

## **APPENDIX C**

**Select Site Investigation Reports  
(Provided on CD)**

# **Appendix I**

# **Laboratory Data**

# **Deliverables**

(electronic version available on request from KCSWD)

# **Appendix J**

# **Field Water Quality**

# **Parameters**

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

Surface Water Quality Criteria (SWQC)		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC

**SEEPAGE SAMPLING LOCATIONS**

SW-24S	5/9/2007	<b>858</b>	<b>4.69</b>	6.87	12.5	<b>6.59</b>	
	8/15/2007	<b>755</b>	<b>19.5</b>	6.87	11.5	<b>22.7</b>	
	10/31/2007	<b>652</b>	<b>4.02</b>	6.83	9.6	<b>5.2</b>	
	12/19/2007	<b>685</b>			9.5	<b>89.3</b>	
	3/11/2008	<b>760</b>	3.74	7.06	8.8	<b>23.6</b>	
	10/7/2008	<b>714</b>	<b>4.34</b>	6.77	10.8	<b>25</b>	
	1/7/2009	<b>649</b>	<b>4.51</b>	6.87	10.8	<b>85.3</b>	
	3/25/2009	<b>563</b>	<b>5.69</b>	6.94	9.1	<b>64.6</b>	
	7/14/2009	<b>645</b>	<b>5.64</b>	7.01	12.5	<b>13.7</b>	
	10/27/2009	<b>709</b>	1.13	6.82	10.1	<b>13.9</b>	
	1/28/2010	<b>622</b>	<b>7.88</b>	6.73	10.6		
	4/15/2010	<b>620</b>	<b>36.9</b>	6.53	10.5	<b>19.3</b>	
	8/12/2010	<b>823</b>		6.77	11.7	<b>15.8</b>	
	11/2/2010	<b>691</b>	2.06	6.65	11.6	<b>63.5</b>	
	SW-S1	5/11/2007	179.6	<b>7.49</b>	7.49	11.4	<b>50.9</b>
		8/14/2007	200	<b>4.95</b>	7.12	13.5	<b>48.7</b>
10/31/2007		192	<b>6.3</b>	7.06	9.1	<b>5.93</b>	
12/19/2007		224	<b>8.69</b>	7.89	7.7	<b>7.11</b>	
3/11/2008		211	<b>6.4</b>	7.69	7.9	<b>18.8</b>	
10/7/2008		226	<b>8.09</b>	6.75	11.7	<b>158</b>	
1/7/2009		214	<b>10.2</b>	6.8	9.2	<b>88</b>	
3/25/2009		183.1	<b>6.71</b>	7.35	7.4	<b>13.3</b>	
7/14/2009		197	<b>4.16</b>	6.82	13.8	<b>42.1</b>	
10/27/2009		163.3	<b>6.89</b>	6.8	8.6	<b>45.9</b>	
2/4/2010		167.2	<b>4.29</b>	7.24		<b>12.2</b>	
4/15/2010		196.8	<b>7.65</b>	6.79	9.6	<b>5.92</b>	
11/2/2010		158.2	<b>5.27</b>	6.94	12.1	<b>7.92</b>	
SW-S2		5/9/2007	<b>1031</b>	<b>6.01</b>	7.05	12.5	<b>6.49</b>
		8/15/2007	<b>936</b>	1.63	6.72	11.8	<b>54</b>
		10/31/2007	<b>942</b>	<b>5.11</b>	7.14	9.3	<b>130</b>
	12/19/2007	<b>978</b>			9.8	<b>54</b>	
	3/11/2008	<b>1034</b>	<b>4.01</b>	7.04	9.5	<b>33.8</b>	
	7/16/2008	<b>1024</b>	3.5	6.93	11.2	4.47	
	10/7/2008	<b>1027</b>	<b>4.18</b>	6.85	10.9	<b>5.66</b>	
	1/7/2009	<b>886</b>	3.56	6.85	10.6	3.03	
	3/25/2009	<b>905</b>	3.23	6.81		<b>24.9</b>	
	7/14/2009	<b>870</b>	3.97	6.91	11.8	<b>25.7</b>	
	10/27/2009	<b>766</b>	<b>4.44</b>	6.78	10.1	<b>13.6</b>	
	2/4/2010	<b>965</b>	3.33	6.87	10.6	<b>2.02</b>	
	8/12/2010	<b>915</b>		6.65	12	<b>24.6</b>	
	11/2/2010	<b>761</b>	1.48	<b>6.49</b>	11.8	<b>27.5</b>	
	SW-S3	5/11/2007	<b>365</b>	<b>4.33</b>	7.07	11	
		8/15/2007	<b>507</b>	0.95	6.79	15	<b>9.61</b>
10/30/2007		<b>411</b>	2.23	6.92	10	<b>51.9</b>	
12/20/2007		<b>438</b>	3.99	7.37	6.7	<b>15.9</b>	
3/11/2008		<b>447</b>	2.37	6.98	8	<b>13.9</b>	
10/7/2008		<b>447</b>	<b>5.58</b>	7.13	12.1	<b>22</b>	
1/7/2009		<b>361</b>	<b>4.11</b>	6.84	8.8	<b>17.2</b>	
3/25/2009		<b>398</b>	<b>4.15</b>	6.86	6.9	<b>11.1</b>	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
Surface Water Quality Criteria (SWQC)		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC
<b>SEEPAGE SAMPLING LOCATIONS (continued)</b>						
SW-S3 (cont.)	7/14/2009	<b>519</b>	1.34	7.02	13.8	<b>13.7</b>
	10/27/2009	<b>432</b>	2.7	6.91	9.6	<b>15.6</b>
	2/4/2010	<b>365</b>	1.98	6.65	8.5	<b>19.9</b>
	4/15/2010	<b>393</b>	2.75	<b>6.37</b>	9.2	<b>24.3</b>
	8/12/2010	<b>472</b>		<b>6.42</b>	13.7	<b>16.8</b>
	11/2/2010	<b>450</b>	1.45	6.61	11.9	3.37
SW-S4	5/10/2007	<b>445</b>	<b>6.94</b>	6.94	10.3	
	8/16/2007	<b>465</b>	0.69	6.95	10.5	<b>8.42</b>
	10/30/2007	<b>443</b>	<b>5.94</b>	7.08	9.9	<b>111</b>
	12/19/2007	<b>403</b>	<b>5.35</b>	7.6	8.8	<b>59.9</b>
	3/13/2008	<b>327</b>	2.3	7.06	8.5	<b>81.5</b>
	7/16/2008	<b>407</b>	<b>4.87</b>	7.18	12.9	<b>11.7</b>
	10/7/2008	<b>540</b>	<b>4.79</b>	7.12	11.4	<b>7.41</b>
	1/7/2009	<b>440</b>	2.12	6.96	10	<b>39.5</b>
	3/23/2009	<b>426</b>	<b>7.03</b>	7.45	8.7	<b>9.15</b>
	7/14/2009	<b>562</b>	<b>8.55</b>	7.11	13.4	<b>109</b>
	10/27/2009	<b>579</b>	1.89	6.83	9.5	<b>214</b>
	1/29/2010	<b>530</b>	<b>4.4</b>	7.18	10	<b>63.1</b>
	4/14/2010	<b>570</b>	2.85	<b>6.2</b>	9.1	<b>14</b>
	8/11/2010	<b>717</b>		6.9	14.2	4.27
	11/2/2010	<b>456</b>	1.53	6.69	11.3	3.81
SW-S5	5/10/2007	<b>319</b>	2.86	7.08	10.5	<b>6.17</b>
	8/16/2007	259	0.61	6.95	12.3	<b>6.57</b>
	11/1/2007	<b>392</b>	3.88	7.09	9.7	<b>34.1</b>
	12/18/2007	<b>407</b>	3.45	7.33	8.5	<b>34.1</b>
	3/13/2008	<b>344</b>	<b>4.07</b>	6.98	8.7	1.31
	7/16/2008	<b>350</b>	3.81	7.25	11.6	<b>5.87</b>
	10/7/2008	<b>346</b>	<b>5.31</b>	7.62	10.9	4.16
	1/7/2009	<b>363</b>	<b>5.55</b>	7.43	9.8	2.34
	3/24/2009	<b>361</b>	<b>4.92</b>	7.46	8.6	3.59
	7/16/2009	<b>349</b>	<b>4.24</b>	6.9	12.8	1.67
	10/27/2009	220	<b>4.18</b>	7.12	9.4	2.28
	1/29/2010	<b>446</b>	<b>5.08</b>	7.2	9.6	1.26
	4/14/2010	<b>360</b>	2.2	<b>6.35</b>	9.5	1.23
	8/11/2010	<b>466</b>		6.51	12.9	1.28
	11/5/2010	<b>328</b>	2.48	6.62	11.3	<b>5.03</b>
SW-S6	5/10/2007	<b>388</b>	<b>5.82</b>	7.01	10.4	
	8/16/2007	<b>356</b>	0.97	6.82	13	<b>11.6</b>
	11/1/2007	<b>377</b>	2.75	6.81	9.4	<b>34.1</b>
	12/18/2007	<b>402</b>	<b>5.24</b>	7.23	6.6	<b>109</b>
	3/13/2008	<b>344</b>	<b>4.95</b>	7.06	7.3	<b>40.5</b>
	7/16/2008	<b>358</b>	2.36	7.12	12.8	<b>25.8</b>
	10/7/2008	<b>333</b>	<b>6.7</b>	7.15	11.4	<b>46.7</b>
	1/6/2009	277	<b>8</b>	8.04	6.9	<b>8.19</b>
	3/24/2009	<b>396</b>	<b>5.16</b>	7.15	7.9	<b>8.63</b>
	10/27/2009	159.5	3.62	7.1	8.2	<b>38</b>
	1/29/2010	<b>332</b>		7.08	9.3	
	4/14/2010	<b>378</b>	3.64	<b>6.08</b>	8.8	19.8

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

Surface Water Quality Criteria (SWQC)		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC
<b>SEEPAGE SAMPLING LOCATIONS (continued)</b>						
SW-S6	8/11/2010	<b>545</b>		6.72	14	
(cont.)	11/5/2010	<b>392</b>	2.1	6.87	11.2	<b>30.4</b>
<b>WESTERN HILLSLOPE STREAMS/WEIR SAMPLING LOCATIONS</b>						
SW-14E	5/9/2007	<b>417</b>	<b>10.6</b>	8.11	10.5	<b>32.8</b>
SW-W1	3/31/2000	<b>390</b>	<b>10.92</b>	7.81	9.6	<b>21.7</b>
	6/29/2000	<b>475</b>	<b>9.82</b>	7.78	14.3	<b>14.8</b>
	12/27/2001	290	<b>10.59</b>	7.26	7.6	<b>8.67</b>
	3/26/2003	260	<b>10.78</b>	7.52	8.5	<b>3.42</b>
	5/29/2003	260	<b>10.89</b>	7.65	13.89	<b>43.5</b>
	3/26/2004	<b>320</b>	<b>10.64</b>	6.99	8	<b>16.6</b>
	3/28/2007	181.2	<b>9.5</b>	7.76	9.1	<b>7.87</b>
	5/9/2007	199	<b>11.42</b>	7.8	11.2	<b>14</b>
	8/14/2007	229	<b>7.04</b>	7.73	13.9	<b>238</b>
	11/1/2007	239	<b>13.33</b>	7.69	9.1	<b>87.9</b>
	3/12/2008	216	<b>7.05</b>	7.82	7.4	<b>271</b>
	5/21/2008	248	<b>5.6</b>	7.82	11.3	<b>10.7</b>
	7/15/2008	205	<b>8.61</b>	7.91	13.8	<b>53.9</b>
	10/6/2008	228	<b>8.48</b>	7.2	12.4	<b>27.3</b>
	3/26/2009	202	<b>9.87</b>	8.43	5.6	<b>3.15</b>
	10/20/2009	173.1	<b>6.07</b>	7.84	11.3	<b>18.8</b>
	1/21/2010	192.3	<b>14.2</b>	7.29	8.6	<b>11.4</b>
	4/19/2010	237		7.11	13.1	<b>6.01</b>
	8/16/2010	197		7.22	17.3	<b>34.5</b>
	11/9/2010	200	<b>9.33</b>	6.65	8.6	<b>47.9</b>
SW-W2	3/31/2000	<b>800</b>	<b>11.05</b>	7.8	9.8	<b>14</b>
	6/29/2000	<b>970</b>	<b>9.96</b>	8.07		<b>11</b>
	9/29/2000	<b>800</b>	<b>9.66</b>	7.09	13.7	<b>13.1</b>
	12/21/2000	<b>770</b>	<b>10.97</b>	6.88	7.5	2.68
	3/29/2001	<b>857</b>	<b>11.95</b>	7.09	9.6	<b>11.2</b>
	6/26/2001	<b>940</b>	<b>11.27</b>	8.22	12.9	<b>18.6</b>
	12/27/2001	<b>720</b>	<b>11.26</b>	8.1	8.5	<b>19.4</b>
	3/28/2002	<b>835</b>	<b>11.2</b>	8.23	9.2	<b>20.9</b>
	6/26/2002	<b>725</b>	<b>9.88</b>	7.82	15.8	<b>34.4</b>
	9/27/2002	<b>800</b>	<b>9.85</b>	8.49	12.9	<b>13.6</b>
	12/13/2002	<b>725</b>	<b>11.98</b>	7.88	9.1	<b>8.97</b>
	3/26/2003	<b>700</b>	<b>11.47</b>	7.89	9.2	<b>4.53</b>
	5/29/2003	<b>700</b>	<b>11.46</b>	8.24	13	<b>22.9</b>
	9/30/2003	<b>760</b>	<b>4.69</b>	7.99	14.5	<b>10.7</b>
	12/18/2003	<b>690</b>	<b>12.86</b>	8	8.7	4.12
	3/25/2004	<b>780</b>	<b>11.48</b>	7.35	8.6	<b>62</b>
	6/7/2004		<b>10.11</b>	8.28	12.4	<b>15.4</b>
	9/29/2004	<b>710</b>	<b>10.44</b>	7.81	13.6	<b>8.41</b>
	12/22/2004	<b>650</b>		8.28	7.9	<b>6.03</b>
	2/23/2005	<b>650</b>	<b>10.88</b>	8.12	6.4	4.93
5/16/2005	<b>710</b>	<b>12.56</b>	7.55	10.4	<b>9.49</b>	
9/29/2005	<b>770</b>	<b>9.59</b>	7.96	12.8	<b>6.97</b>	
12/9/2005	<b>650</b>	<b>12.08</b>	8.18	7.7	<b>7.67</b>	
2/27/2006	<b>615</b>	<b>11.03</b>	8.21	9.7	<b>9.53</b>	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
Surface Water Quality Criteria (SWQC)		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC
<b>WESTERN HILLSLOPE STREAMS/WEIR SAMPLING LOCATIONS (continued)</b>						
SW-W2 (cont.)	5/26/2006	<b>745</b>	<b>10.31</b>	7.95	11.8	<b>9.36</b>
	7/27/2006	<b>715</b>	<b>10.18</b>	8.12	15.8	<b>10.4</b>
	3/28/2007	<b>595</b>	<b>17.5</b>	8.35	8.6	<b>5.21</b>
	5/9/2007	<b>708</b>	<b>12.48</b>	8.3	10.5	<b>14.6</b>
	8/14/2007	<b>698</b>	<b>9.56</b>	8.26	12.9	<b>15.7</b>
	10/30/2007	<b>647</b>	<b>7.69</b>	8.19	9	<b>8.2</b>
	12/18/2007	<b>681</b>	<b>8.4</b>	8.32	6.6	<b>8.75</b>
	3/12/2008	<b>741</b>	<b>7.14</b>	8.44	6.7	<b>9.7</b>
	5/21/2008	<b>851</b>	<b>6.18</b>	8.46	11.3	<b>8.17</b>
	7/15/2008	<b>774</b>	<b>8.02</b>	8.31	13.3	<b>14.8</b>
	10/6/2008	<b>771</b>	<b>8.28</b>	8.3	11.6	<b>10.9</b>
	1/6/2009	<b>846</b>	<b>10.08</b>	8.16	7	<b>8.94</b>
	3/26/2009	<b>757</b>	<b>10.62</b>	8.34	5.7	<b>10.1</b>
	7/13/2009	<b>889</b>	<b>8.5</b>	7.42	13.4	<b>15.1</b>
	10/20/2009	<b>658</b>	<b>8.07</b>	8.02	10.6	<b>9.75</b>
	1/21/2010	<b>728</b>	<b>10.5</b>	7.64	8.5	<b>12.6</b>
	4/19/2010	<b>694</b>		7.95	11.6	<b>7.95</b>
	8/16/2010	<b>606</b>		7.75	15.4	<b>17.2</b>
	11/9/2010	<b>570</b>	<b>9.39</b>	7.61	8.4	<b>61.1</b>
	SW-W3	3/31/2000	<b>450</b>	<b>11.22</b>	7.85	9.7
6/29/2000		<b>570</b>	<b>10.11</b>	8.32	13.2	<b>6.82</b>
9/29/2000		<b>470</b>	<b>10.45</b>	<b>6.26</b>	13.4	3.83
12/21/2000		<b>460</b>	<b>11.07</b>	7.32	7.1	2.4
3/29/2001		<b>490</b>	<b>12.25</b>	7.33	9.3	<b>9.11</b>
6/26/2001		<b>510</b>	<b>11.61</b>	7.79	13.2	<b>11</b>
12/27/2001		<b>420</b>	<b>11.23</b>	8.01	8.4	3.79
3/28/2002		<b>470</b>	<b>10.96</b>	8.23	9.1	3.91
6/26/2002		<b>440</b>	<b>10.56</b>	7.97	13.7	<b>7.31</b>
9/27/2002		<b>490</b>	<b>10.21</b>	<b>8.61</b>	12.1	1.12
12/13/2002		<b>470</b>	<b>12.24</b>	7.25	9.9	18.8
3/26/2003		<b>405</b>	<b>11.35</b>	6.89	9.8	4.95
5/29/2003		<b>410</b>	<b>11.38</b>	8.16	13.4	<b>5.27</b>
9/30/2003		<b>425</b>	<b>5.5</b>	7.73	13.7	<b>7.64</b>
12/18/2003		<b>410</b>	<b>13.32</b>	8.4	9.1	4.87
3/24/2004		<b>370</b>	<b>11.42</b>	7.38	10.3	4.67
6/7/2004		<b>450</b>	<b>10.3</b>	8.1	12.1	<b>7.29</b>
9/29/2004		<b>475</b>	<b>10.59</b>	6.99	13.2	<b>19.7</b>
12/23/2004		<b>415</b>	<b>10.87</b>	7.98	8.7	2.72
2/24/2005		<b>425</b>	<b>10.36</b>	7.74	9	3.31
5/17/2005	<b>450</b>	<b>12.4</b>	6.87	13.3	<b>5.26</b>	
12/9/2005	<b>395</b>	<b>11.15</b>	8.07	8.7	2.09	
2/27/2006	<b>340</b>	<b>10.87</b>	7.85	10.6	2.91	
6/29/2006	<b>430</b>	<b>10.2</b>	7.17	13.4	<b>5.9</b>	
9/27/2006	<b>450</b>	<b>10.29</b>	7.87	13.7	4.82	
3/28/2007	288	<b>16</b>	8.12	8.7	<b>10.1</b>	
5/9/2007	<b>326</b>	<b>12.86</b>	8.08	10.5	<b>19.4</b>	
8/14/2007	<b>345</b>	<b>10.02</b>	8.07	12.2	<b>13.5</b>	
10/30/2007	<b>309</b>	<b>6.92</b>	7.84	10	<b>54.9</b>	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

Surface Water Quality Criteria (SWQC)		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC
<b>WESTERN HILLSLOPE STREAMS/WEIR SAMPLING LOCATIONS (continued)</b>						
SW-W3	12/18/2007	<b>360</b>	<b>7.95</b>	8.17	7.5	<b>9.29</b>
(cont.)	3/12/2008	<b>347</b>	<b>7.06</b>	8.12	7.6	<b>9.54</b>
	5/21/2008	<b>407</b>	<b>6.7</b>	8.21	10.7	<b>15.4</b>
	7/15/2008	<b>374</b>	<b>7.99</b>	7.73	12.6	<b>25.2</b>
	10/6/2008	<b>384</b>	<b>8.1</b>	7.36	11.6	<b>6.8</b>
	1/6/2009	<b>431</b>	<b>10.3</b>	7.17	7.2	<b>5.8</b>
	3/26/2009	<b>389</b>	<b>11.43</b>	7.75	6.6	<b>6.16</b>
	7/13/2009	<b>484</b>	<b>7.65</b>	8.01	13.5	<b>9.54</b>
	10/20/2009	<b>389</b>	<b>8.35</b>	7.04	10.8	<b>7.62</b>
	1/21/2010	<b>377</b>	<b>10.11</b>	8.05	9.2	<b>7.08</b>
	4/19/2010	<b>312</b>		<b>10.71</b>	11	<b>9.41</b>
	8/16/2010	228		6.75	14.1	<b>9.14</b>
	11/9/2010	<b>310</b>	<b>9.39</b>	7.06	8.5	<b>33.7</b>
SW-W4	5/10/2007	239	<b>8.21</b>	7.85	13.5	<b>6.32</b>
	8/14/2007	231	<b>7.53</b>	7.71	14	<b>43.3</b>
	10/31/2007	212	<b>6.78</b>	7.78	8.6	<b>8.63</b>
	12/18/2007	203	<b>8.11</b>	8.08	6.5	<b>5.11</b>
	3/12/2008	223	<b>6.94</b>	8.05	6.7	<b>9.54</b>
	10/6/2008	274	<b>6.8</b>	8.25	11.8	<b>14.9</b>
	1/6/2009	236	<b>8.78</b>	8.25	6.5	<b>11.6</b>
	3/23/2009	194.7	<b>10.35</b>	6.96	7.3	<b>24.4</b>
	7/13/2009	244	<b>6.92</b>	7.16	13.5	<b>23.2</b>
	10/19/2009	250	<b>8.4</b>	7.83	11.3	<b>18.4</b>
	1/22/2010	188.7	<b>12.1</b>	7.18	7.5	<b>9.68</b>
	4/19/2010	224		7.76	12.1	<b>7.82</b>
	8/11/2010	265		7.16	14.5	<b>17.5</b>
	11/1/2010	144.3	<b>6.22</b>	7.1	10.7	<b>61.6</b>
SW-W5	5/10/2007	238	<b>9.47</b>	8.06	9.9	<b>6.42</b>
	8/14/2007	232	<b>9.63</b>	7.85	11.5	4
	10/30/2007	229	<b>9.44</b>	7.96	9.3	2.91
	12/18/2007	251	<b>9.53</b>	6.95	7.7	<b>25.6</b>
	3/12/2008	266	<b>8.82</b>	7.75	8.4	<b>5.51</b>
	7/15/2008	274	<b>9.48</b>	8.07	11.8	<b>12.1</b>
	10/6/2008	285	<b>10.43</b>	7.93	11.1	2.3
	1/6/2009	270	<b>8.55</b>	8.05	7.9	3.22
	3/23/2009	217	<b>11.62</b>	7.43	8.2	<b>5.75</b>
	7/10/2009	<b>315</b>	<b>7.45</b>	7.34	12.1	3.66
	10/19/2009	255	<b>8.98</b>	7.47	10.8	3.1
	4/19/2010	245		7.58	11.3	<b>7.69</b>
	8/12/2010	<b>330</b>		6.95	12.2	3.8
	11/1/2010	171.4	<b>6.6</b>	6.97	10.6	<b>27</b>



Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
Surface Water Quality Criteria (SWQC)		µs/cm	mg/l	pH units	deg c	ntu
WA State	Acute	None	None	None	None	None
	Chronic	None	<b>8</b>	<b>6.5 - 8.5</b>	<b>18 °C</b>	<b>&gt; 5 ntu</b>
Federal	Acute	NC	<b>4</b>	NC	None	NC
	Chronic	NC	<b>6.5</b>	<b>6.5 - 9</b>	None	NC
<b>WESTERN HILLSLOPE STREAMS/WEIR SAMPLING LOCATIONS (continued)</b>						
SW-W6	5/10/2007	242	<b>8.52</b>	7.88	9.4	1.51
	8/14/2007	246	<b>7.02</b>	7.82	12.7	1.41
	11/1/2007	275	<b>8.8</b>	8.03	8.7	1.29
	12/18/2007	247	<b>9.33</b>	7.77	6.9	<b>39.8</b>
	3/12/2008	288	<b>7.97</b>	7.92	6.8	1.77
	7/15/2008	<b>304</b>	<b>9.23</b>	8.01	12.6	1.09
	10/6/2008	263	<b>7.71</b>	8.12	11.5	2.13
	3/24/2009	228	<b>8.89</b>	7.73	7.1	3.34
	7/10/2009	<b>323</b>	<b>9.1</b>	7.71	13.3	2.09
	10/19/2009	249	<b>7.89</b>	7.82	11.2	4.94
	1/22/2010	203	<b>11.1</b>	7.07	7.5	2.75
	4/19/2010	287		7.16	12.5	<b>10.4</b>
	8/12/2010	<b>349</b>		7.12	13.8	3.96
	11/1/2010	165.4	<b>9.03</b>	6.67	10.8	<b>13.5</b>
	SW-W7	5/10/2007	251	<b>7.65</b>	8.1	10
8/14/2007		253	<b>7.65</b>	7.91	12.5	5.9
11/1/2007		289	<b>7.51</b>	8.1	8.7	<b>11.2</b>
12/18/2007		245	<b>8.25</b>	8.01	6.9	<b>38.1</b>
3/12/2008		258	<b>7.22</b>	7.87	7.2	3.19
10/6/2008		298	<b>8.07</b>	8.17	11.1	<b>9.2</b>
1/6/2009		270	<b>10.95</b>	8.07	7.1	3.29
3/24/2009		227	<b>10.23</b>	8.02	7.4	3.31
7/10/2009		<b>325</b>	<b>7.59</b>	7.92	12.5	4.15
10/19/2009		258	<b>7.52</b>	7.76	10.9	<b>5.26</b>
1/22/2010		216	<b>10.5</b>	7.13	8.2	
4/19/2010		269		7.46	13.8	4.39
8/11/2010		<b>371</b>		7.7	12.6	<b>5.48</b>
11/1/2010	176.3	<b>10.87</b>	6.5	11	<b>69.1</b>	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

	CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
	µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)	None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)	<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None
<b>CC2 PERCHED ZONE - MONITORING WELLS ON LANDFILL SIDE</b>					
MW-2	2/17/2000	270	7.06	9.7	
	5/11/2000	280	7.15	9.7	
	8/22/2000	260	7.75	11.6	
	11/17/2000	255	6.64	9.8	
	2/7/2001	274	6.85	9.5	
	5/16/2001	<b>310</b>	7.09	10.2	
	7/25/2001	<b>355</b>	7.12	10.7	
	11/6/2001	<b>330</b>	7.11	9.7	
	2/13/2002	<b>350</b>	6.94	9.1	
	4/30/2002	<b>330</b>	6.78	10.5	
	8/16/2002	<b>430</b>	6.7	9.9	
	10/28/2002	<b>400</b>	6.92	10.1	
	2/3/2003	<b>390</b>	6.92	9.9	
	5/2/2003	<b>410</b>	6.89	10.2	
	7/24/2003	<b>400</b>	6.93	10.9	
	10/20/2003	<b>350</b>	6.84	11.2	
	2/9/2004	<b>415</b>	6.92	10.1	
	4/30/2004	<b>415</b>	6.93	10.7	
	8/13/2004	<b>405</b>	6.92	10.9	
	10/29/2004	<b>465</b>	7.04	9.9	
	1/27/2005	<b>470</b>	6.84	10.1	
	5/6/2005	<b>460</b>	7.03	10.4	
	7/29/2005	<b>430</b>	6.84	10.9	
	11/9/2005	<b>400</b>	7.1	10.5	
	1/30/2006	<b>465</b>	7.03	10	
	5/3/2006	<b>385</b>	6.8	10.9	
	8/10/2006	<b>450</b>	6.86	10.4	
	11/1/2006	<b>360</b>	6.94	10.8	
	11/1/2006	<b>360</b>	6.94	10.8	
	1/30/2007	<b>355</b>	6.62	9.9	
	4/30/2007	<b>470</b>	6.62	10.1	
	8/1/2007	<b>455</b>	6.82	11.2	
	11/6/2007	<b>425</b>	6.65	10.1	
	2/4/2008	<b>445</b>	6.74	9.9	
	5/12/2008	<b>435</b>	6.73	9.9	
	8/6/2008	<b>455</b>	6.78	10.3	
	11/6/2008	<b>420</b>	6.82	10.2	
	2/20/2009	<b>440</b>	6.74	10.3	
	5/7/2009	<b>415</b>	6.61	9.7	
	8/3/2009	<b>460</b>	6.76	10.7	
	11/17/2009	<b>440</b>	6.85	9.6	
	2/16/2010	<b>375</b>	7.01	9.6	
	4/30/2010	<b>360</b>	6.54	10	
	8/3/2010	<b>380</b>	6.67	10.3	
	11/5/2010	<b>506</b>	6.81	9.7	
	2/17/2000	<b>540</b>	6.77	10.6	
	5/5/2000	<b>455</b>	6.79	10.4	
	8/18/2000	<b>600</b>	6.93	10.9	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

	CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
	µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)	None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)	<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None

**CC2 PERCHED ZONE - MONITORING WELLS ON LANDFILL SIDE (continued)**

MW-5D	Date	Conductance (µs/cm)	Dissolved Oxygen (mg/l)	pH	Temperature (deg c)	Turbidity (ntu)
	11/9/2000	510		6.58	10.5	
	1/31/2001	505		6.73	10.2	
	5/16/2001	500		6.82	11	
	7/27/2001	600		6.87	11.4	
	11/7/2001	780		6.89	10.8	
	2/13/2002	480		7.15	10.5	
	4/25/2002	450		6.66	10.4	
	8/7/2002	540		6.82	11.3	
	11/5/2002	540		6.95	10.8	
	1/28/2003	460		6.75	10.4	
	5/5/2003	455		6.8	10.5	
	7/22-24/2003	475		6.76	11.1	
	10/17/2003	470		6.67	11.4	
	2/12/2004	450		6.81	10.4	
	6/1/2004	520		6.84	11.2	
	8/4/2004	600		6.75	11.2	
	11/2/2004	530		6.76	10.8	
	1/31/2005	520		6.74	10.5	
	5/6/2005	575		6.85	11	
	7/29/2005	550		6.75	11.8	
	11/2/2005	530		6.86	10.6	
	2/1/2006	520		6.69	10.4	
	5/5/2006	510		6.58	10.6	
	8/7/2006	415		6.62	12.1	
	11/3/2006	525		6.76	10.9	
	2/6/2007	490		6.7	10.6	
	5/1/2007	480		6.73	10.8	
	8/10/2007	460		6.68	11.2	
	11/1/2007	430		6.61	10.9	
	2/5/2008	420		6.69	10.7	
	5/12/2008	415		6.83	10.6	
	8/7/2008	425		6.63	11.2	
	11/18/2008	420		6.5	10.9	
	3/20/2009	385		6.65	10.5	
	5/12/2009	485		6.53	10.5	
	8/11/2009	550		6.63	11.2	
	11/3/2009	450		6.96	10.4	
	2/11/2010	235		6.79	10.6	
	4/30/2010	320		6.45	10.7	
	8/6/2010	350		6.53	11.2	
	11/2/2010	150		7.07	10.5	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

	CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
	µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)	None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)	<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None

**CC2 PERCHED ZONE - MONITORING WELLS ON LANDFILL SIDE (continued)**

MW-9	Date	Conductance (µs/cm)	Dissolved Oxygen (mg/l)	pH	Temperature (deg c)	Turbidity (ntu)
	2/14/2000	135		7.41	9.6	
	5/3/2000	145		6.82	10.1	
	8/15/2000	135		7.66	10.6	
	11/13/2000	137		7.45	9.9	
	1/30/2001	120		7.28	9.8	
	5/4/2001	130		7.43	10.3	
	7/24/2001	110		7.23	11	
	11/1/2001	125		7.58	10	
	2/12/2002	140		7.63	9.6	
	6/24/2002	140		7.6	10.5	
	8/6/2002	135		7.29	10.1	
	11/7/2002	125		7.5	10.3	
	2/3/2003	125		7.58	9.8	
	4/29/2003	150		7.5	9.9	
	7/22/2003	160		7.4	11.8	
	10/24/2003	160		7.6	9.9	
	2/6/2004	160		7.59	9.9	
	5/3/2004	160		7.55	10.2	
	8/10/2004	170		7.5	11.7	
	10/27/2004	150		7.71	10	
	5/3/2005	145		7.41	10.3	
	8/3/2005	150		7.45	11	
	11/15/2005	140		7.4	10	
	2/1/2006	140		7.28	10.6	
	5/2/2006	150		7.34	10	
	8/3/2006	170		7.52	10.6	
	11/2/2006	170		7.5	10	
	2/27/2007	180		7.46	9.8	
	4/30/2007	170		7.52	10.2	
	8/10/2007	180		7.47	10.6	
	11/5/2007	160		7.44	10.2	
	2/7/2008	155		7.35	9.7	
	5/8/2008	165		7.46	9.9	
	8/5/2008	180		7.03	11.2	
	11/17/2008	150		7.16	10.2	
	2/4/2009	150		7.26	10	
	5/1/2009	140		7.27	10.5	
	7/31/2009	150		7.27	10.6	
	11/5/2009	150		7.44	10	
	2/4/2010	140		7.4	9.9	
	5/3/2010	150		7.12	9.7	
	8/9/2010	150		7.06	10.6	
	11/8/2010	155		7.29	9.7	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

	CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
	µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)	None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)	<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None

**CC2 PERCHED ZONE - MONITORING WELLS ON LANDFILL SIDE (continued)**

MW-21	Date	Conductance (µs/cm)	Dissolved Oxygen (mg/l)	pH	Temperature (deg c)	Turbidity (ntu)
	2/16/2000	365		6.92	9.3	
	5/5/2000	360		6.63	9.5	
	8/18/2000	305		7.03	10.5	
	11/13/2000	300		6.68	10.2	
	1/31/2001	300		6.82	9.6	
	5/14/2001	290		6.76	9.8	
	7/24/2001	310		6.86	11.8	
	11/2/2001	285		7.09	9.5	
	2/13/2002	410		6.88	9.5	
	4/25/2002	290		6.73	9.6	
	8/14/2002	345		6.85	10.9	
	10/31/2002	360		7.26	10	
	1/27/2003	320		6.99	9.5	
	5/2/2003	300		6.97	9.6	
	7/22/2003	300		6.75	10.4	
	10/20/2003	330		6.85	10.9	
	2/5/2004	440		6.87	9.8	
	4/30/2004	400		6.92	10.2	
	8/3/2004	400		6.84	10.1	
	10/29/2004	400		6.95	10	
	1/31/2005	430		6.97	9.7	
	5/4/2005	470		6.99	10.4	
	7/27/2005	450		6.9	10.8	
	11/2/2005	415		6.81	10.1	
	2/1/2006	425		6.78	10.4	
	5/8/2006	410		6.64	9.6	
	8/2/2006	380		6.56	11.5	
	11/14/2006	350		6.85	10.4	
	2/6/2007	430		6.76	9.7	
	5/1/2007	360		6.87	9.8	
	8/7/2007	350		6.87	10.4	
	11/1/2007	385		6.7	10	
	2/5/2008	370		6.79	9.8	
	5/15/2008	365		6.87	9.9	
	8/5/2008	400		6.69	10.3	
	11/3/2008	420		6.9	10.1	
	2/9/2009	450		6.68	9.4	
	5/8/2009	465		6.59	9.6	
	8/11/2009	480		6.78	10.6	
	11/3/2009	460		6.92	9.7	
	2/3/2010	480		6.92	9.7	
	5/5/2010	390		6.72	9.6	
	8/6/2010	350		6.6	10.4	
	11/2/2010	380		7.23	9.9	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)		None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)		<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None
<b>Regional/Cc3 AQUIFER - MONITORING WELLS ON LANDFILL SIDE</b>						
MW-12	2/6/2004	135		7.63	9.7	
	5/6/2004	135		7.64	10.1	
	7/12/2004	135		7.6	10.8	
	8/19/2004	135		7.55	11	
	10/28/2004	145		7.78	9.5	
	2/3/2005	135		7.69	9.7	
	5/5/2005	140		7.56	10	
	7/28/2005	135		7.57	11.1	
	11/8/2005	130		7.53	9.7	
	2/28/2006	130		7.53	9.4	
	5/9/2006	130		7.57	10.8	
	8/4/2006	125		7.49	11.3	
	11/9/2006	140		7.59	10.3	
	1/30/2007	125		7.16	9.4	
	4/27/2007	140		7.19	9.8	
	8/2/2007	150		7.34	10.6	
	11/2/2007	140		7.21	9.6	
	2/11/2008	135		7.35	10.4	
	5/12/2008	140		7.43	9.6	
	8/7/2008	150		7.42	11	
	11/13/2008	140		7.57	10.1	
	2/4/2009	140		7.49	10.1	
	5/13/2009	130		7.6	9.4	
	8/4/2009	140		7.32	10.5	
	11/2/2009	140		7.64	9.7	
	2/5/2010	145		7.64	9.4	
	5/6/2010	140		7.25	9.3	
	9/28/2010	125		7.76	10	
	11/9/2010	145		7.6	9.6	
MW-19	2/15/2000	175		7.57	9.5	
	5/11/2000	170		6.84	11	
	8/16/2000	175		7.85	11.5	
	11/14/2000	175		7.34	10.4	
	2/26/2001	165		7.76	10.2	
	5/9/2001	165		7.69	10	
	7/26/2001	175		7.58	10.9	
	11/6/2001	160		7.92	10.2	
	2/11/2002	165		7.8	9.3	
	4/24/2002	150		7.23	9.9	
	8/12/2002	160		7.78	10.6	
	10/30/2002	160		7.79	9.6	
	1/30/2003	185		7.76	10.5	
	4/23/2003	165		7.7	9.6	
	7/21/2003	200		7.54	11.1	
	10/17/2003	200		7.77	10.4	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

	CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
	µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)	None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)	<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None

**Regional/Cc3 AQUIFER - MONITORING WELLS ON LANDFILL SIDE (continued)**

MW-19	2/10/2004	165		7.85	9.5	
(cont.)	5/5/2004	200		7.92	10.1	
	8/17/2004	195		7.82	11.3	
	10/27/2004	205		8.08	10	
	2/1/2005	190		8.08	9.9	
	5/4/2005	200		7.08	10.2	
	8/1/2005	200		7.65	10.8	
	11/8/2005	190		7.8	10	
	2/2/2006	195		7.59	9.8	
	5/3/2006	190		7.67	10.1	
	8/8/2006	190		7.92	10.3	
	11/13/2006	210		7.75	9.8	
	1/30/2007	210		7.7	9.7	
	4/27/2007	205		7.66	10.4	
	8/28/2007	200		7.77	10.5	
	11/16/2007	200		7.79	9.9	
	2/7/2008	200		7.7	9.5	
	5/7/2008	210		7.68	9.9	
	8/6/2008	210		7.47	11	
	11/6/2008	220		7.68	10	
	2/4/2009	215		7.54	9.8	
	5/4/2009	215		7.63	9.7	
	7/31/2009	225		7.51	10.4	
	11/5/2009	230		7.76	9.9	
	2/4/2010	220		7.71	9.8	
	5/3/2010	220		7.5	9.5	
	8/9/2010	220		7.5	10	
	11/8/2010	215		7.71	9.7	
MW-27	10/28/2003	175		6.88	11.7	
	12/2/2003	145		7.24	11.4	
	1/14/2004	175		6.95	11.2	
	2/17/2004	170		7.06	10.7	
	3/17/2004	190		6.99	10.9	
	4/19/2004	180		6.87	11.3	
	5/24/2004	180		6.89	12.5	
	6/28/2004	175		6.83	12.3	
	8/11/2004	170		6.88	12.1	
	11/2/2004	175		6.93	11.2	
	2/2/2005	190		6.9	11.2	
	5/6/2005	175		6.88	11.3	
	8/3/2005	175		7.04	12.2	
	11/4/2005	165		6.96	10.8	
	2/28/2006	170		6.94	10.6	
	5/8/2006	185		6.88	11	
	8/1/2006	155		6.76	12.6	

Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)		None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)		<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None
<b>Regional/Cc3 AQUIFER - MONITORING WELLS ON LANDFILL SIDE (continued)</b>						
MW-27	11/15/2006	190		6.94	11	
(cont.)	1/31/2007	160		6.75	10.6	
	4/26/2007	190		6.63	11	
	8/6/2007	180		6.77	11.8	
	11/5/2007	170		6.89	11	
	2/6/2008	170		6.91	10.7	
	5/15/2008	175		6.96	11.1	
	8/8/2008	180		6.87	11.9	
	11/4/2008	170		7	11.2	
	2/23/2009	170		6.93	11.1	
	5/1/2009	170		6.9	11.2	
	8/11/2009	170		6.85	11.6	
	2/5/2010	180		7.04	10.9	
	4/29/2010	165		6.54	10.9	
	8/10/2010	155		6.57	11.4	
	11/5/2010	165		6.84	11.2	



Appendix J - Water Quality Field Parameters : Surface Water and Groundwater

		CONDUCTANCE	DISSOLVED OXYGEN	pH	TEMPERATURE	TURBIDITY
		µs/cm	mg/l	pH units	deg c	ntu
Federal Drinking Water Standards (FDWS)		None	None	<b>6.5-8.5</b>	None	<b>1</b>
Groundwater Quality Criteria (GQC)		<b>700 µS/CM</b>	None	<b>6.5-8.5</b>	None	None
WESTERN HILLSLOPE MONITORING WELLS						
MW-30	1/26/2010	<b>370</b>		6.72	8.5	
	4/29/2010	<b>314</b>		6.67	11.4	
	8/17/2010	287		6.6	13.3	
	11/8/2010	<b>307</b>		<b>6.37</b>	11	
MW-31	1/28/2010	245		7	9	
	4/22/2010	269		6.7	9.6	
	8/20/2010	290		6.76	12.8	
	11/8/2010	<b>312</b>		6.84	11.3	
MW-32	2/19/2010	<b>510</b>		7.3	10.3	
	4/29/2010	<b>476</b>		6.63	10	
	11/8/2010	<b>444</b>		7.53	10.6	

**NOTE:** Blank cell notes sample not analyzed for constituent  
**Bold black Text** in Conductance column indicates elevated levels (above 300 µs/cm).  
 SWQC, FDWS, and GQC provided by KCSWD (2011).  
 NC Not calculated

- QUAL QUALIFIER DESCRIPTION for samples taken prior to 4/1/2009 (as per KC SWD)**
- B Analyte Found In Associated Method Blank
  - D Compound Analyzed at a Secondary Dilution Factor.
  - E Exceed The Calibration or Linear Range.
  - J Estimated Value Less Than Practical Quantitation Limit And Greater Than The Method Detection Limit.
  - M Raised Detection Limit. Due to Matrix Interference.
  - O Analyzed Beyond Specified Holding Time.
  - P Pesticide/PCBs > 25% Difference Between Columns.
  - R Rejected Data
  - U Analyte Not Detected at Given Value.
  - CG Confluent Growth (Bacterial Analyses Only)
  - ED Excess Debris on Growth Media (Bacterial Analyses Only).

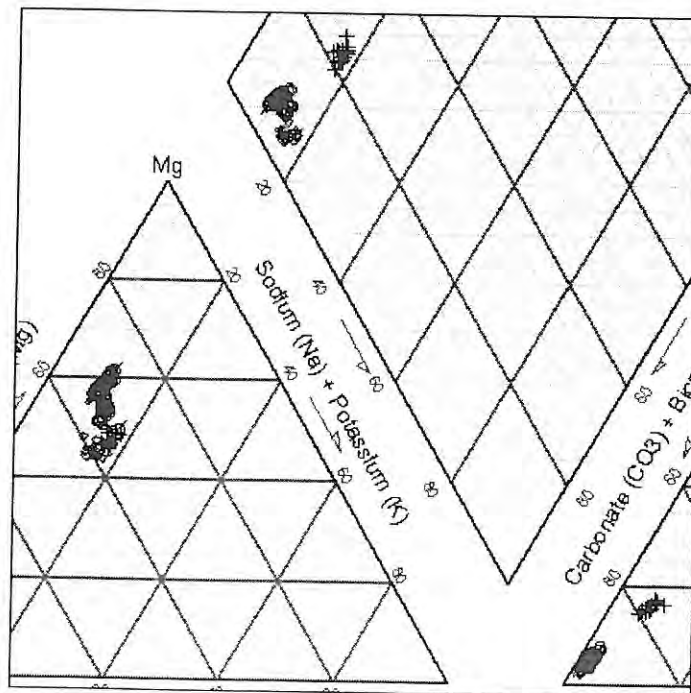
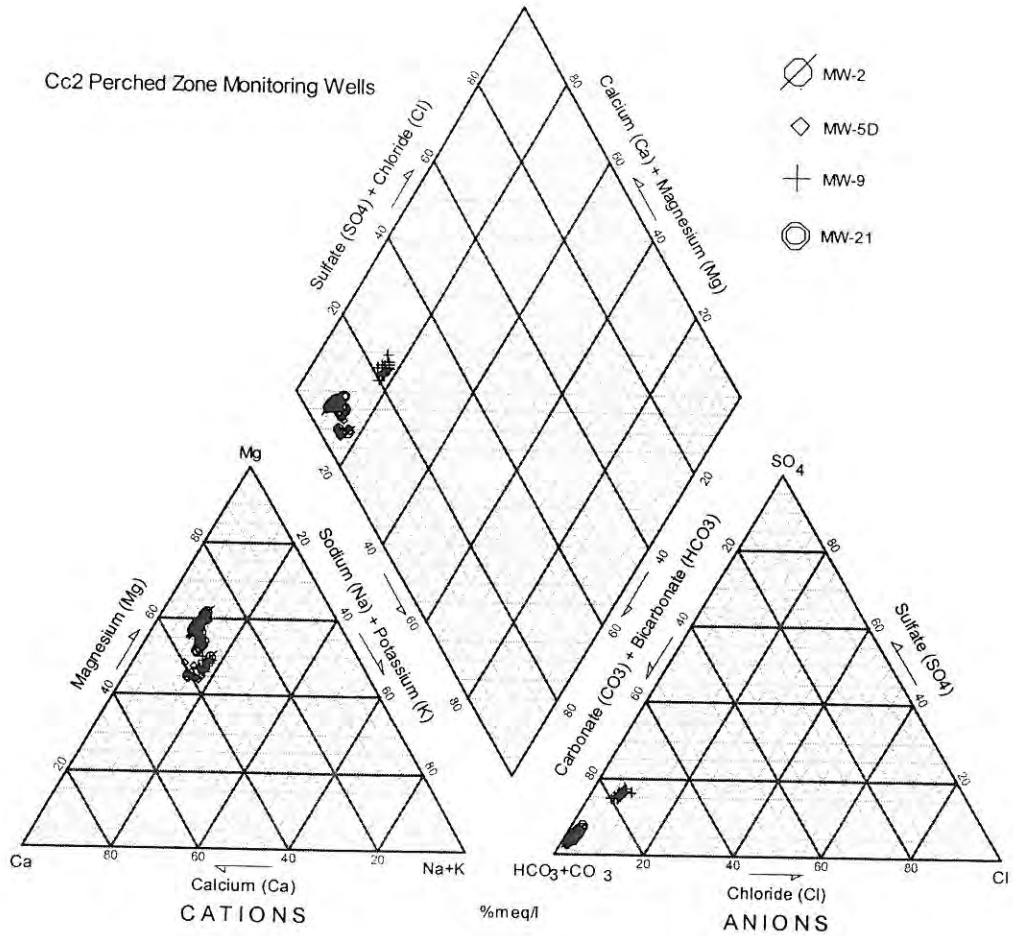
- Non-numeric result NOTATIONS:**
- Not Not Analyzed
  - NT Not Tested
  - TNTC Too numerous to count
  - NM Coliforms 'Not Measured' in sample (no CO2 production).
  - P Coliforms 'Present' in sample (CO2 production) but can't be quantified.

- QUAL QUALIFIER DESCRIPTION for samples taken after 4/12/2009 (as per KC SWD)**
- U Undetected Analyte concentration <MDL – Less than Method detection limit
  - T Estimated, Less than Reporting Detection Limit but greater than Method detection limit
  - J Reported value is an estimate
  - B Contamination present in Blank
  - C Confluent Growth
  - E Estimated, outside expected accuracy
  - H Exceeds holding time
  - R Data Rejected
  - S Sample handling errors
  - X Too numerous to count
  - D Dilution
  - P PASS – Qualitative result acceptable
  - F FAIL – Qualitative result is not acceptable
  - G Greater than
  - L Less than

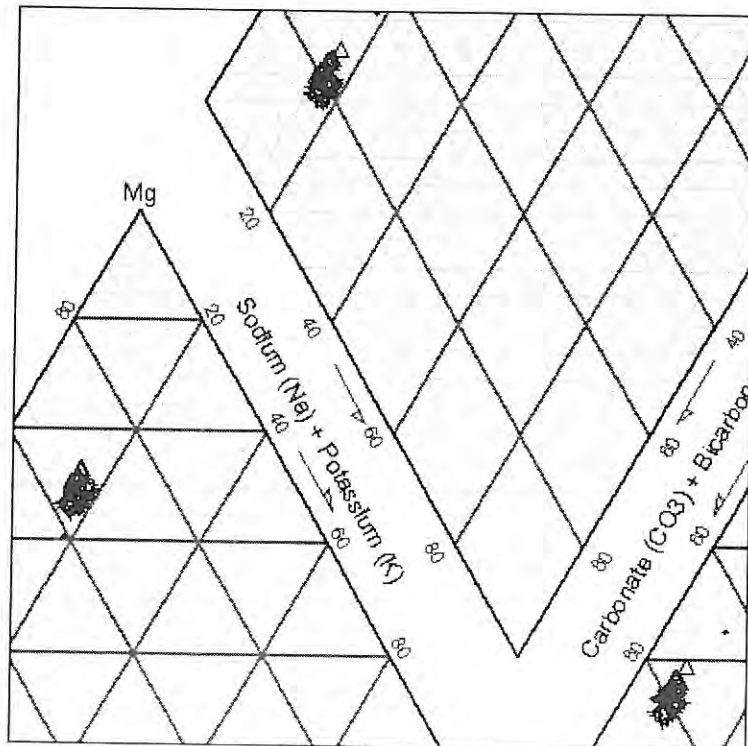
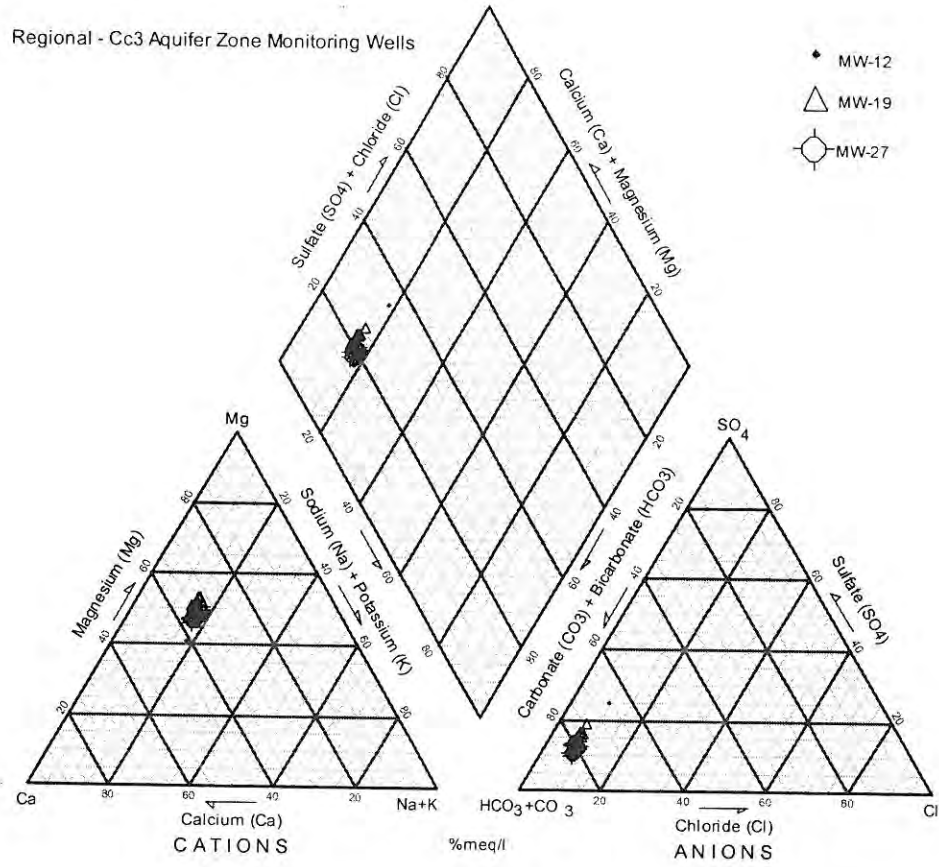
# **Appendix K**

# **Piper Diagrams**

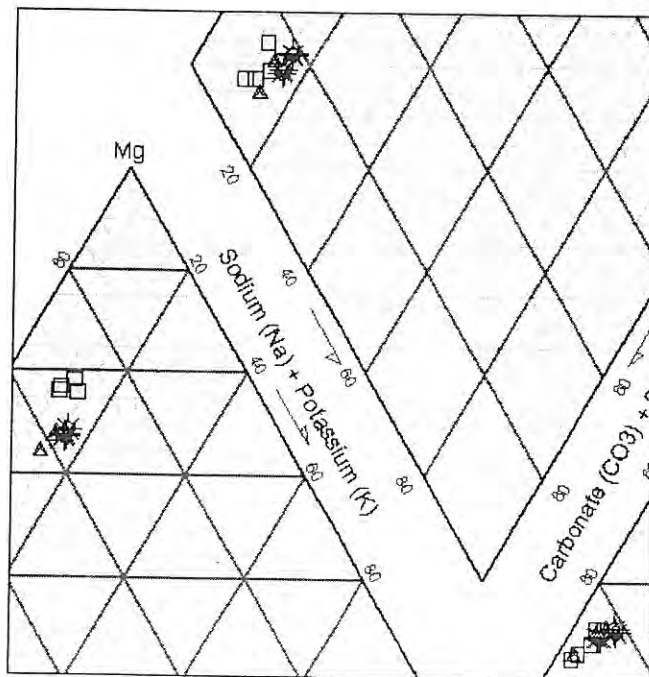
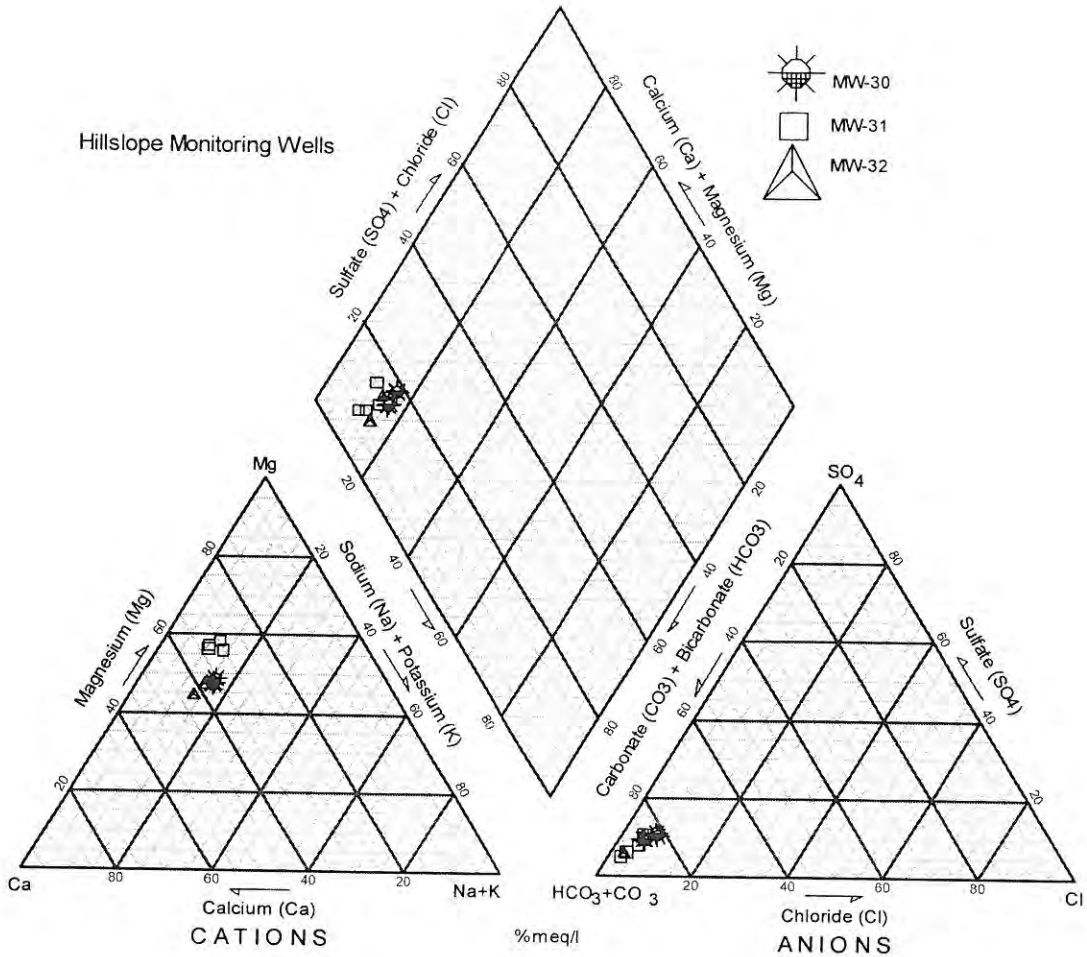
Cc2 Perched Zone Monitoring Wells



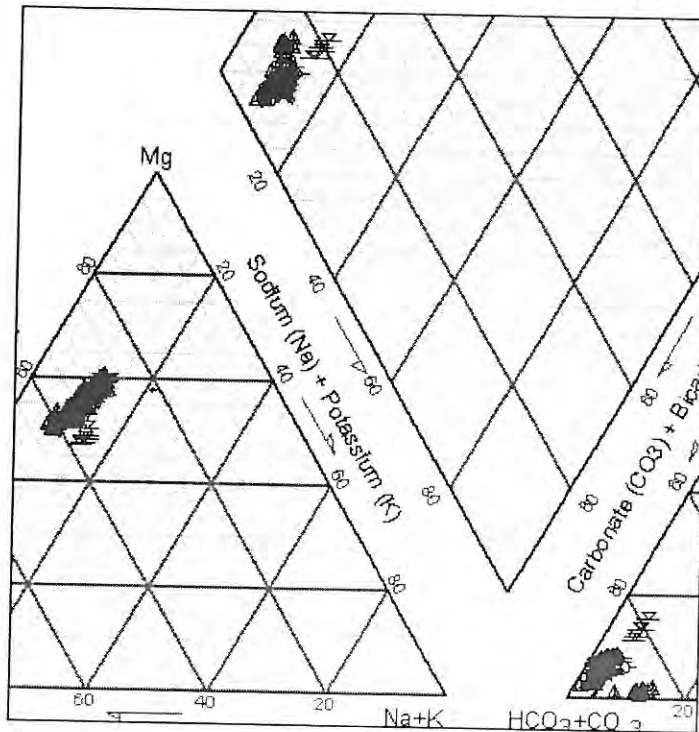
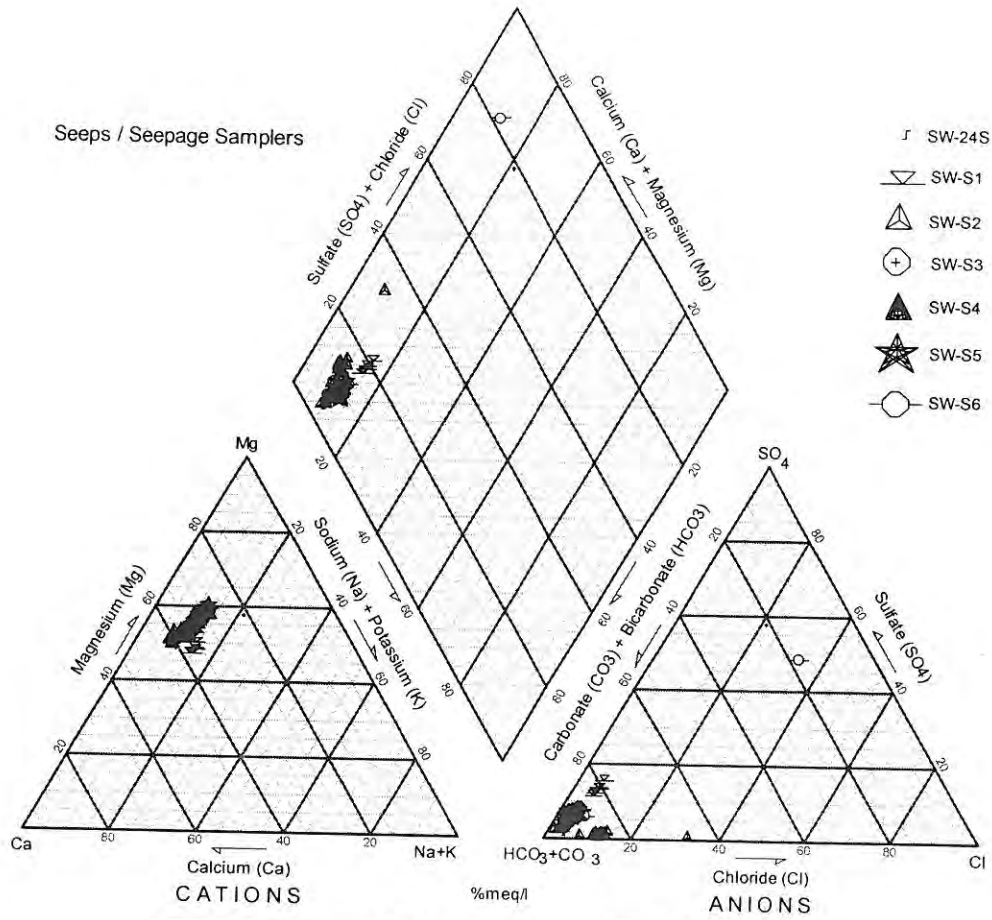
### Regional / Cc3 Aquifer Monitoring Wells



