

**DEPARTMENT OF THE NAVY**

COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
JBPHH, HAWAII 96860-5101

5090
Ser N45/0695
December 8, 2016

CERTIFIED NO: 7015 0640 0002 4672 9867

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 NOVEMBER 2016
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 November 17, 2016.

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 111,200 ppbv, 9,117 ppbv, and 25,713 ppbv, respectively. Tank 5 was emptied in January 2014 and has not contained fuel since that time. No fuel level discrepancies were observed in the other tanks, and VOC concentrations in all down-gradient soil vapor monitors were below 1,000 ppbv.

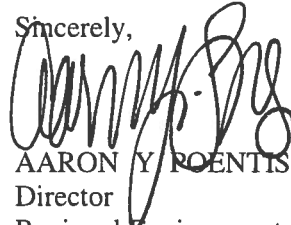
All other VOC concentrations measured in November were about 30 to 1,200 times below the action levels, with no consistent trends observed. Possible reasons for the results are speculative and may include, but not be limited to, ongoing projects in the tunnel, groundwater level fluctuations, rainfall (or lack thereof), and fuel movement in the tanks and piping.

Soil vapor VOC concentration trends will continue to be monitored. The next soil vapor sampling event is scheduled for December 2016, and will include collecting samples from soil vapor monitoring probes beneath all active and accessible tanks.

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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. ROENTIS

Director

Regional Environmental Department

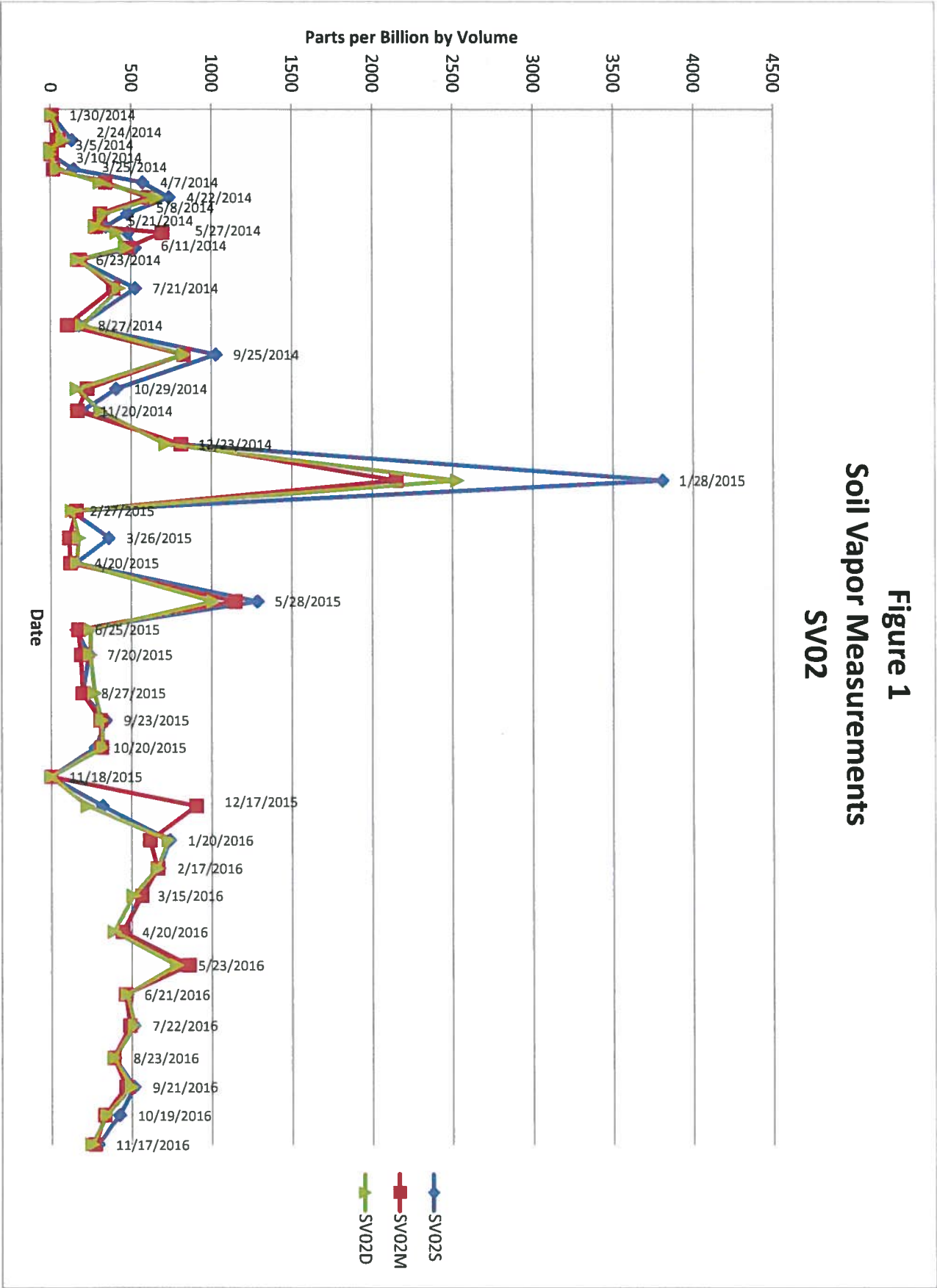
By direction of the

Commander

Enclosure: 1. Summary of Soil Vapor Sampling Results for Tanks 2 through 18 and 20 through November 2016 (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



