



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

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5090  
Ser N45/0551  
July 21, 2017

**CERTIFIED NO: 7016 0910 0001 0899 9426**

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 Hawaii 96814

Dear Mr. Takaba:

**SUBJECT: RED HILL TANK COMPLEX  
SOIL VAPOR SAMPLING RESULTS FOR JUNE 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 JUNE 22, 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 55,877 ppbv, 7,411 ppbv, and 2,463 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 700 ppbv.

The Tank 7 outer edge soil vapor monitoring probe had a reading of 175,533 ppbv or 2 times below the action level. Causative research was performed and confirmed there was no evidence of a spill or release to the environment.

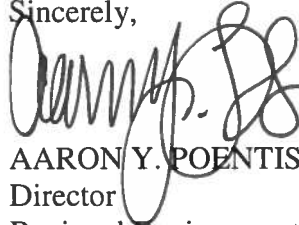
All other VOC concentrations measured in June were about 2 to 665 times below the action levels, with no consistent trends observed. Possible reasons for the results are speculative and may include, but not be limited to, ongoing projects in the tunnel, groundwater level fluctuations, rainfall (or lack 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 July 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.

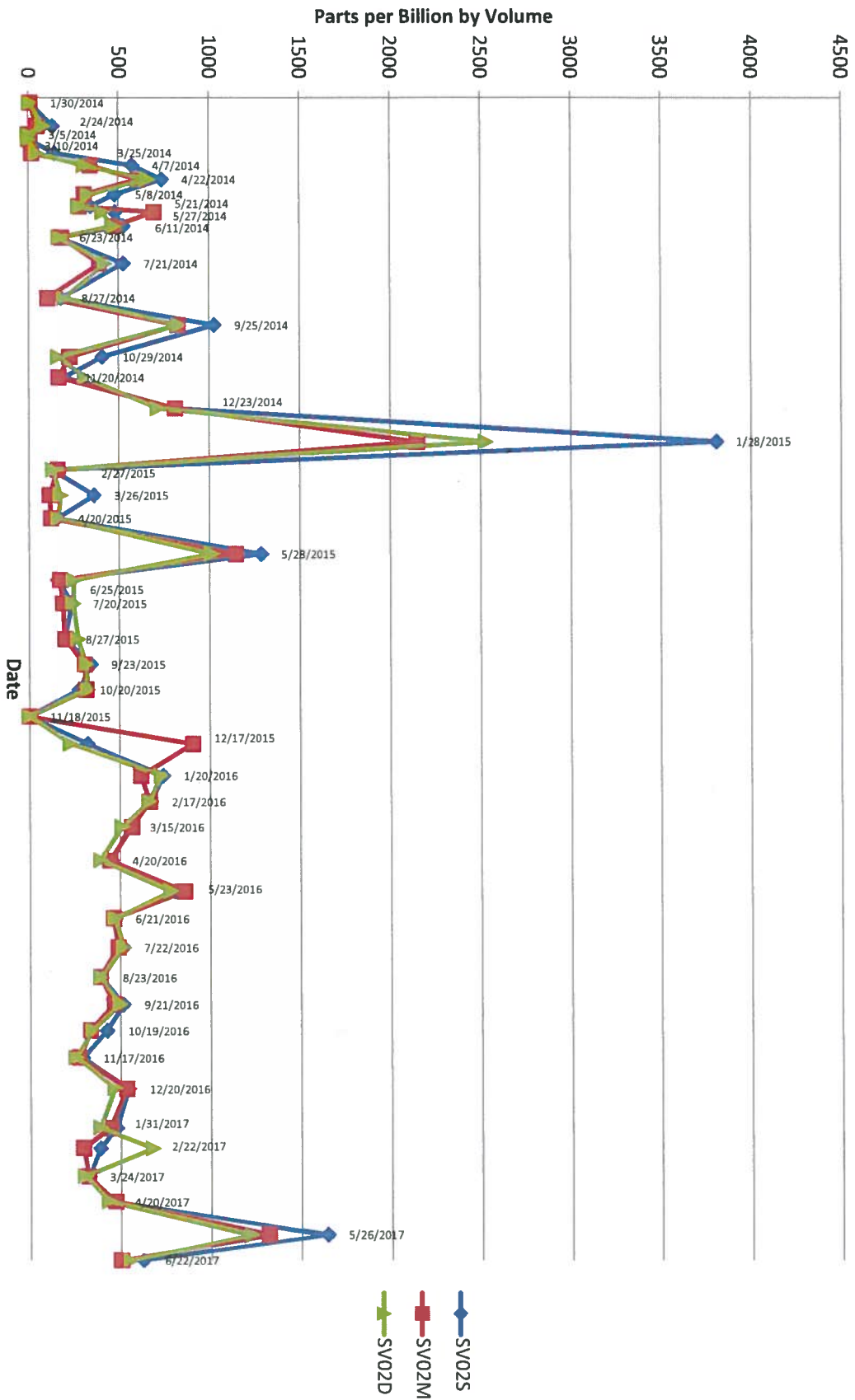
Sincerely,



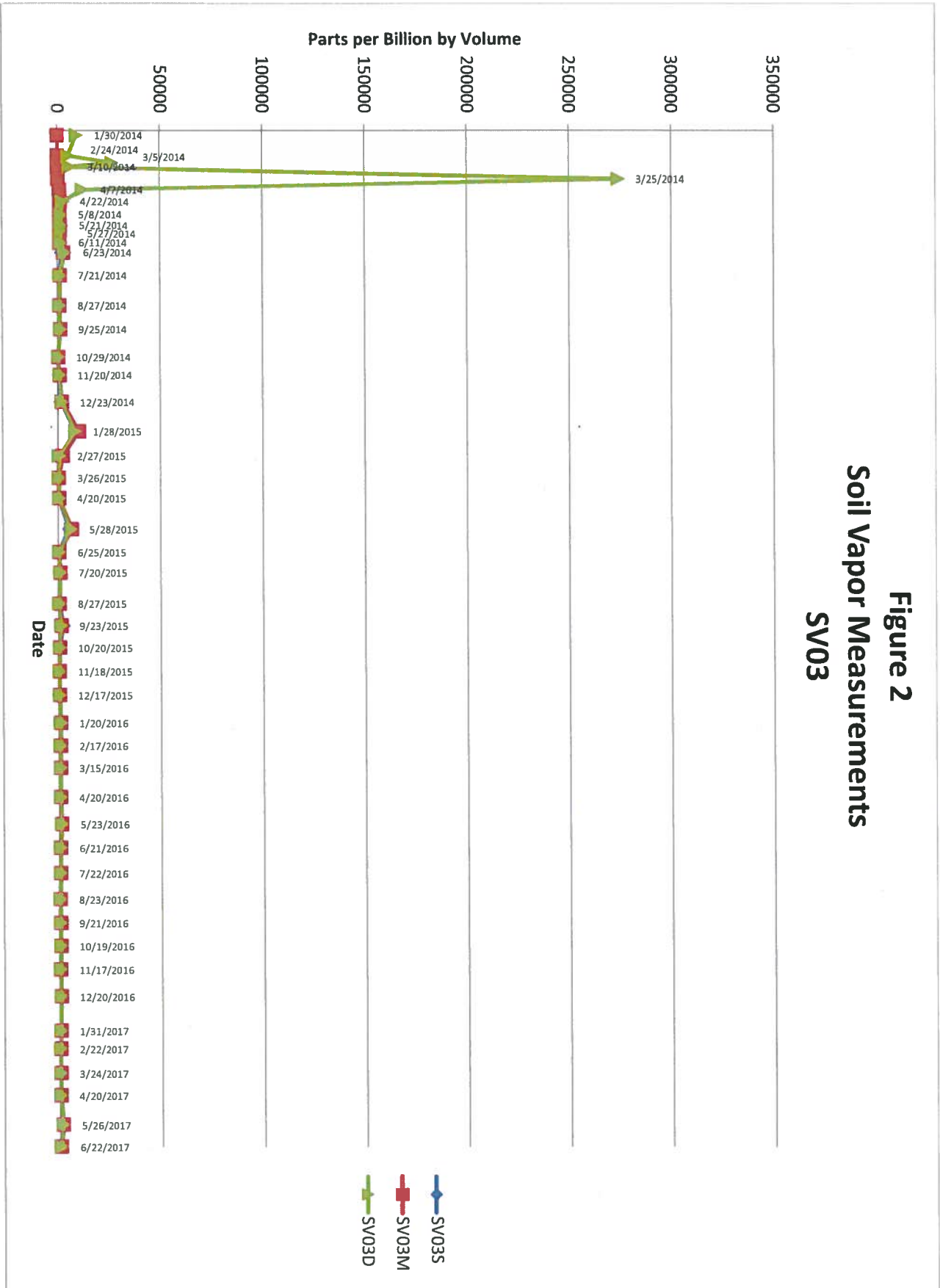
AARON Y. POENTIS  
Director  
Regional Environmental Department  
By direction of  
Commander