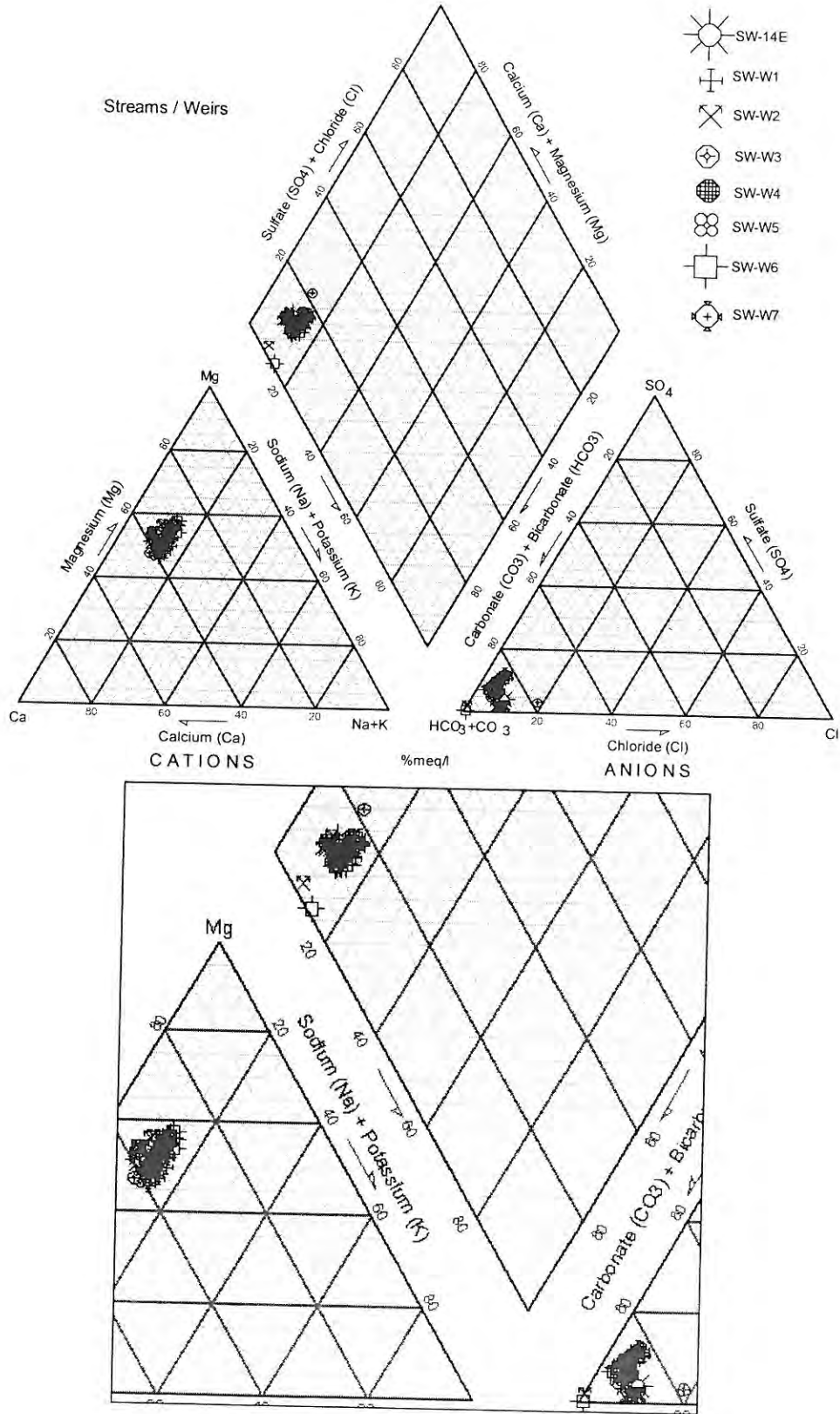
Hillslope Monitoring Wells



Seeps / Seepage Samplers



Streams / Weirs



# **Appendix L**

## **Time Series Plots**

### **(Seeps, wells, and weirs)**

- L.1 Dissolved Metals
- L.2 Volatiles
- L.3 Conventionals



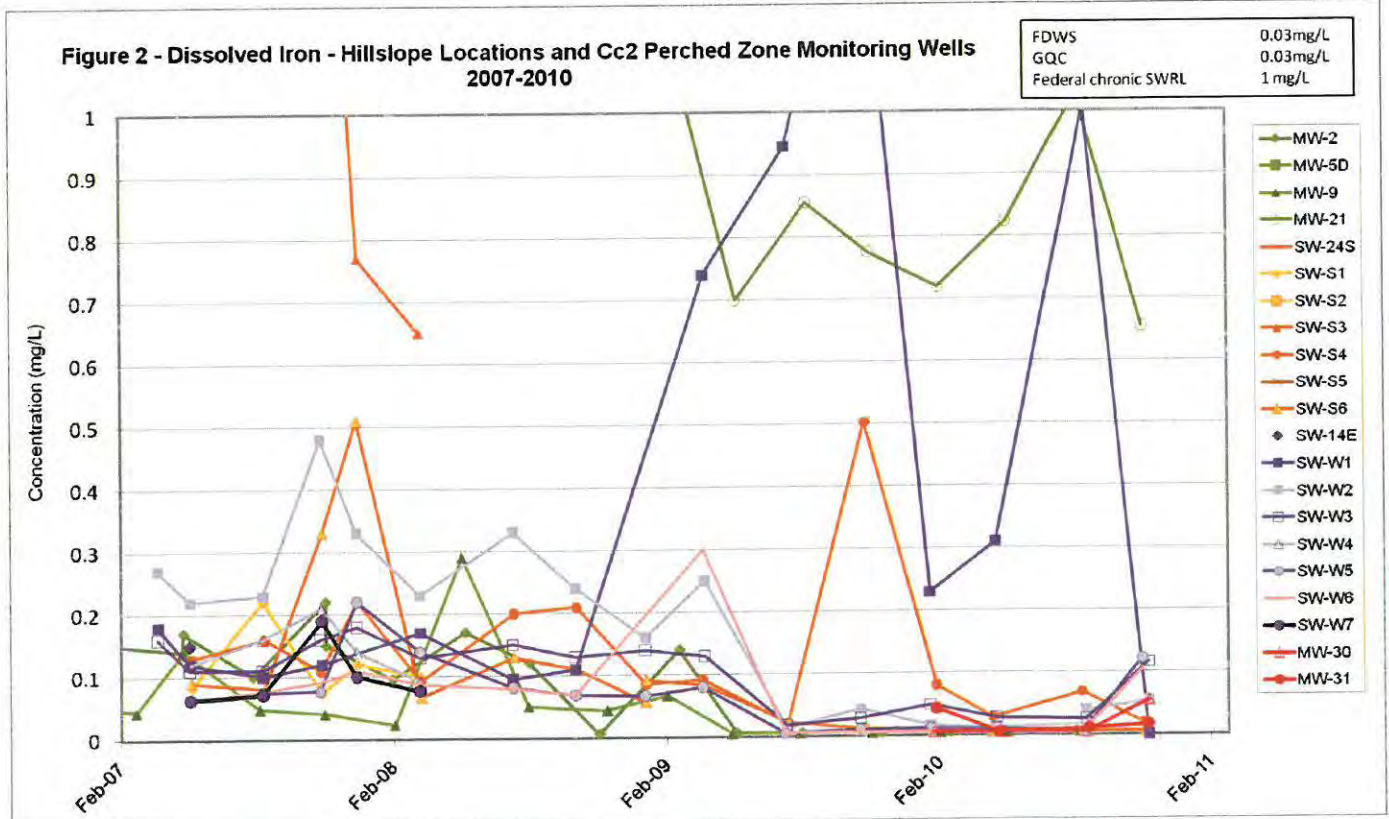
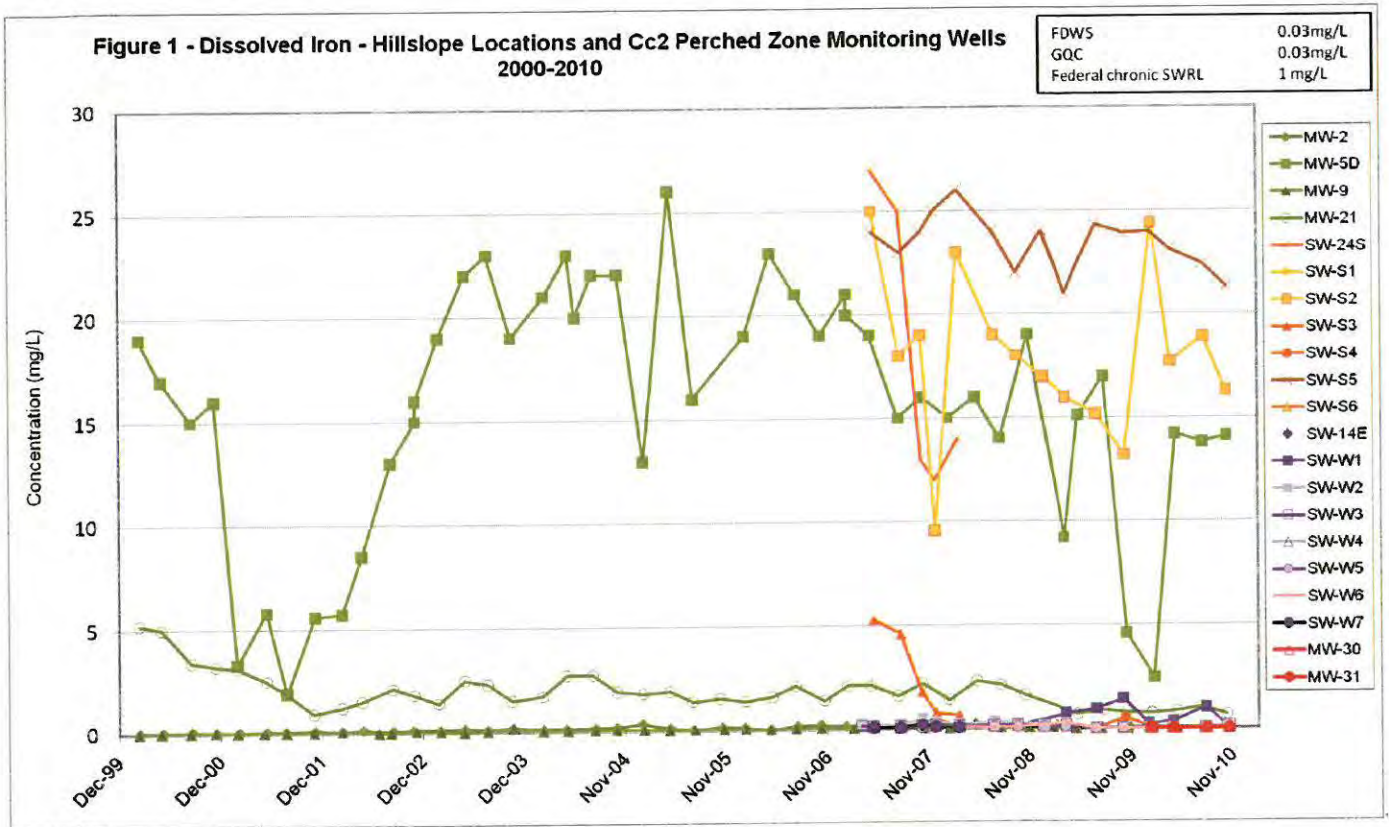


# **Appendix L.1**

## **Dissolved Metals**

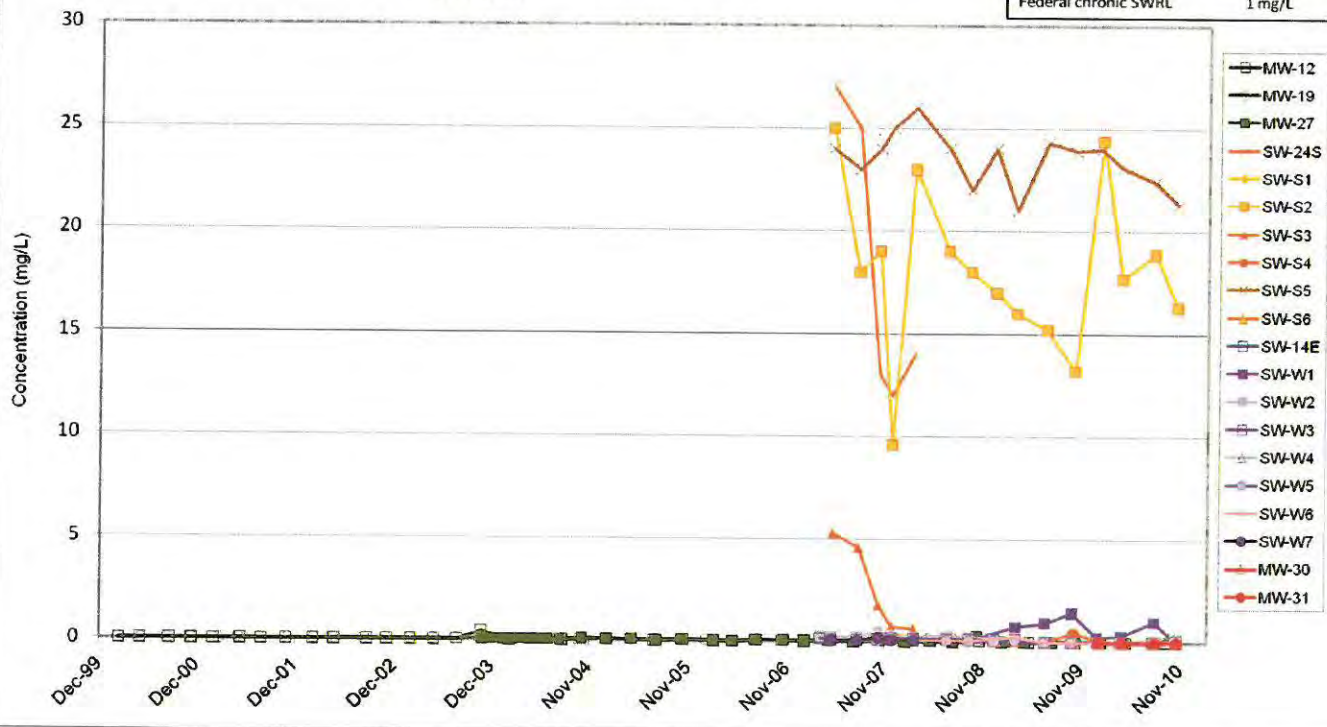
**Figures 1 to 21**





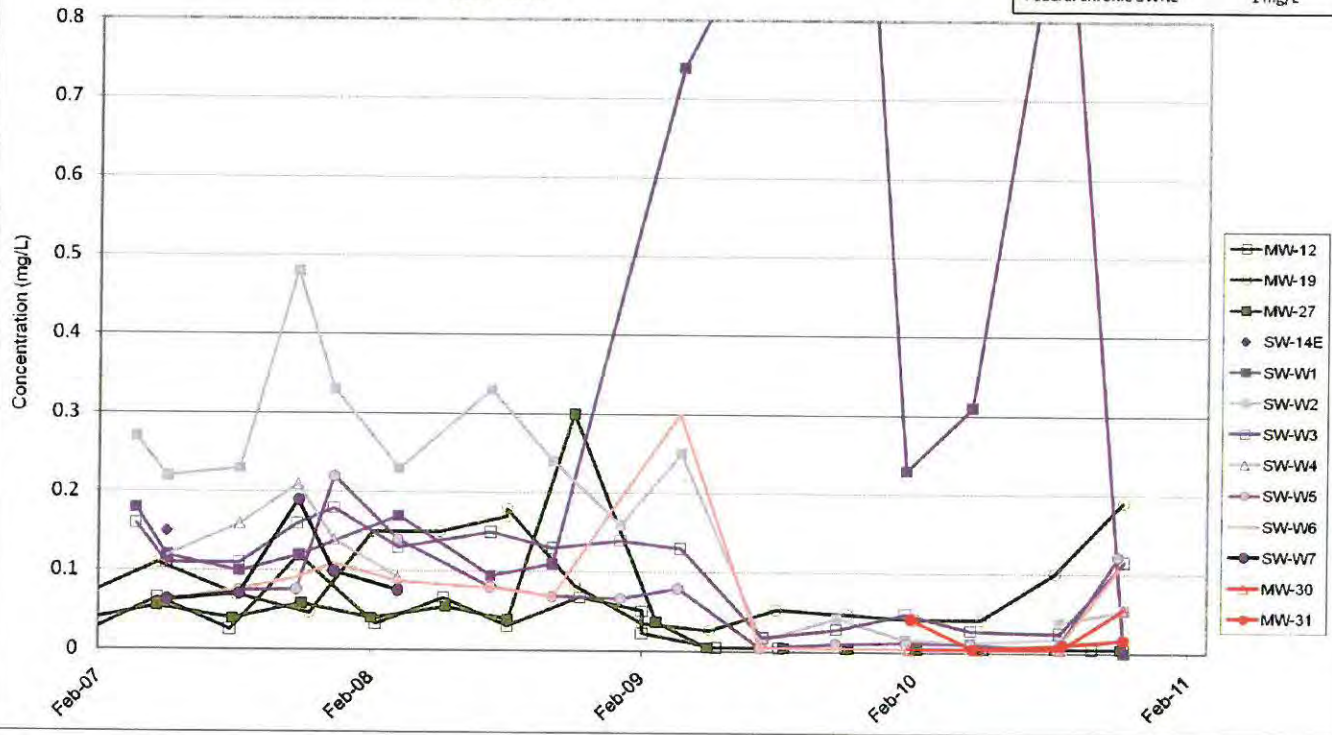
**Figure 3 - Dissolved Iron - Hillslope Locations and Cc3 & Regional Aquifer Monitoring Wells 2000-2010**

FDWS	0.03mg/L
GQC	0.03mg/L
Federal chronic SWRL	1 mg/L

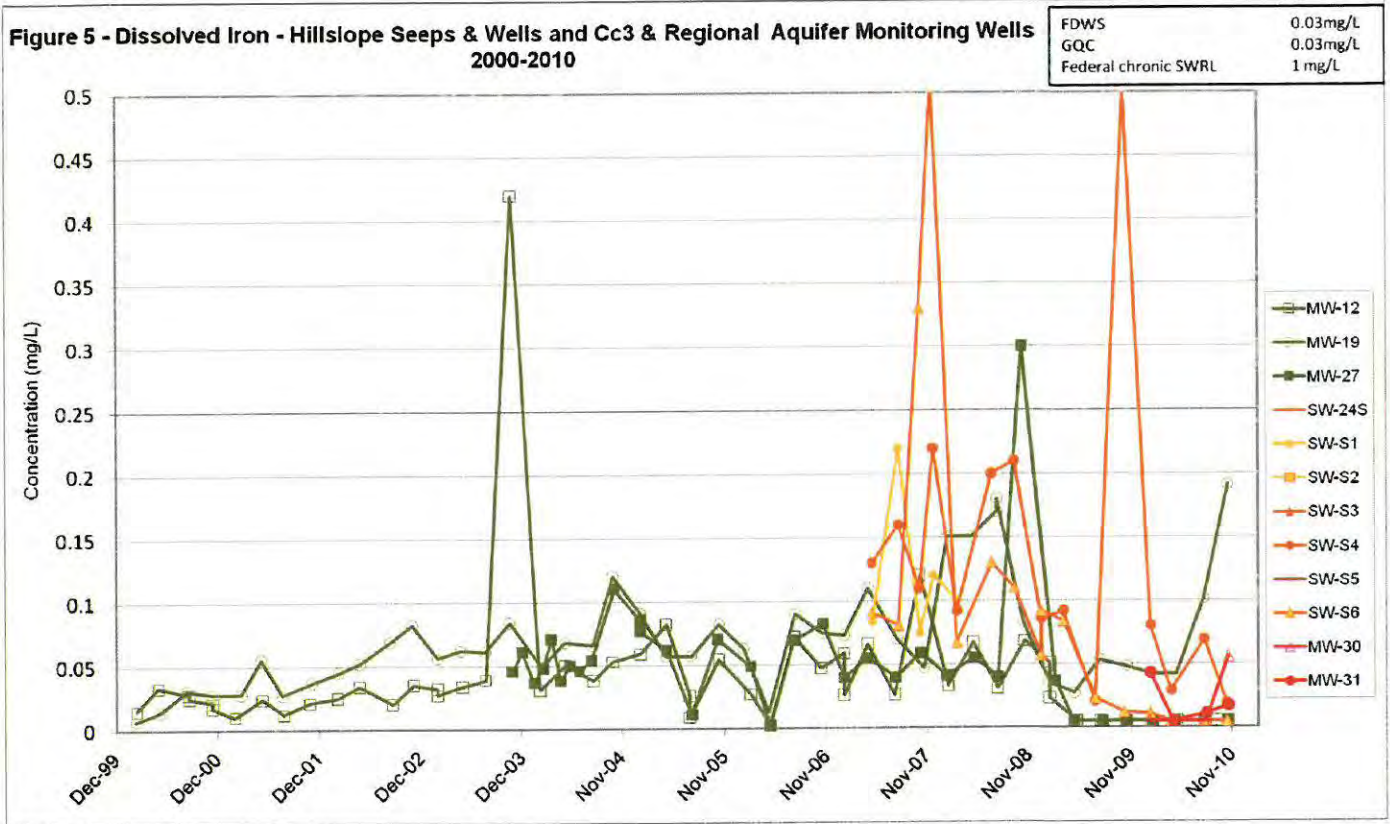


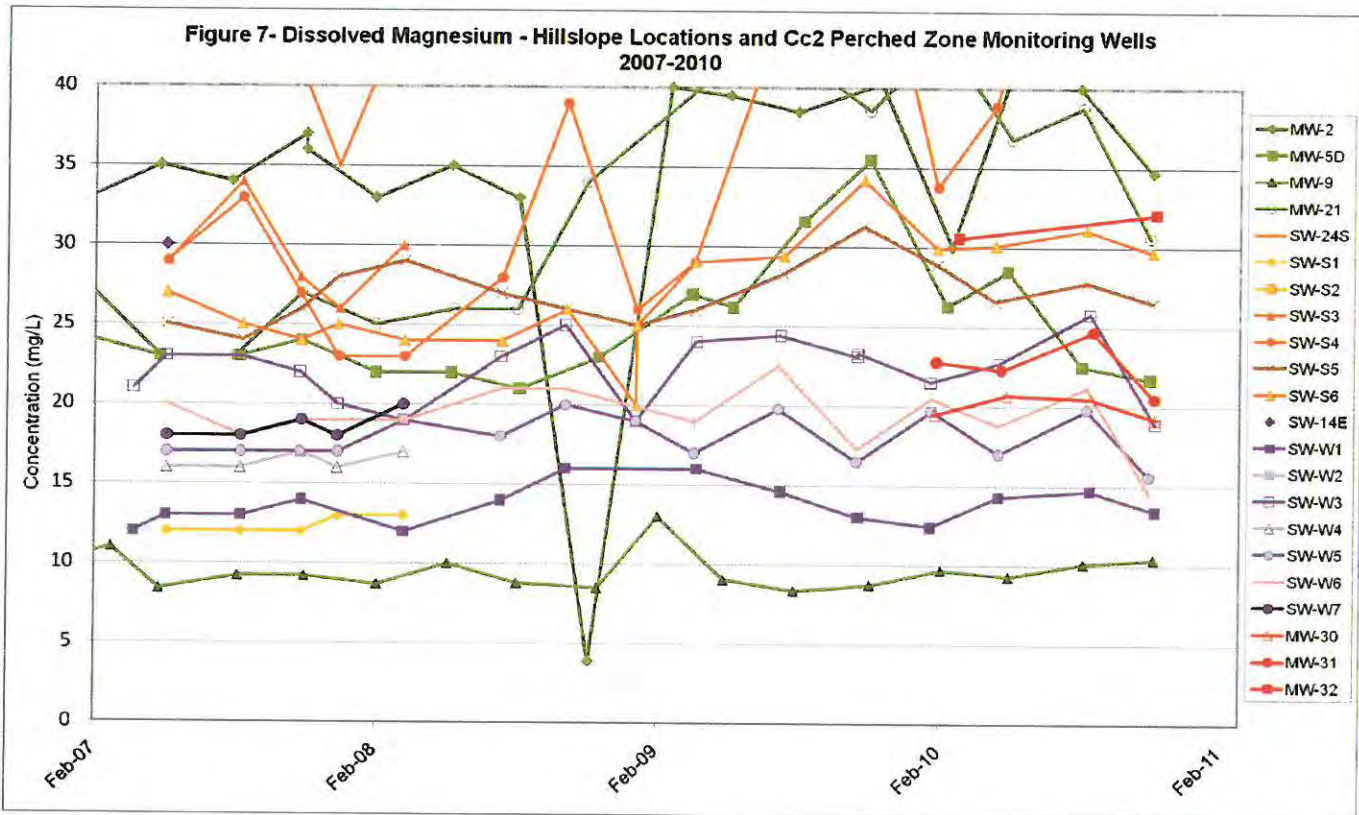
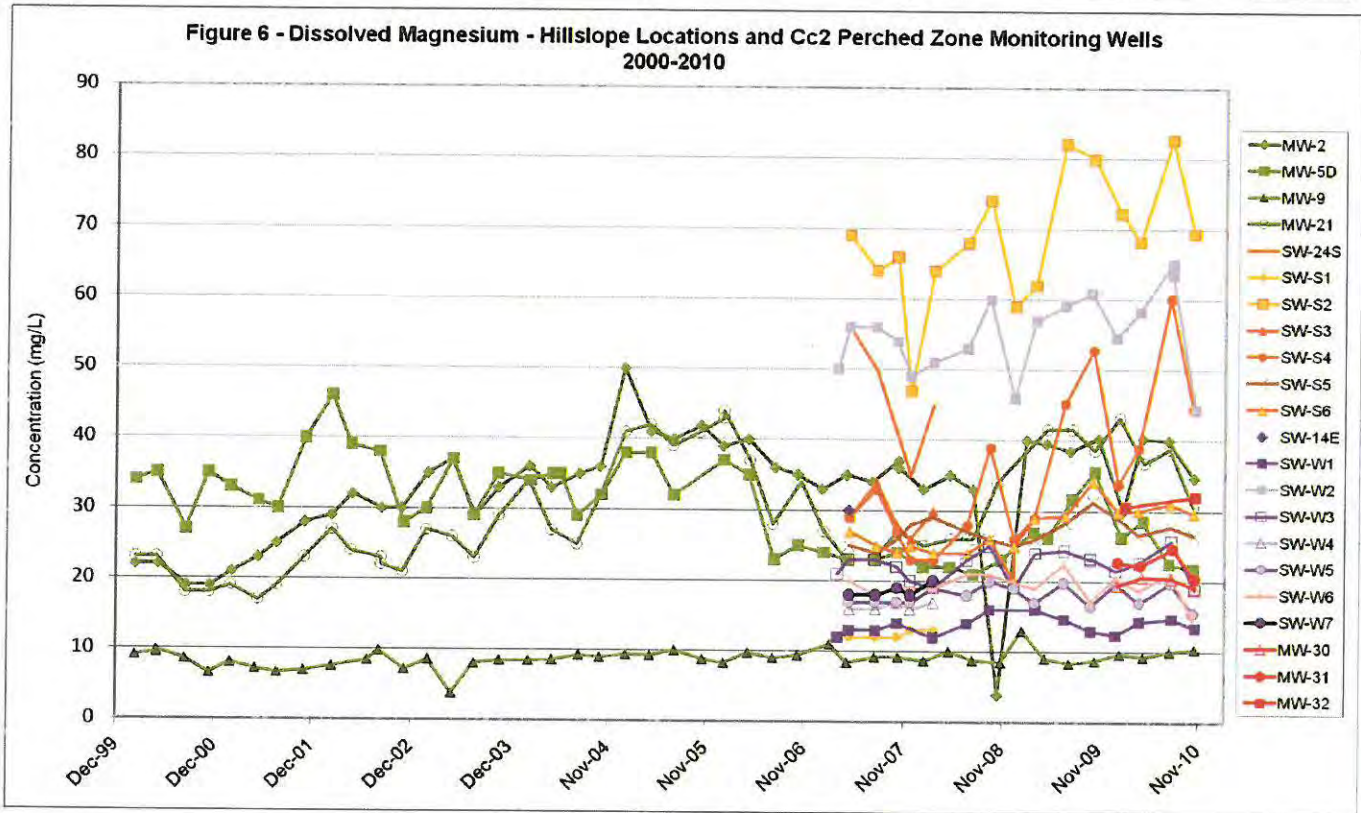
**Figure 4 - Dissolved Iron - Hillslope Weirs & Wells and Cc3 & Regional Aquifer Monitoring Wells 2007-2010**

