



San Diego County  
Air Pollution  
Control District

**SAN DIEGO AIR POLLUTION CONTROL DISTRICT**  
COMPLIANCE DIVISION  
10124 OLD GROVE ROAD  
SAN DIEGO CA 92131-1649  
PHONE (858) 586-2650 FAX (858) 586-2651

APCD USE ONLY
SECTOR
ID#
NOV#

### VAPOR TO LIQUID VOLUME RATIO FOR HEALY PHASE II EVR SYSTEMS

Digital Roots Tri-Tester Equivalent Procedure of Exhibit 5 ARB EOs VR-201-XX and VR 202-XX

To be used for V/Ls obtained for Exhibits 9 and 10 ARB EOs 201/202

To calculate V/L use equation in footnote 10 and always use  $y=1$ .

Final volume dispensed (read from dispenser totalizer) required to be 4.5-5.0 gallons.

Dispensing time/rate values not required on this form if obtained during 2 gallon V/L assessment.

Facility Name: \_\_\_\_\_ A/C or PO Number: \_\_\_\_\_ Start Time of Test: \_\_\_\_\_

(Record exact time of test in order to demonstrate proper test sequencing as required in Attachment A)

**For ISD Alarm Response Purposes only:** Hanging hardware visually inspected at the affected dispenser(s): Yes  No

Time of Day <sup>1</sup>	Grade Point <sup>2</sup>	Nozzle <sup>3</sup>	Initial Dispenser Totalizer <sup>4</sup> G <sub>i</sub> (Gallons)	Final Dispenser Totalizer <sup>5</sup> G <sub>f</sub> (Gallons)	Time <sup>6</sup> t (Sec.)	Dispensing Rate <sup>7</sup> Q <sub>g</sub> (GPM)	Initial Gas Meter Reading <sup>8</sup> V <sub>i</sub> (ft <sup>3</sup> )	Final Gas Meter Reading <sup>9</sup> V <sub>f</sub> (ft <sup>3</sup> )	V/L <sup>10</sup>	V/L Average <sup>11</sup> (if applicable)	Pass (P)/ Fail (F) <sup>12</sup>



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Digital Roots Tri-Tester Equivalent Procedure of Exhibit 5 ARB EOs VR-201-XX and VR 202-XX

Facility Name: \_\_\_\_\_ A/C or PO Number: \_\_\_\_\_ Start Time of Test: \_\_\_\_\_

(Record exact time of test in order to demonstrate proper test sequencing as required in Attachment A)

Time of Day <sup>1</sup>	Grade Point <sup>2</sup>	Nozzle <sup>3</sup>	Initial Dispenser Totalizer <sup>4</sup> G <sub>i</sub> (Gallons)	Final Dispenser Totalizer <sup>5</sup> G <sub>f</sub> (Gallons)	Time <sup>6</sup> t (Sec.)	Dispensing Rate <sup>7</sup> Q <sub>g</sub> (GPM)	Initial Gas Meter Reading <sup>8</sup> V <sub>i</sub> (ft <sup>3</sup> )	Final Gas Meter Reading <sup>9</sup> V <sub>f</sub> (ft <sup>3</sup> )	V/L <sup>10</sup>	V/L Average <sup>11</sup> (if applicable)	Pass (P)/ Fail (F) <sup>12</sup>

<sup>1</sup> Record the time of test---Time piece shall be synchronized with time on TLS console  
<sup>2</sup> Grade point <sup>3</sup> Serial Number of the nozzle  
<sup>4</sup> Initial totalizer reading from the dispenser (G<sub>i</sub>), in gallons  
<sup>5</sup> Final totalizer reading from the dispenser (G<sub>f</sub>), in gallons  
<sup>6</sup> Elapsed time during dispensing (t), in seconds  
<sup>7</sup>Dispensing Rate:  $Q_g = \left[ \frac{G_f - G_i}{t} \right] \times 60$ , in gallons per minute  
<sup>8</sup> Initial gas volume meter reading (V<sub>i</sub>), in cubic feet  
<sup>9</sup> Final gas volume meter reading (V<sub>f</sub>), in cubic feet  
<sup>10</sup>  $V / L = \left[ \frac{y(V_f - V_i)}{G_f - G_i} \right] \times 7.481$   
<sup>11</sup>If the V/L Volumetric Ratio is between 0.76 – 0.94, or greater than or equal to 1.16, conduct the test two additional times. Do not make adjustments to the gasoline dispensing or vapor recovery lines until all three test runs have been completed. Adjustments of the V/L test equipment, including the V/L adaptor and nozzle, are allowed as may be necessary to ensure measurement accuracy. If the V/L test equipment is adjusted, then the prior test run results for that grade point tested should not be used. Calculate the numerical average of the three test runs. If the average V/L value of these three test runs is within the allowable limits, compliance has been verified.  
<sup>11</sup> If the V/L Volumetric Ratio is between 0.95 –1.15, the grade point complies with the specifications.  
<sup>12</sup> The District recommends leak checking equipment during test to minimize lost data due to failure of post test leak check.