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

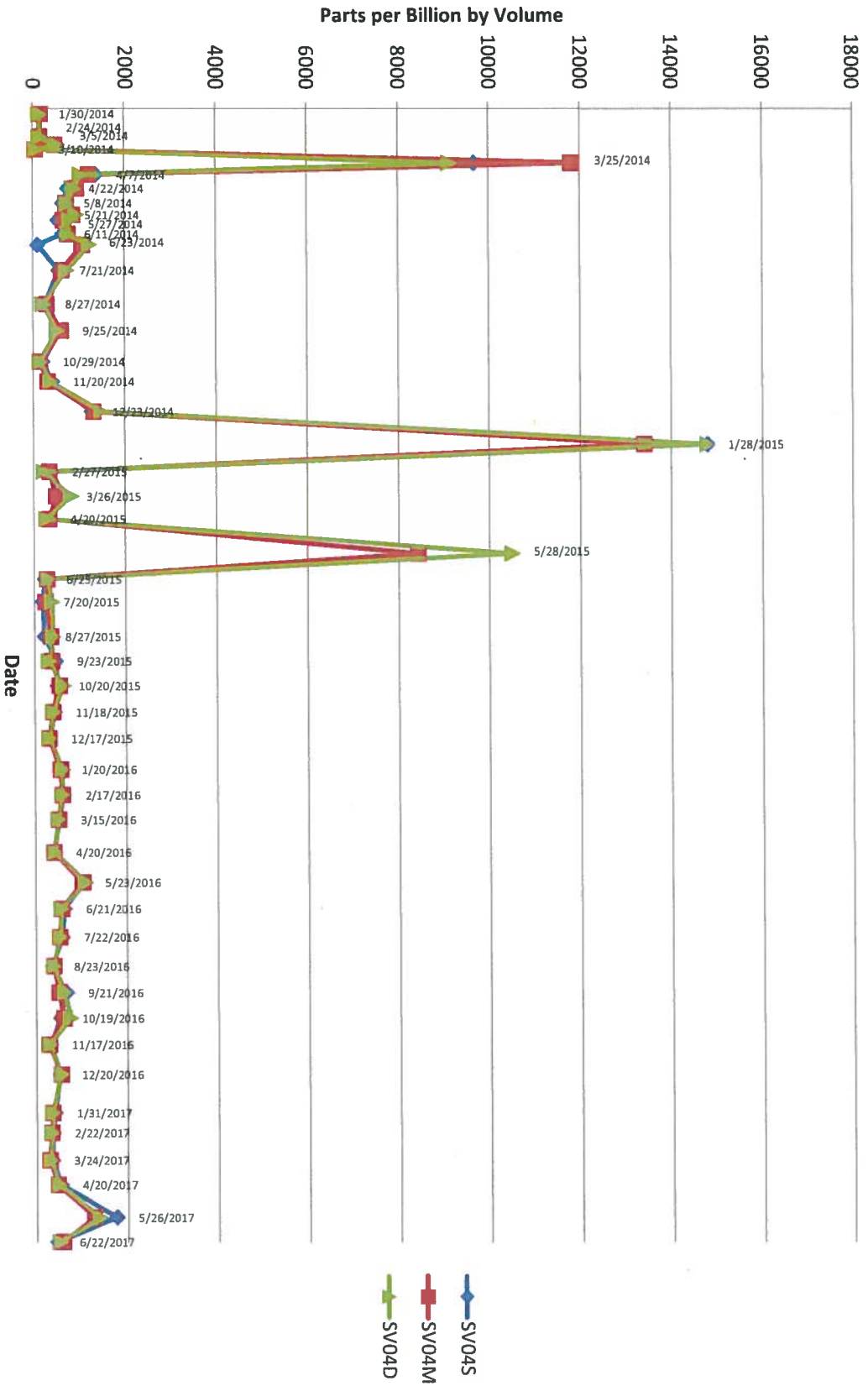
Copy to: Mr. Bob Pallarino, U.S. EPA Region 9, Underground Storage Tank Program Office  
Mr. John Floyd, NAVSUP FLC Pearl Harbor  
Mr. Rockne Krill, DLA Energy Pacific



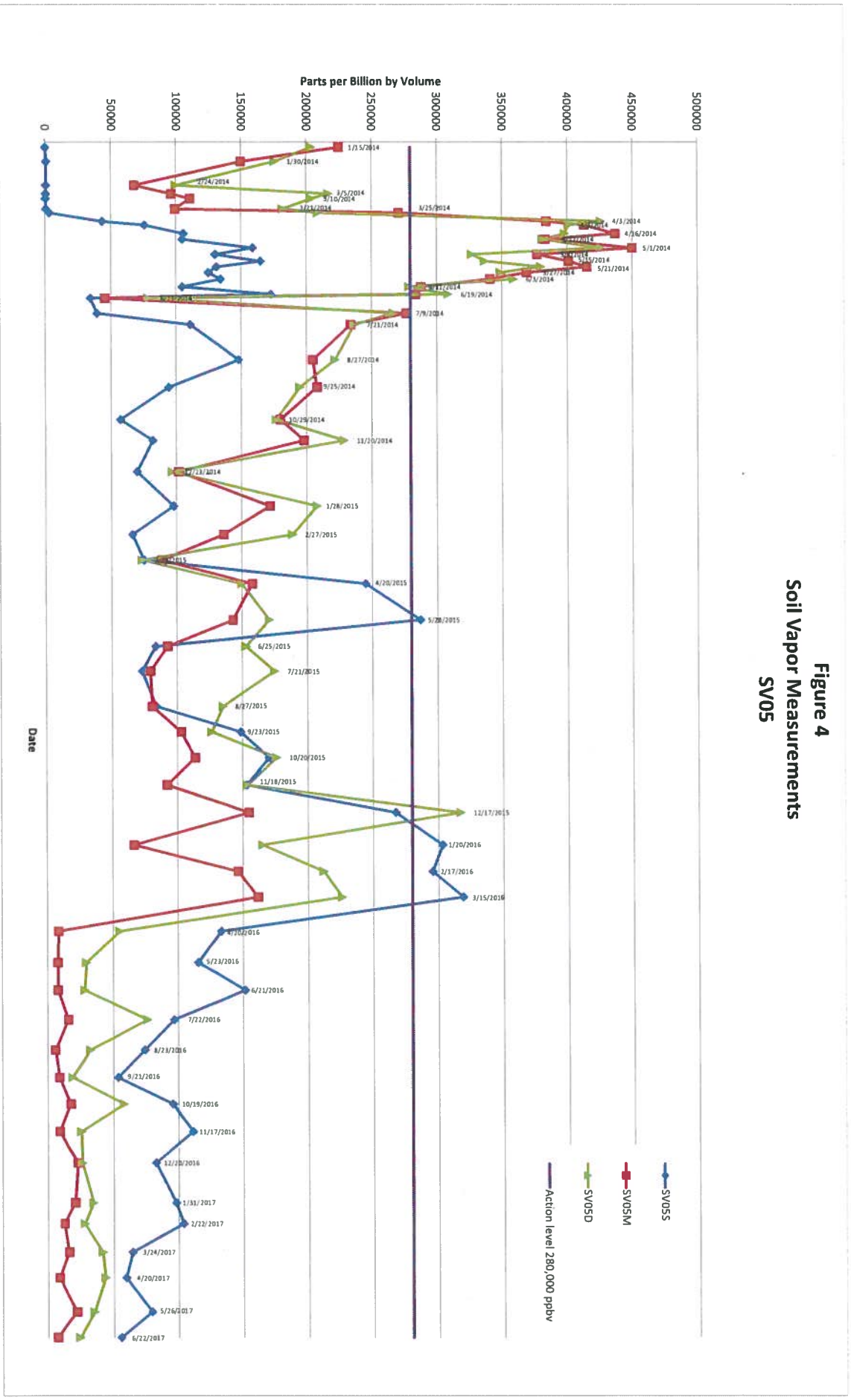
**Figure 1**  
**Soil Vapor Measurements**  
**SV02**