FDWS	0.03mg/L
GQC	0.03mg/L
Federal chronic SWRL	1 mg/L

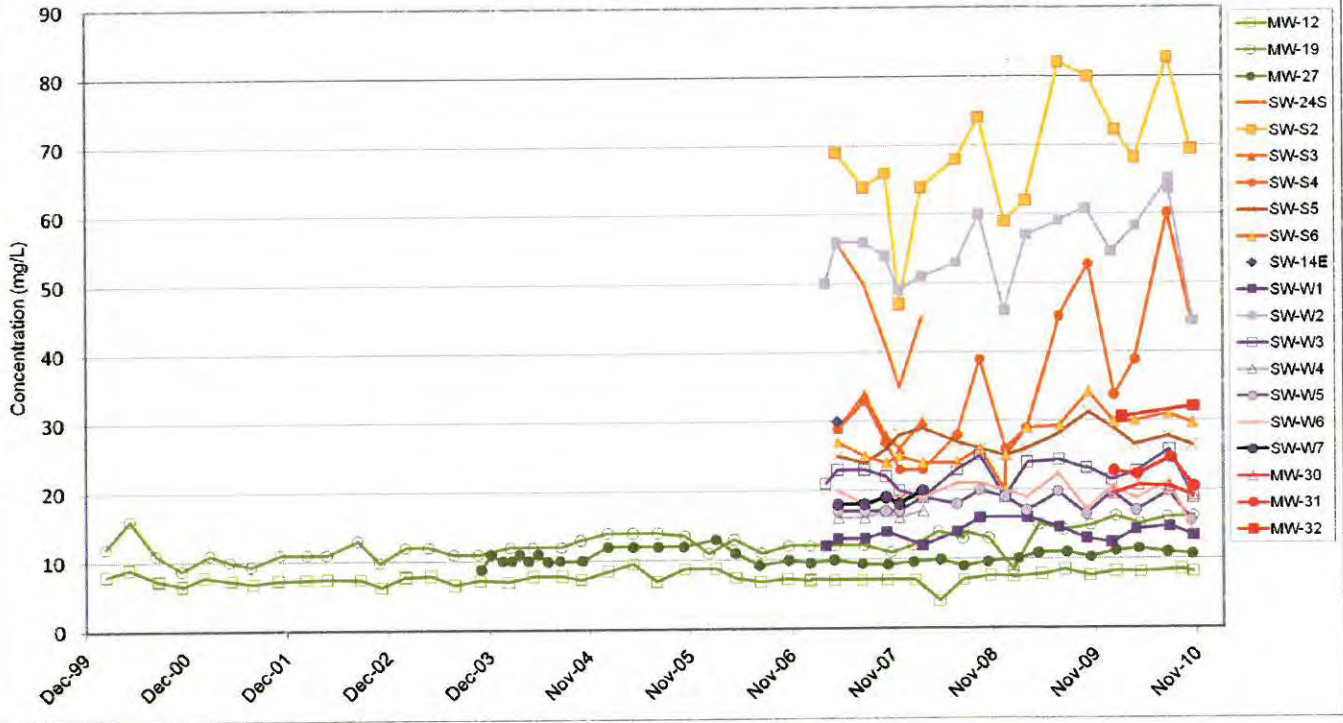


**Figure 5 - Dissolved Iron - Hillslope Seeps & Wells and Cc3 & Regional Aquifer Monitoring Wells 2000-2010**

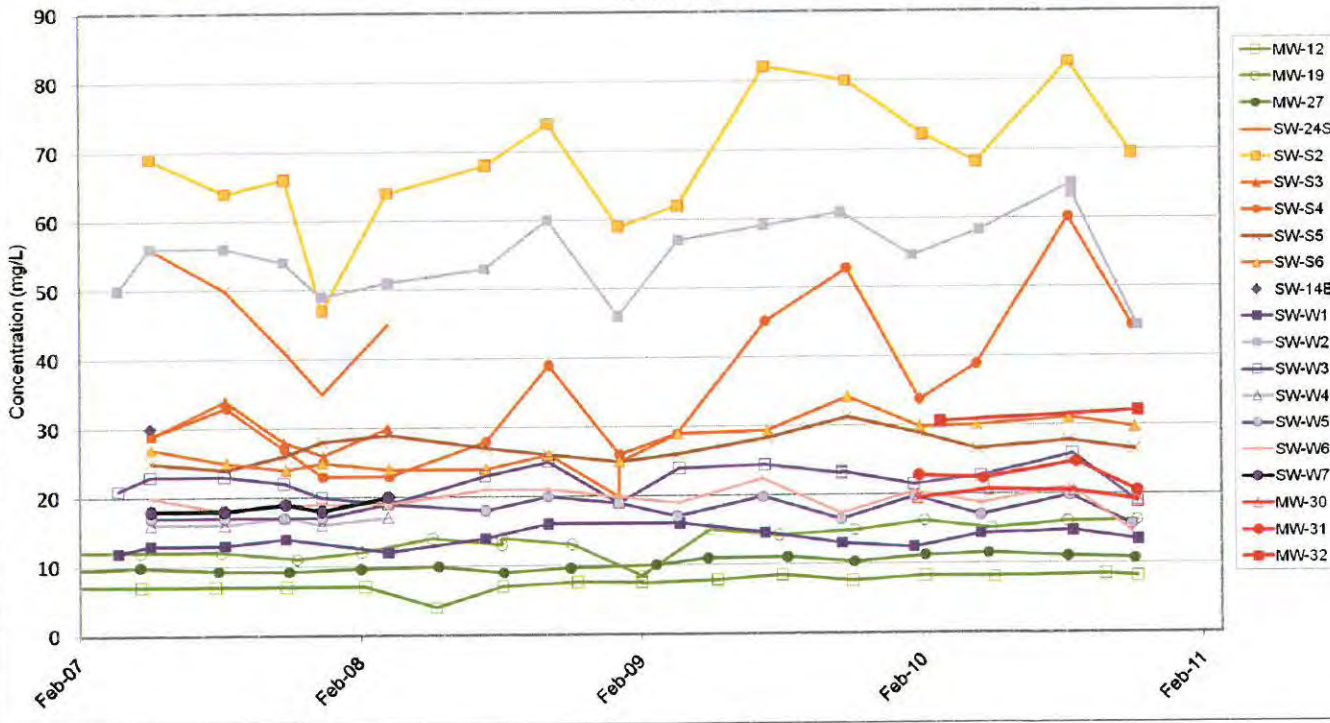




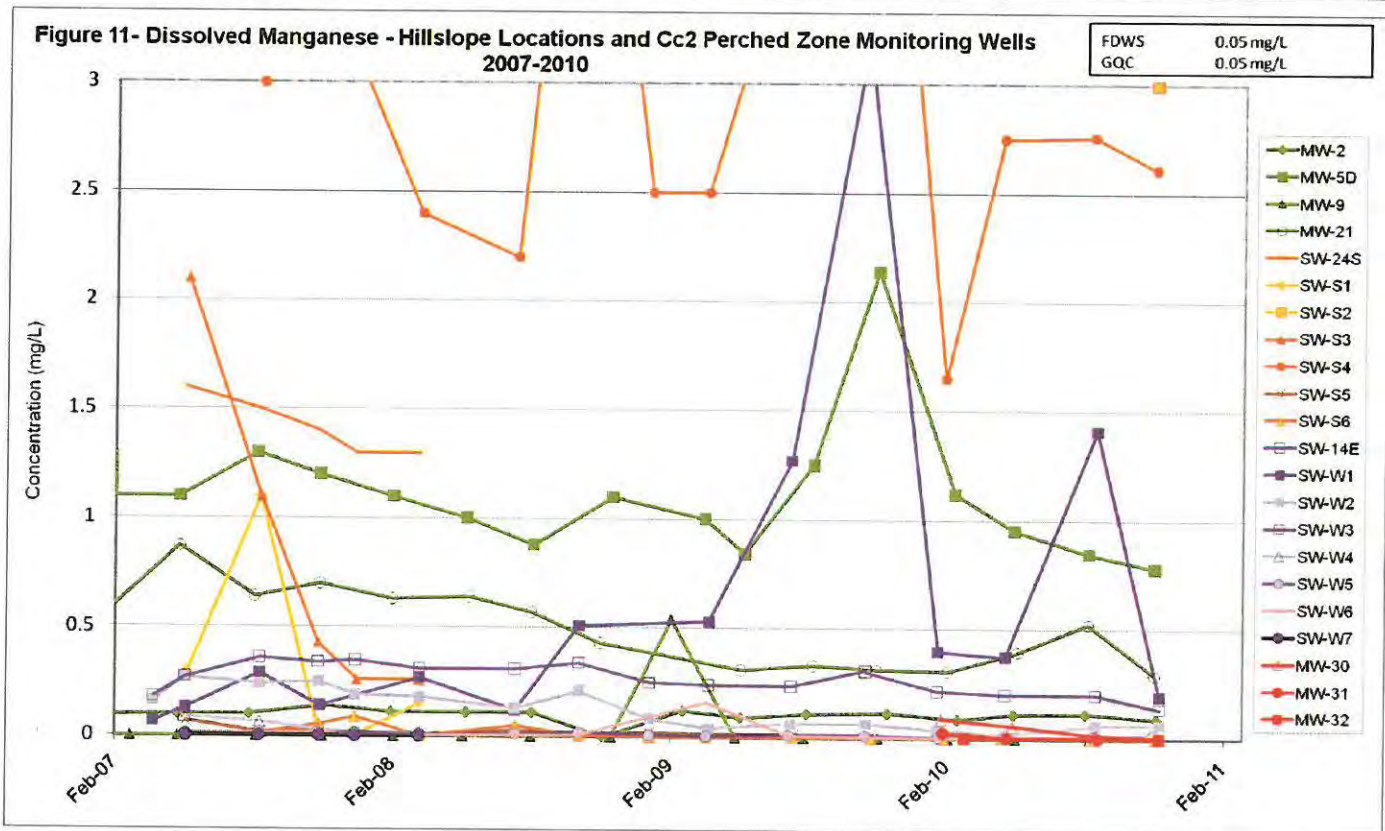
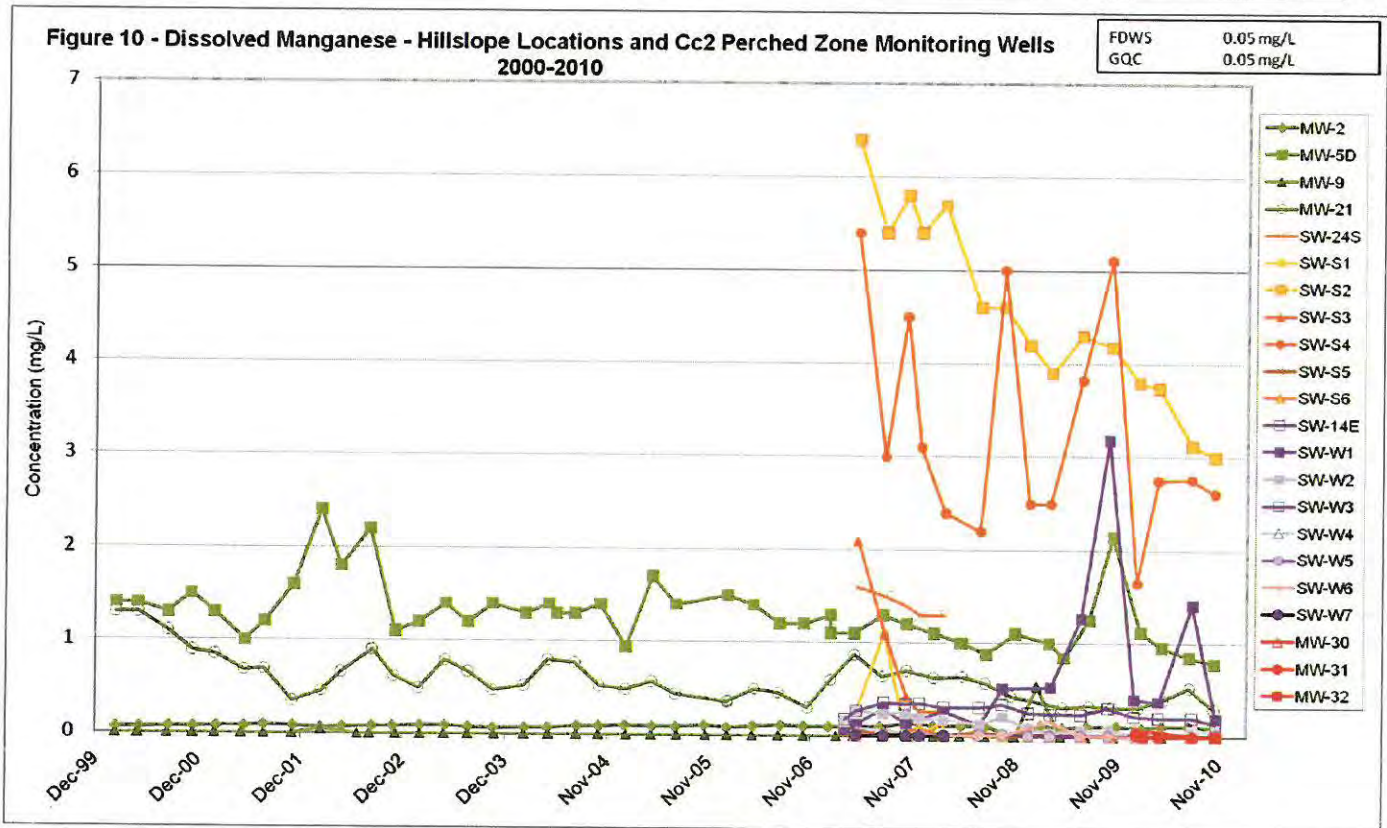
**Figure 8- Dissolved Magnesium- Hillislope Locations and Regional/Cc3 Aquifer Monitoring Wells 2000-2010**



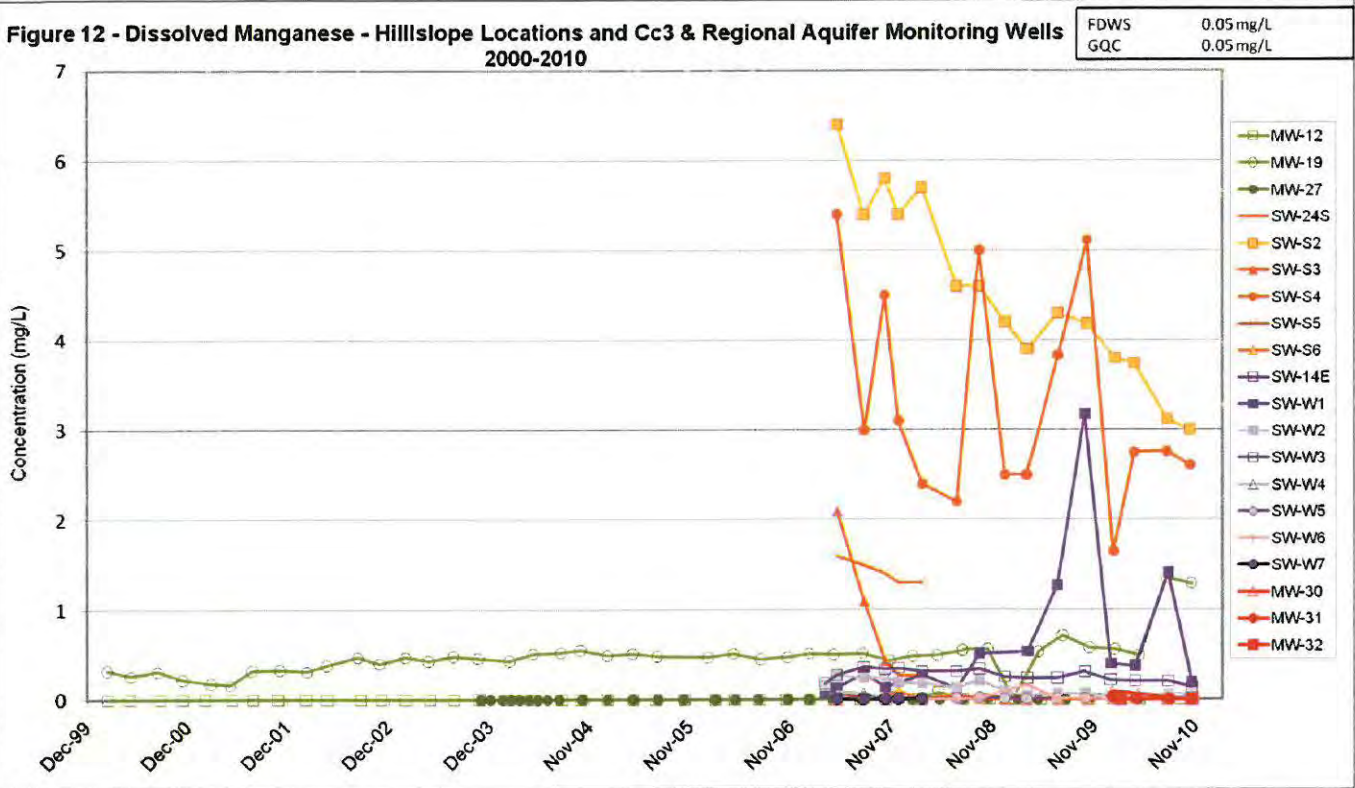
**Figure 9- Dissolved Magnesium - Hillislope Locations and Regional/Cc3 Aquifer Monitoring Wells 2007-2010**



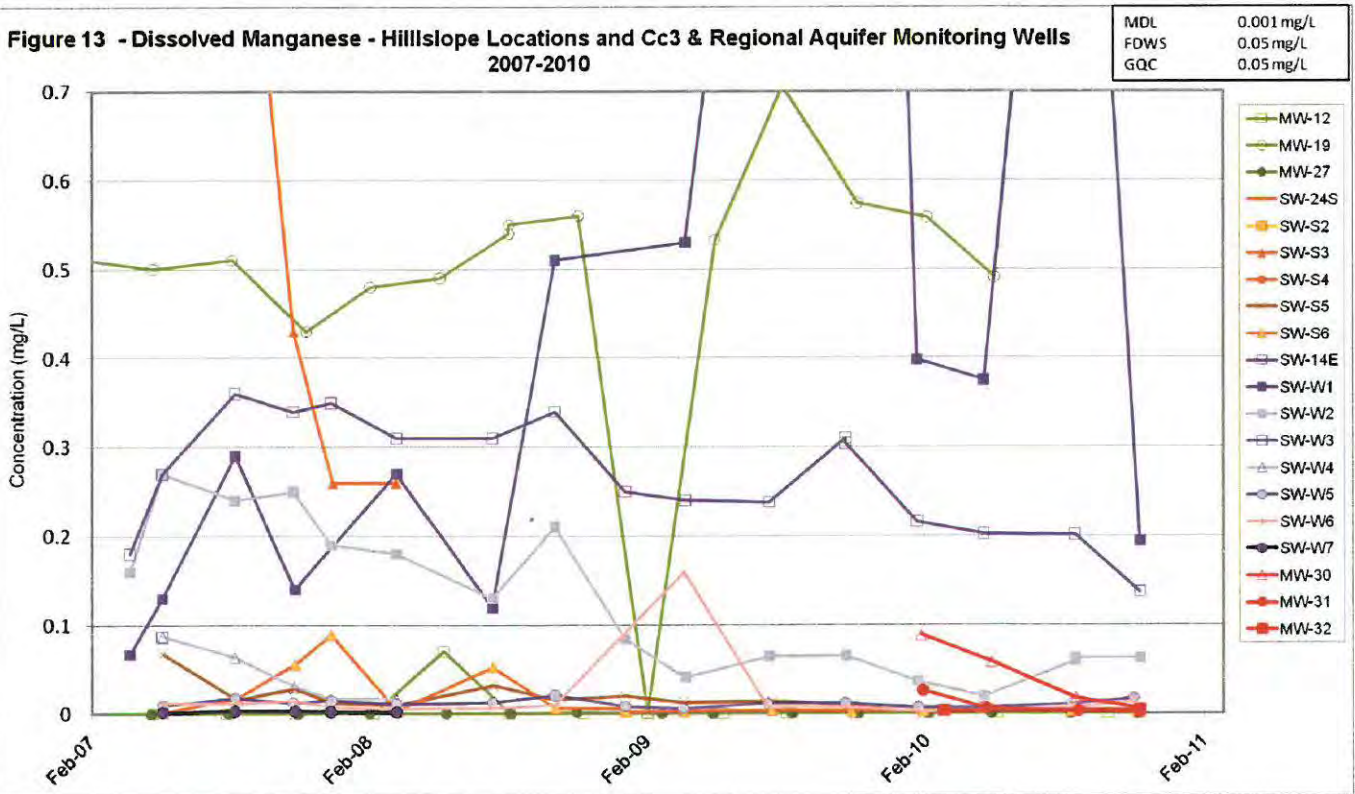




**Figure 12 - Dissolved Manganese - Hillside Locations and Cc3 & Regional Aquifer Monitoring Wells 2000-2010**



**Figure 13 - Dissolved Manganese - Hillside Locations and Cc3 & Regional Aquifer Monitoring Wells 2007-2010**



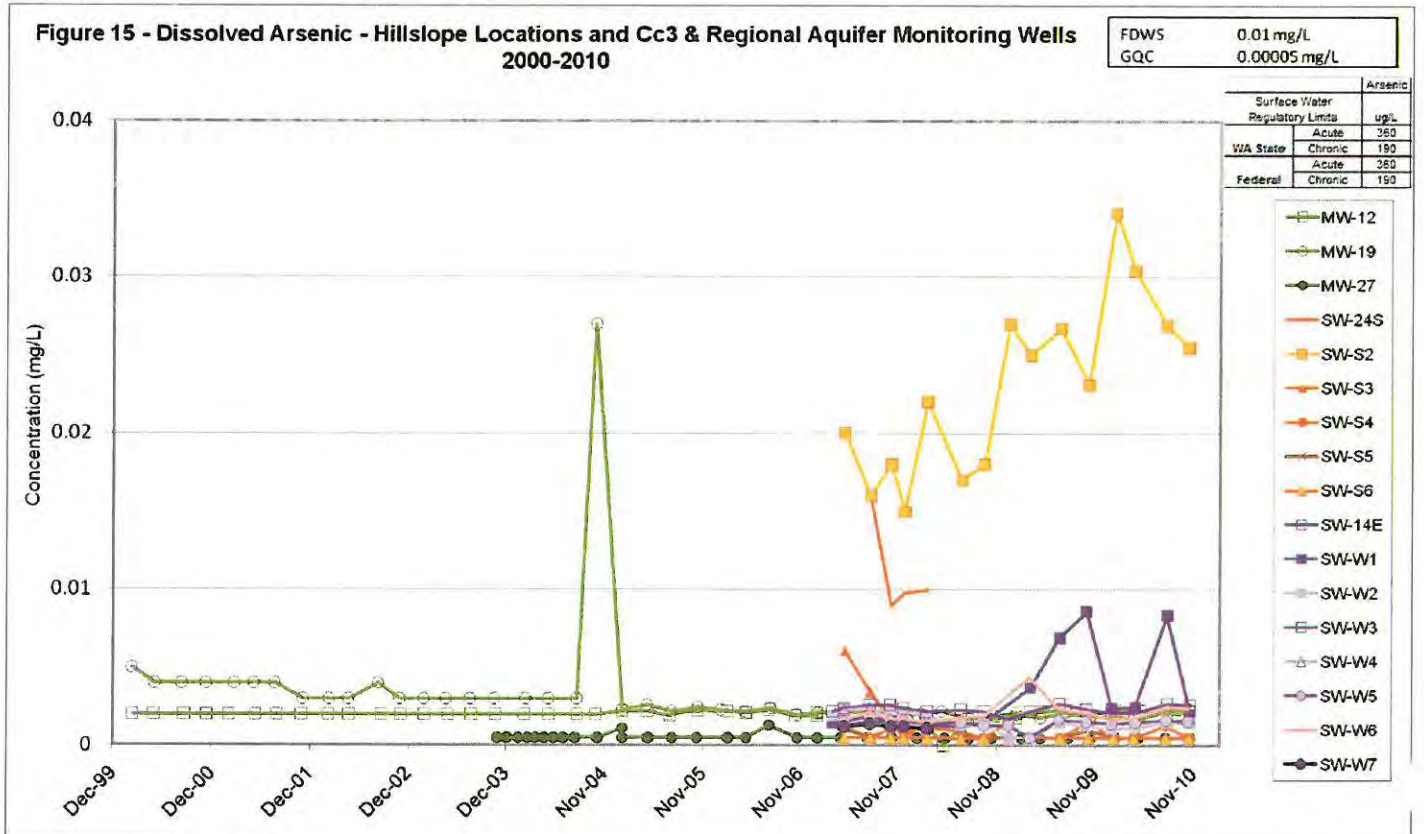
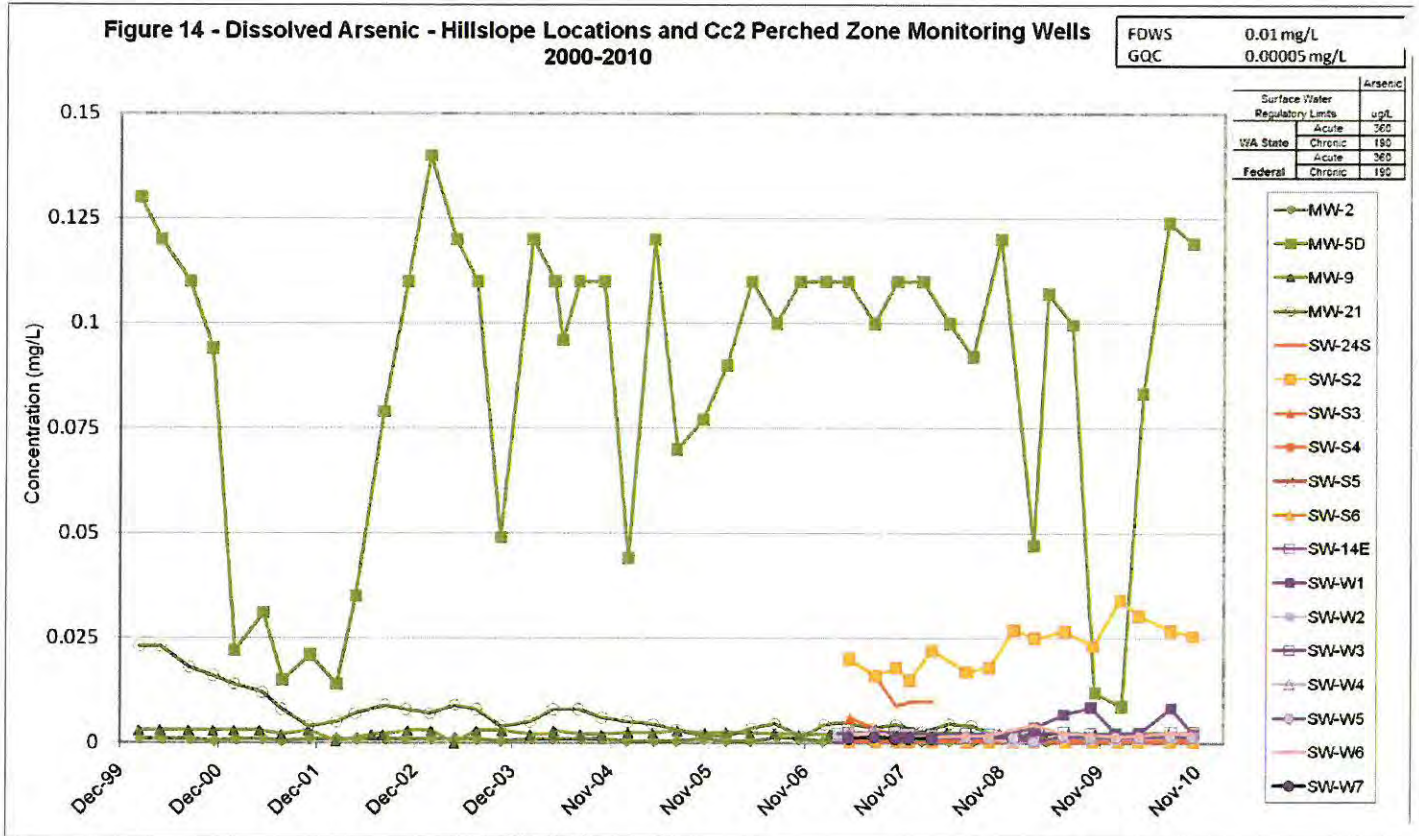


Figure 16 - Dissolved Calcium - Hillslope Locations and Cc2 Perched Zone Monitoring Wells  
2000-2010

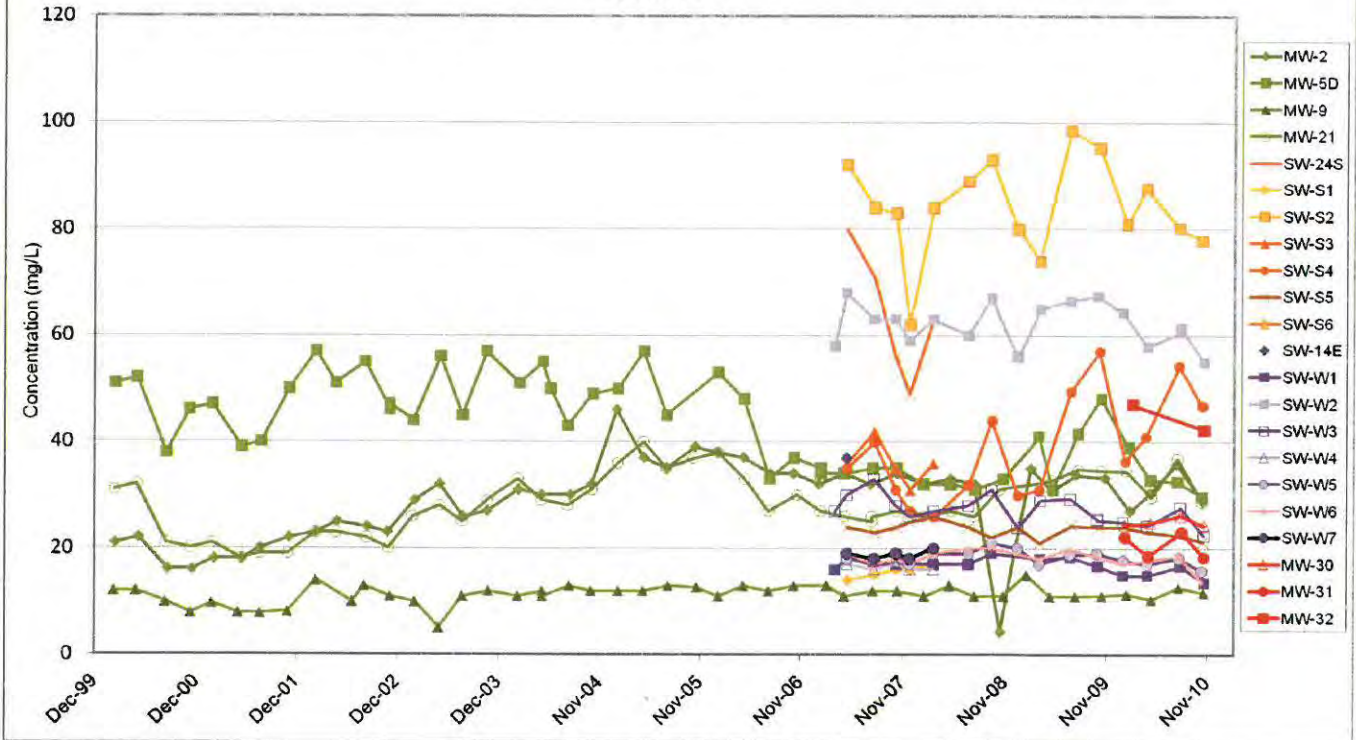
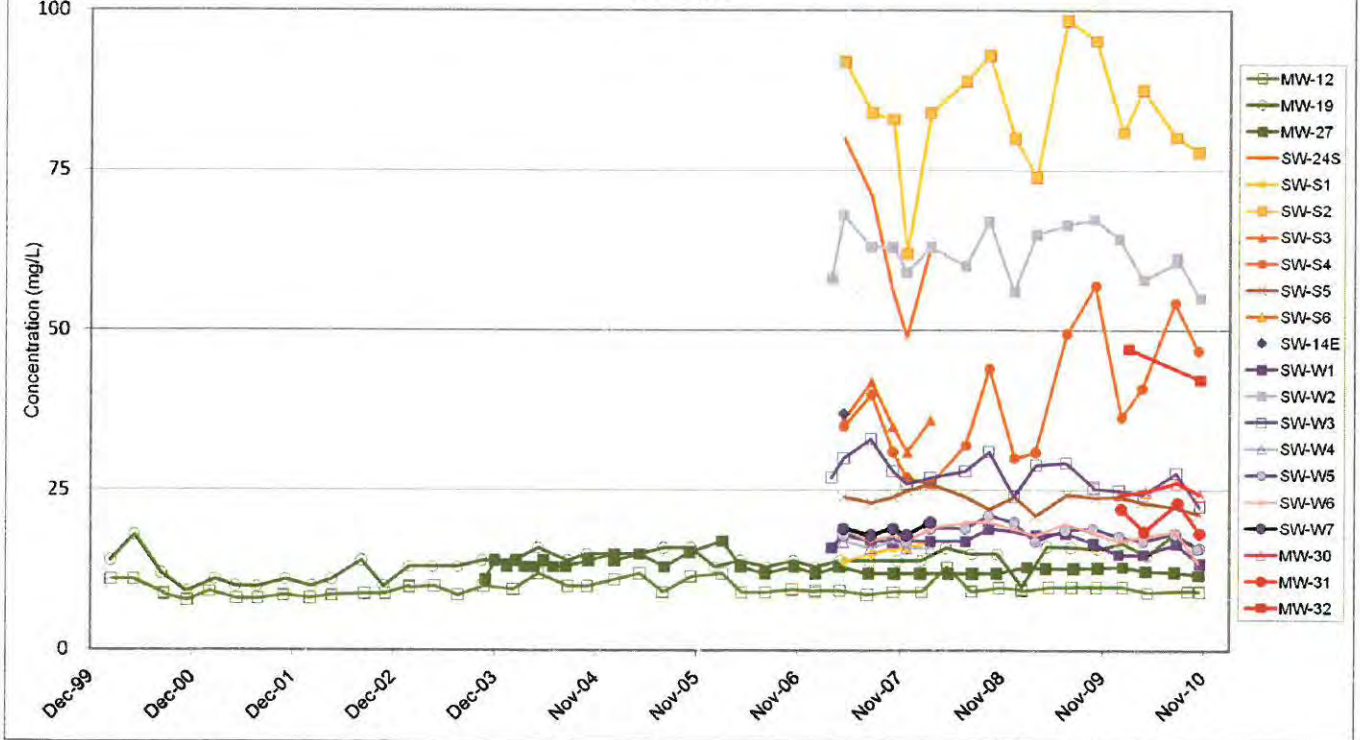
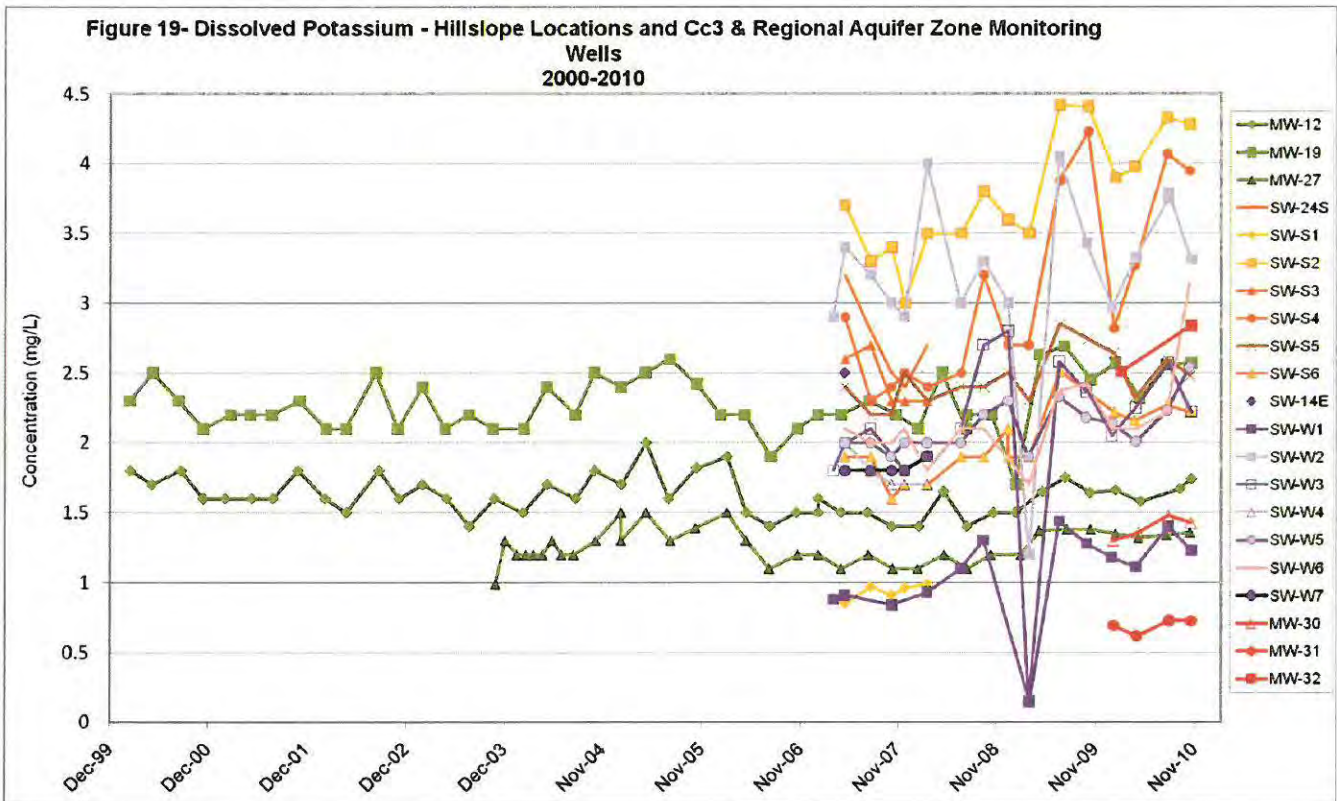
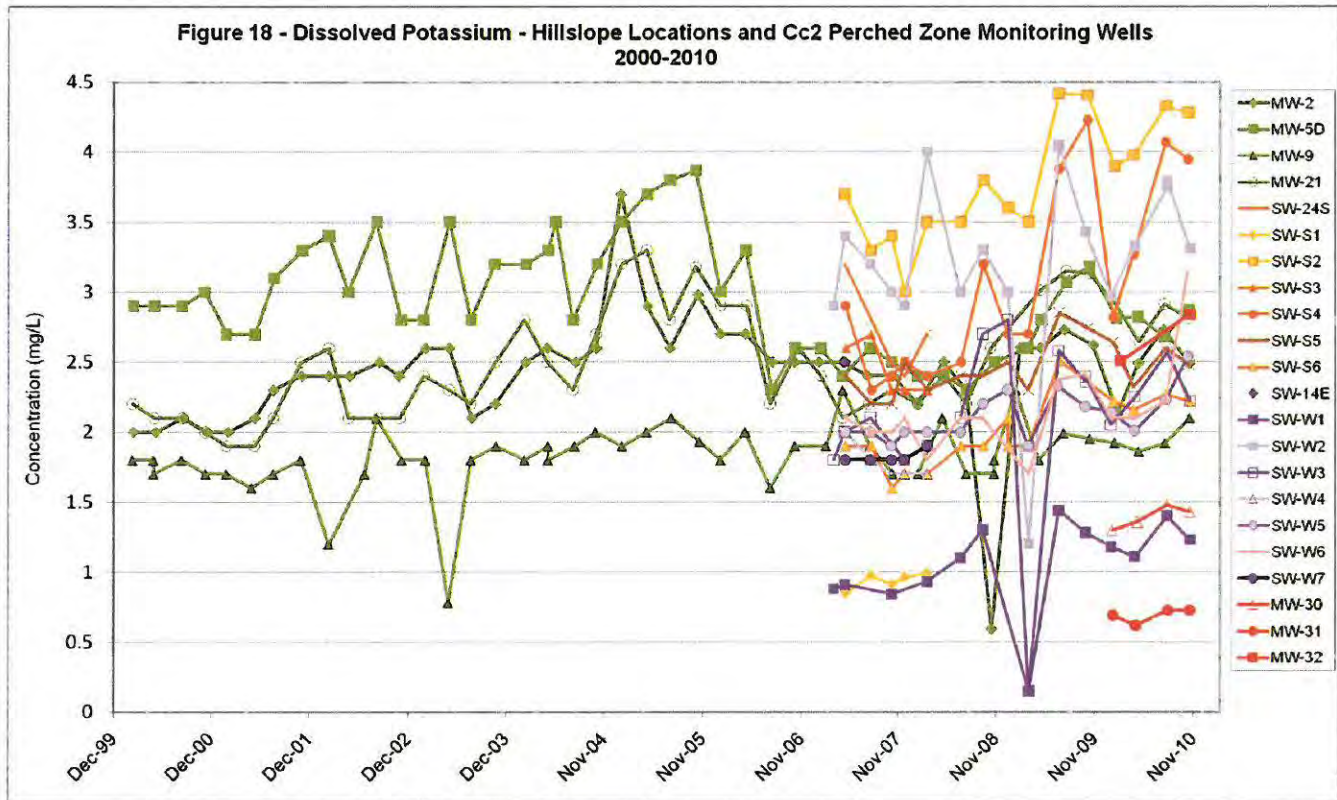
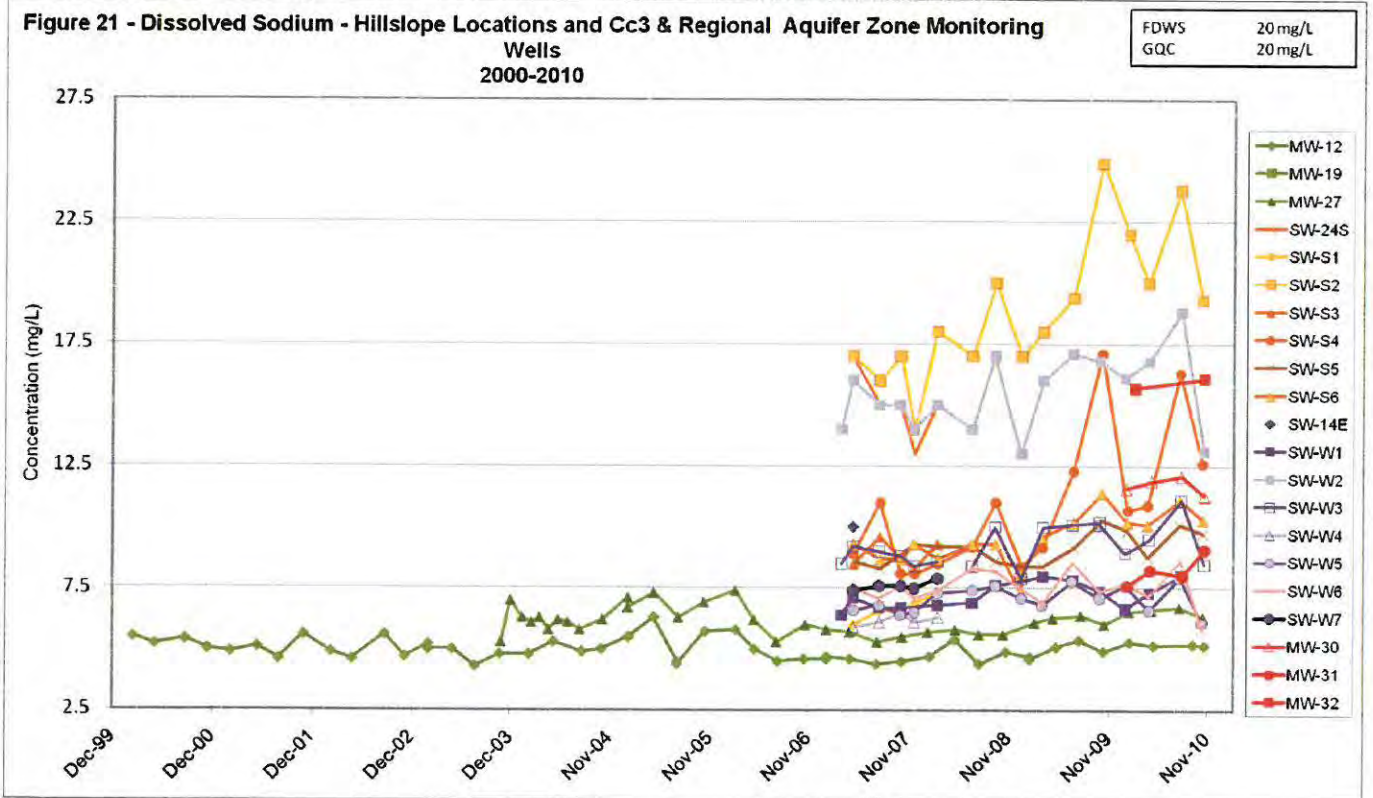
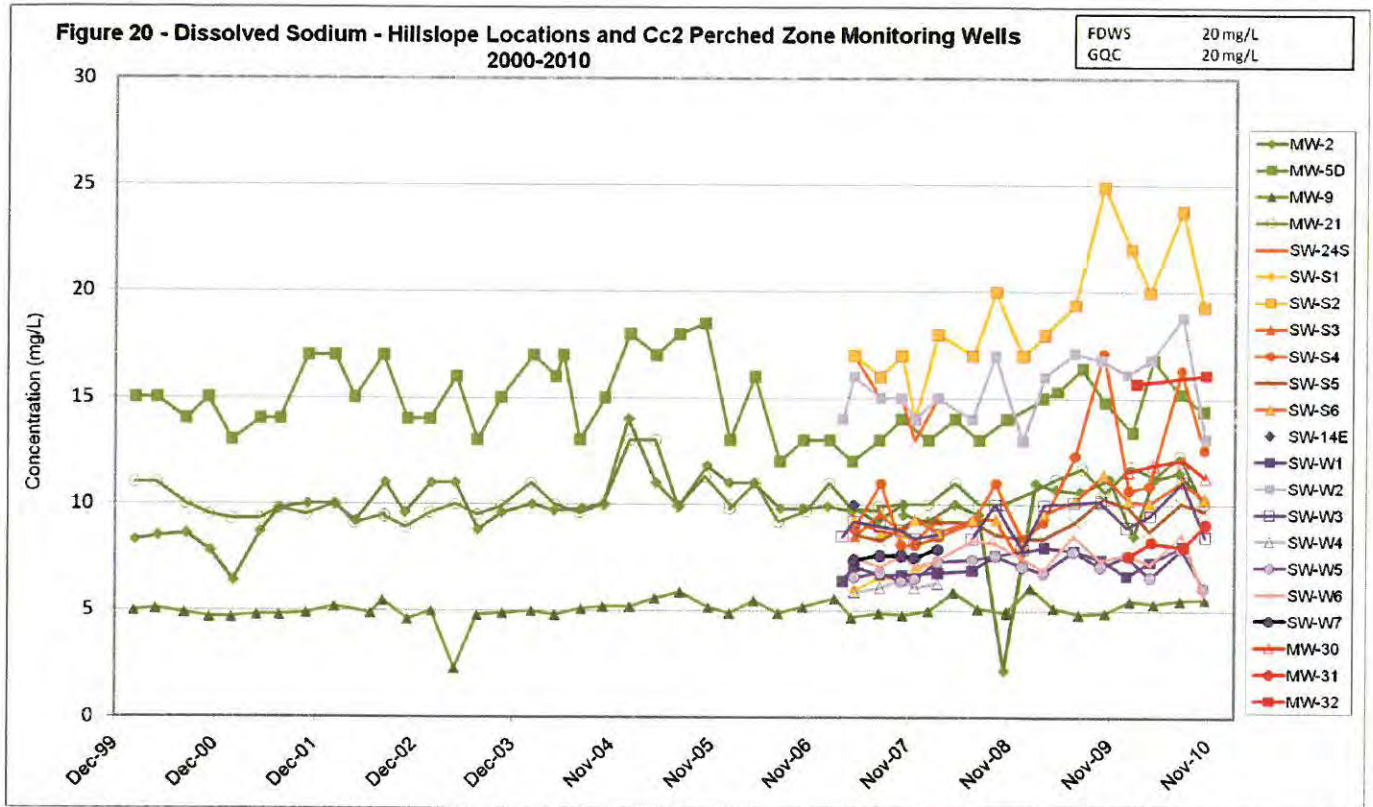