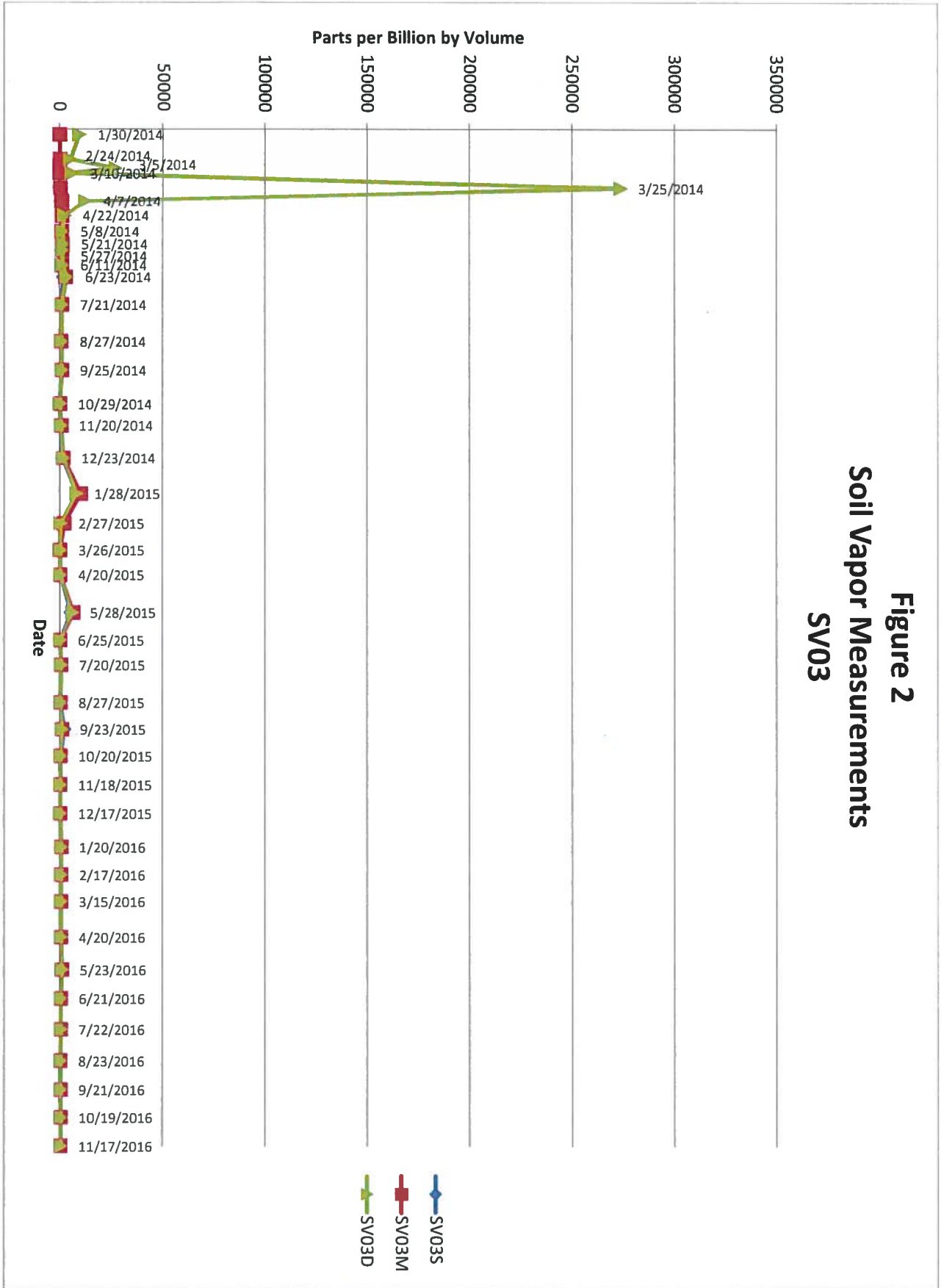


Figure 2
Soil Vapor Measurements
SV03

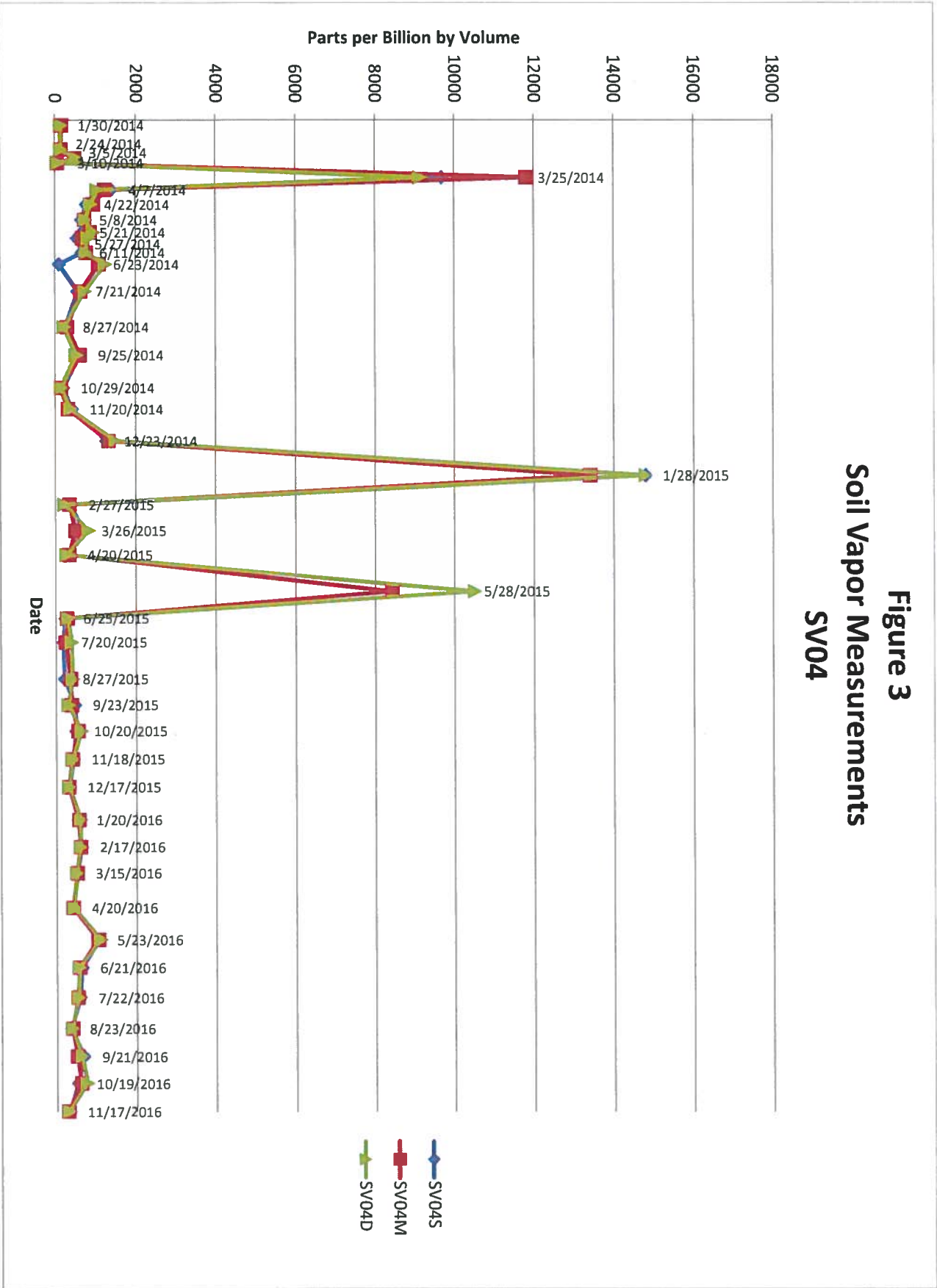


Figure 3
Soil Vapor Measurements
SV04