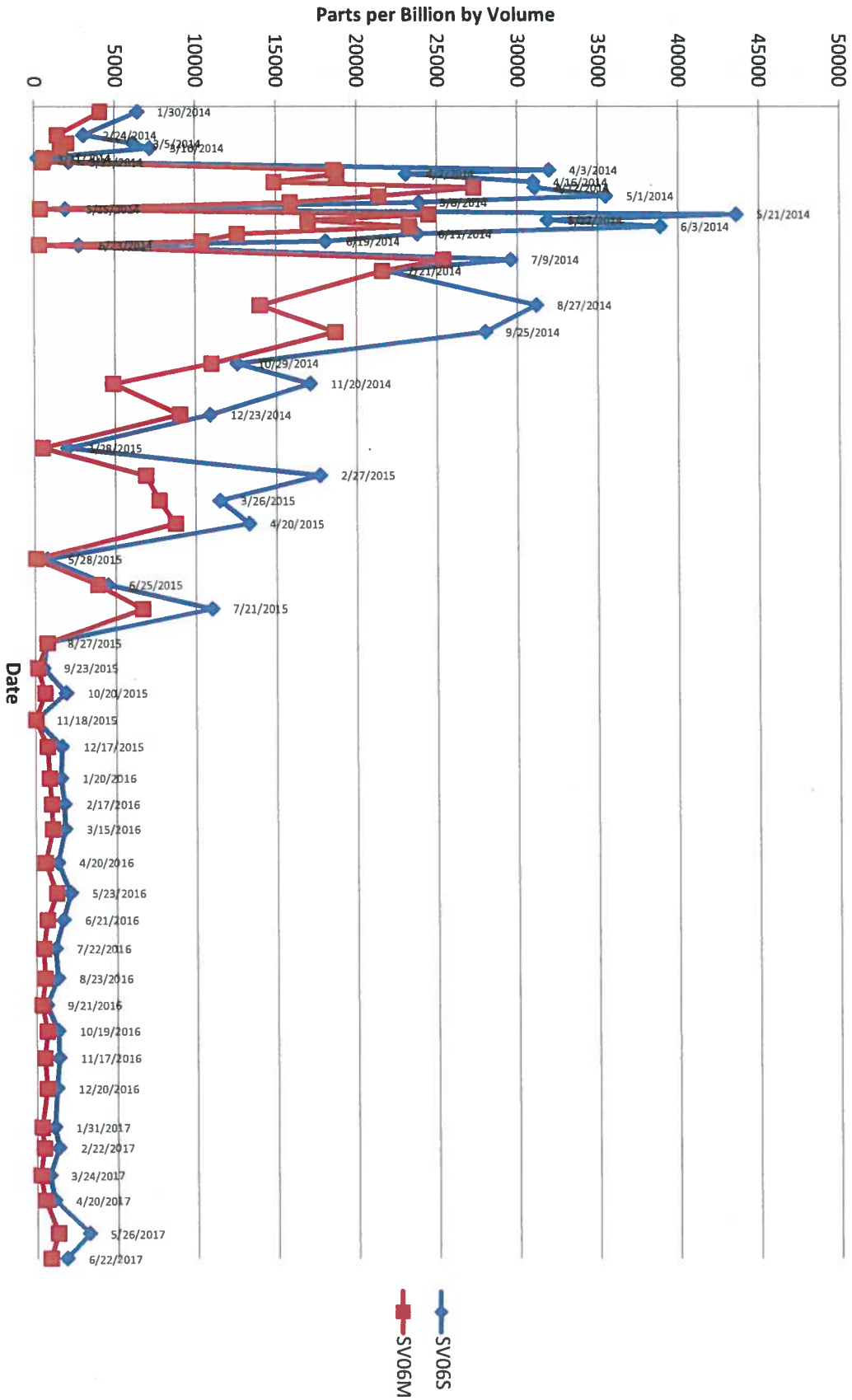


**Figure 2**  
**Soil Vapor Measurements**  
**SV03**

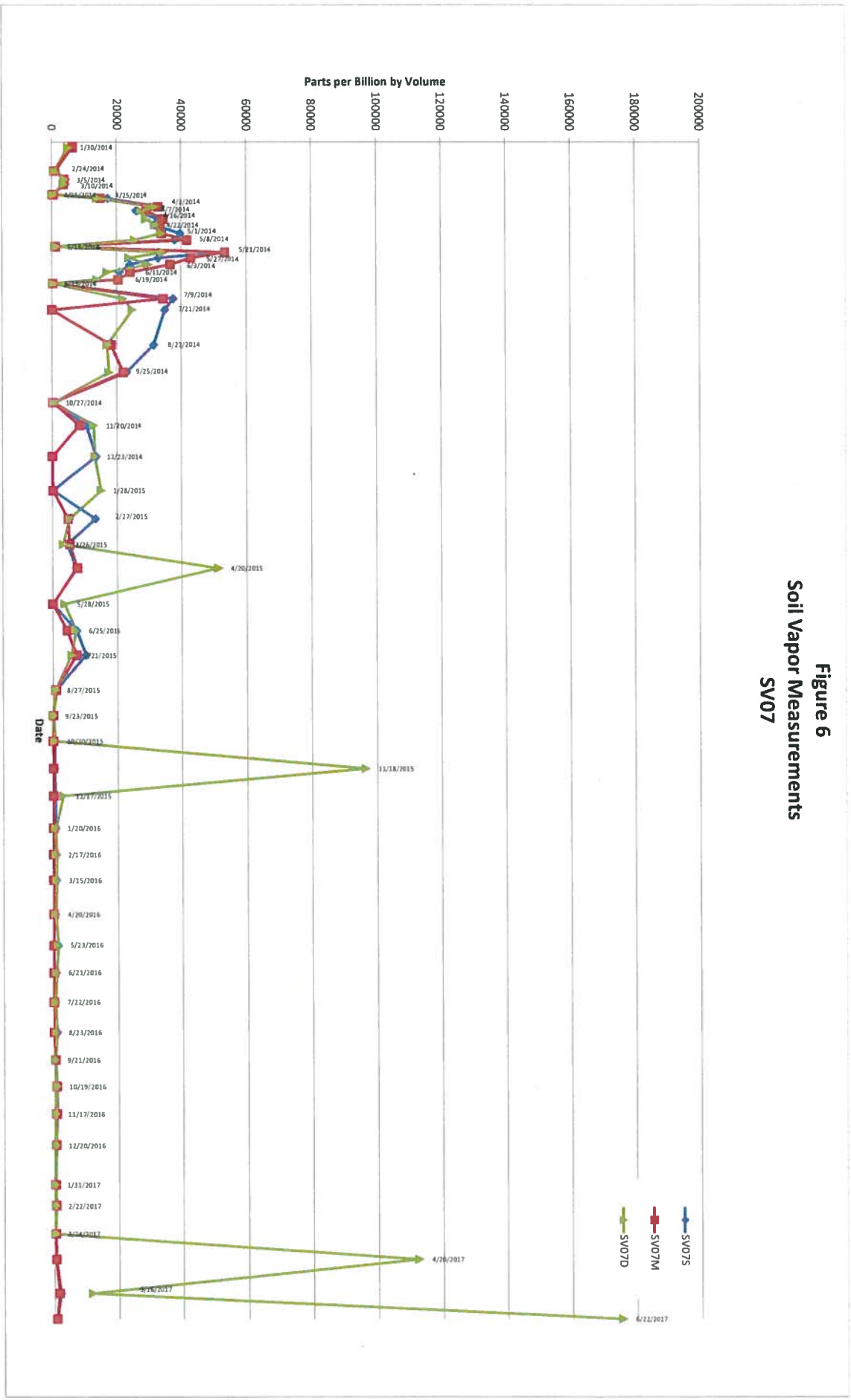


**Figure 3**  
**Soil Vapor Measurements**  
**SV04**