Figure 17 - Dissolved Calcium - Hillslope Locations and Cc3 & Regional Aquifer Monitoring Wells  
2000-2010





Appendix L – Times Series Plots





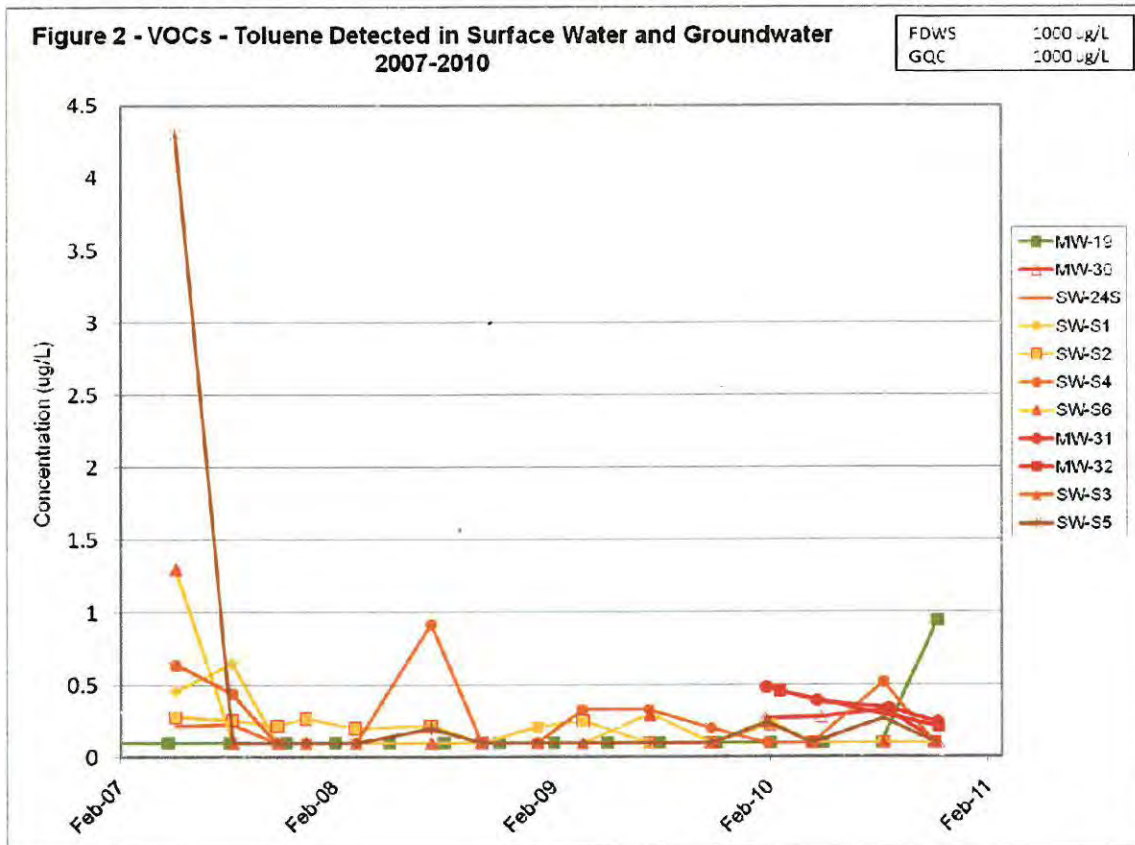
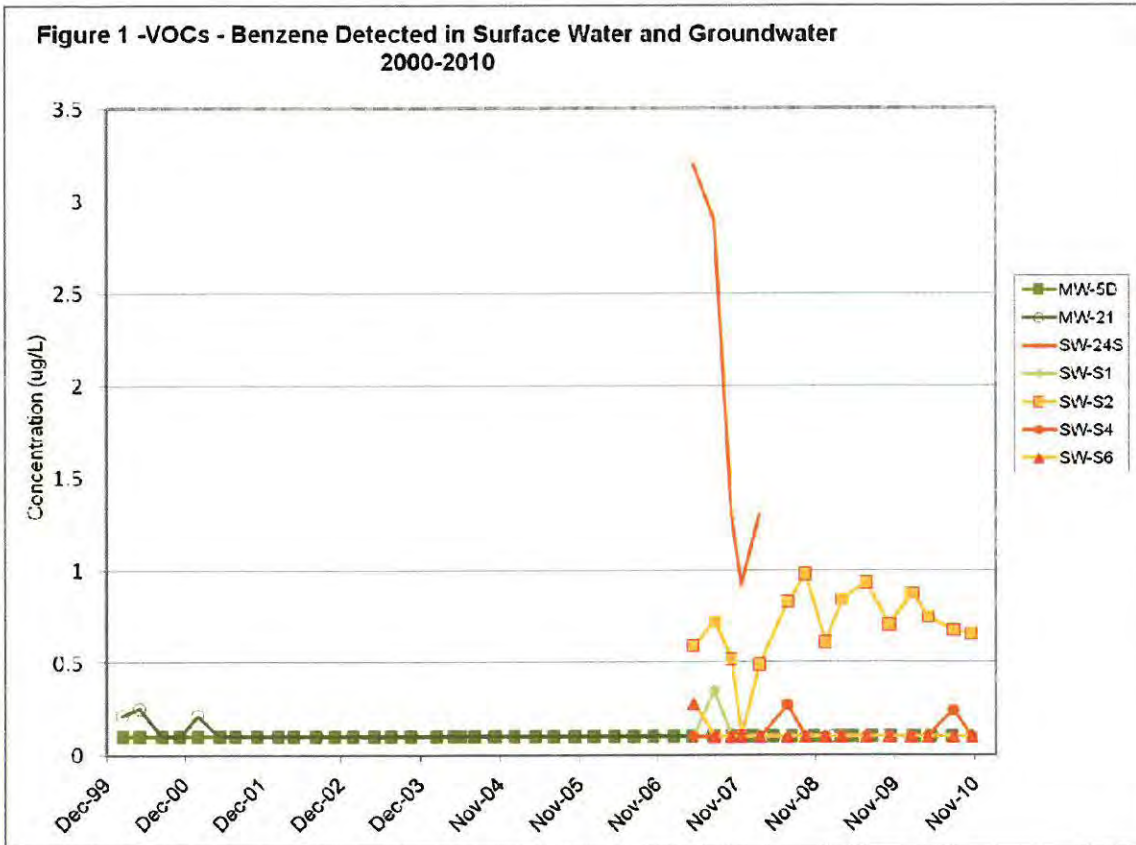
# **Appendix L.2**

# **Volatiles**

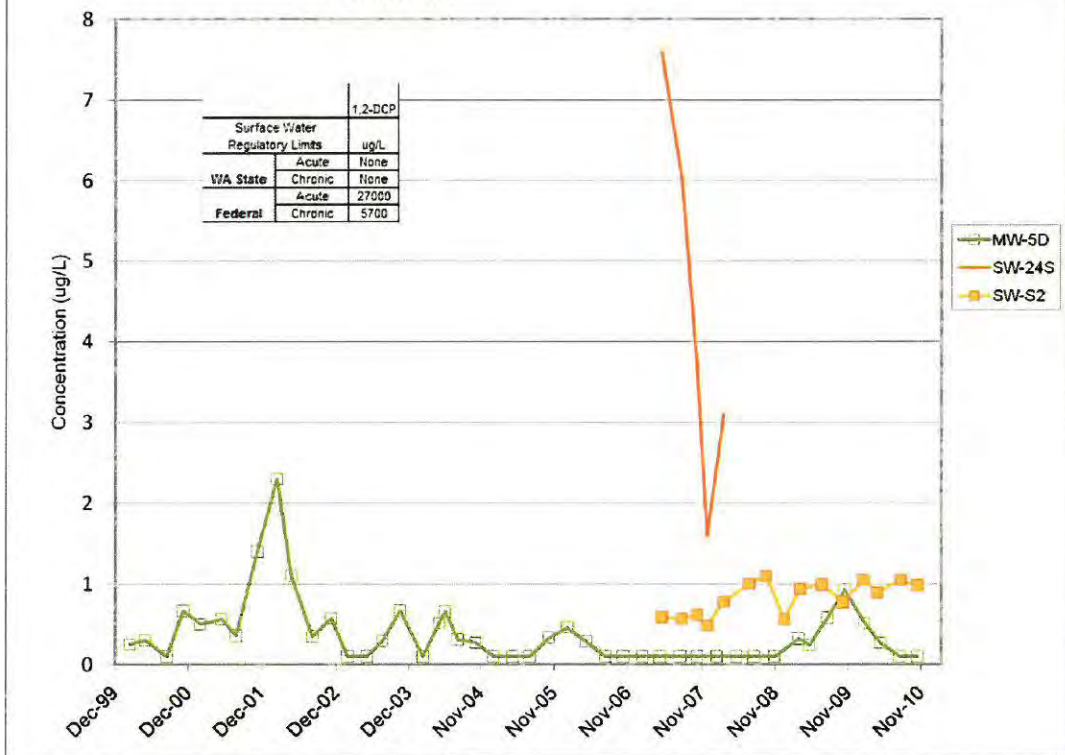
**Figures 1 to 9**



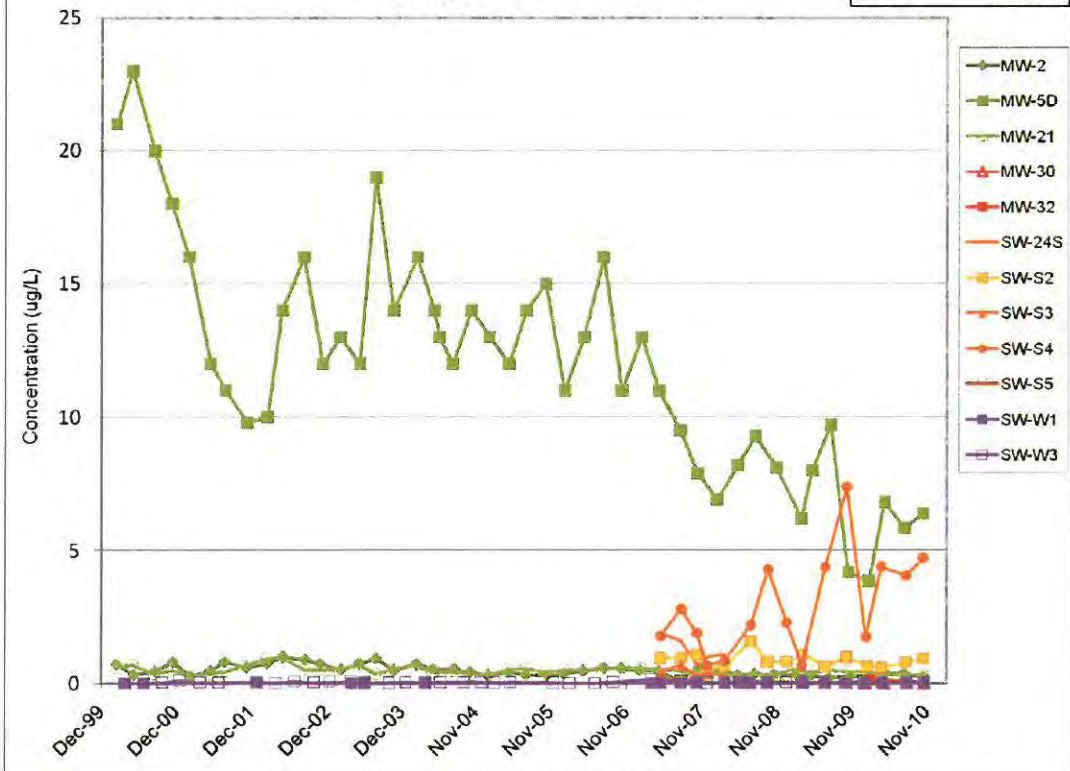


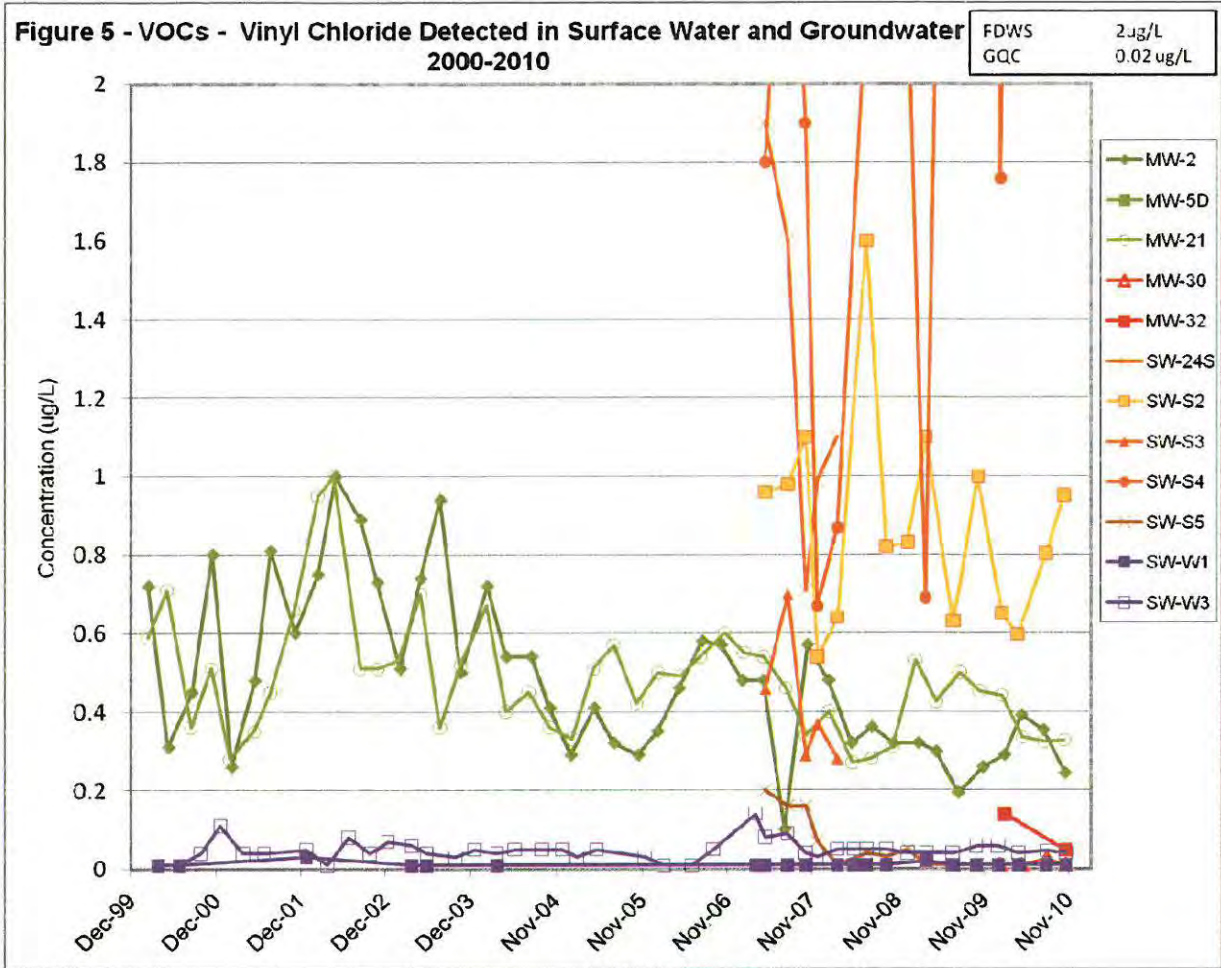


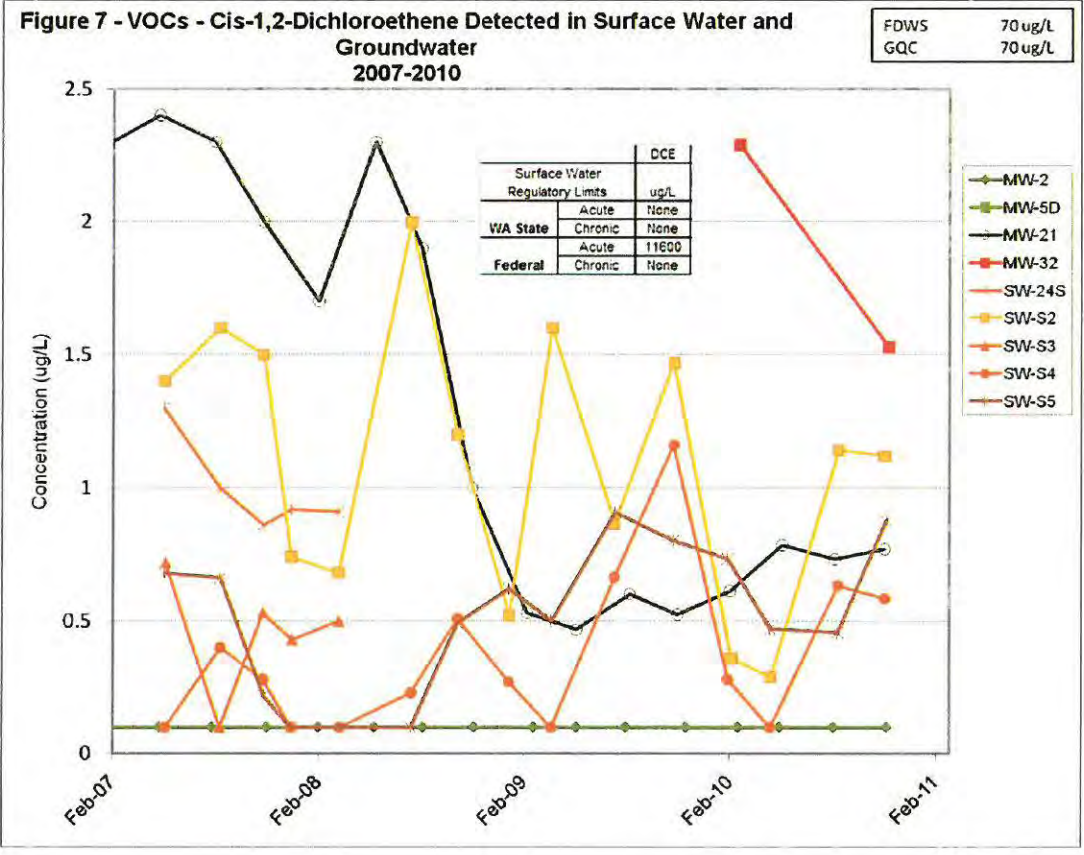
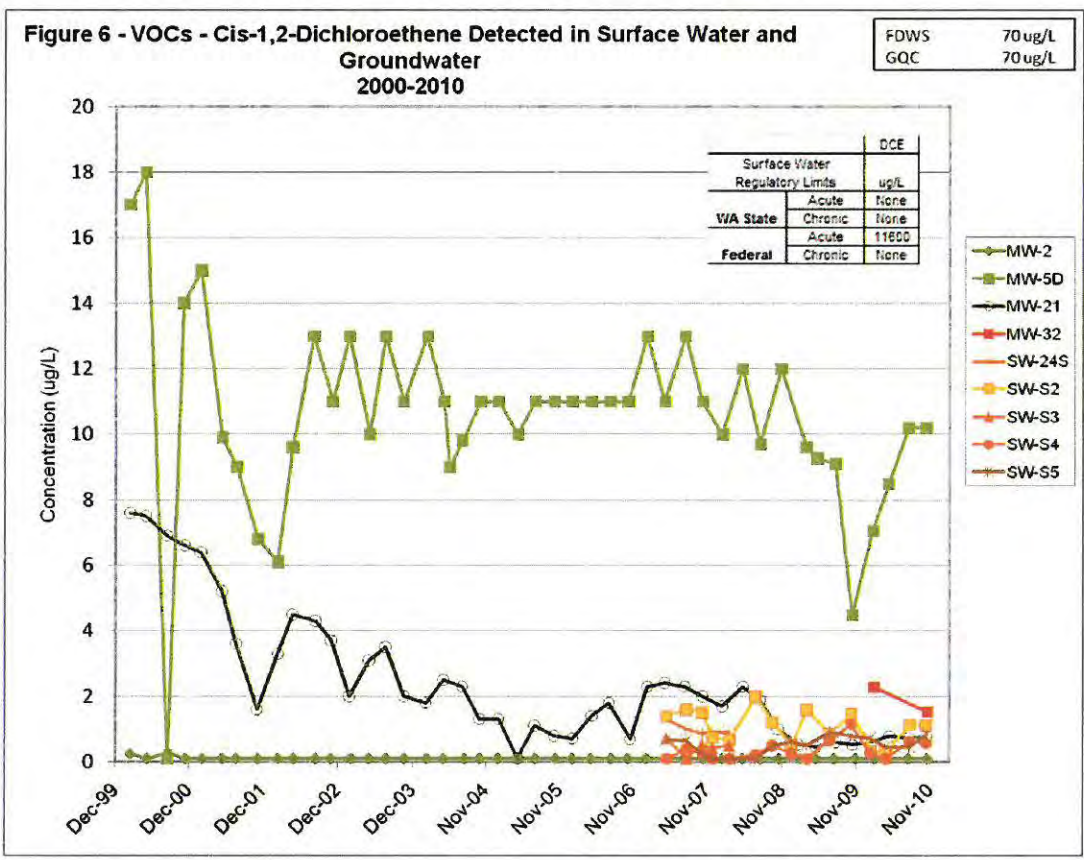
**Figure 3 - VOCs - 1,2-Dichloropropane Detected in Surface Water and Groundwater 2000-2010**



**Figure 4 - VOCs - Vinyl Chloride Detected in Surface Water and Groundwater 2000-2010**







# **Appendix L.3**

# **Conventionals**

Figures 1 to 46

Figure 1 - Field conductance - Hillslope Weirs and Cc2 Perched Zone Monitoring Wells  
2000- 2010

