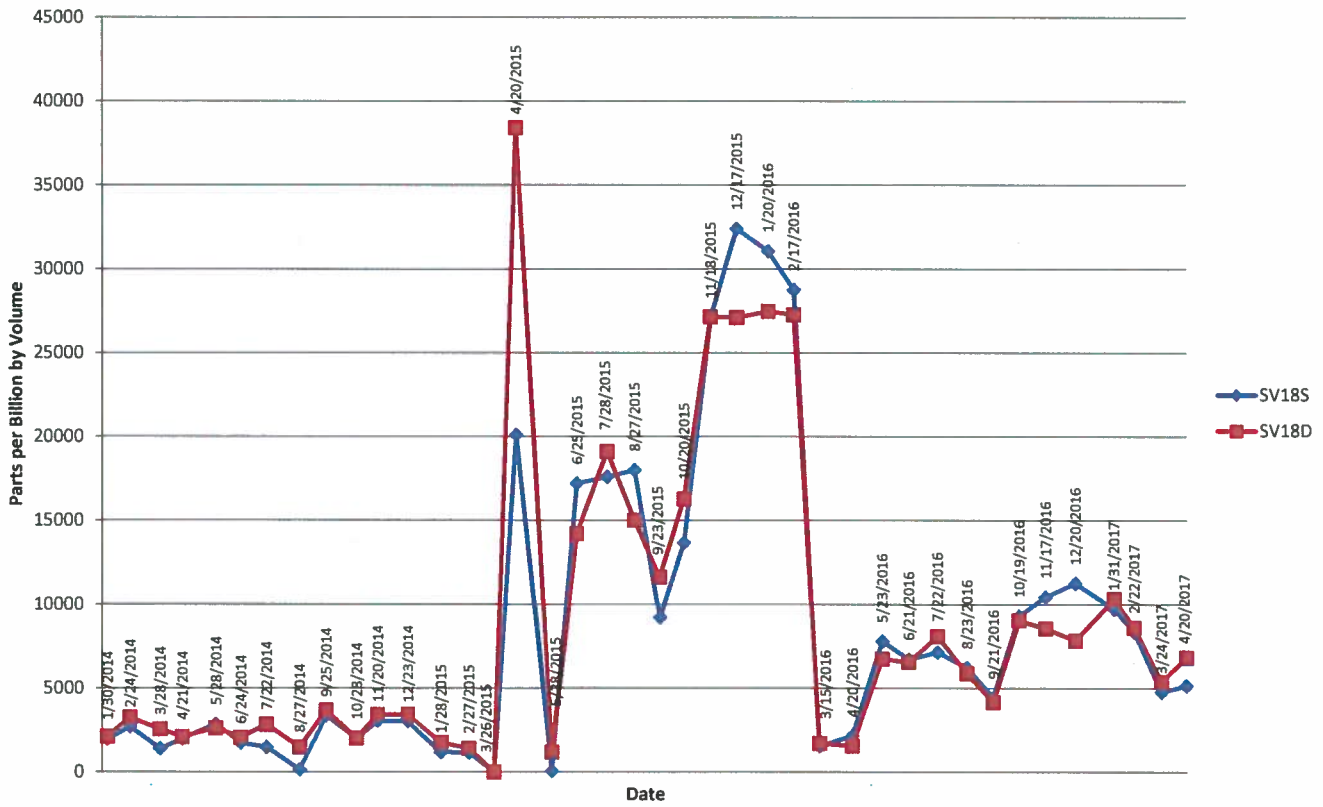
**Figure 15**  
**Soil Vapor Measurements**  
**SV16**



**Figure 16**  
**Soil Vapor Measurements**  
**SV17**



**Figure 17**  
**Soil Vapor Measurements**  
**SV18**



**Figure 18**  
**Soil Vapor Measurements**  
**SV20**