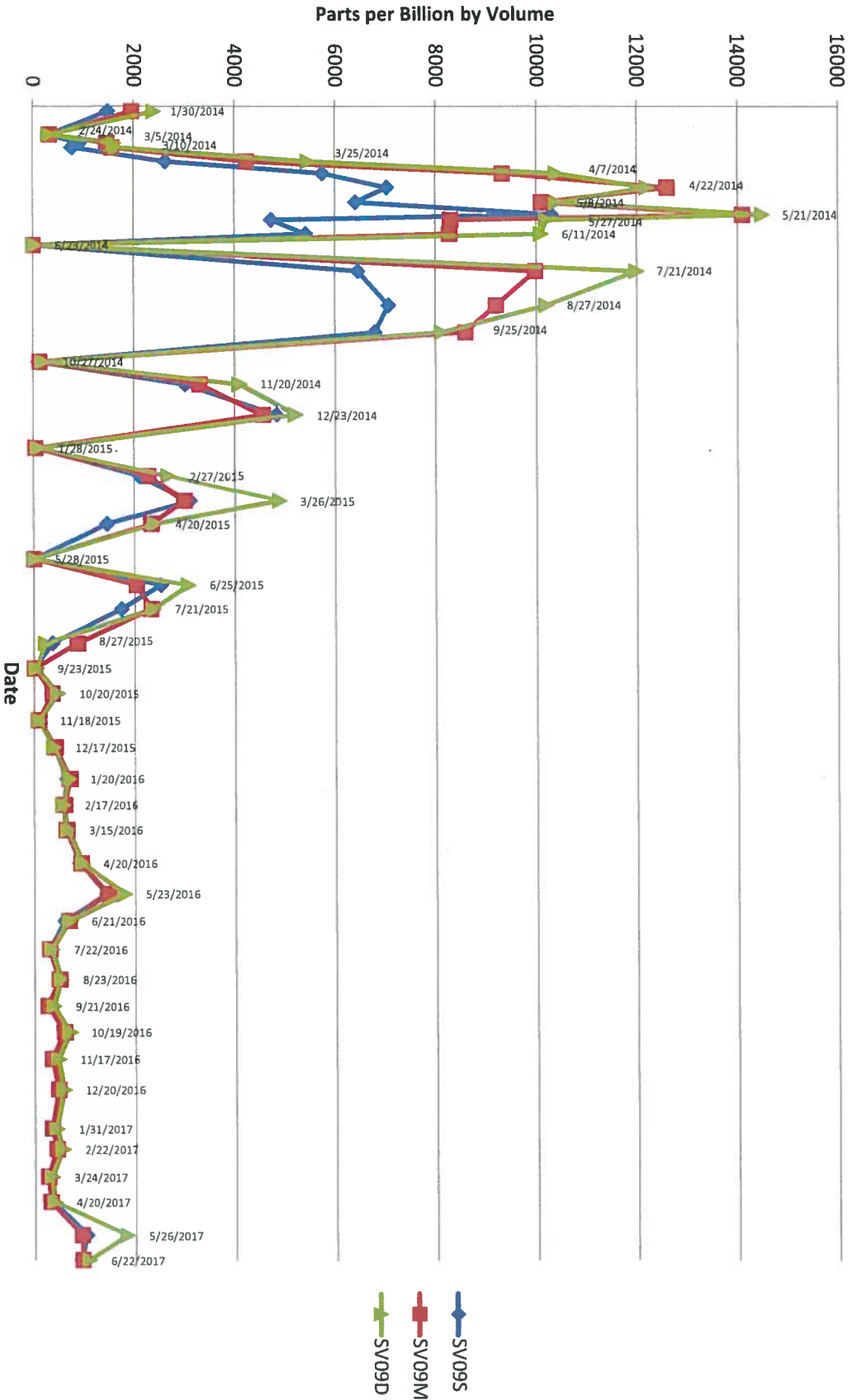
**Figure 5**  
**Soil Vapor Measurements**  
**SV06**



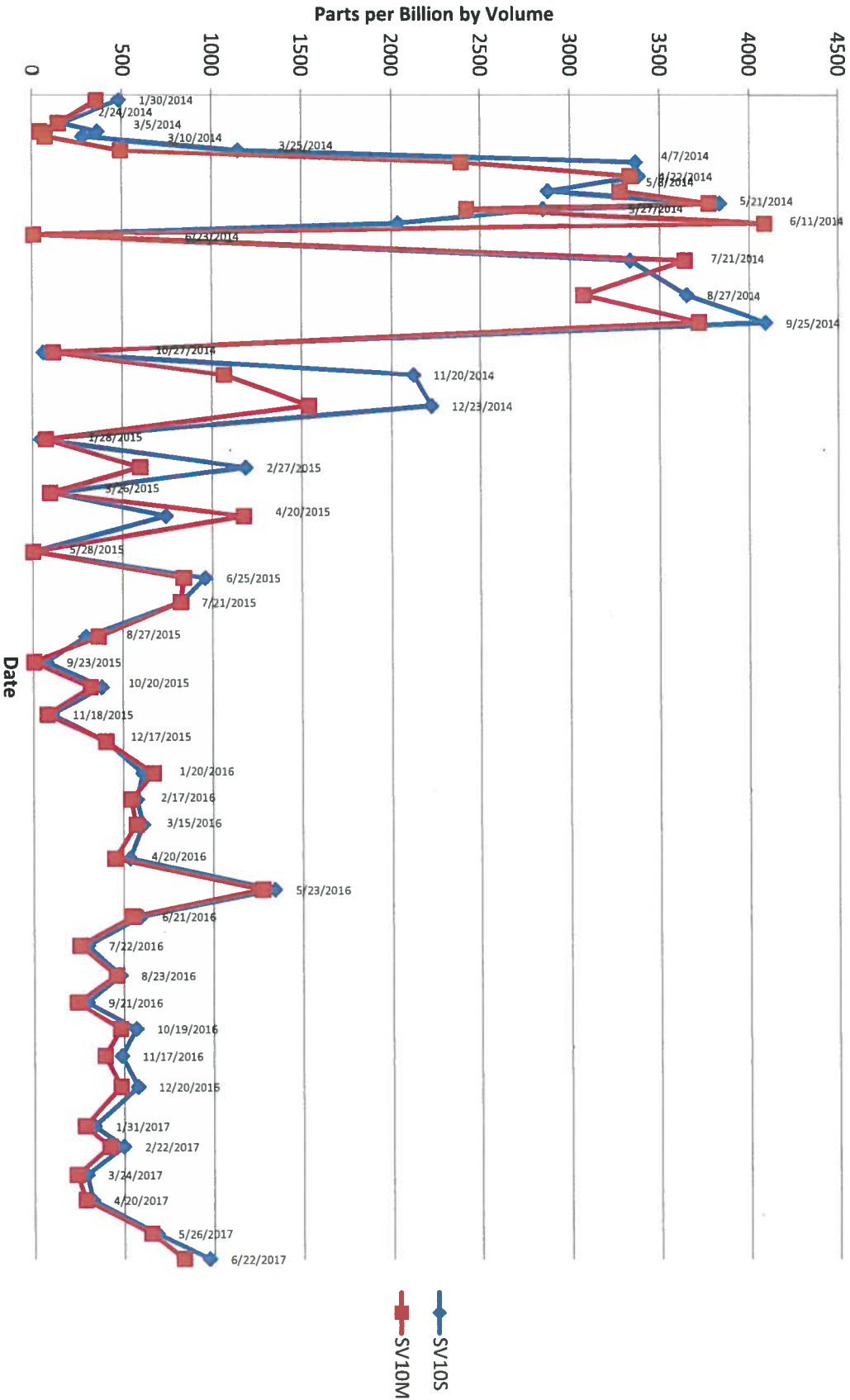
**Figure 6**  
**Soil Vapor Measurements**  
**SV07**