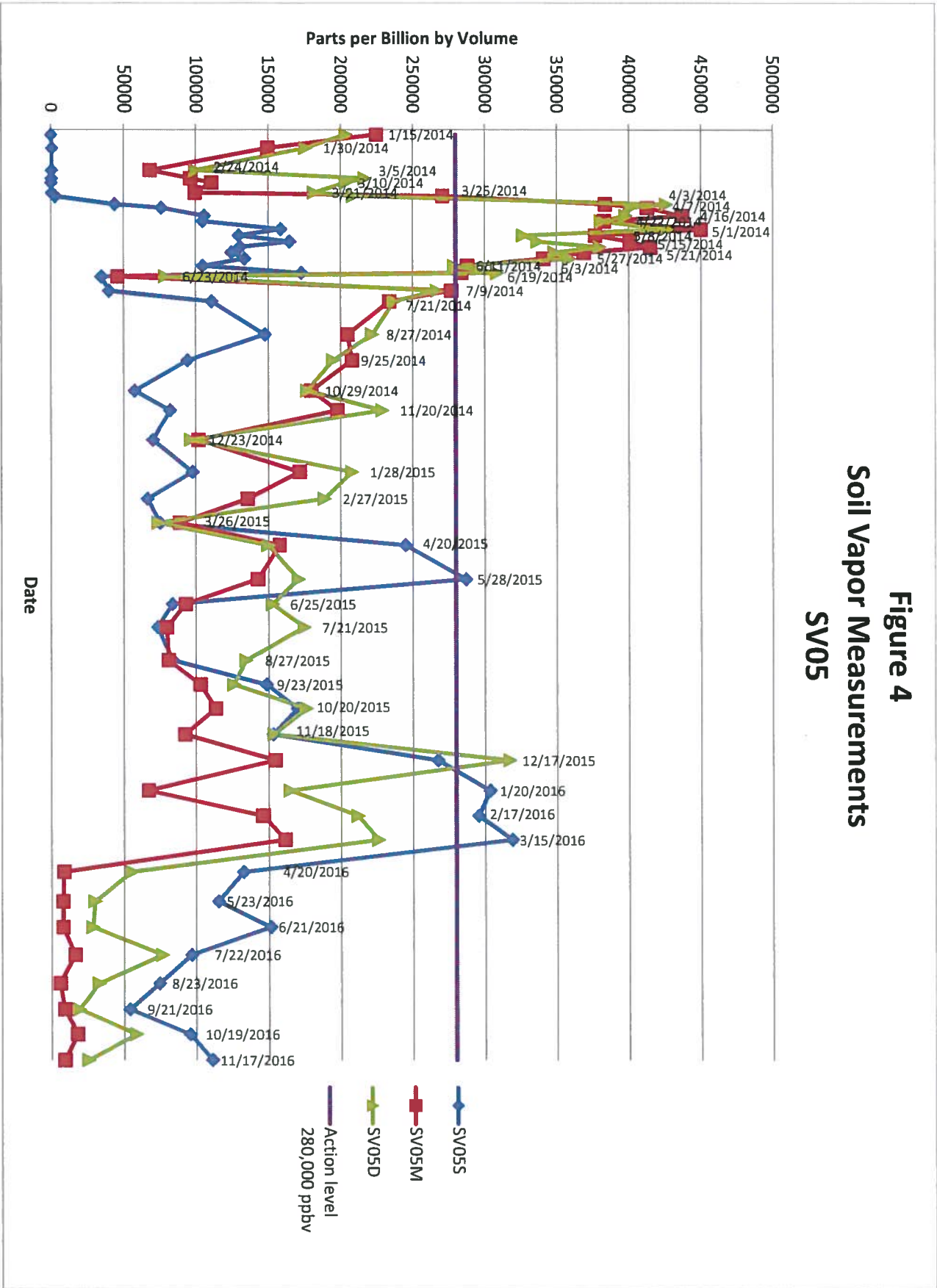


Figure 4
Soil Vapor Measurements
SV05

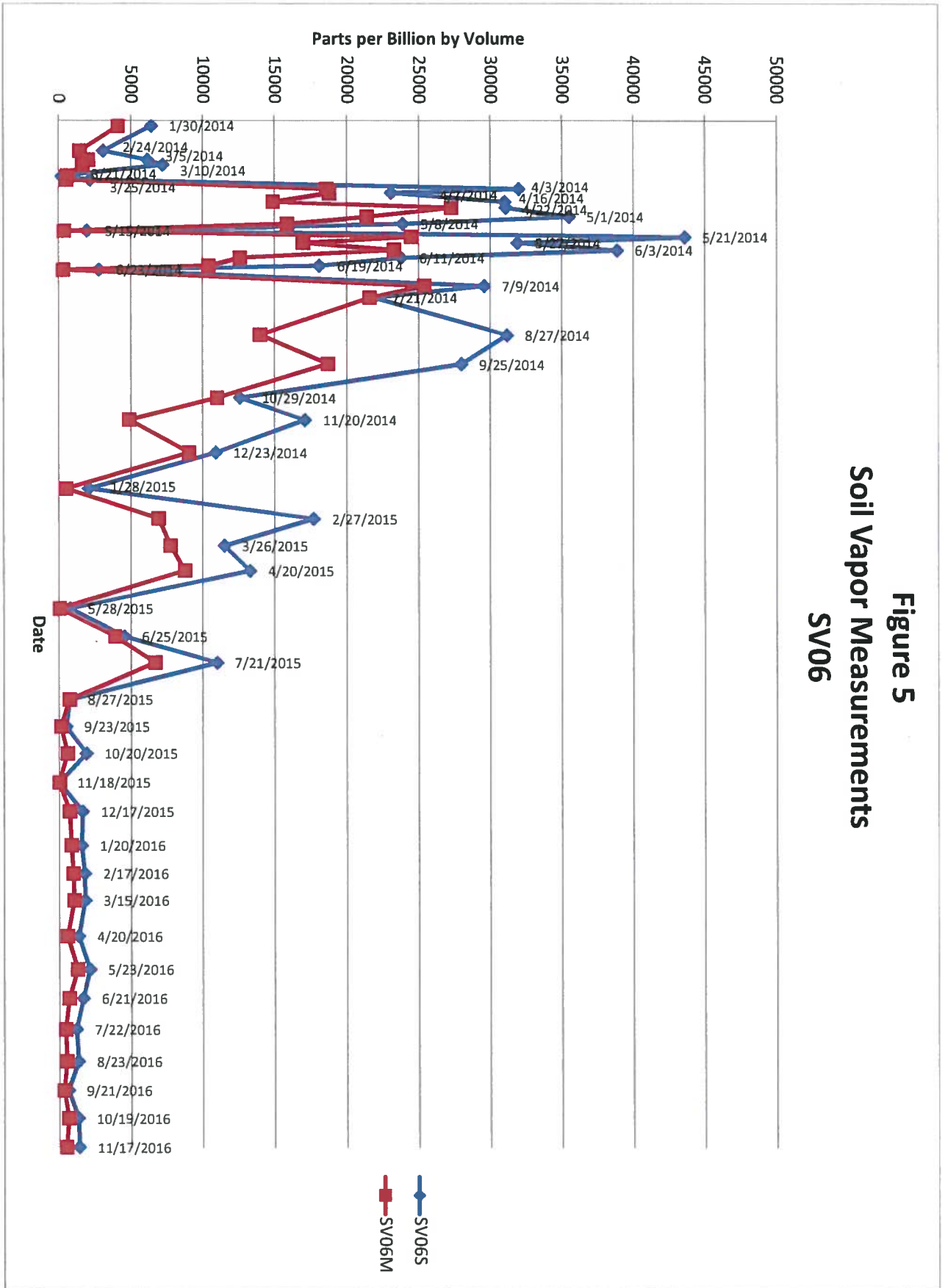


Figure 5
Soil Vapor Measurements
SV06