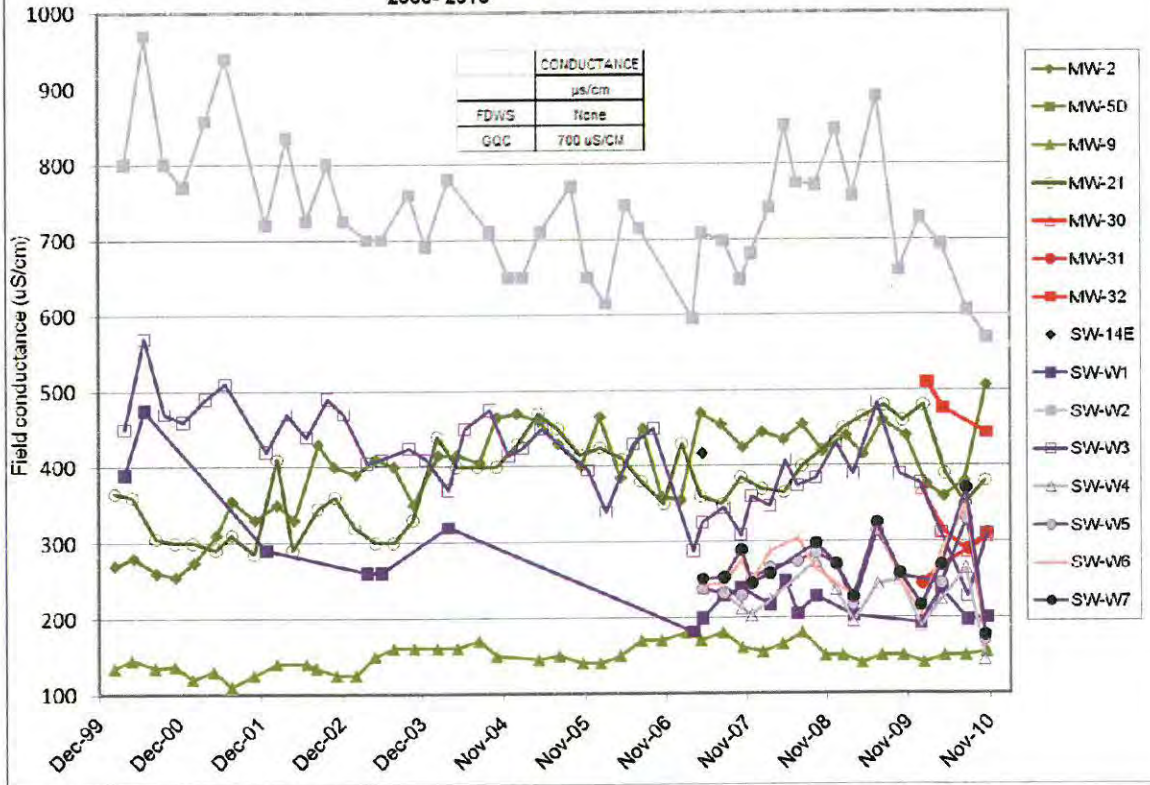
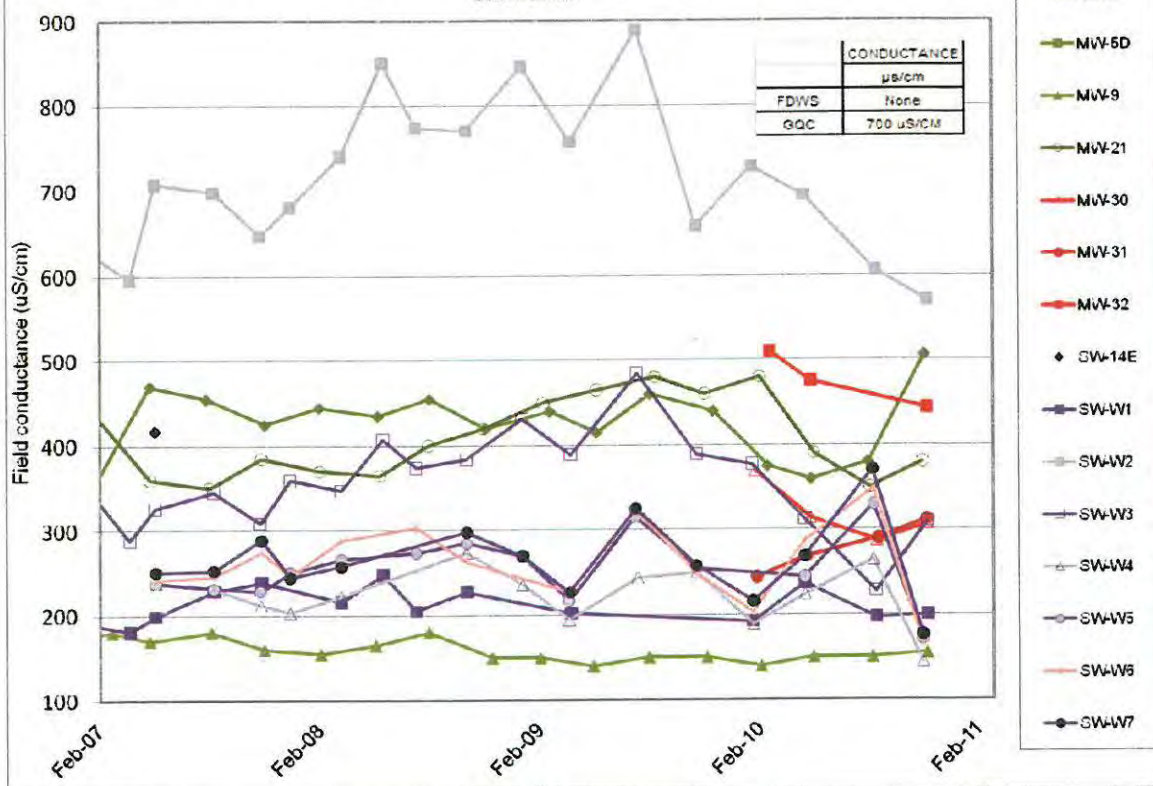
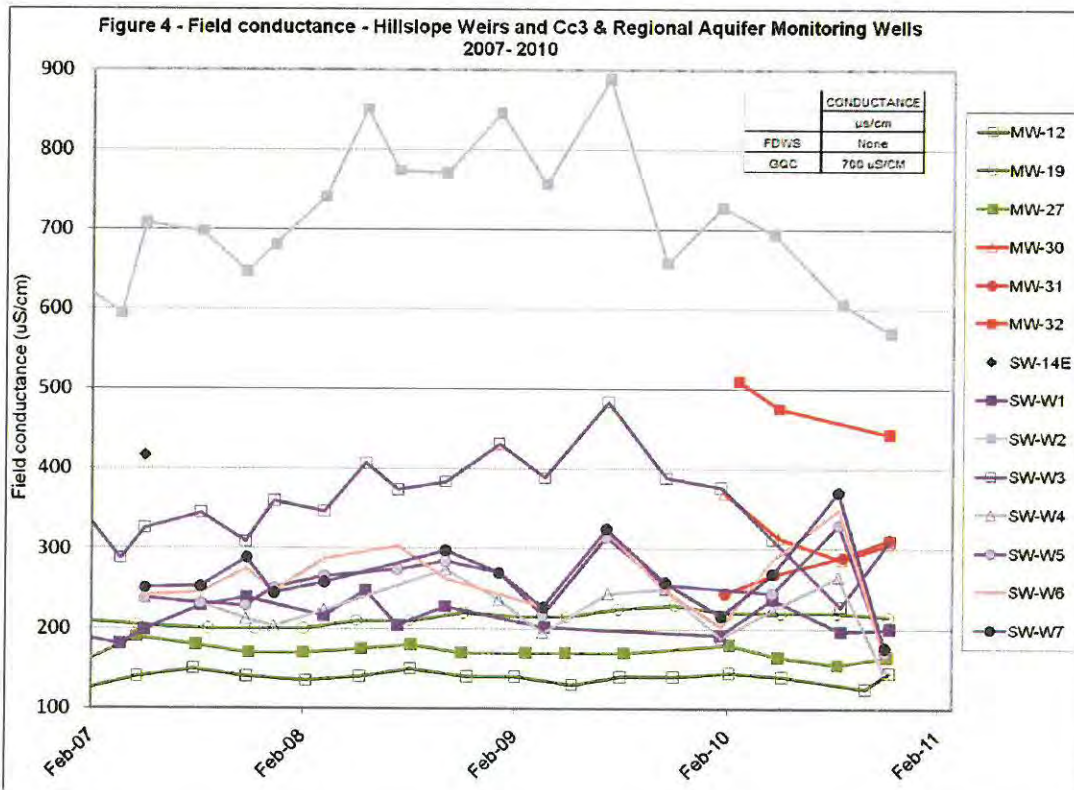
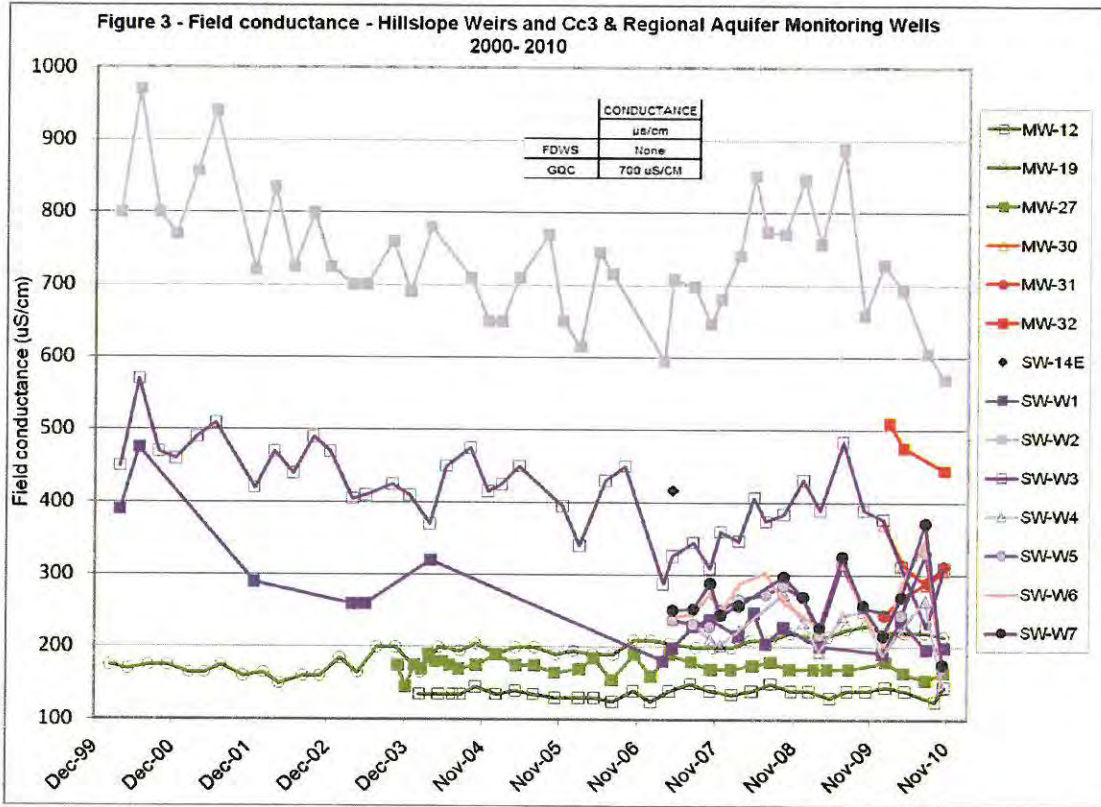
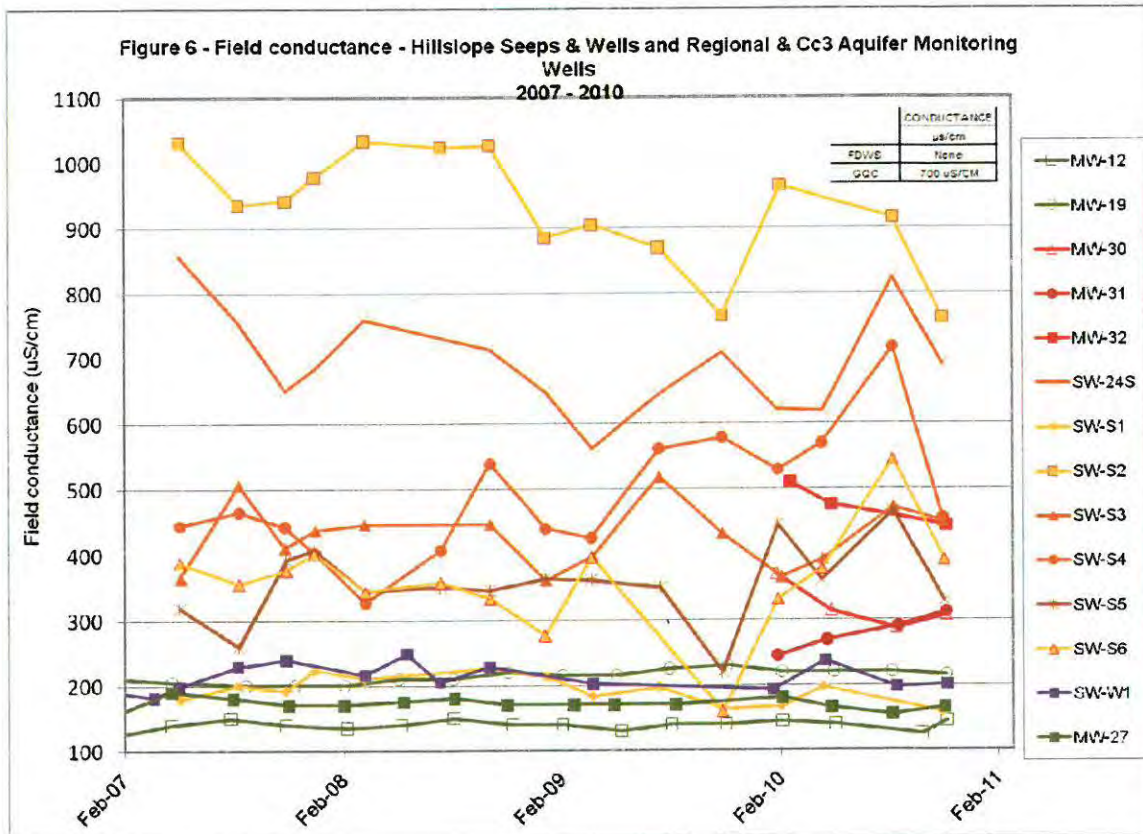
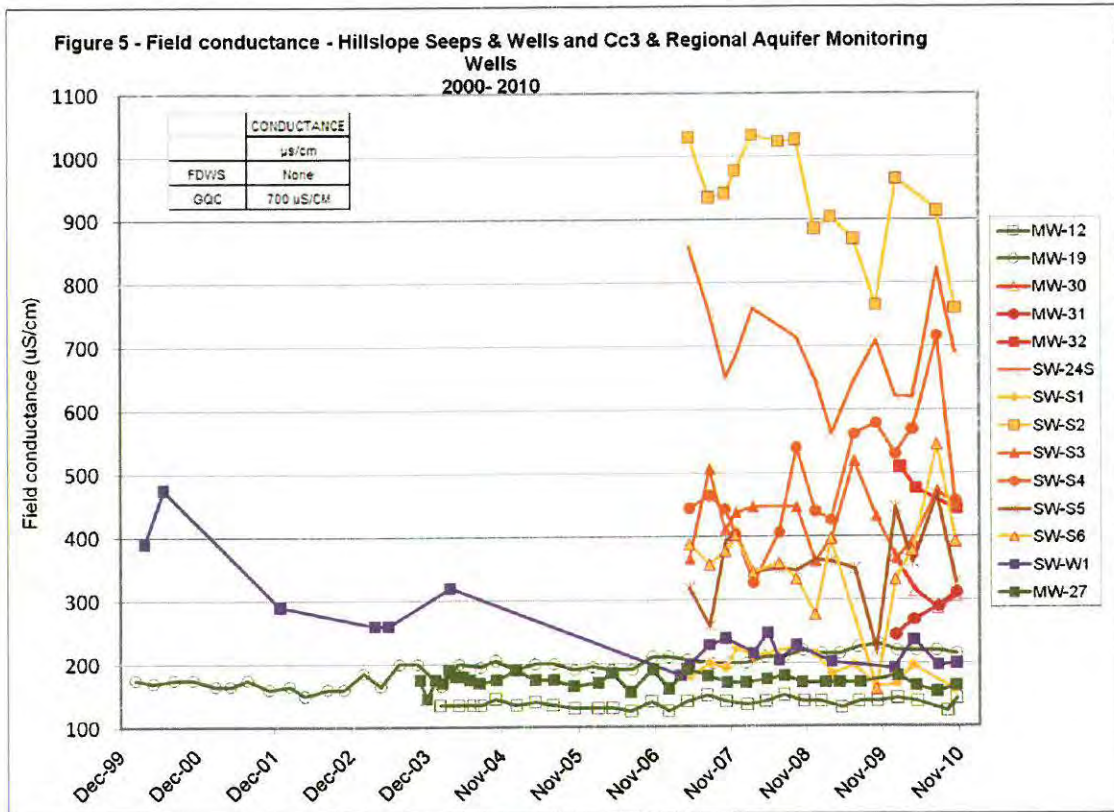


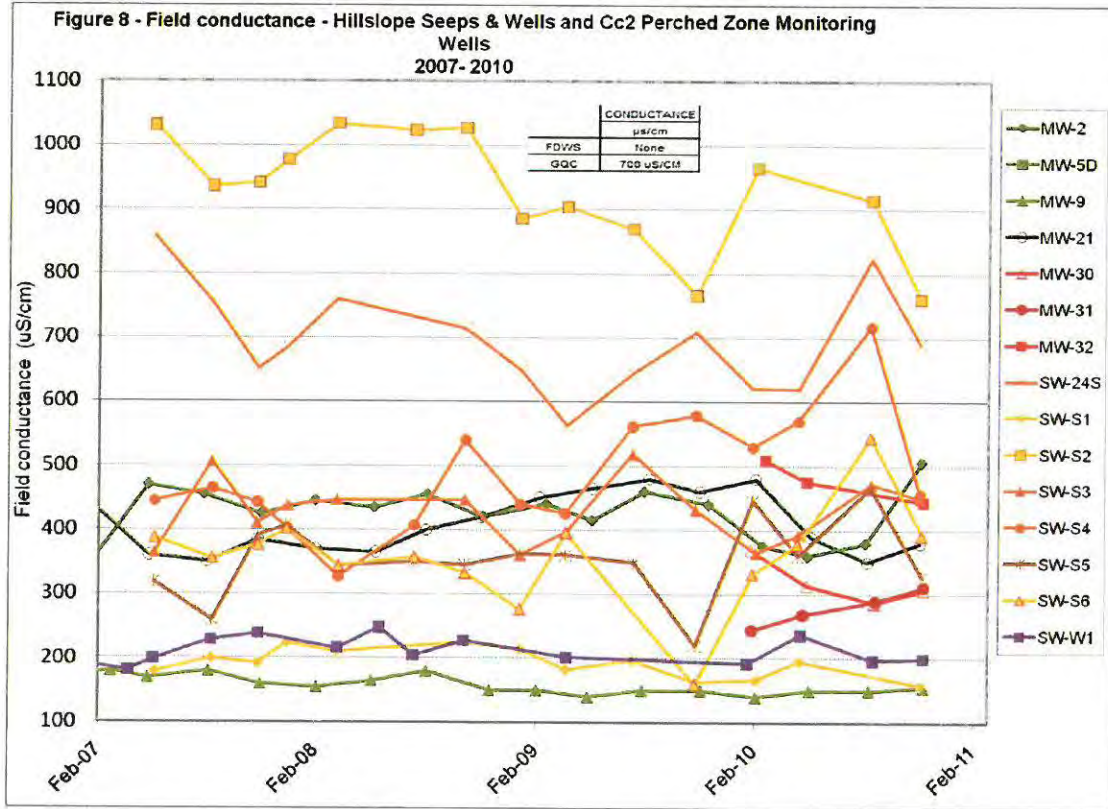
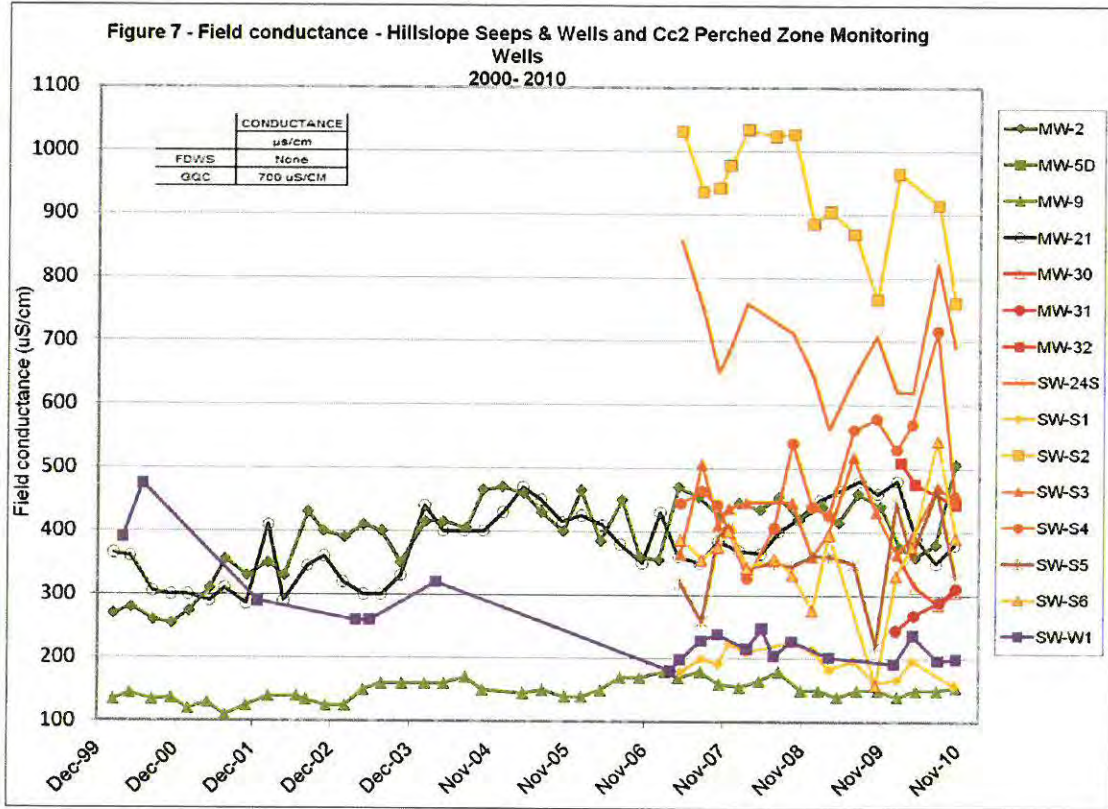
Figure 2 - Field conductance - Hillslope Weirs and Cc2 Perched Zone Monitoring Wells  
2007- 2010

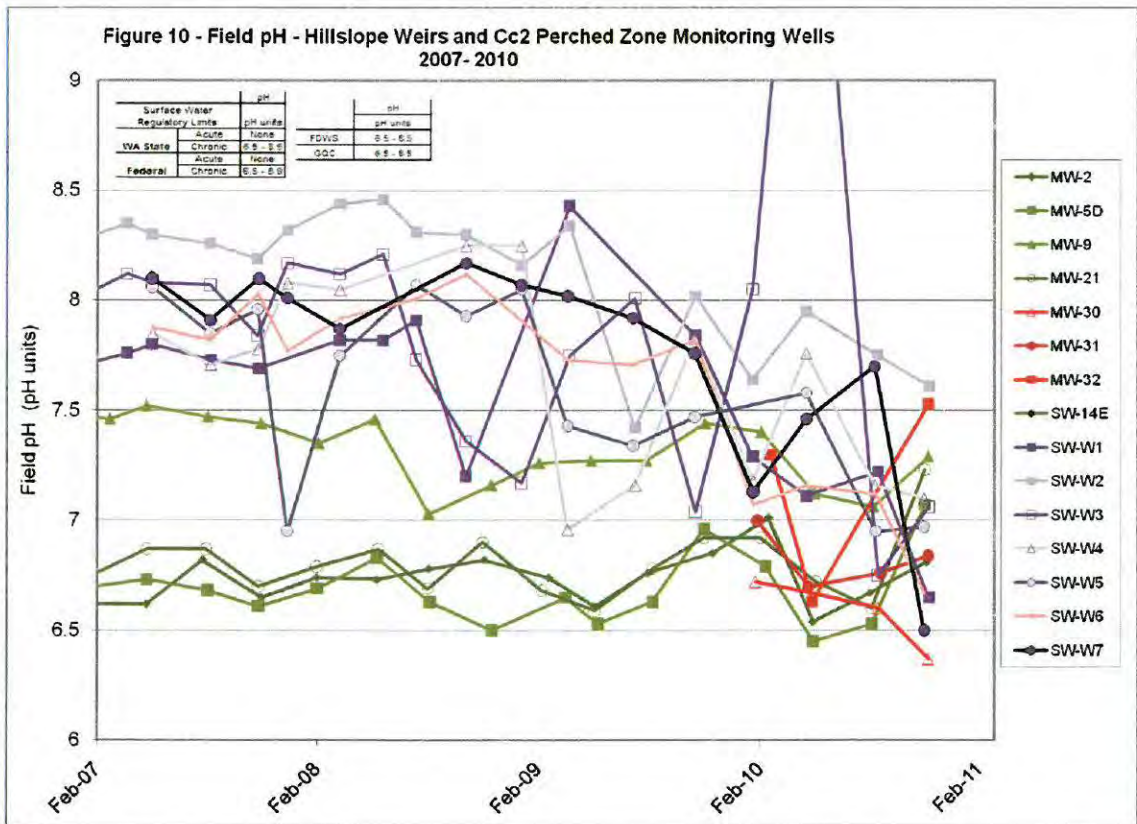
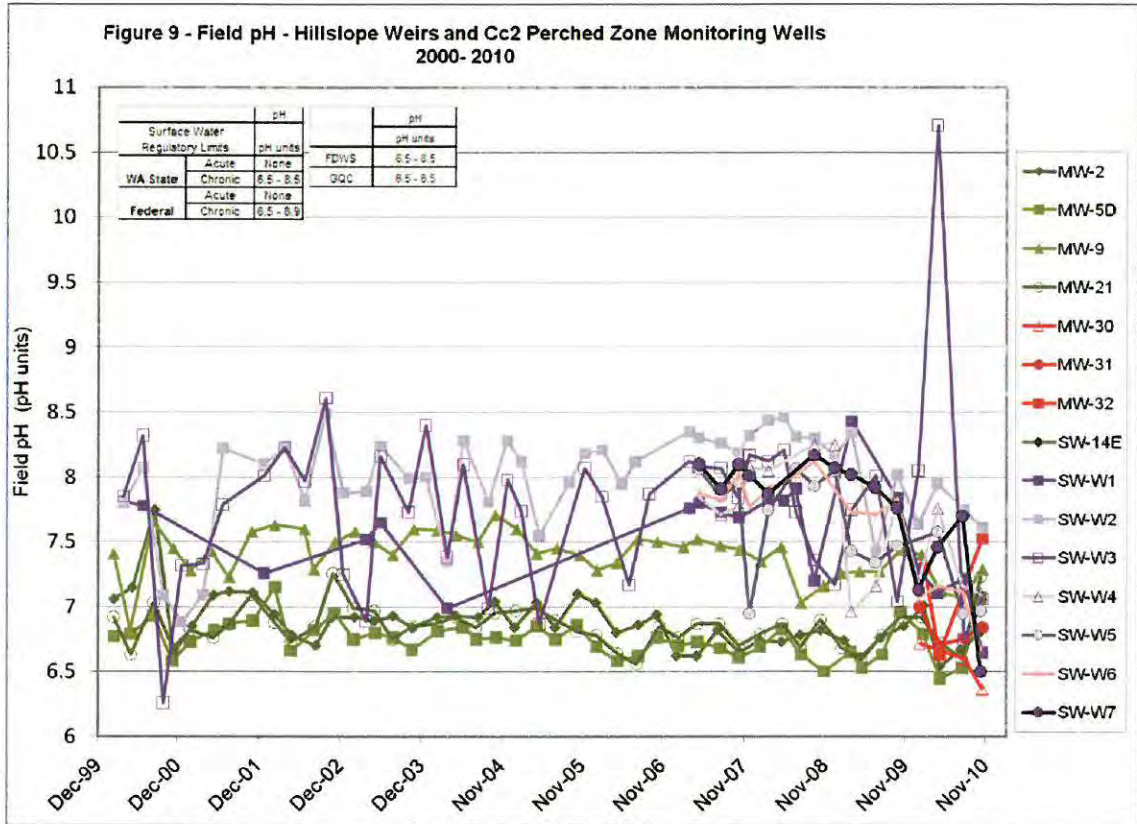


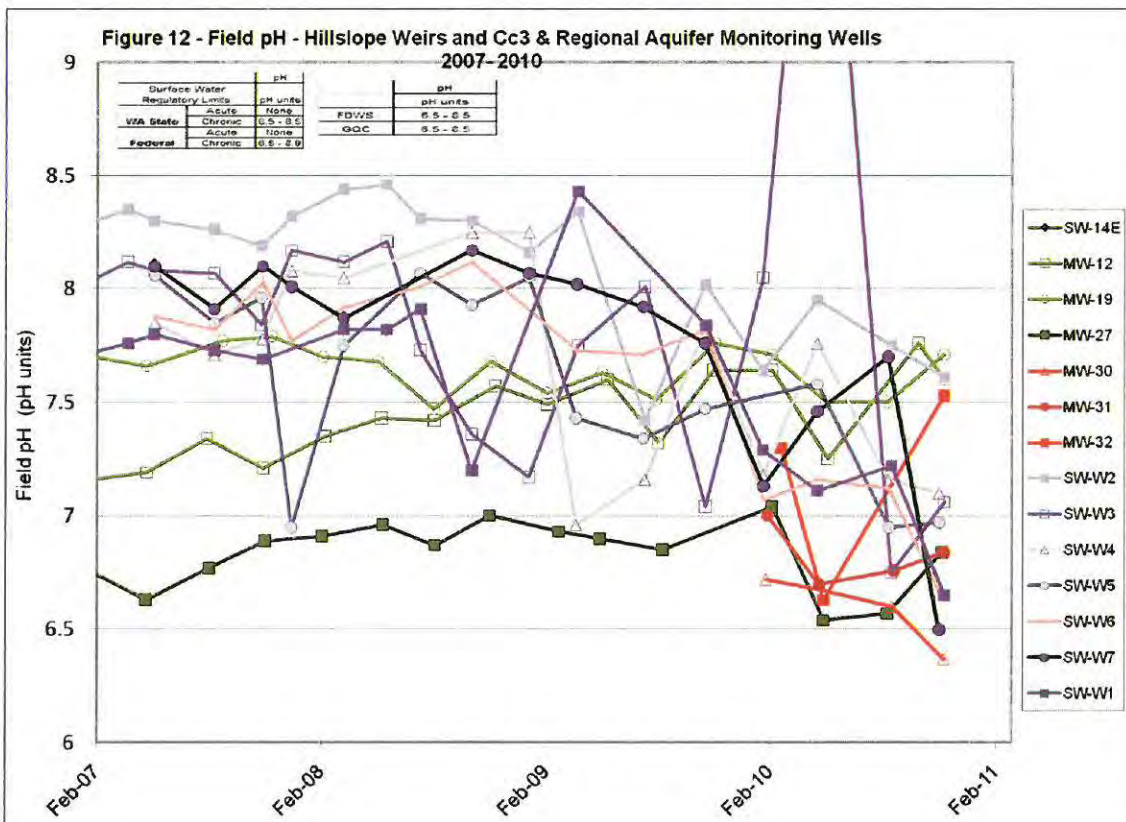
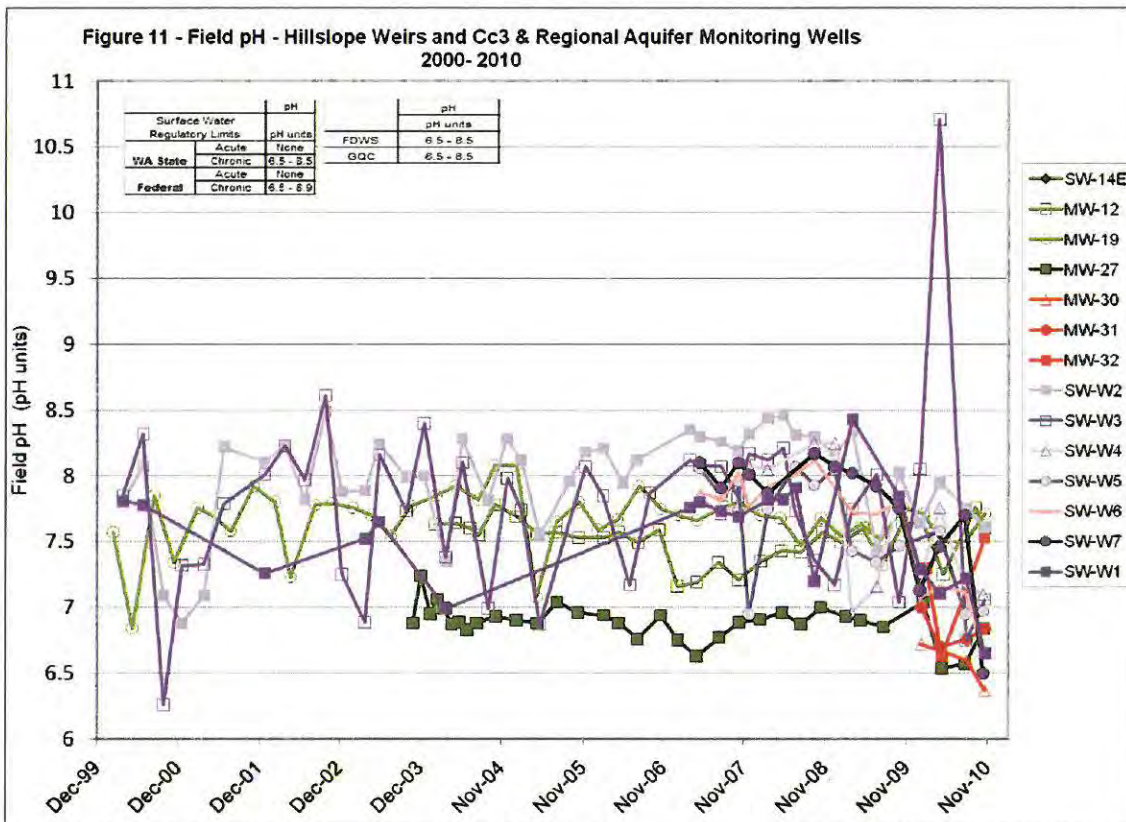