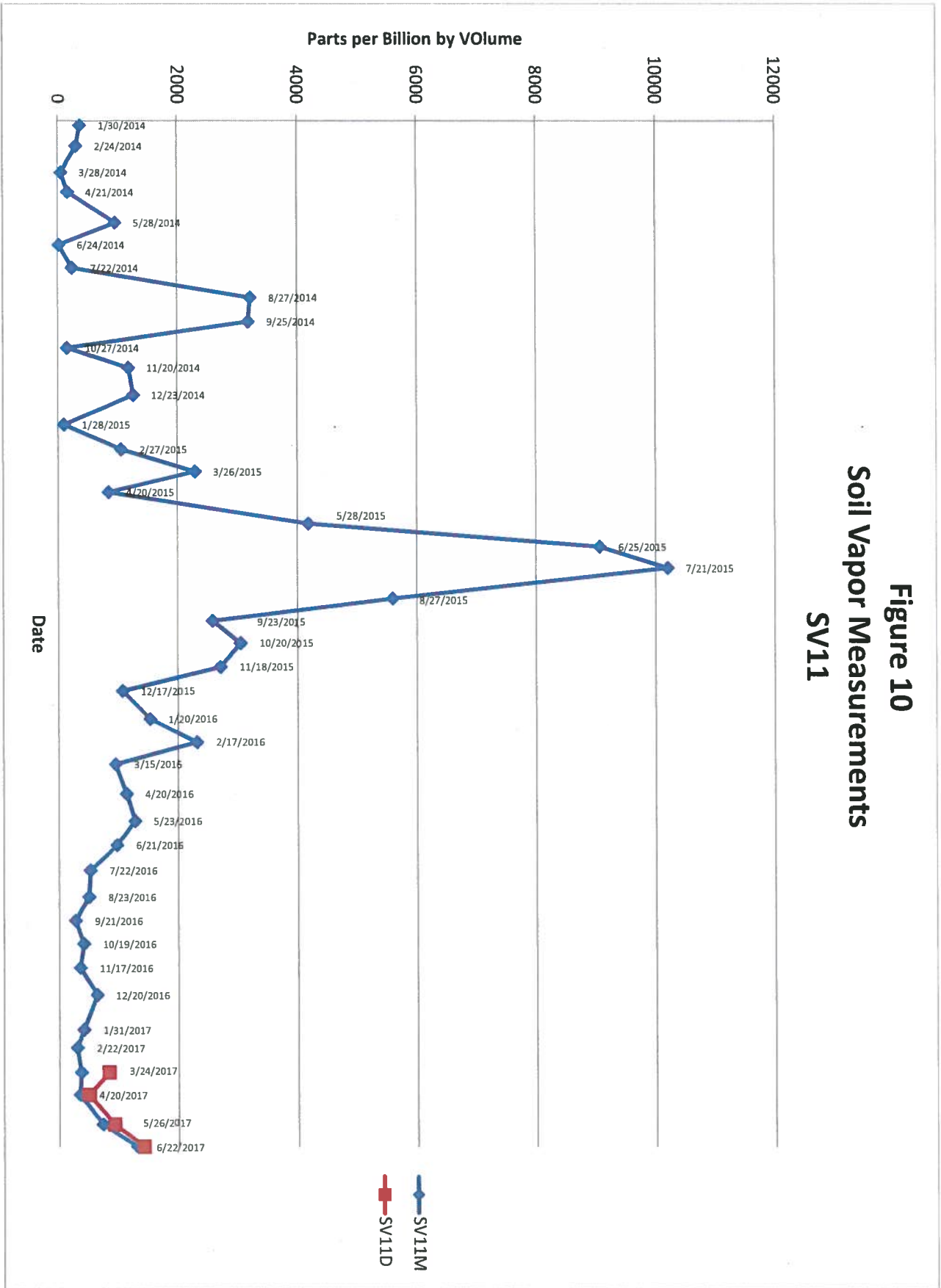




**Figure 8**  
**Soil Vapor Measurements**  
**SV09**

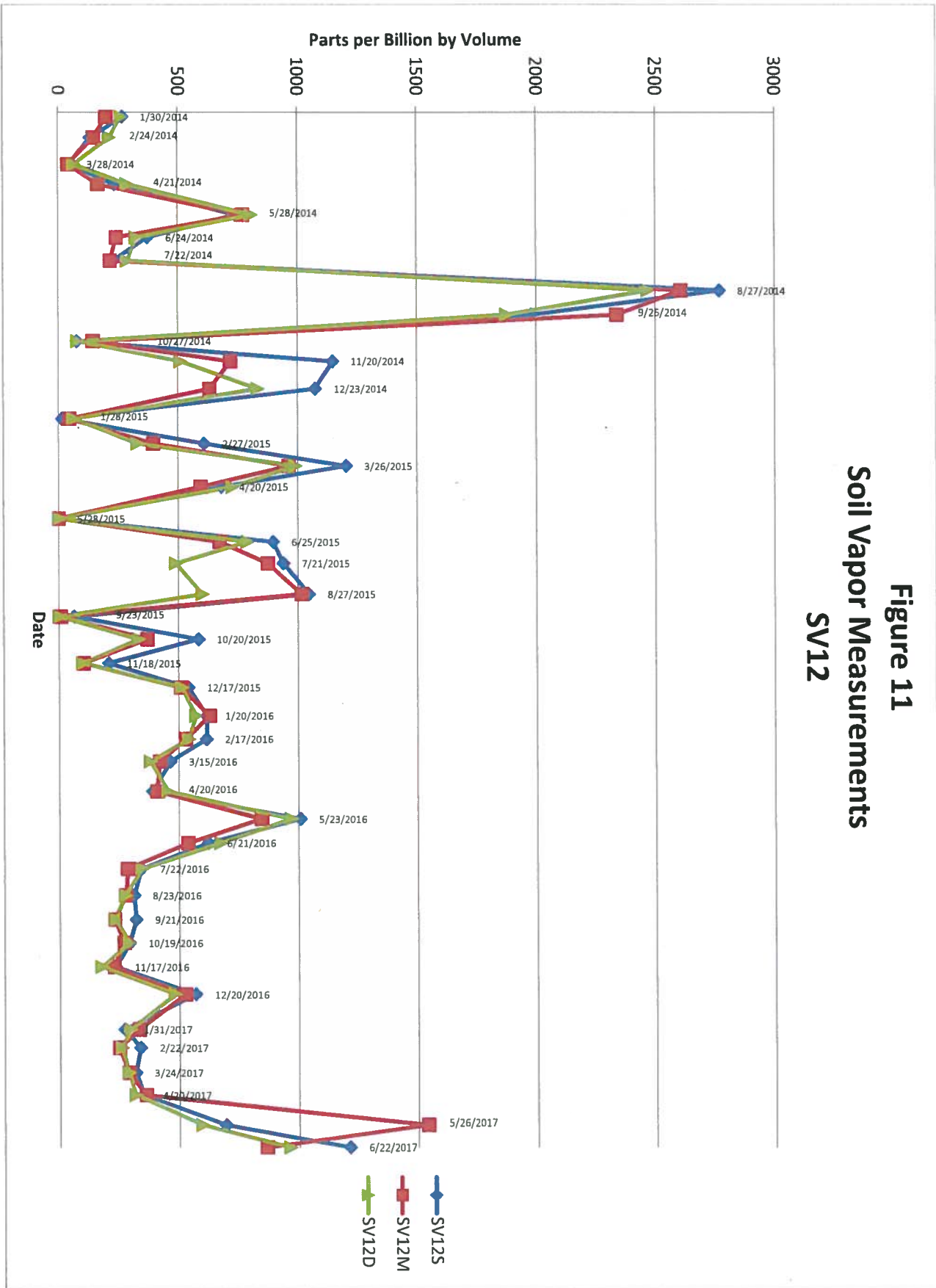


**Figure 9**  
**Soil Vapor