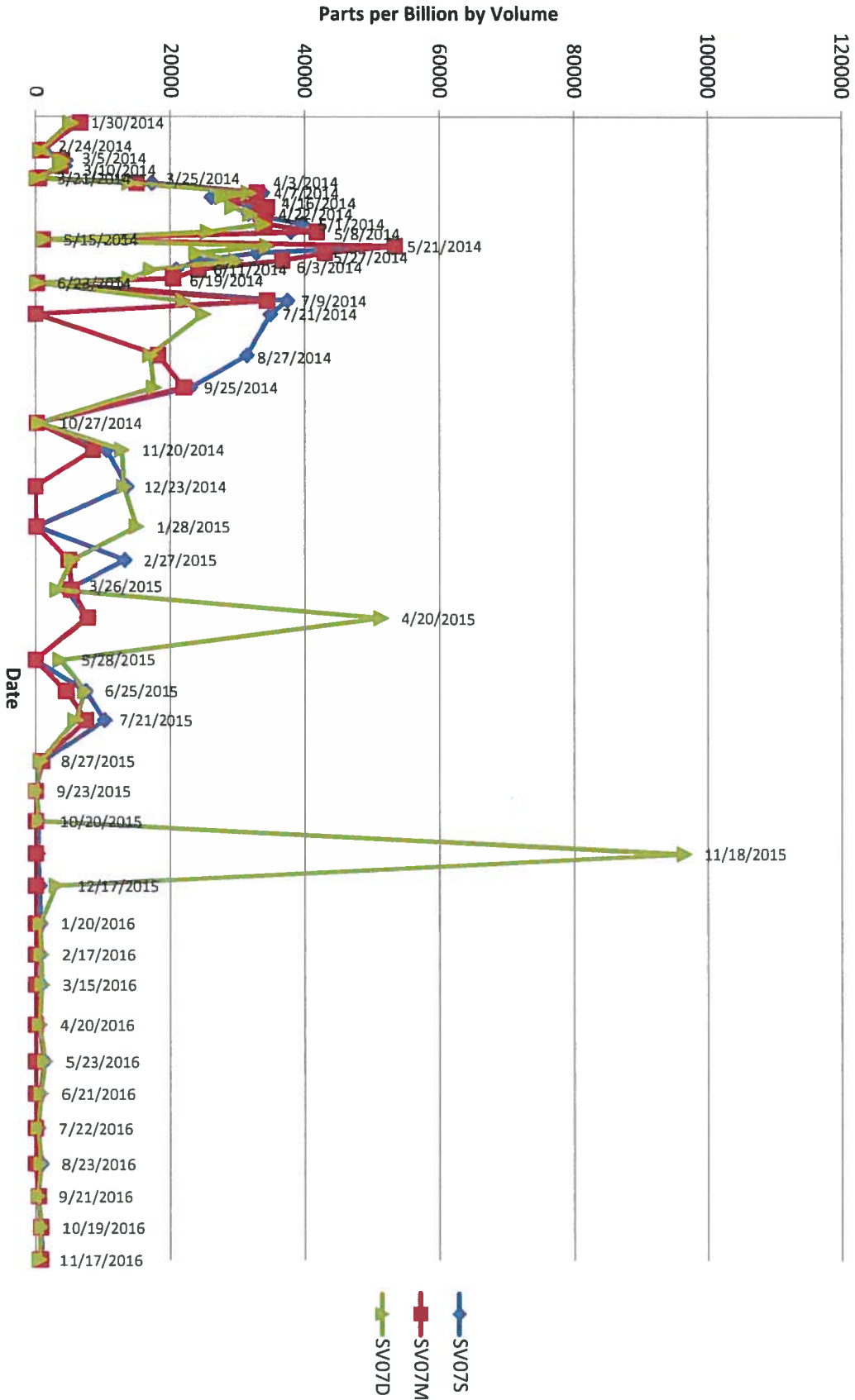


Figure 6
Soil Vapor Measurements
SV07

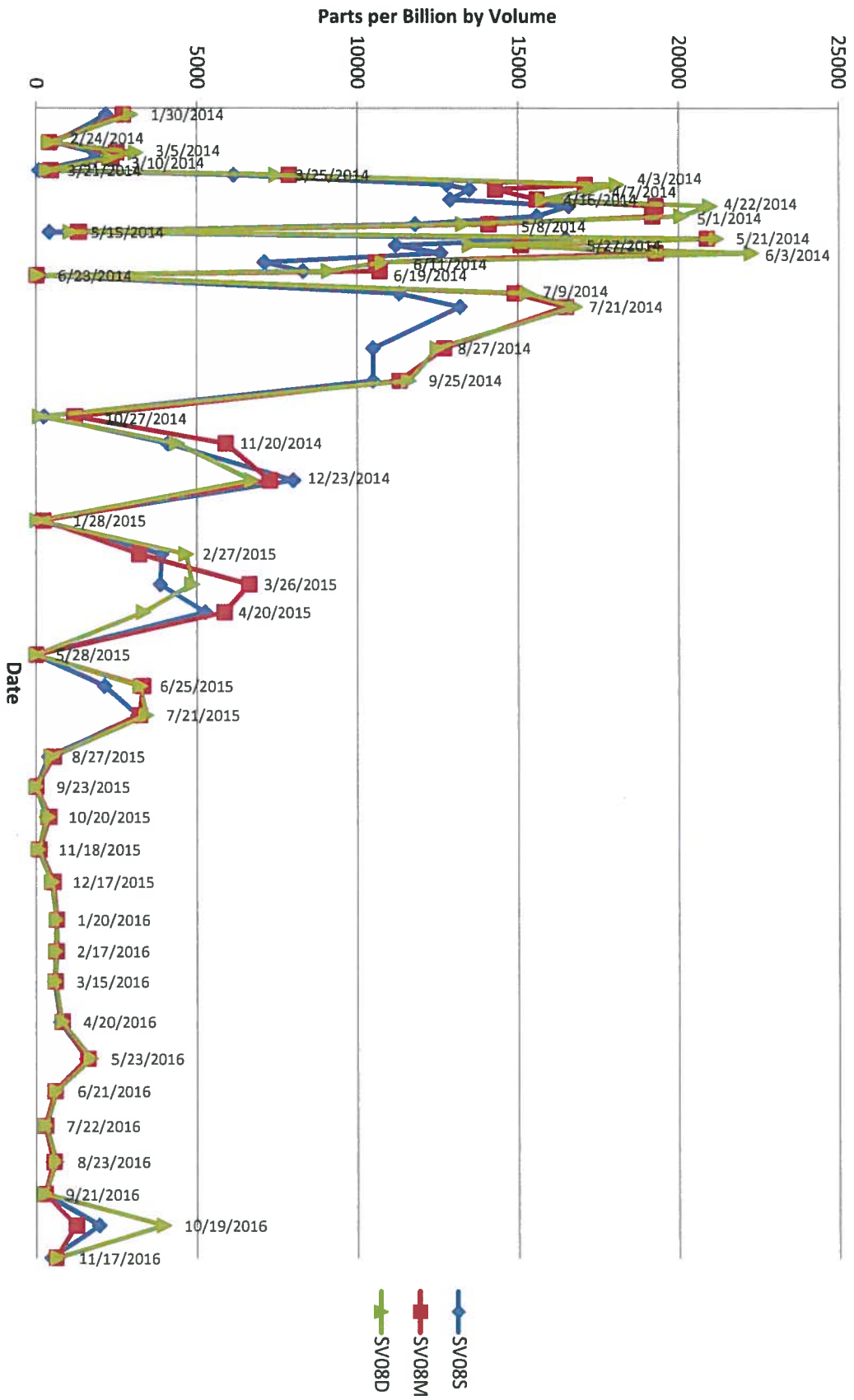


Figure 7
Soil Vapor Measurements
SV08