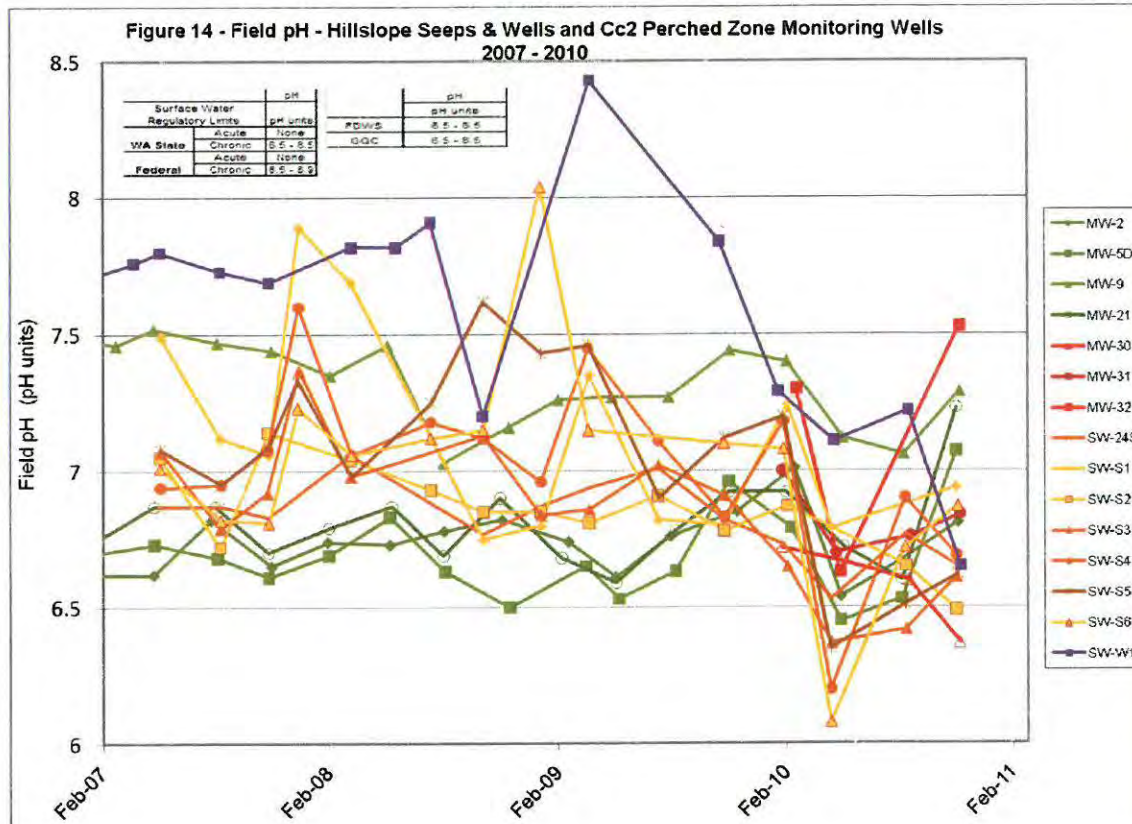
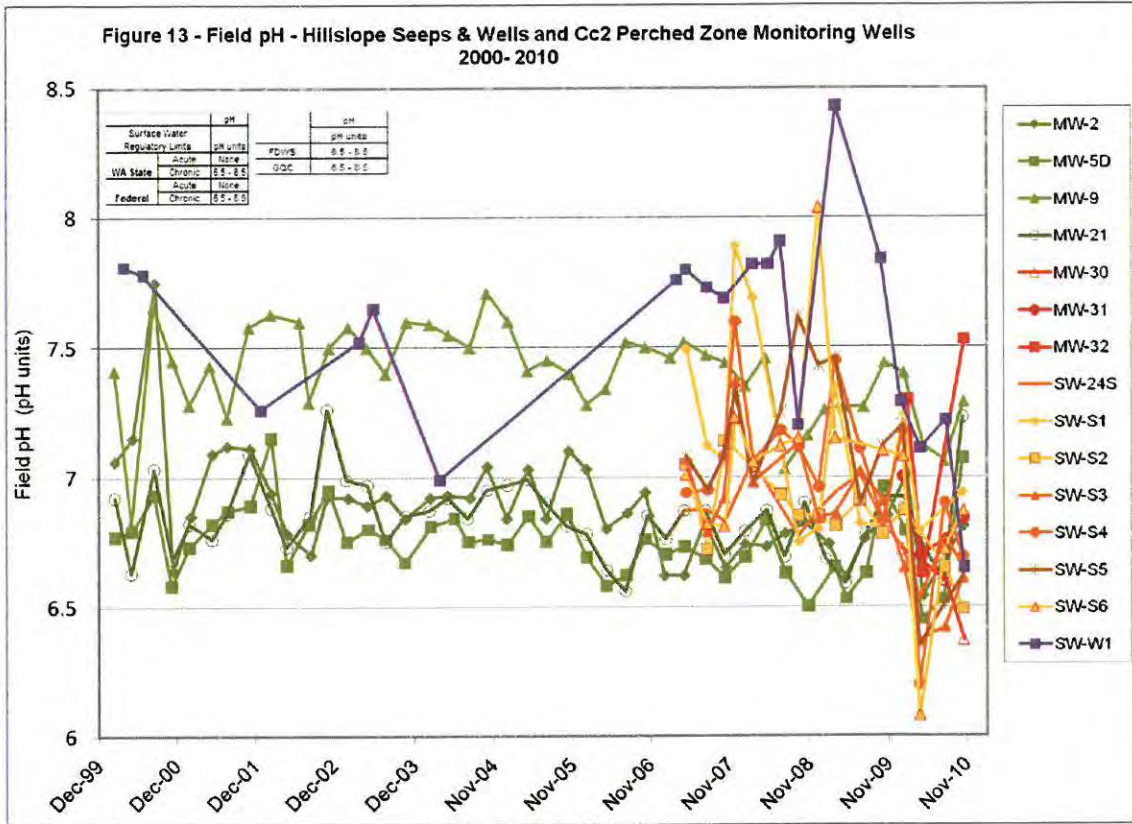


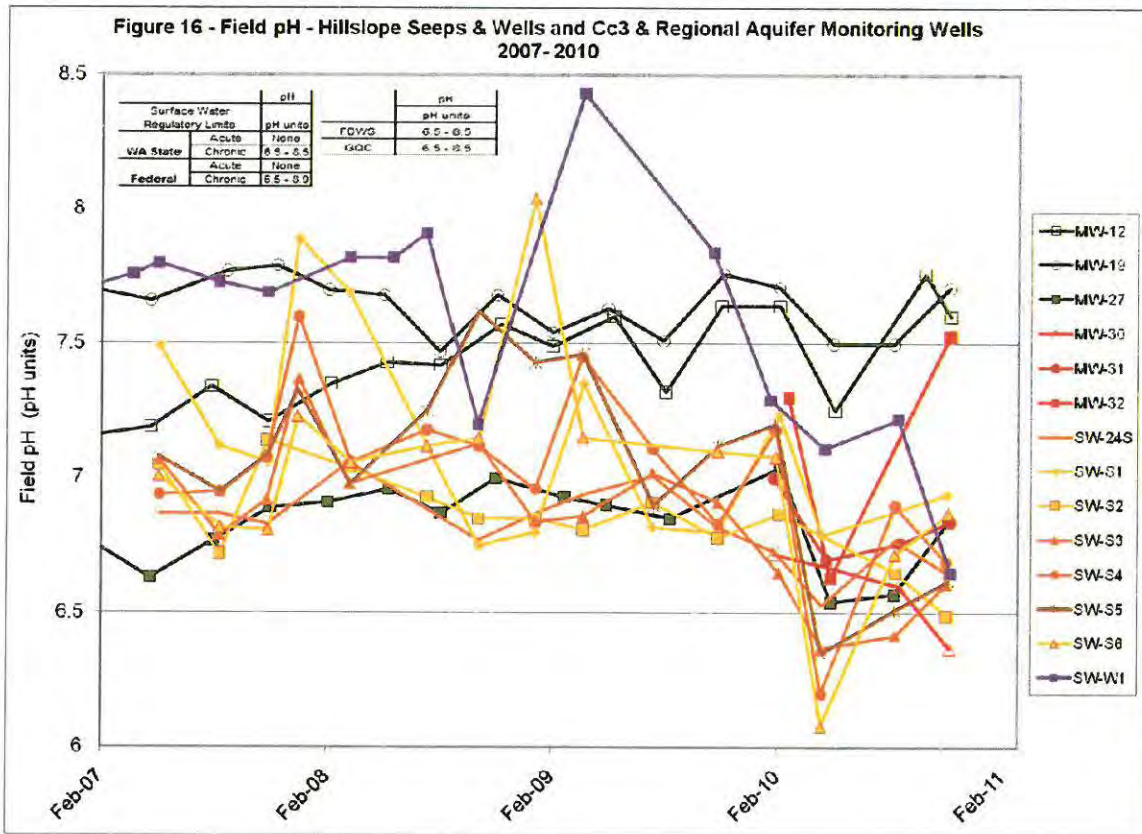
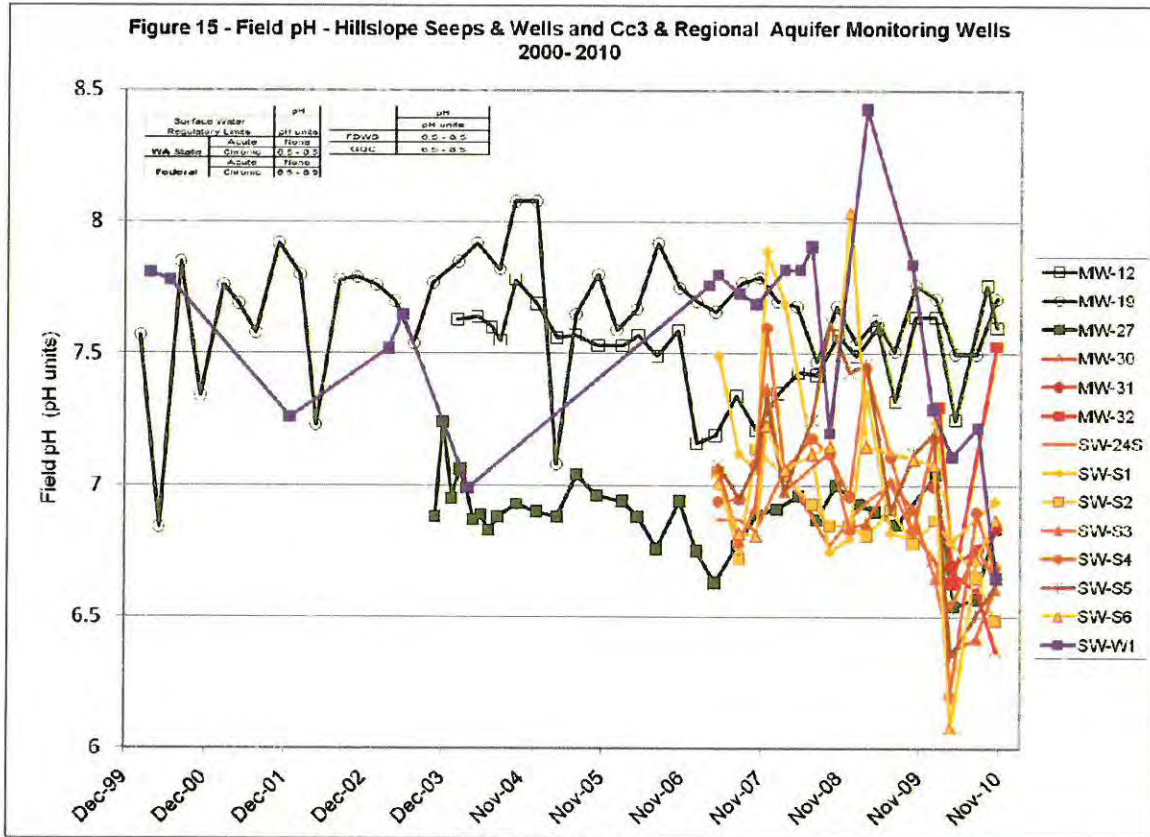


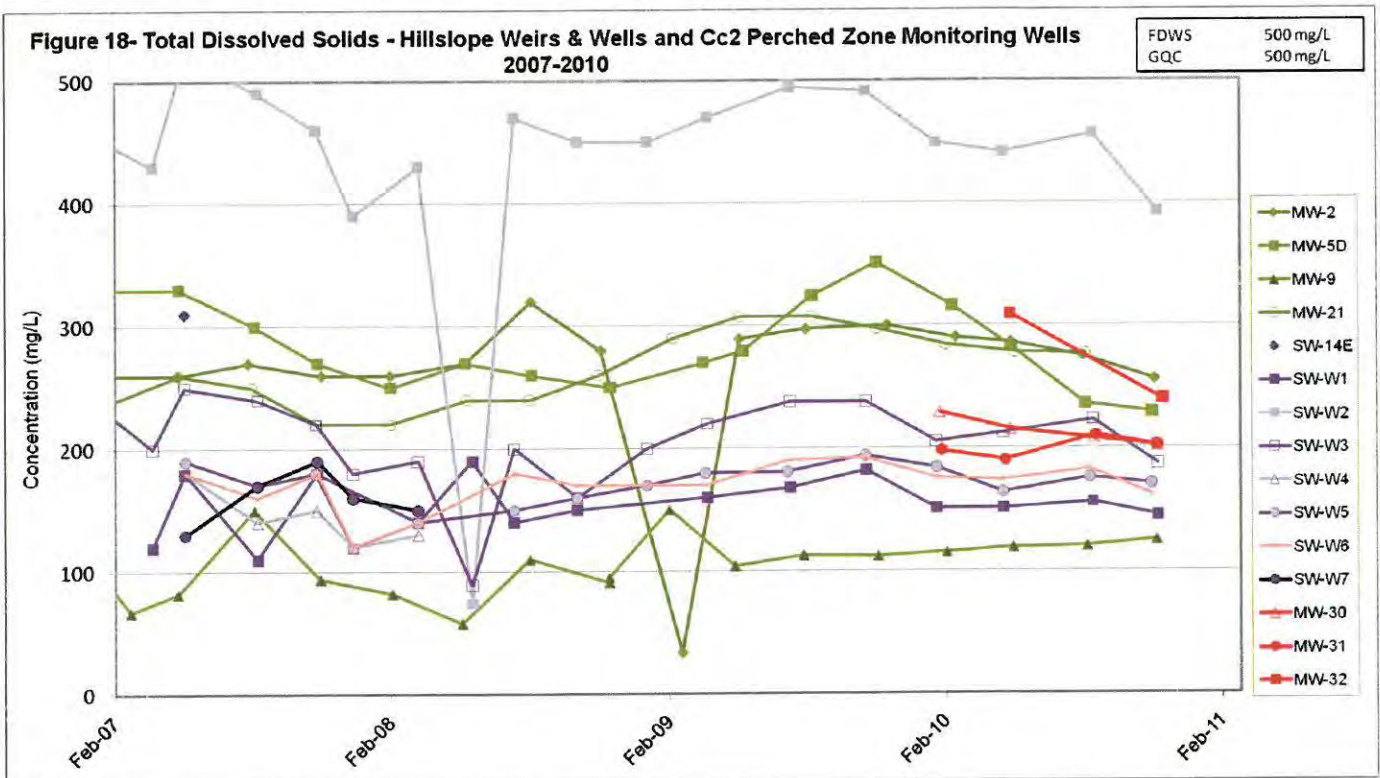
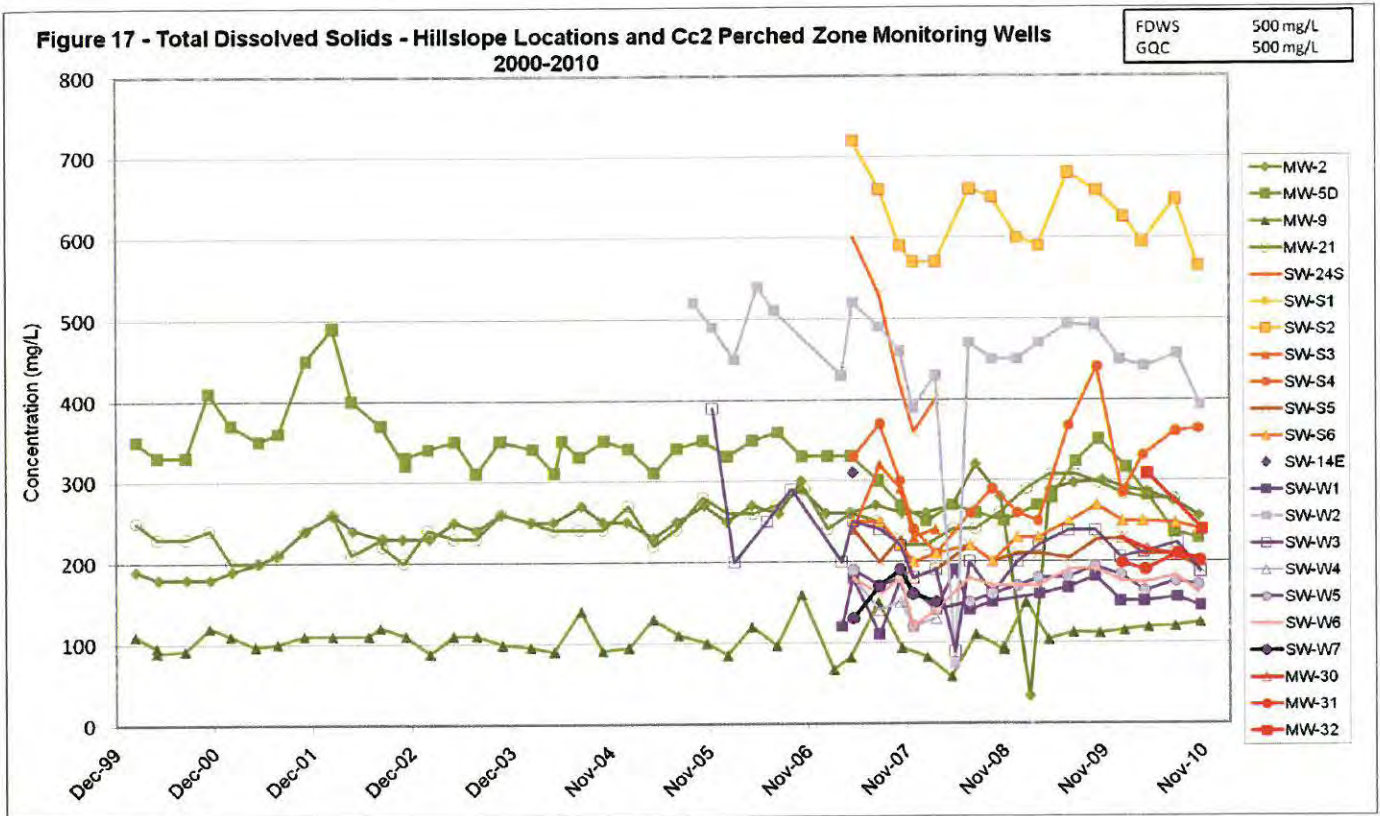




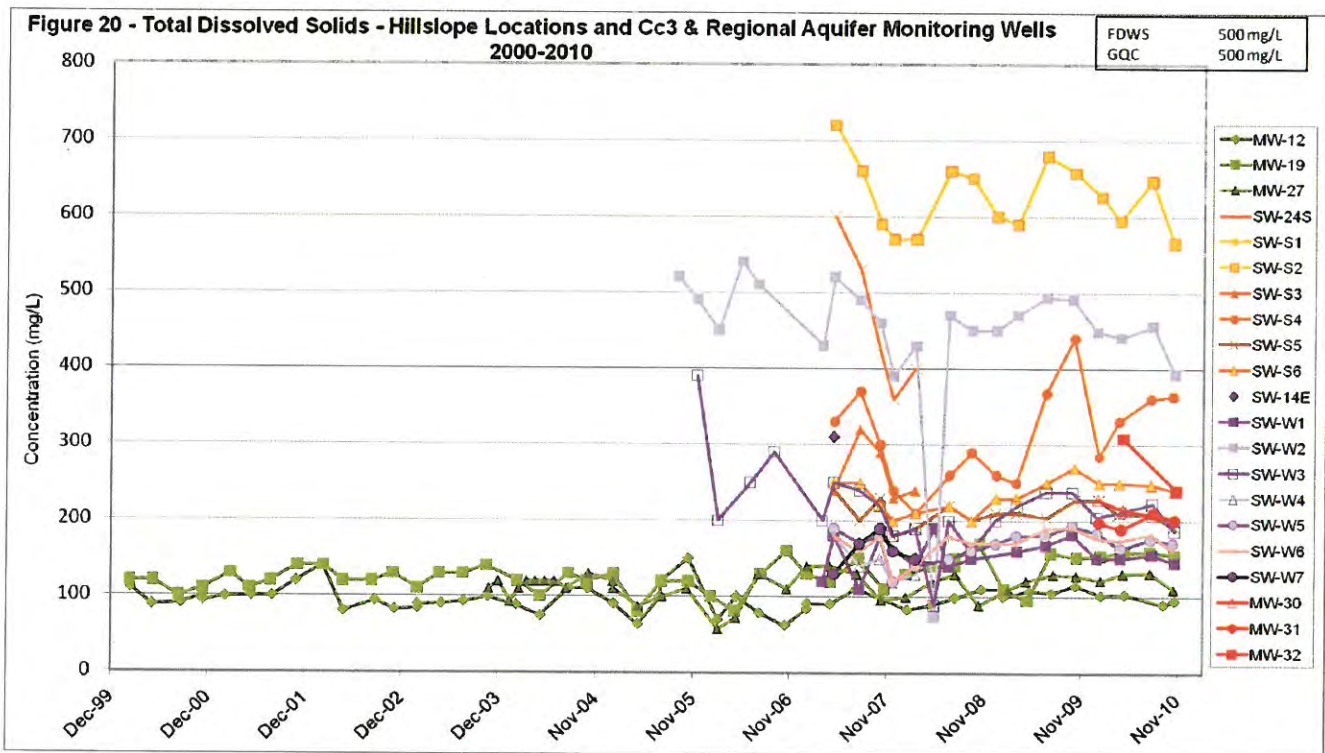
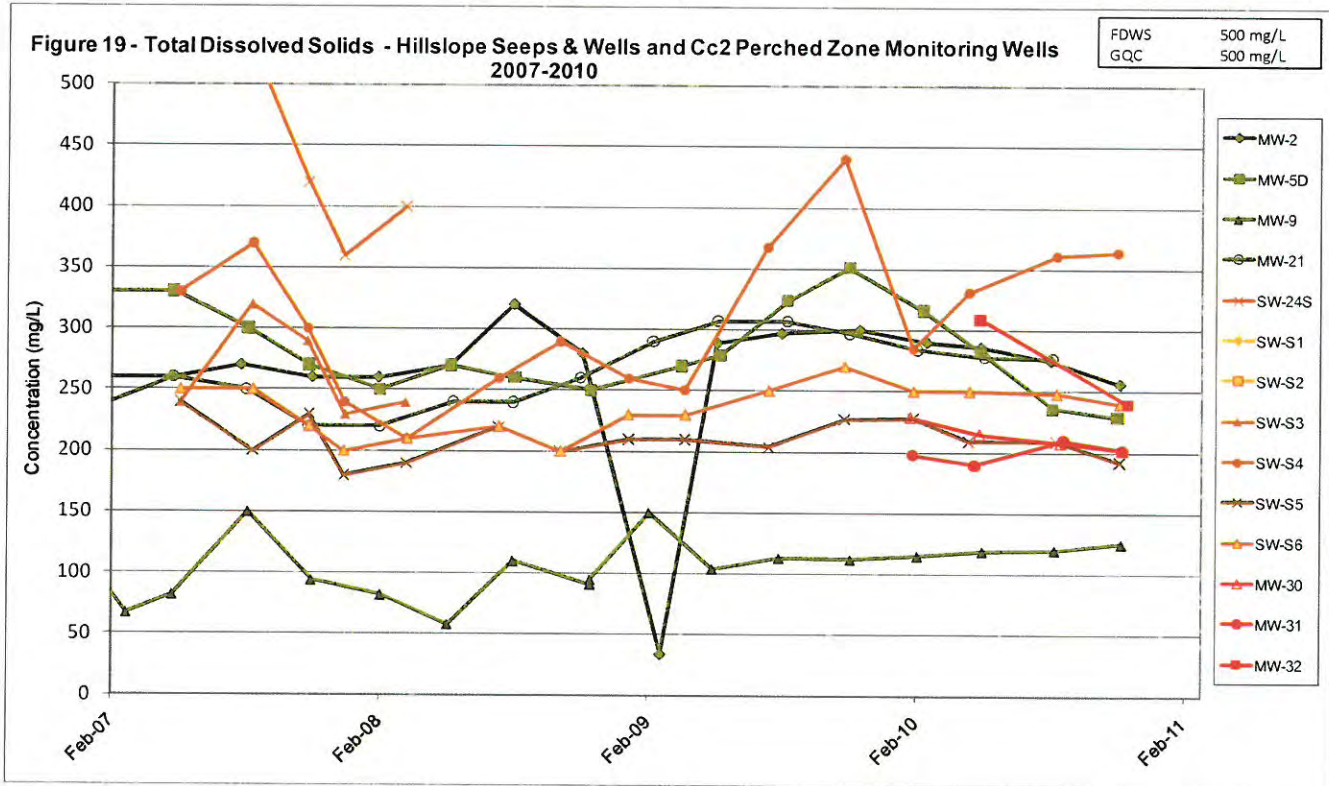




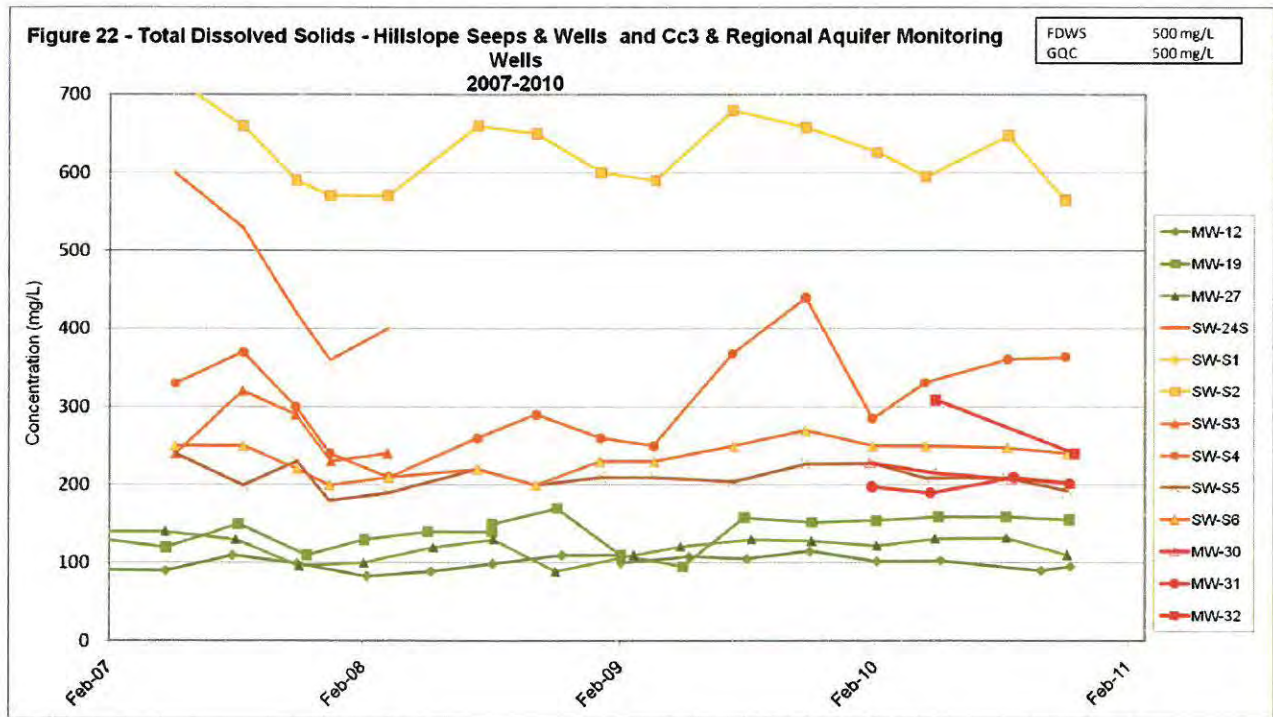
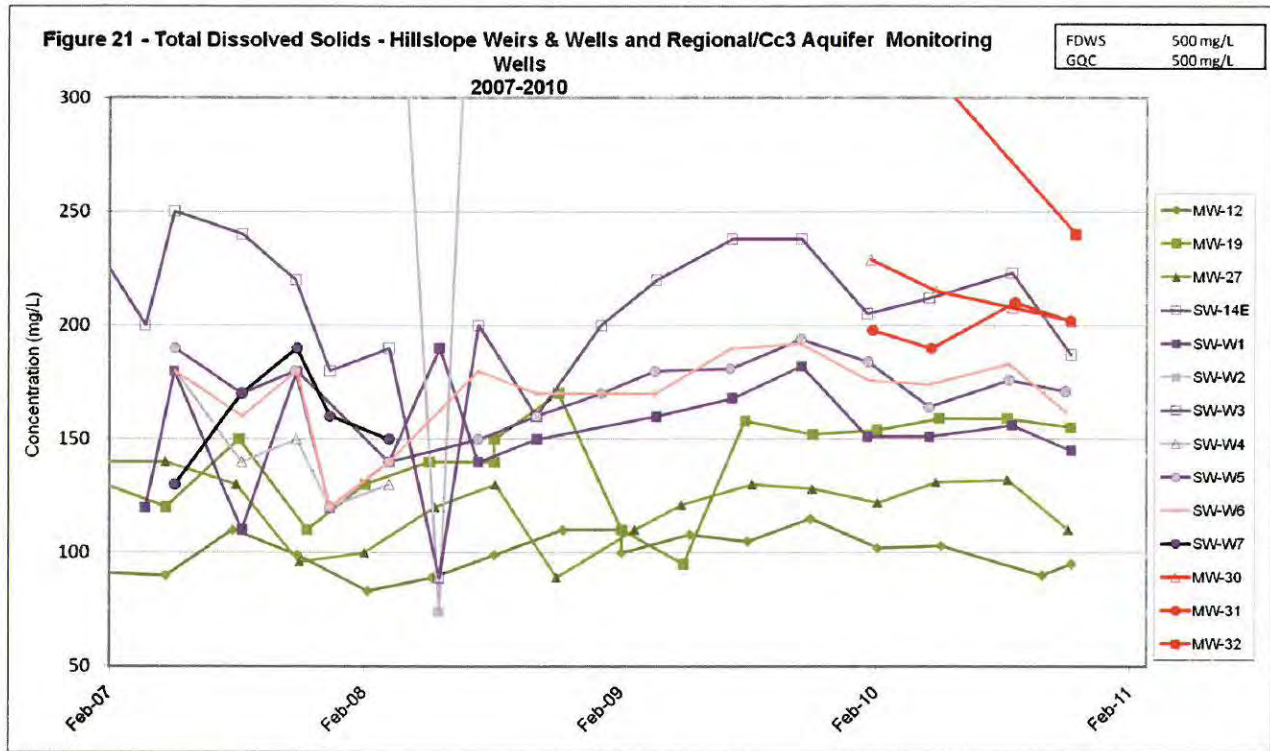