Measurements**  
**SV10**

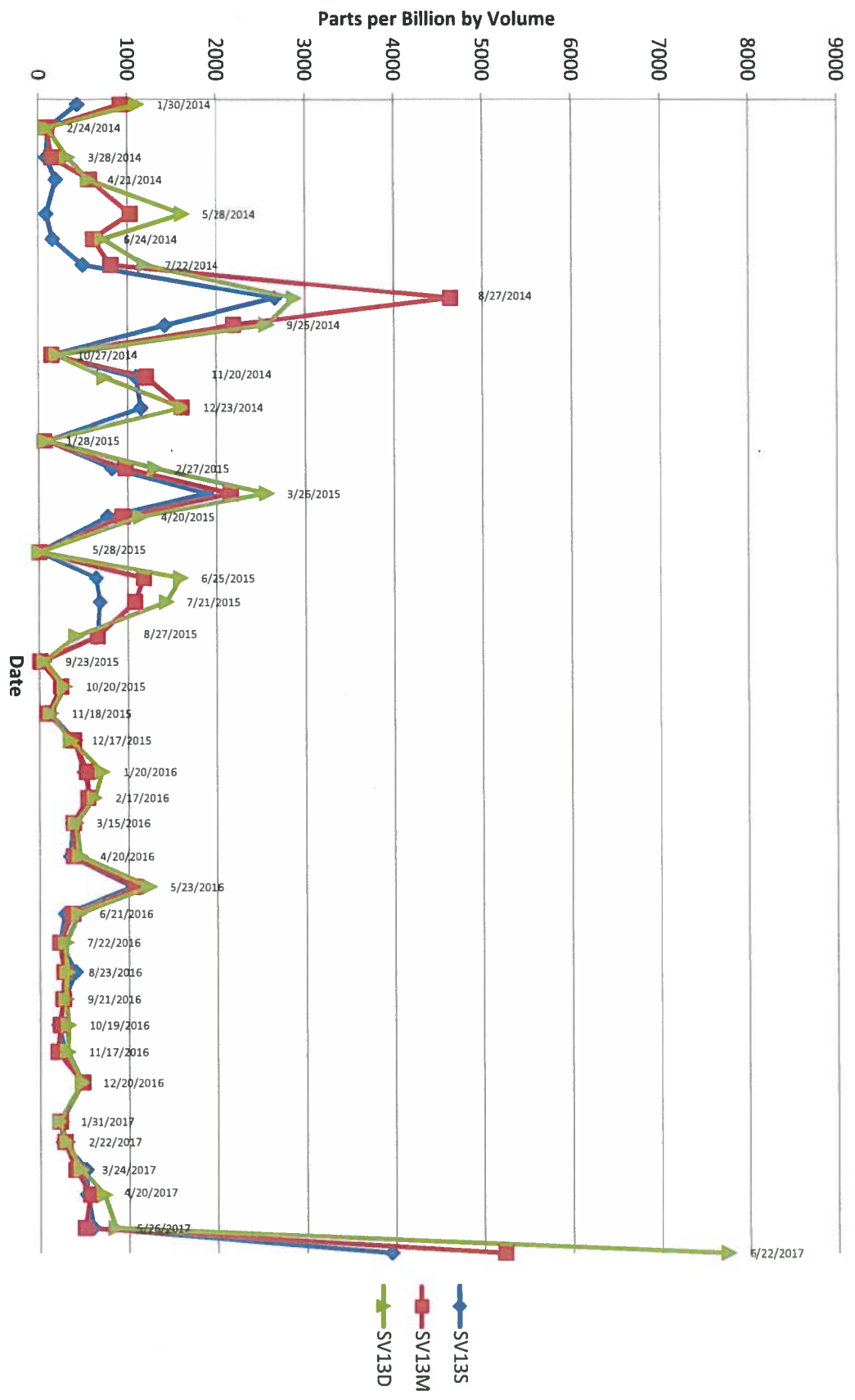


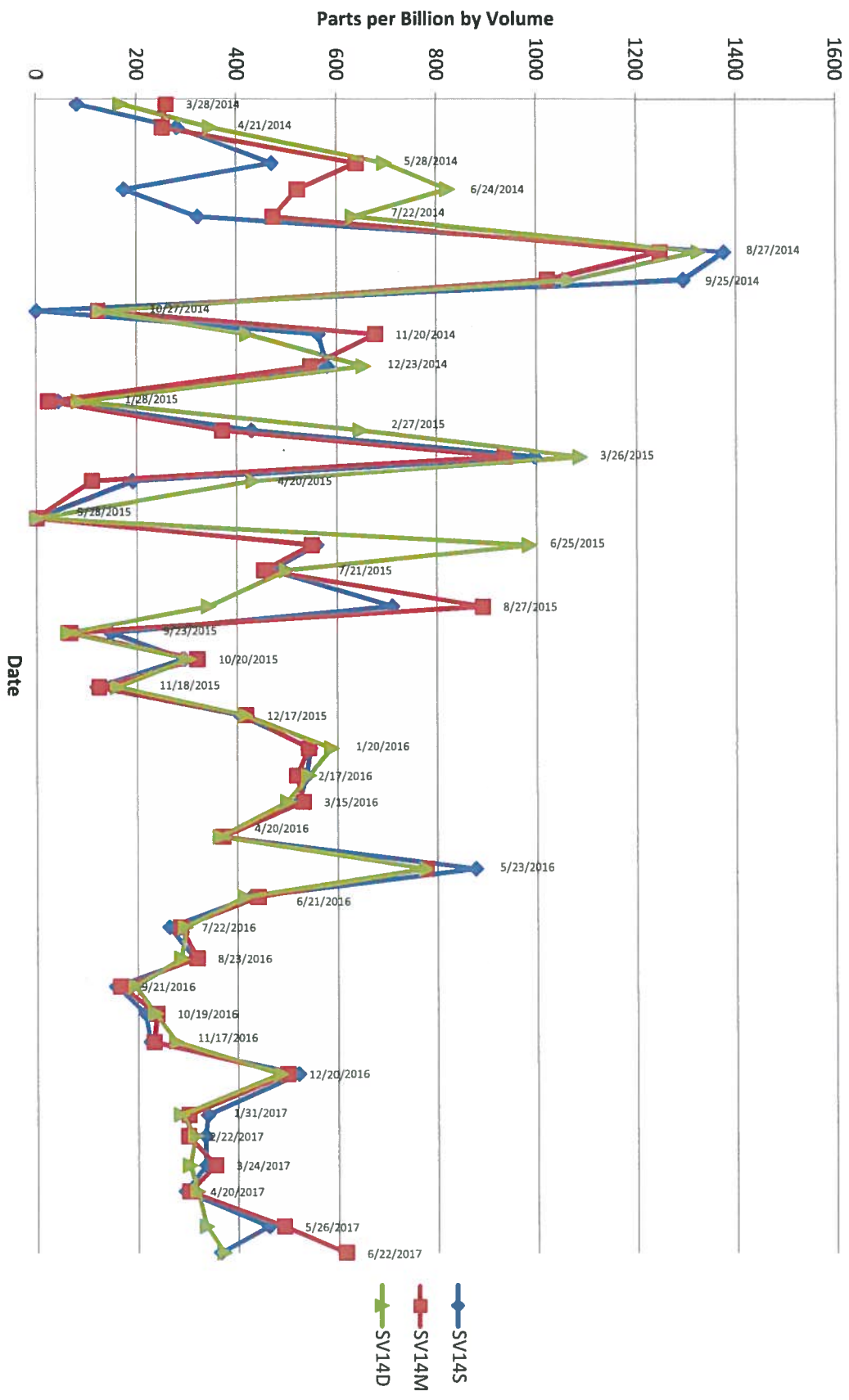
**Figure 10**  
**Soil Vapor Measurements**  
**SV11**