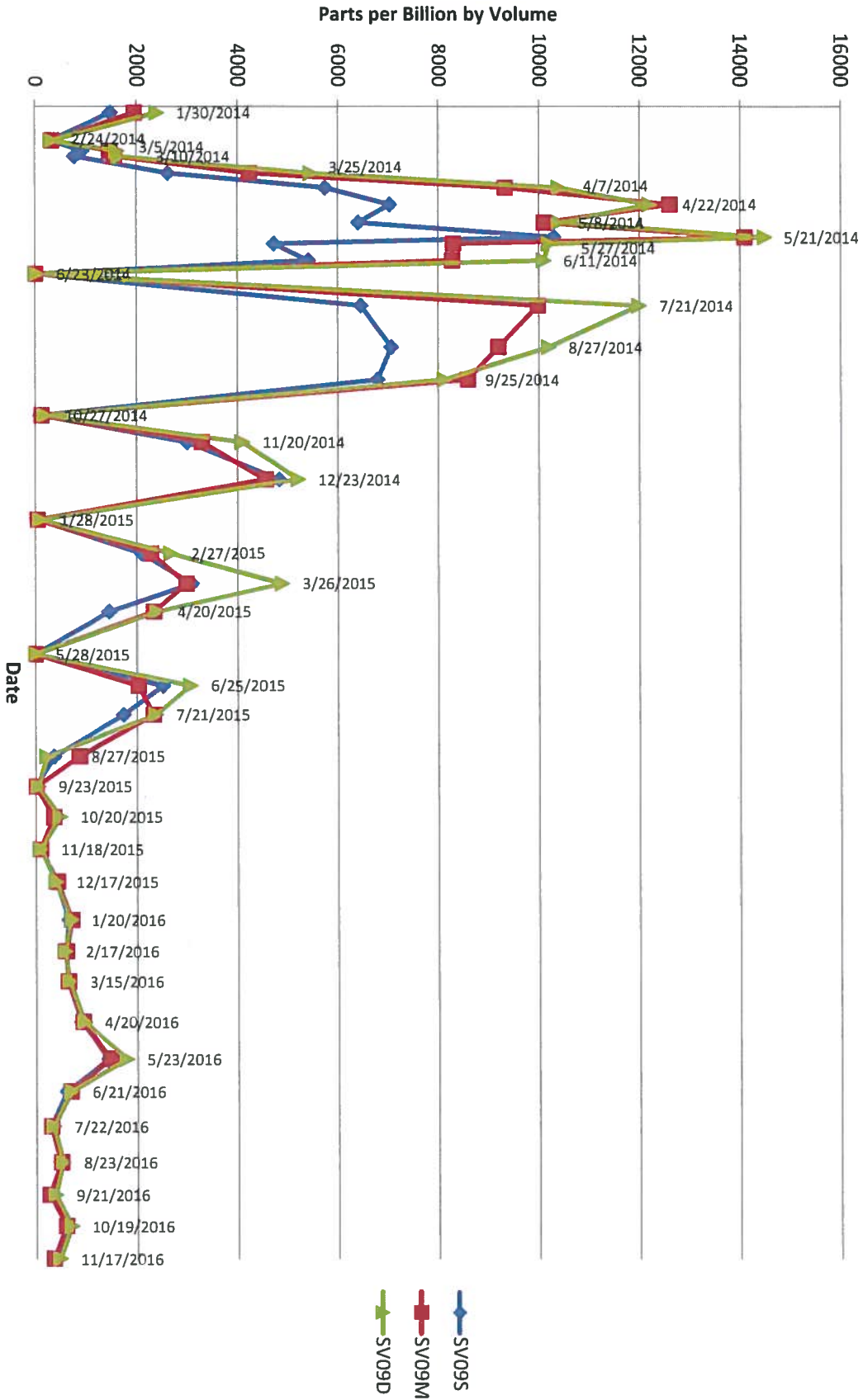


Figure 8
Soil Vapor Measurements
SV09

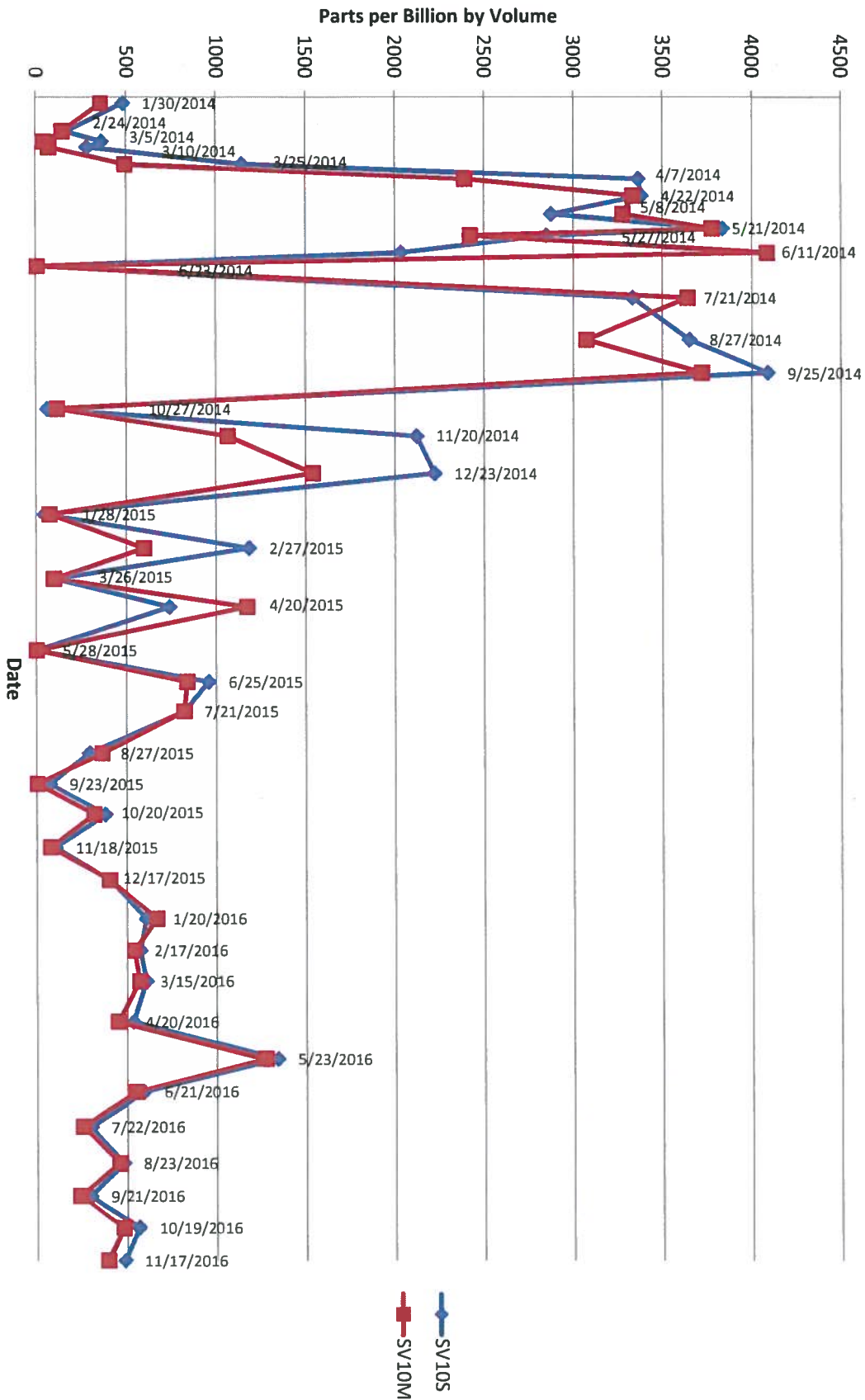
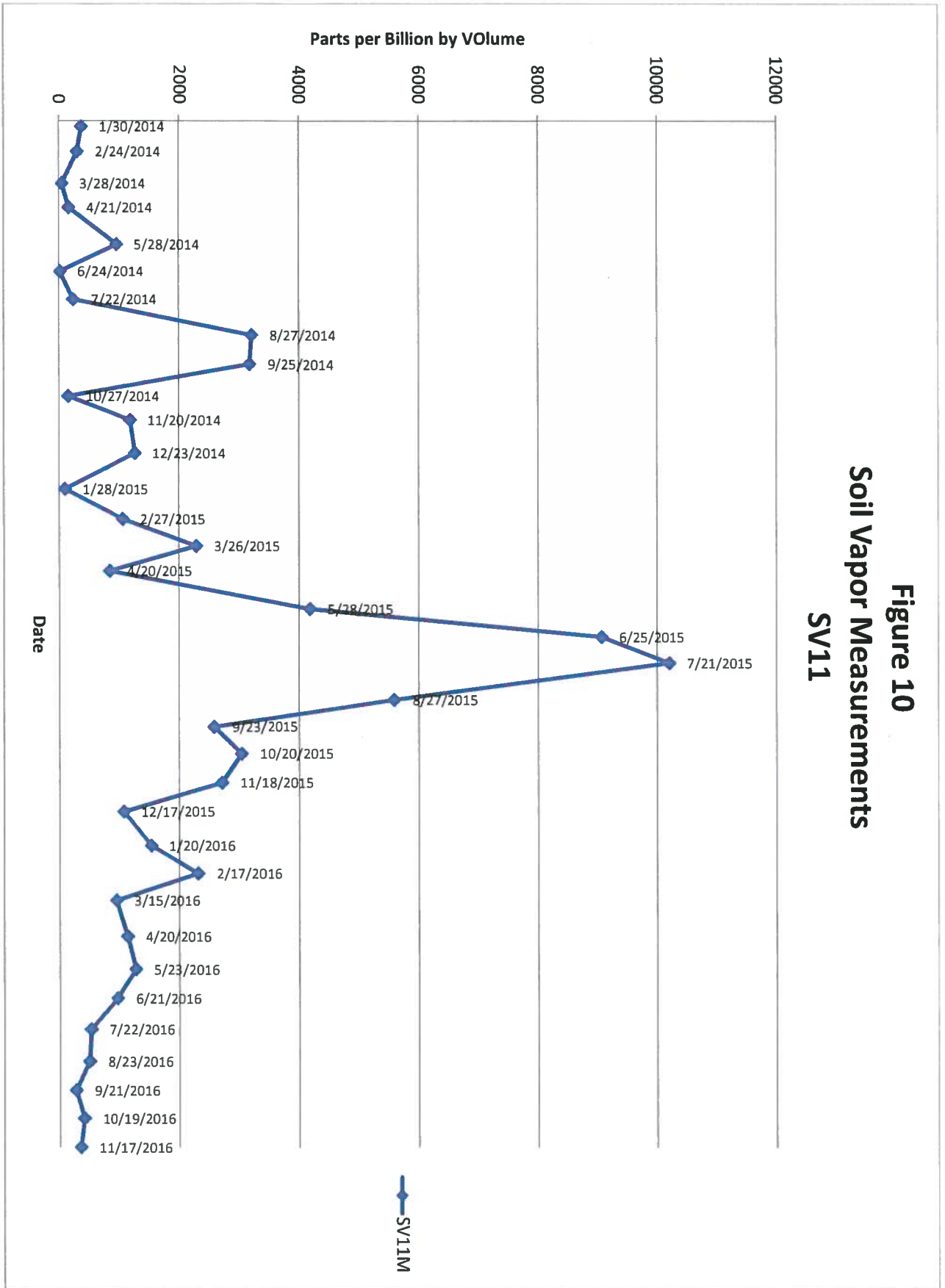


Figure 9
Soil Vapor Measurements
SV10



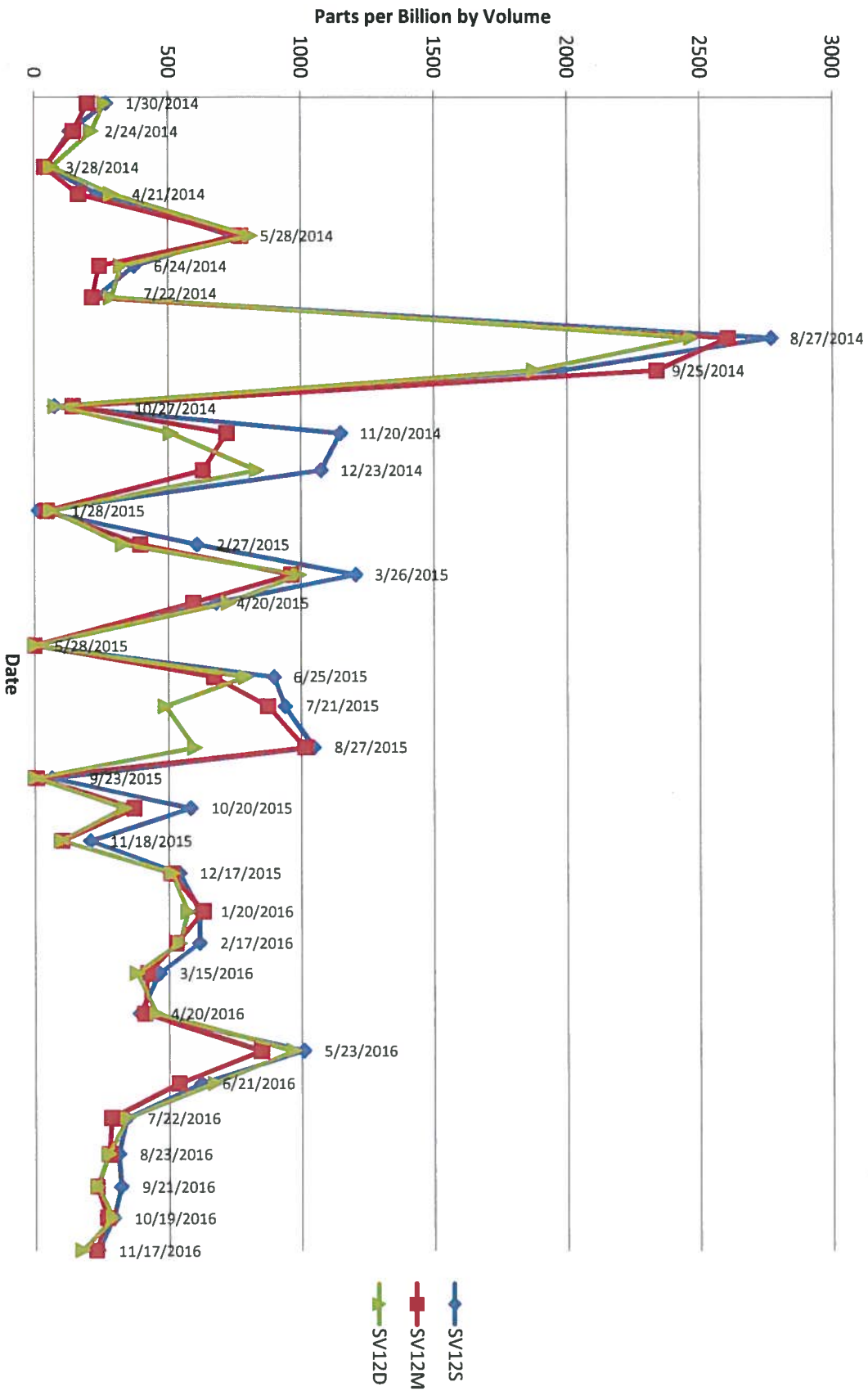


Figure 11
Soil Vapor Measurements
SV12

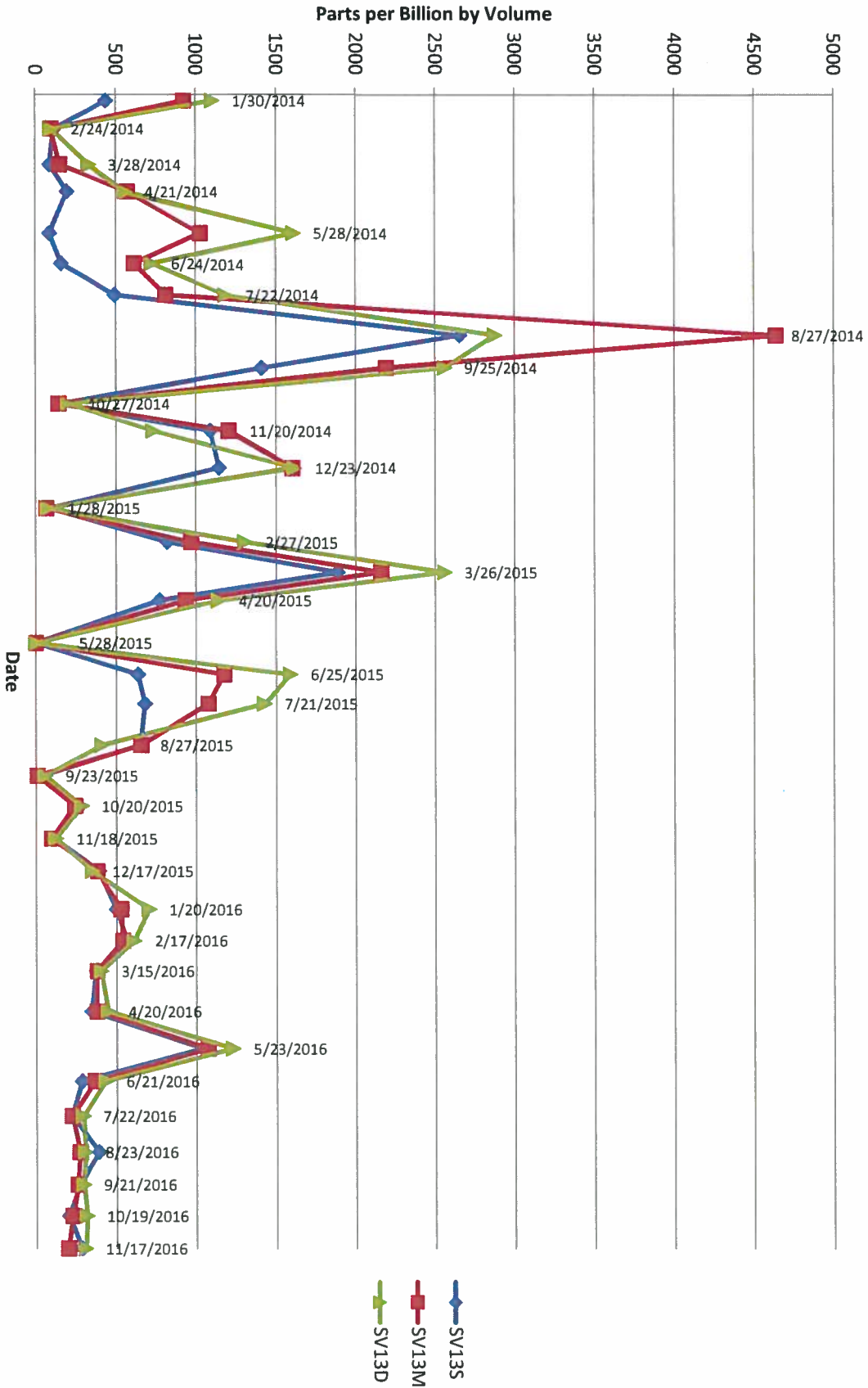


Figure 12
Soil Vapor Measurements
SV13

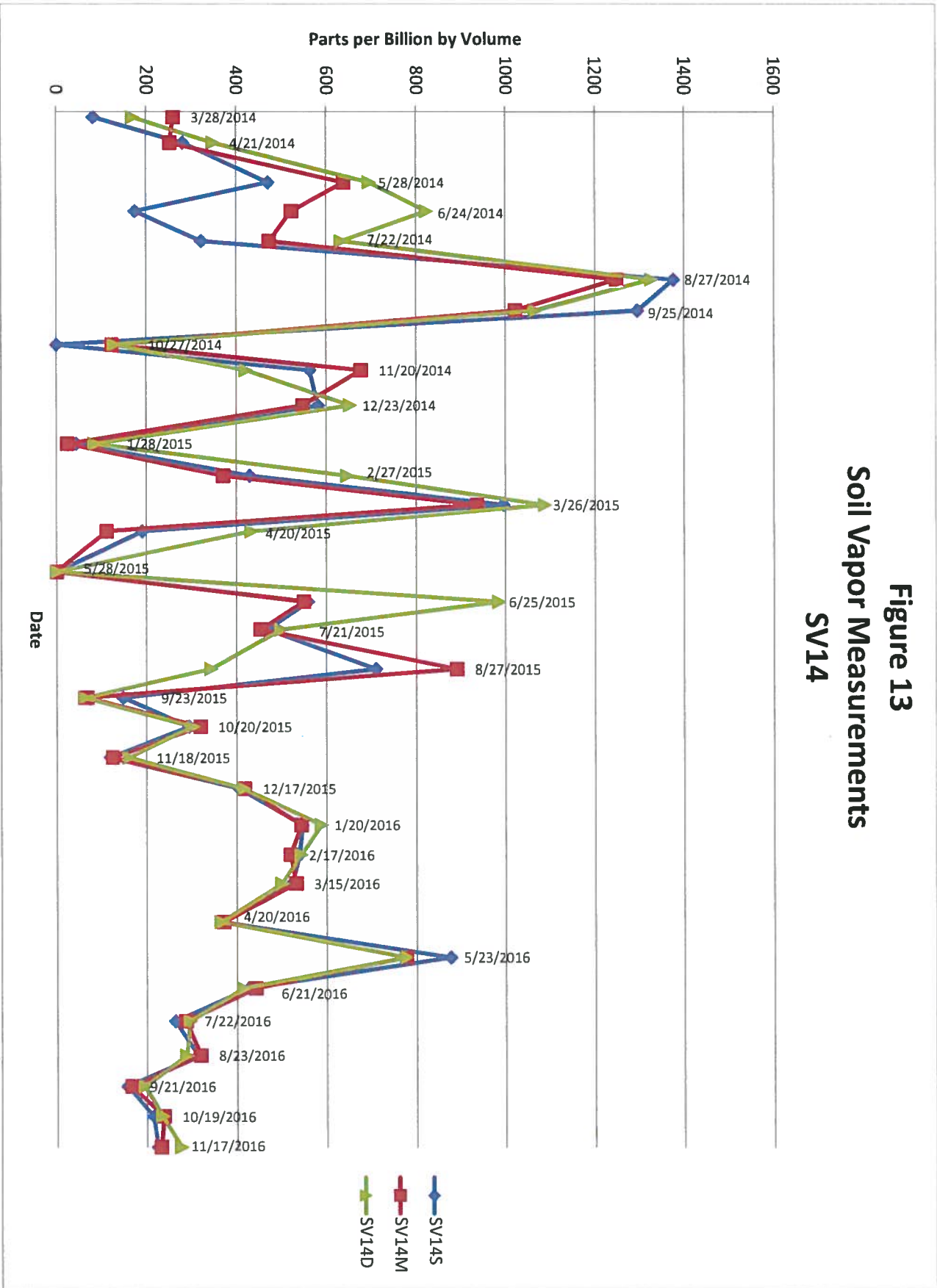