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



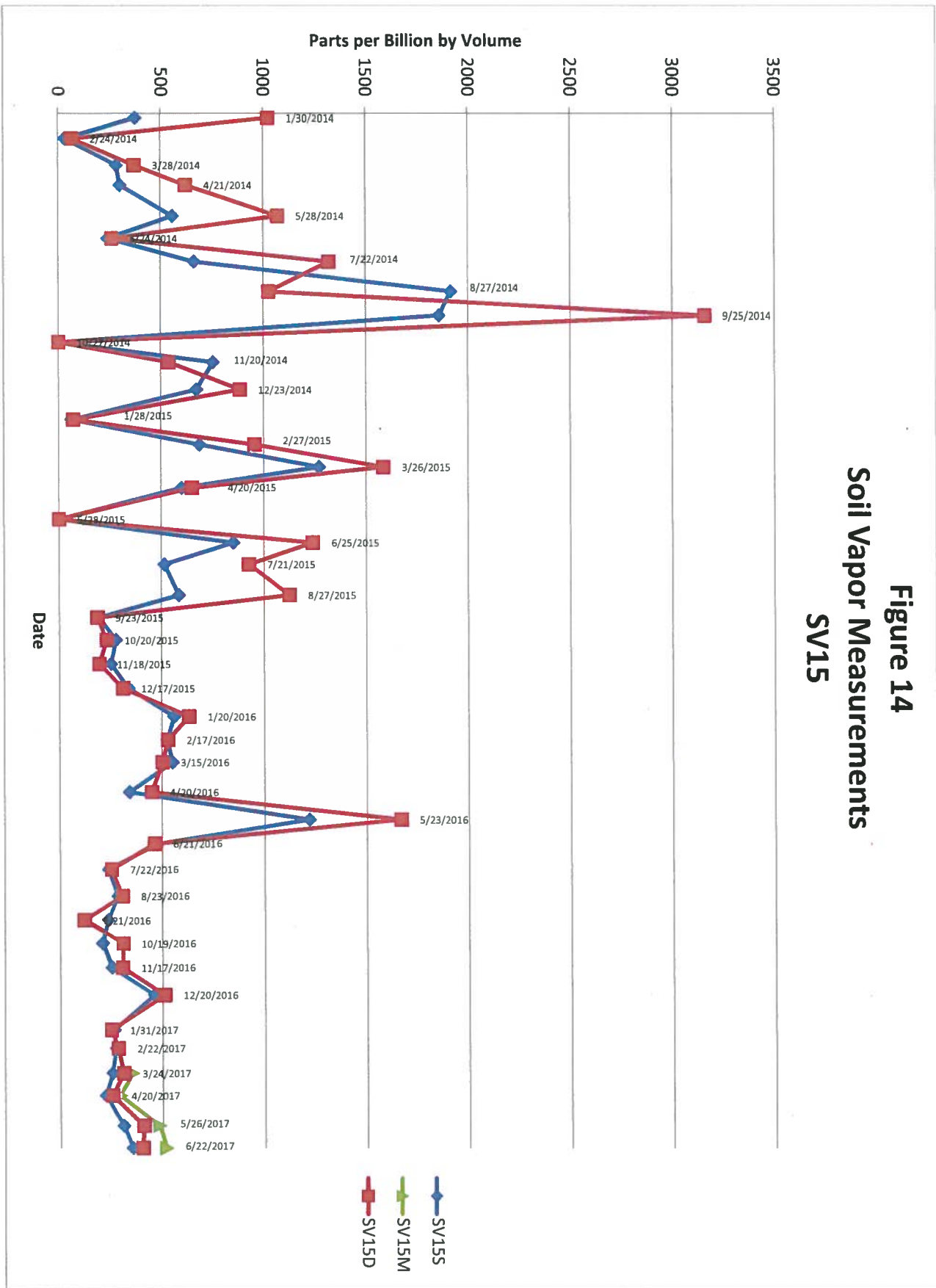
**Figure 12**  
**Soil Vapor Measurements**  
**SV13**



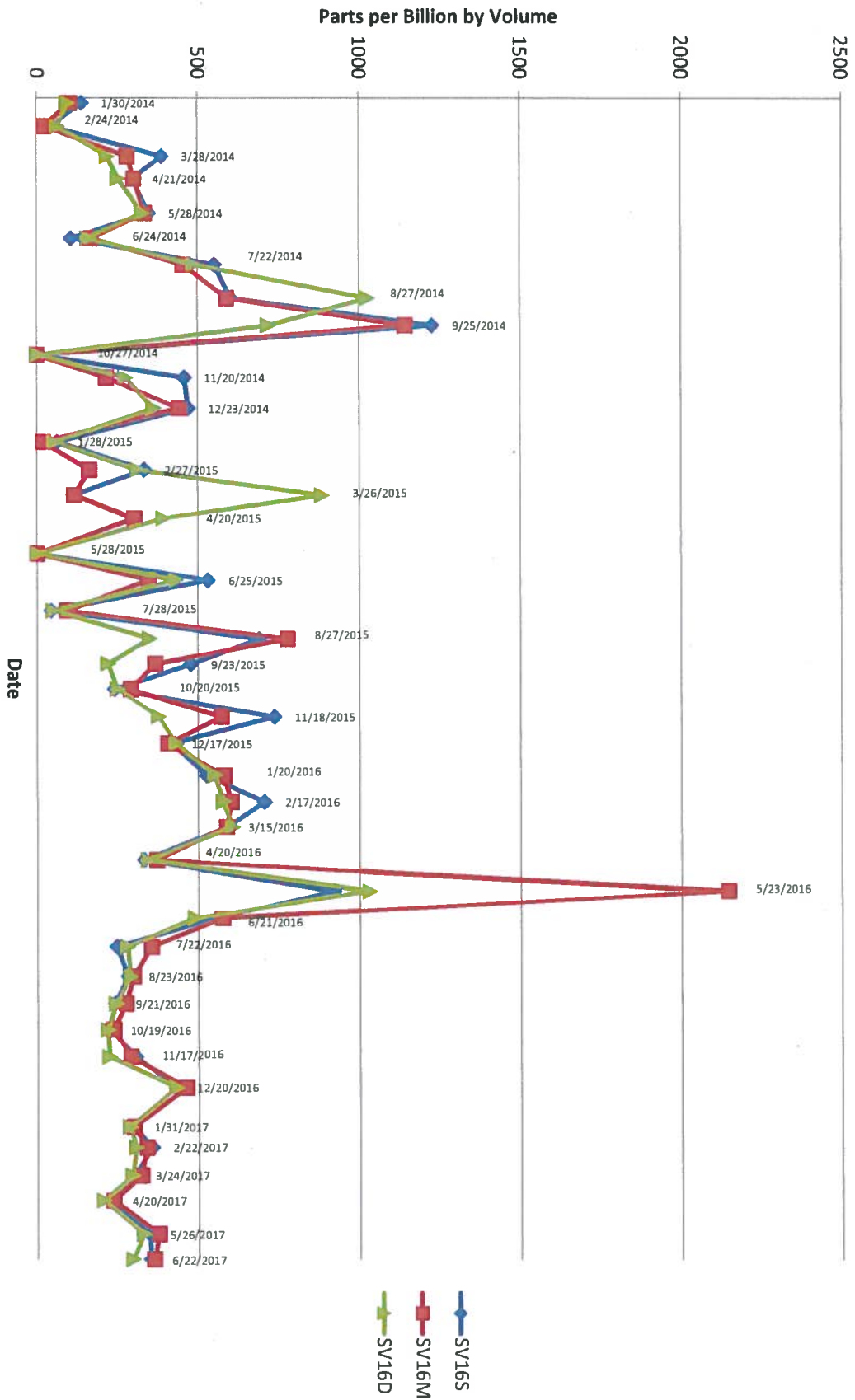


**Figure 13**  
**Soil Vapor Measurements**  
**SV14**

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

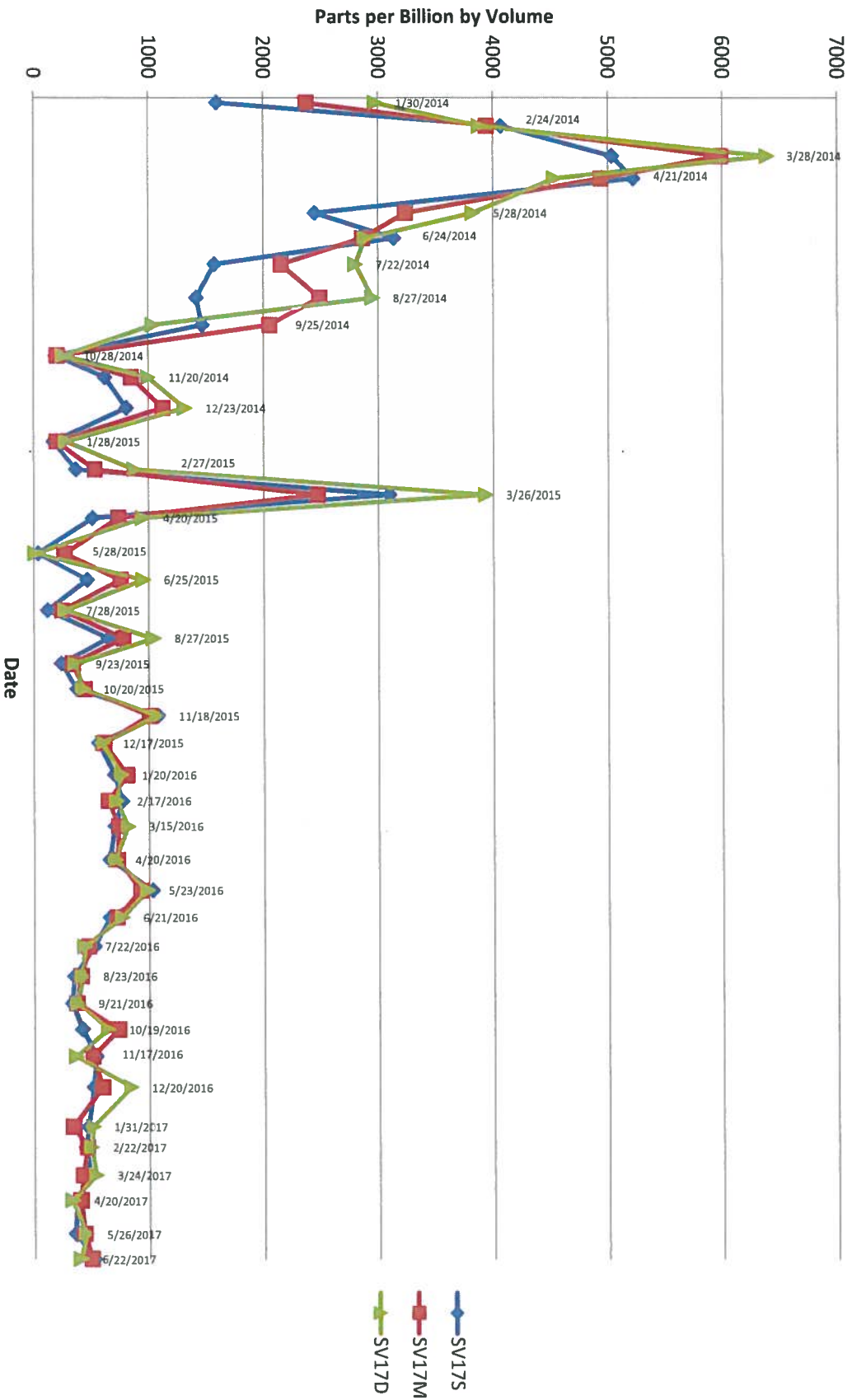




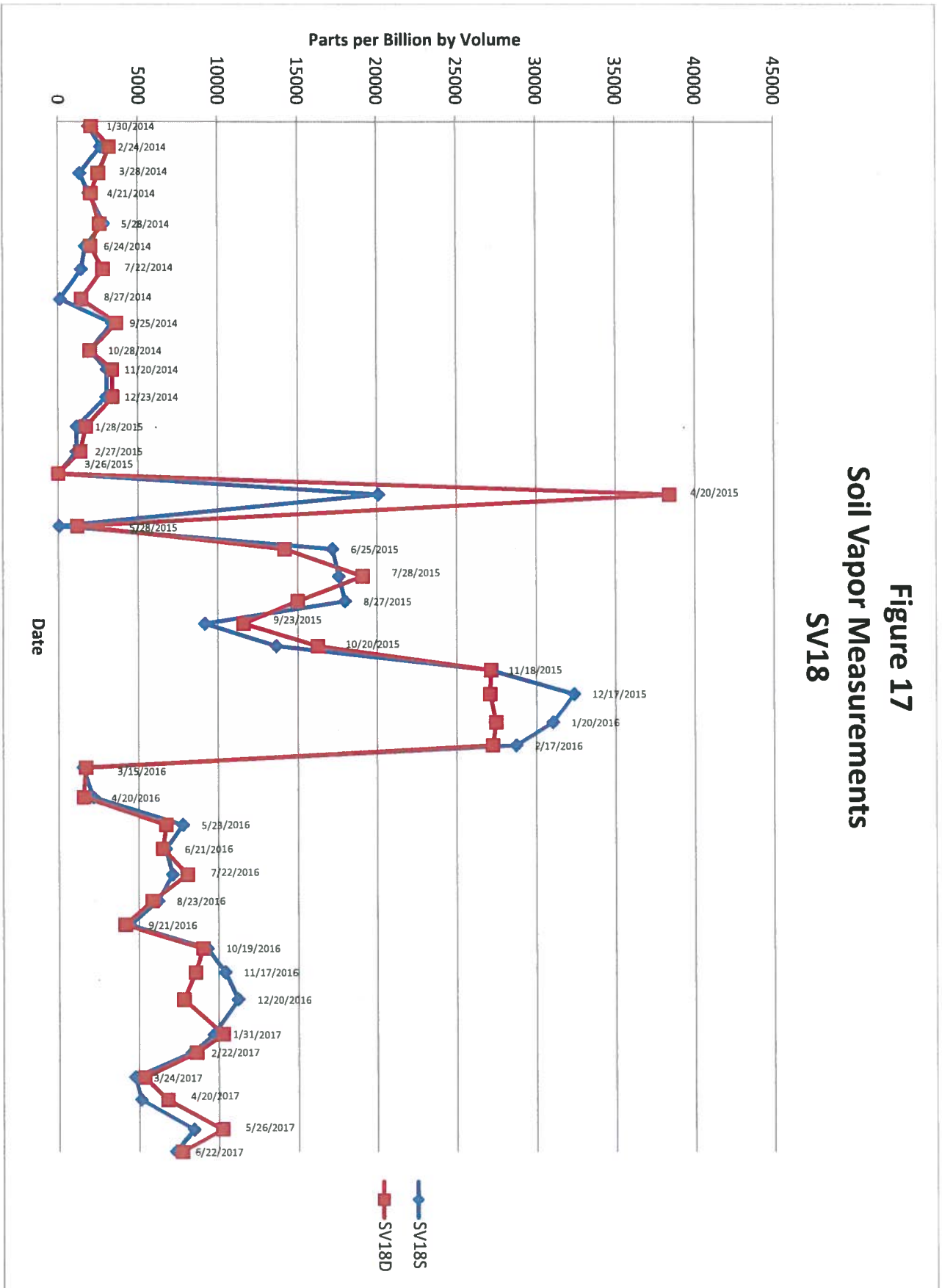


**Figure 15**  
**Soil Vapor Measurements**  
**SV16**

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



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



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