Figure 13
Soil Vapor Measurements
SV14

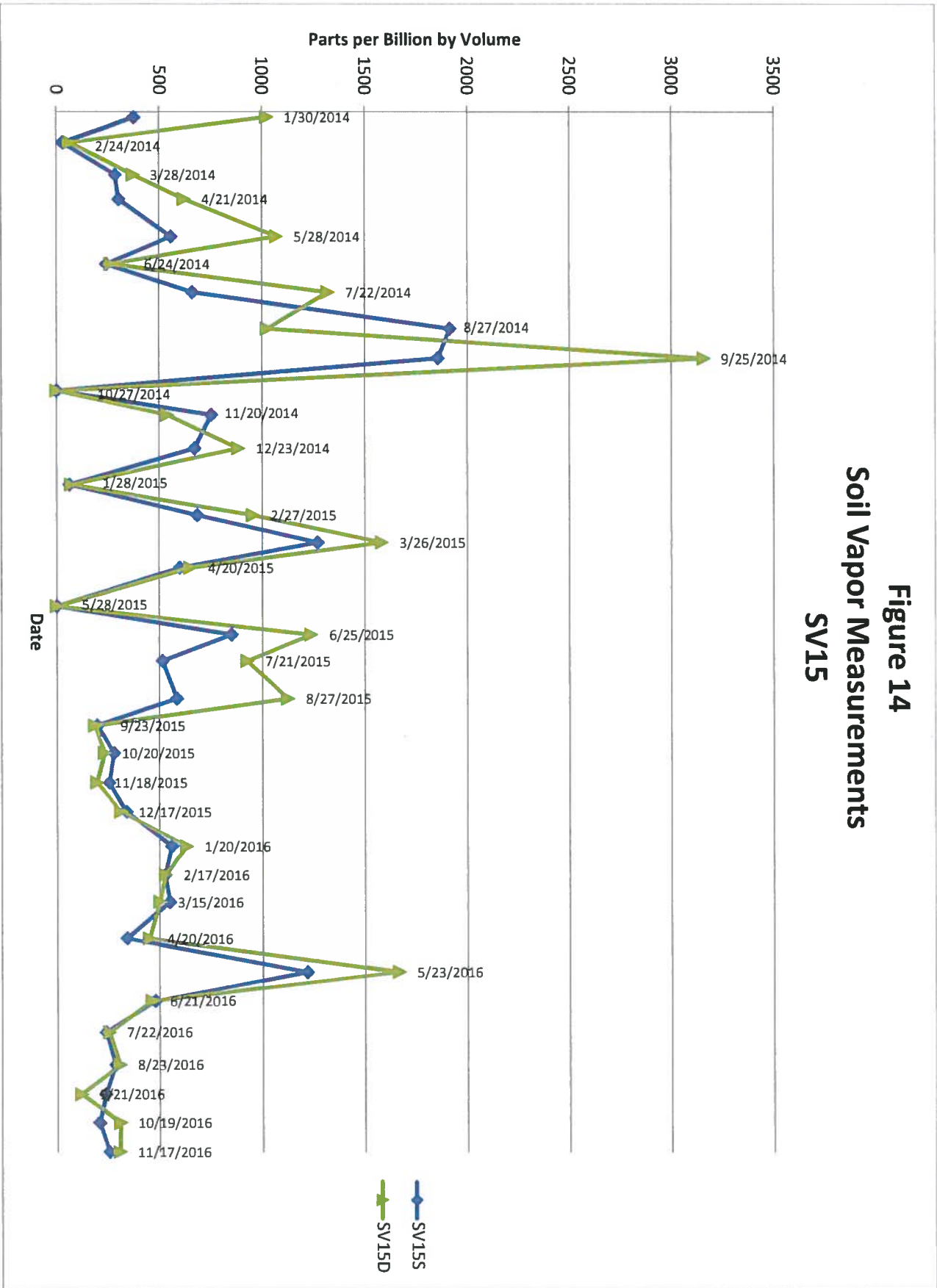


Figure 14
Soil Vapor Measurements
SV15

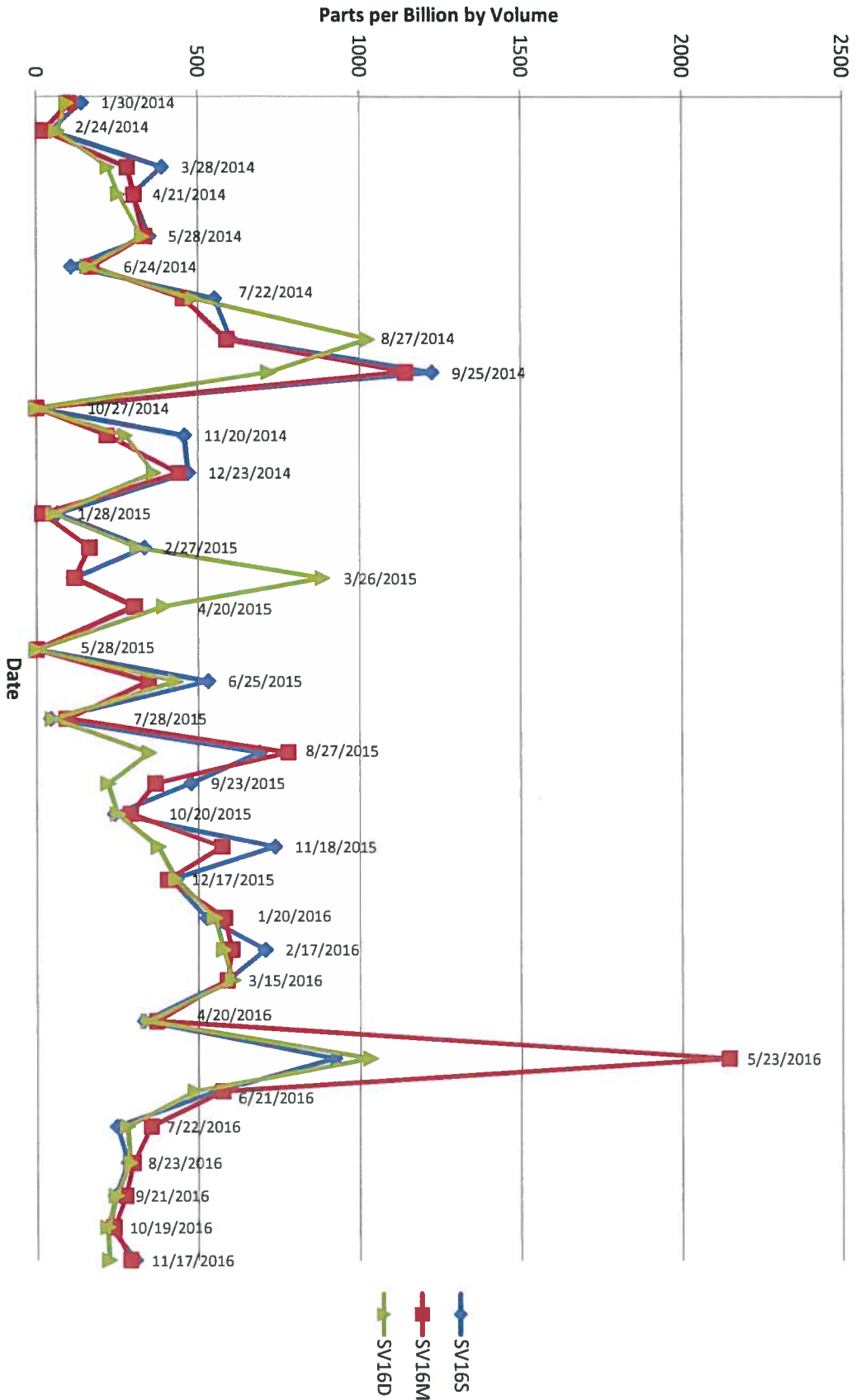


Figure 15
Soil Vapor Measurements
SV16

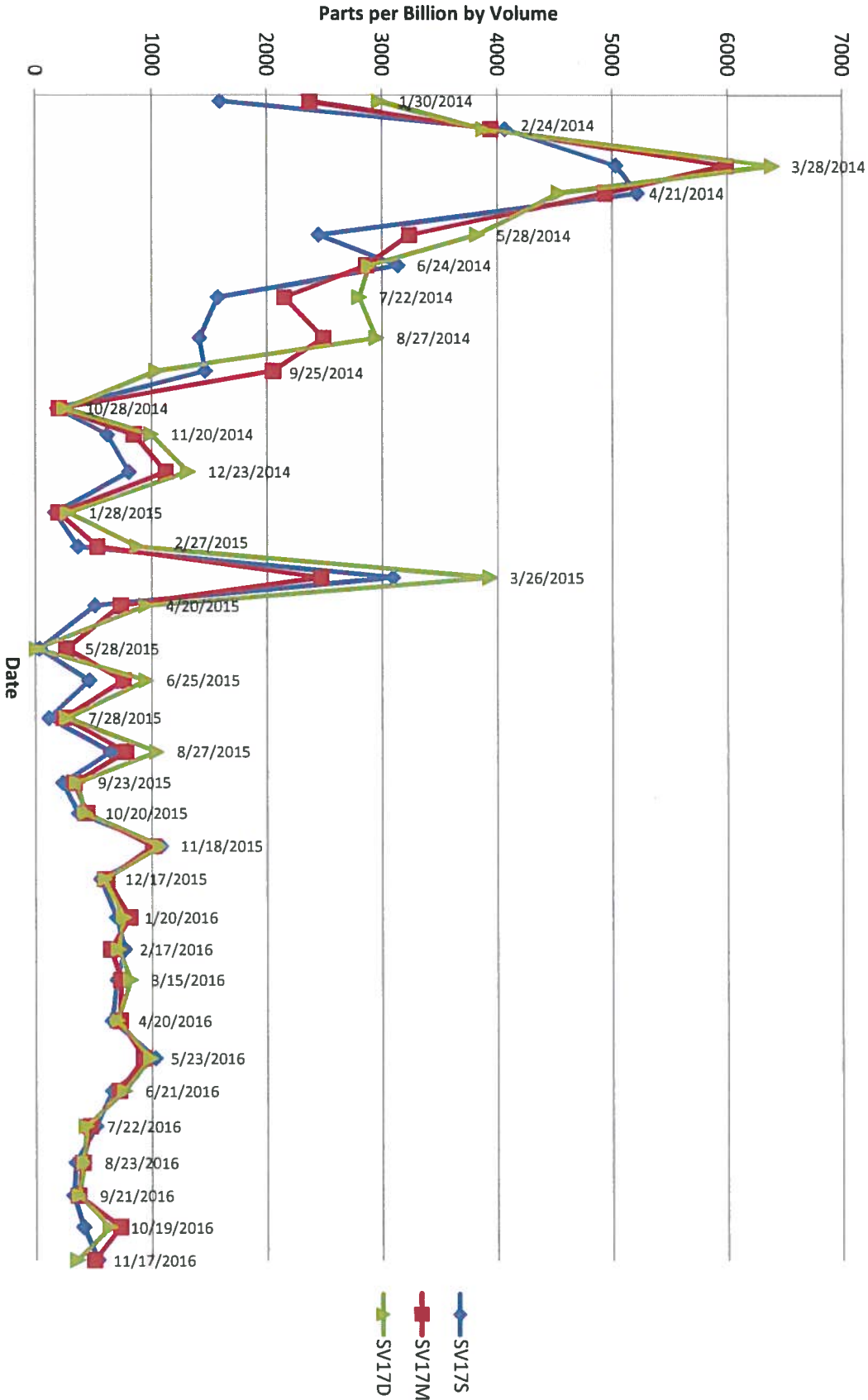


Figure 16
Soil Vapor Measurements
SV17

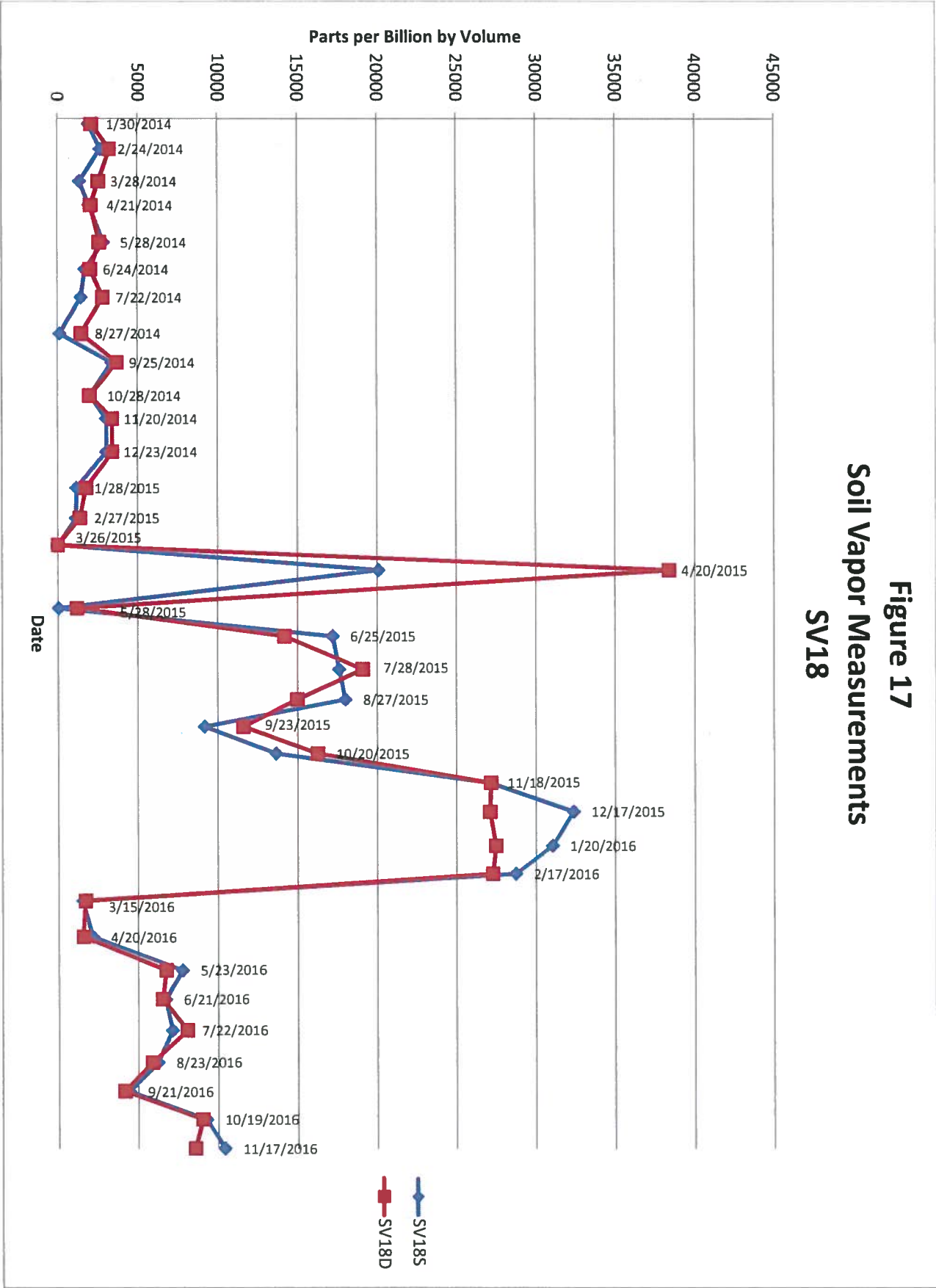


Figure 17
Soil Vapor Measurements
SV18

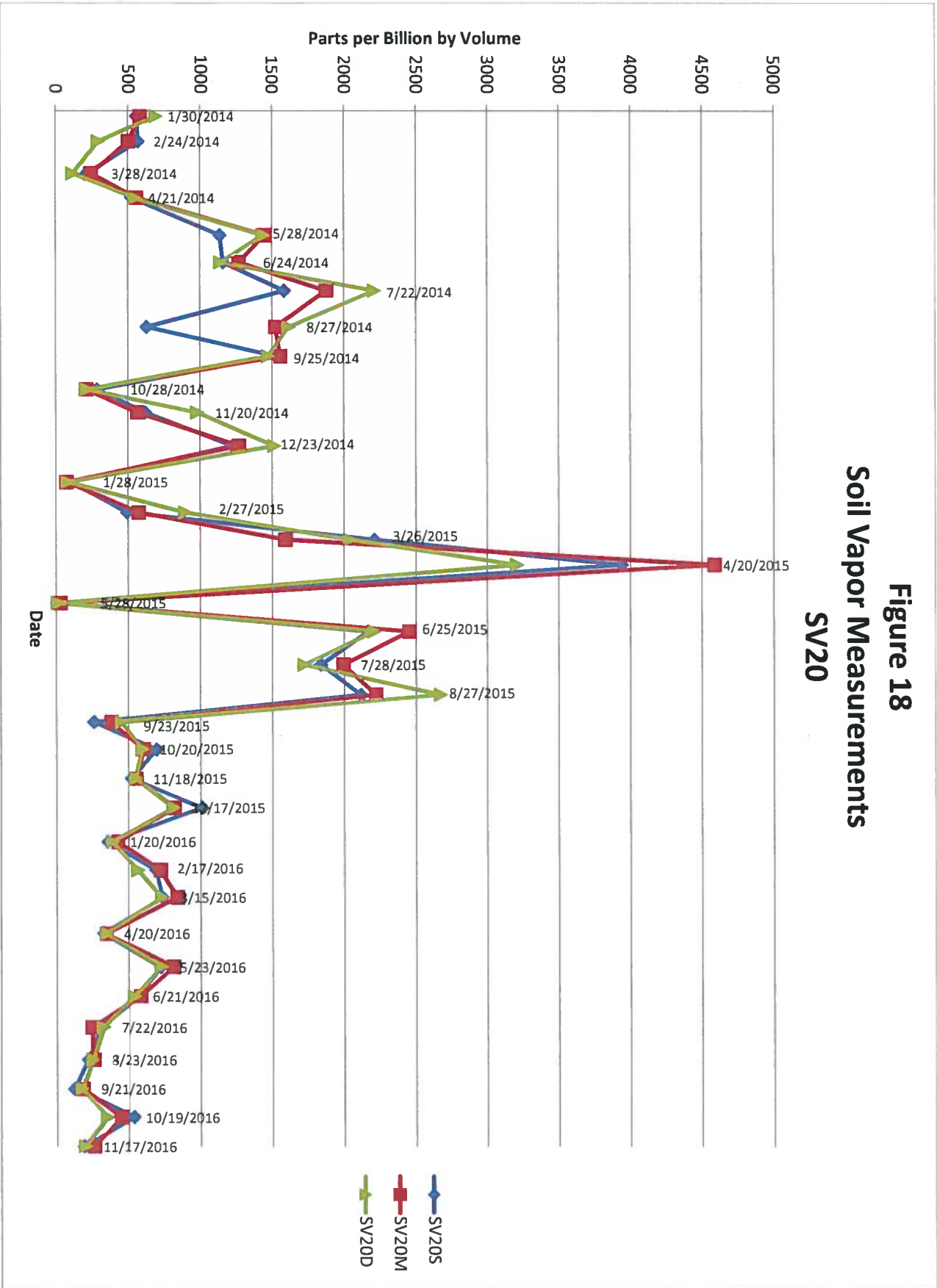


Figure 18
Soil Vapor Measurements
SV20