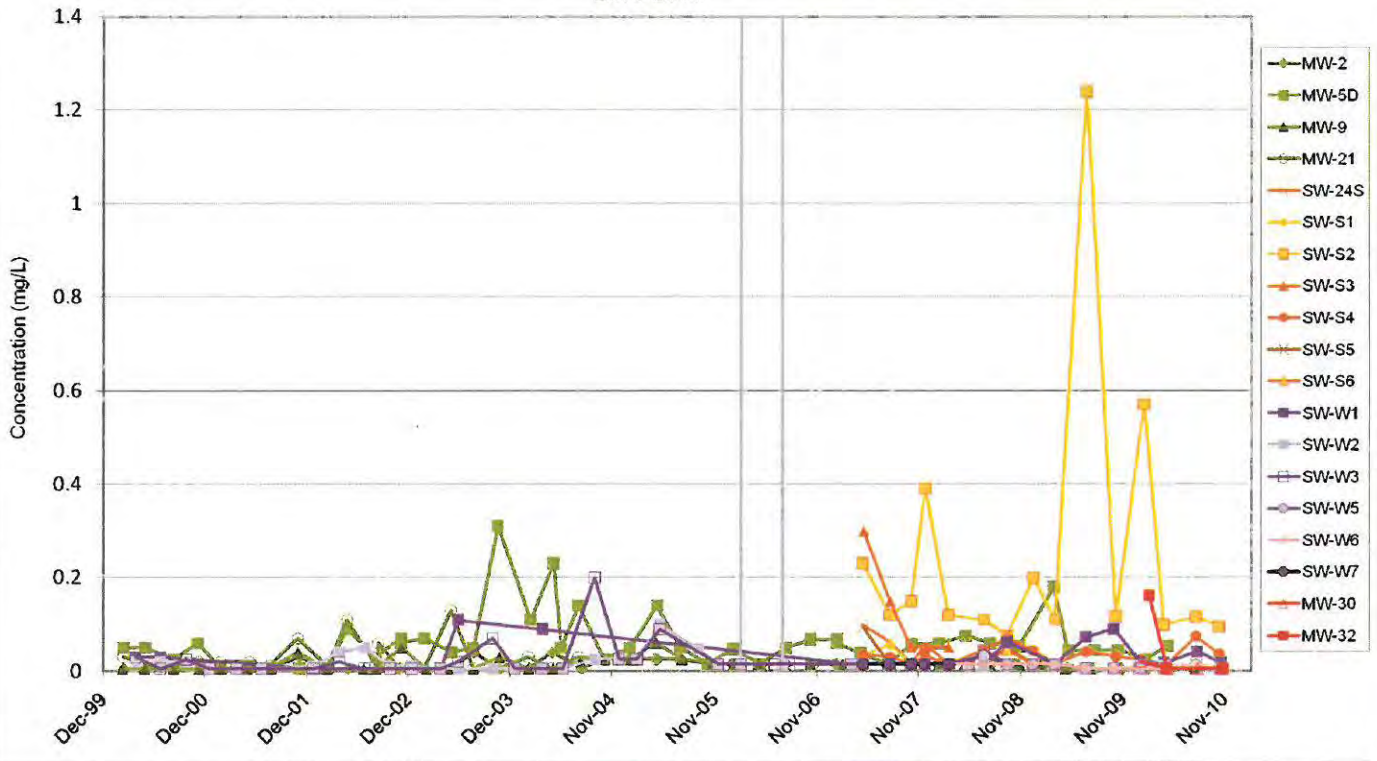
Appendix L.3 – Times Series Plots



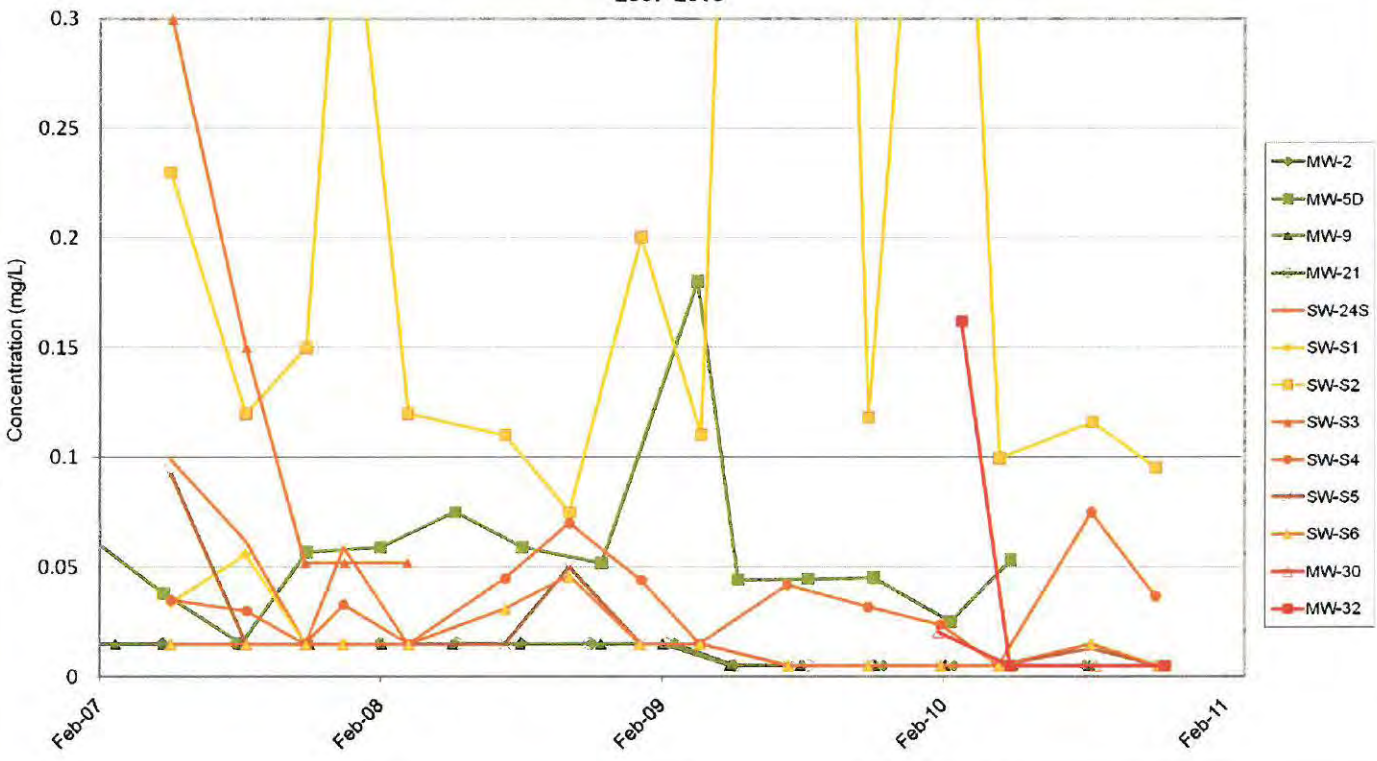


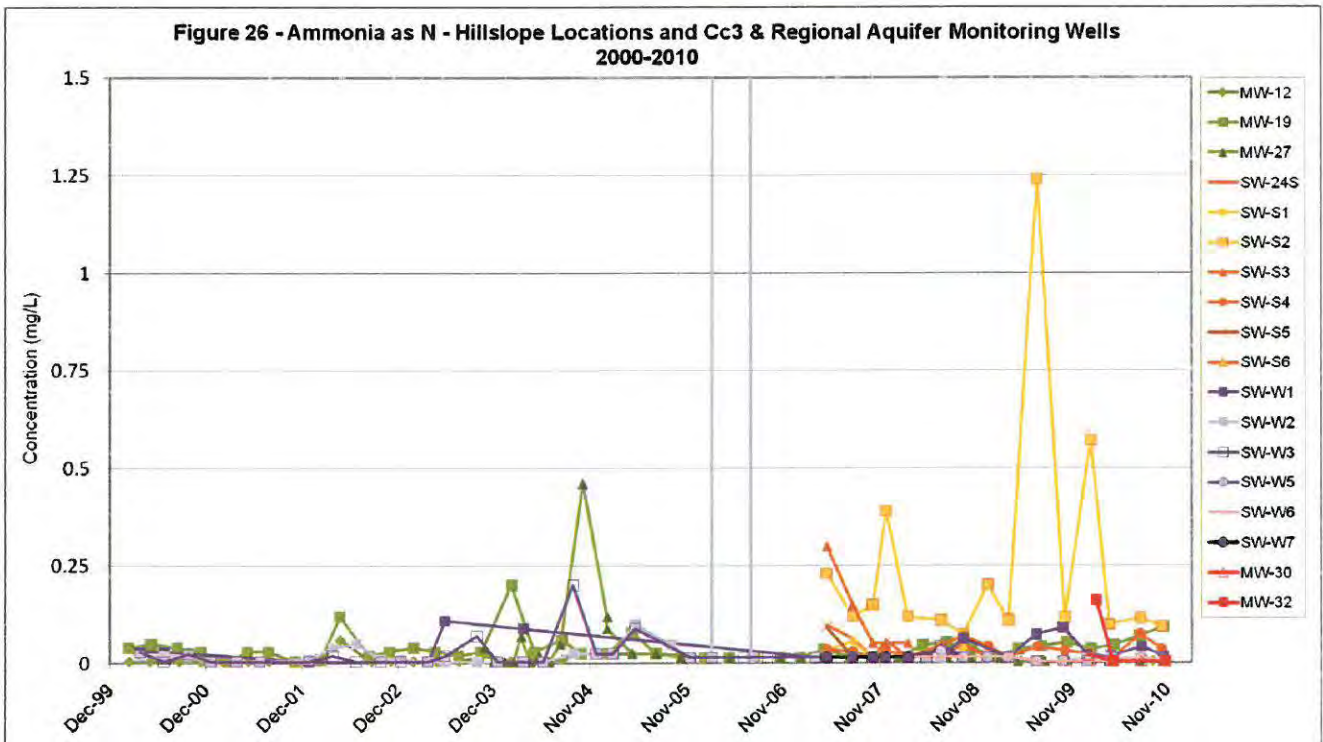
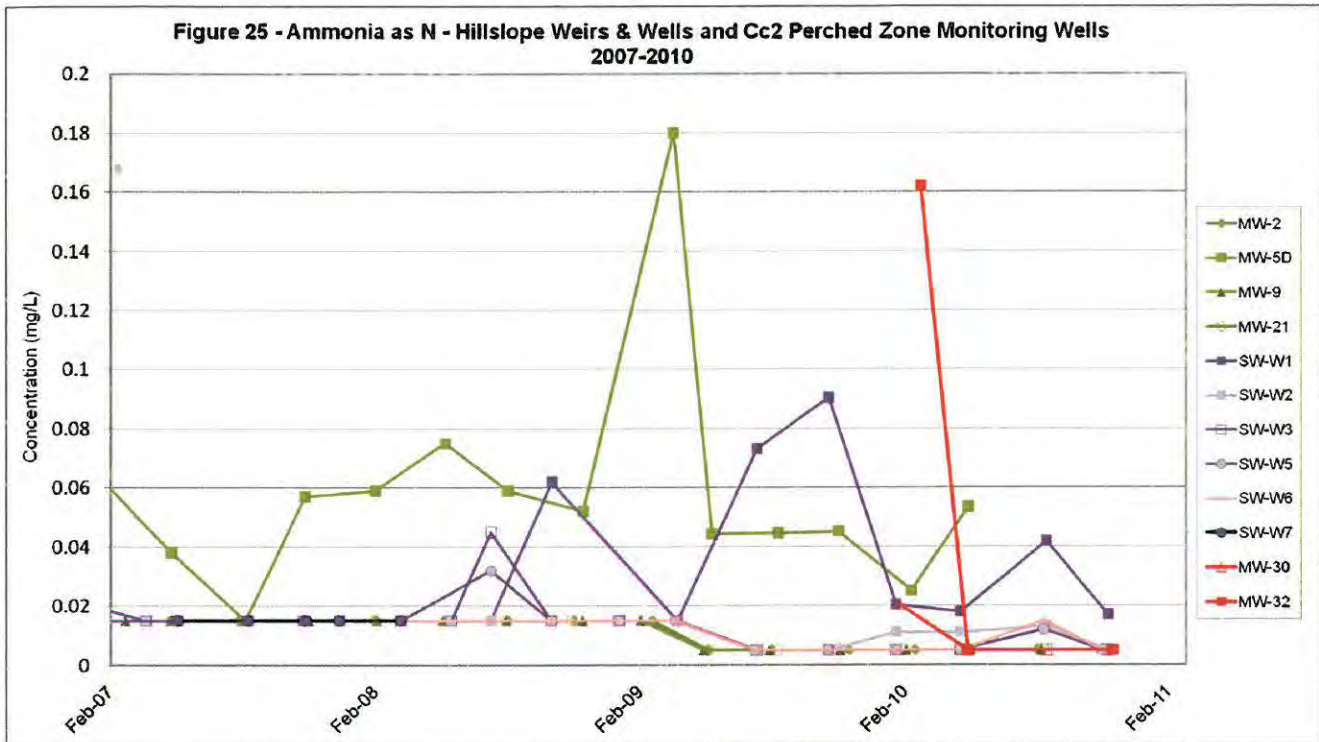


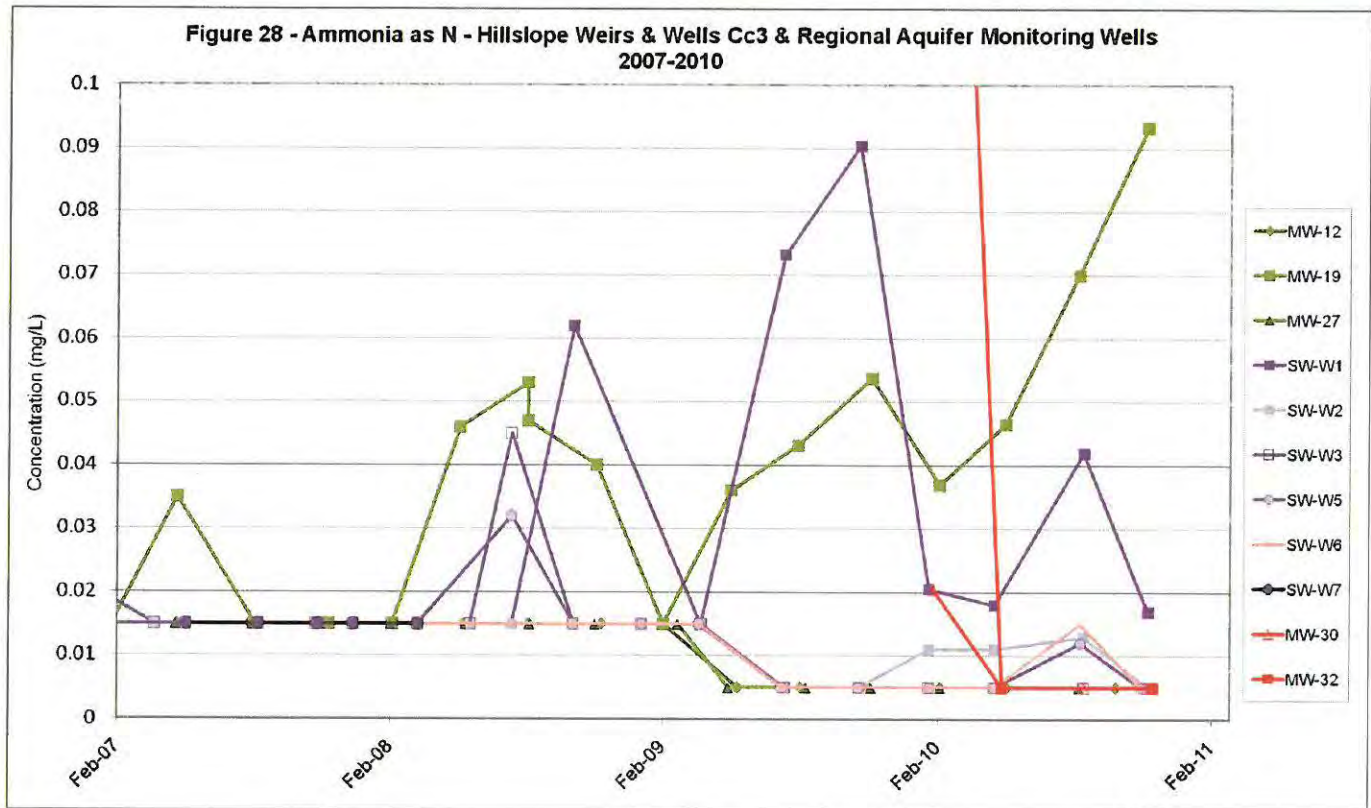
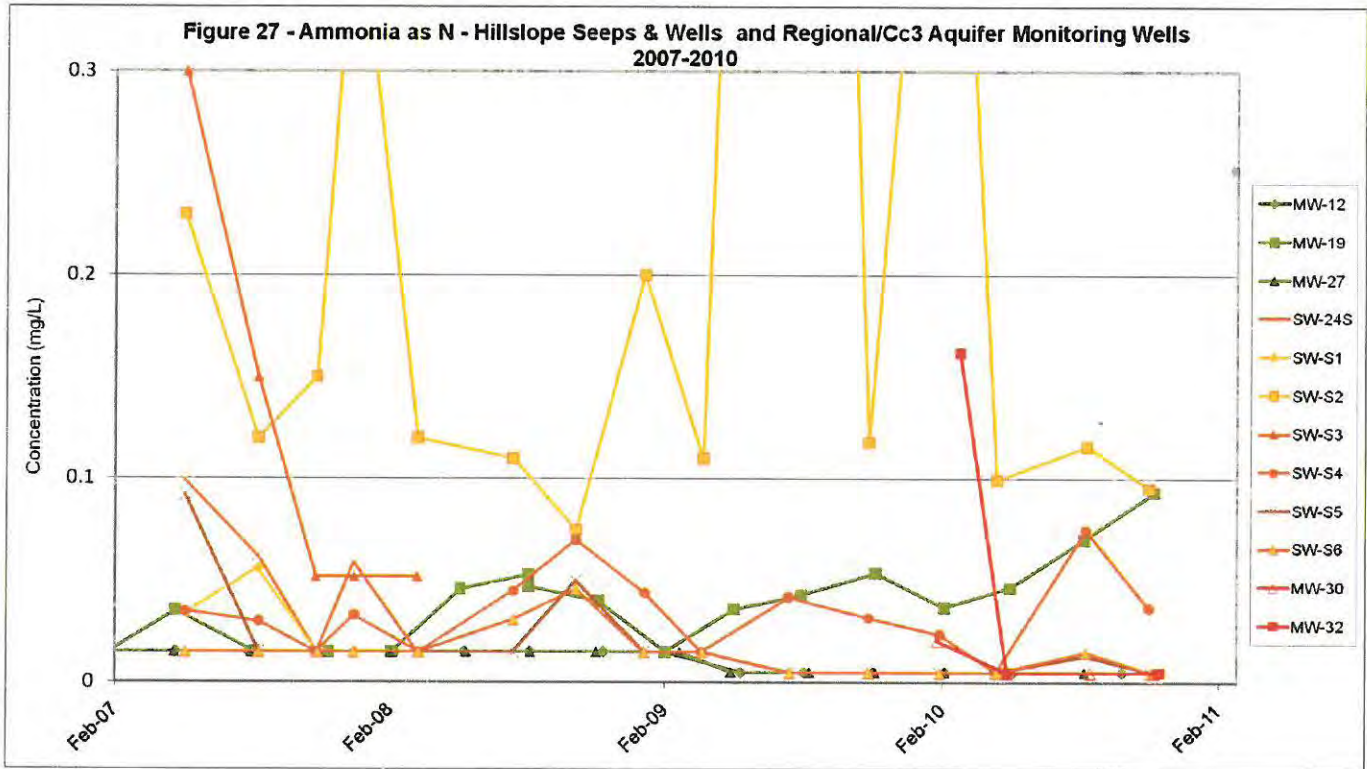
**Figure 23 - Ammonia as N - Hillslope Locations and Cc2 Perched Zone Monitoring Wells  
2000-2010**



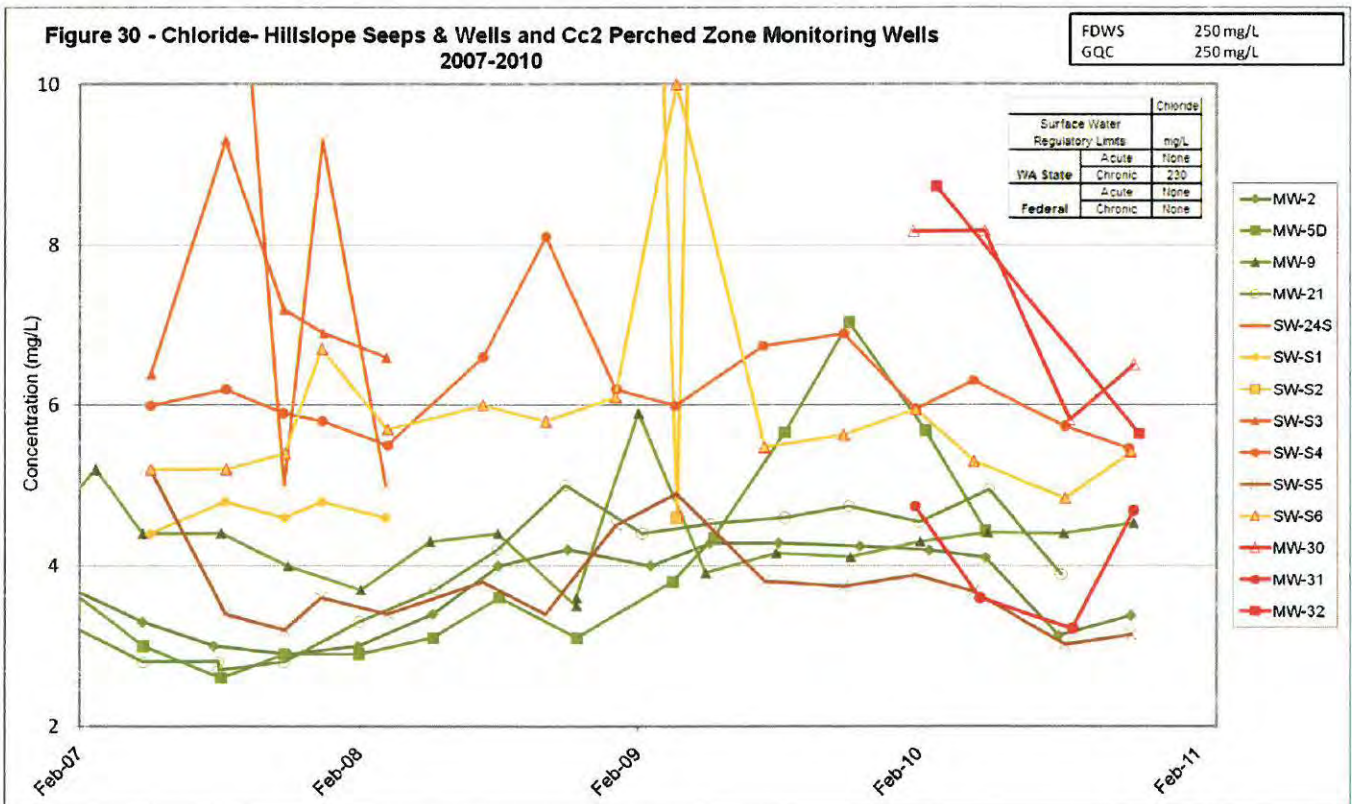
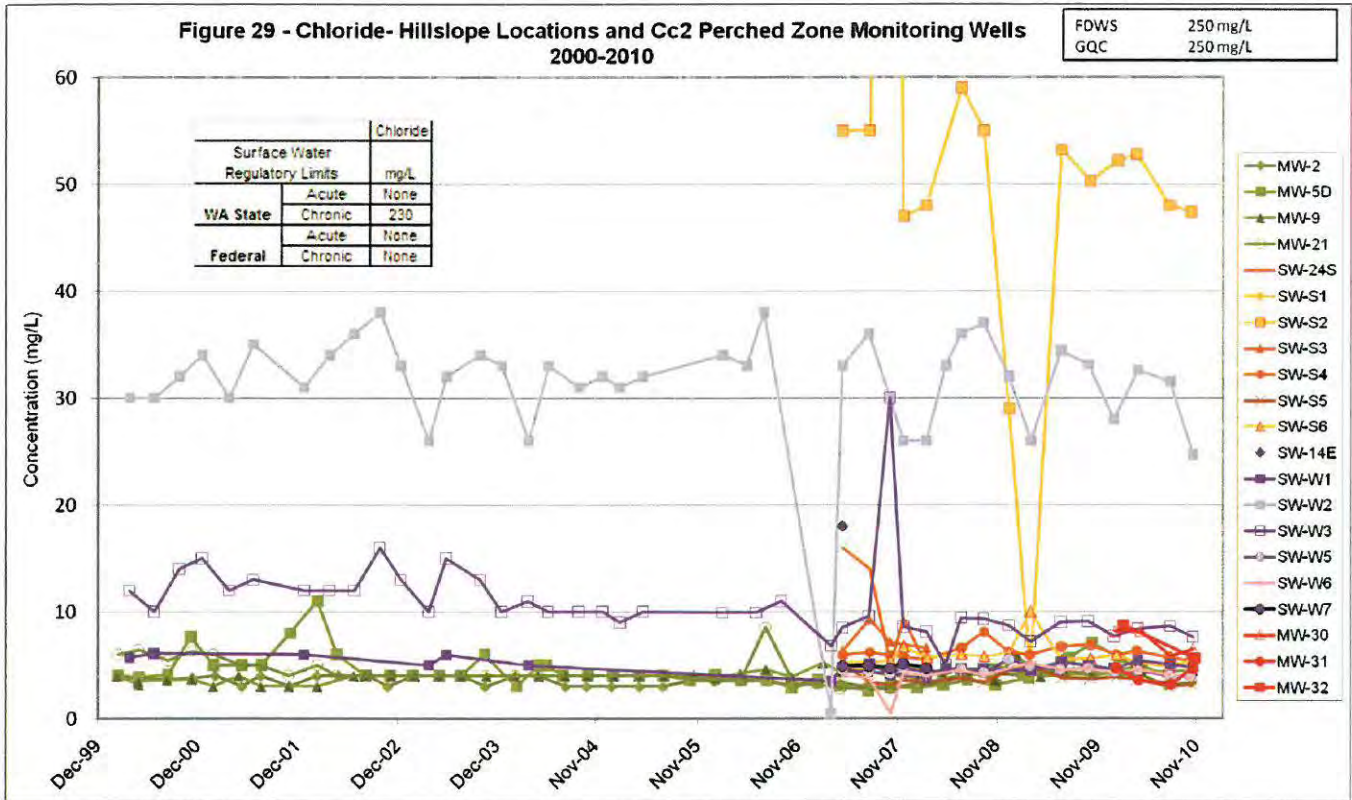
**Figure 24 - Ammonia as N - Hillslope Seeps & Wells and Cc2 Perched Zone Monitoring Wells  
2007-2010**

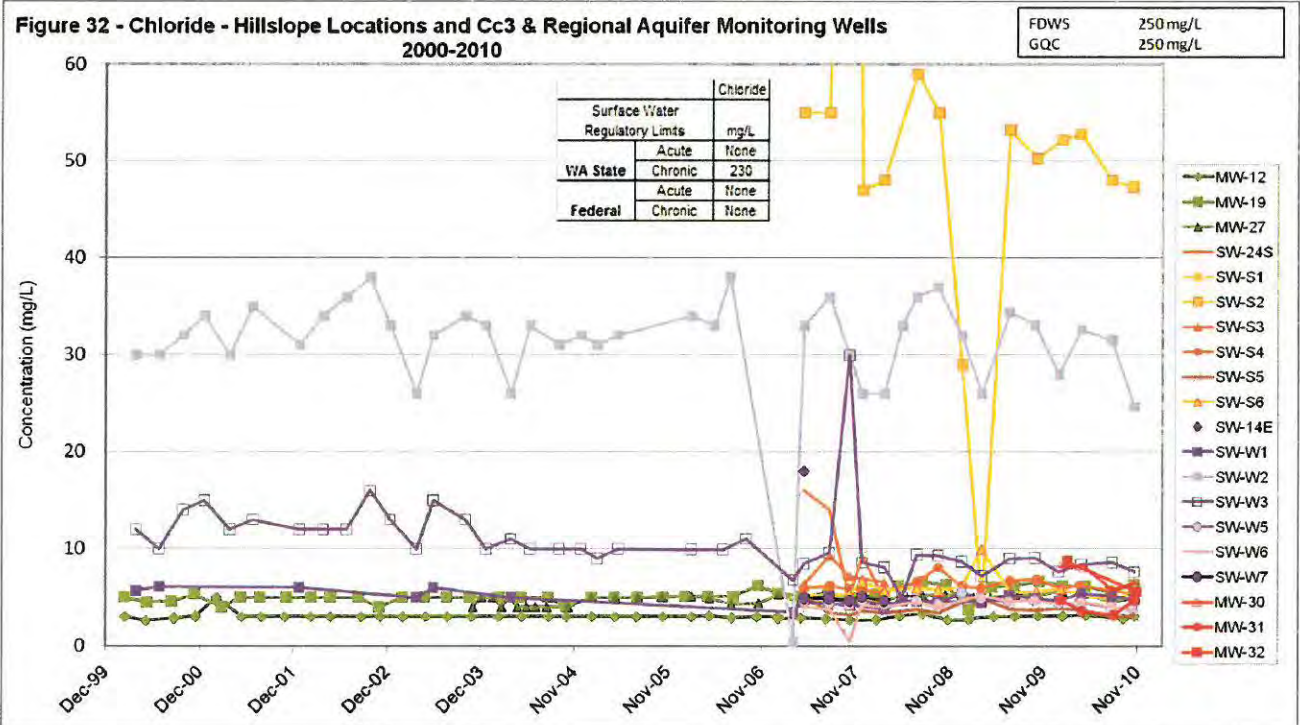
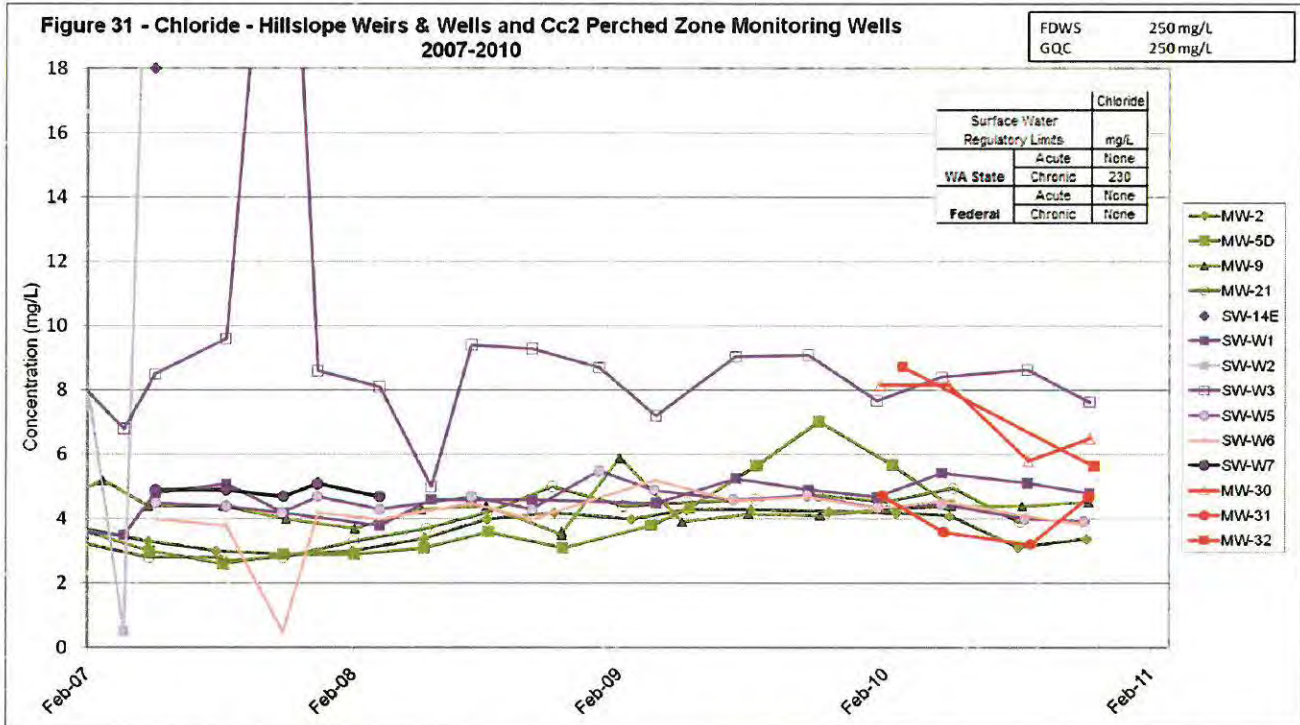


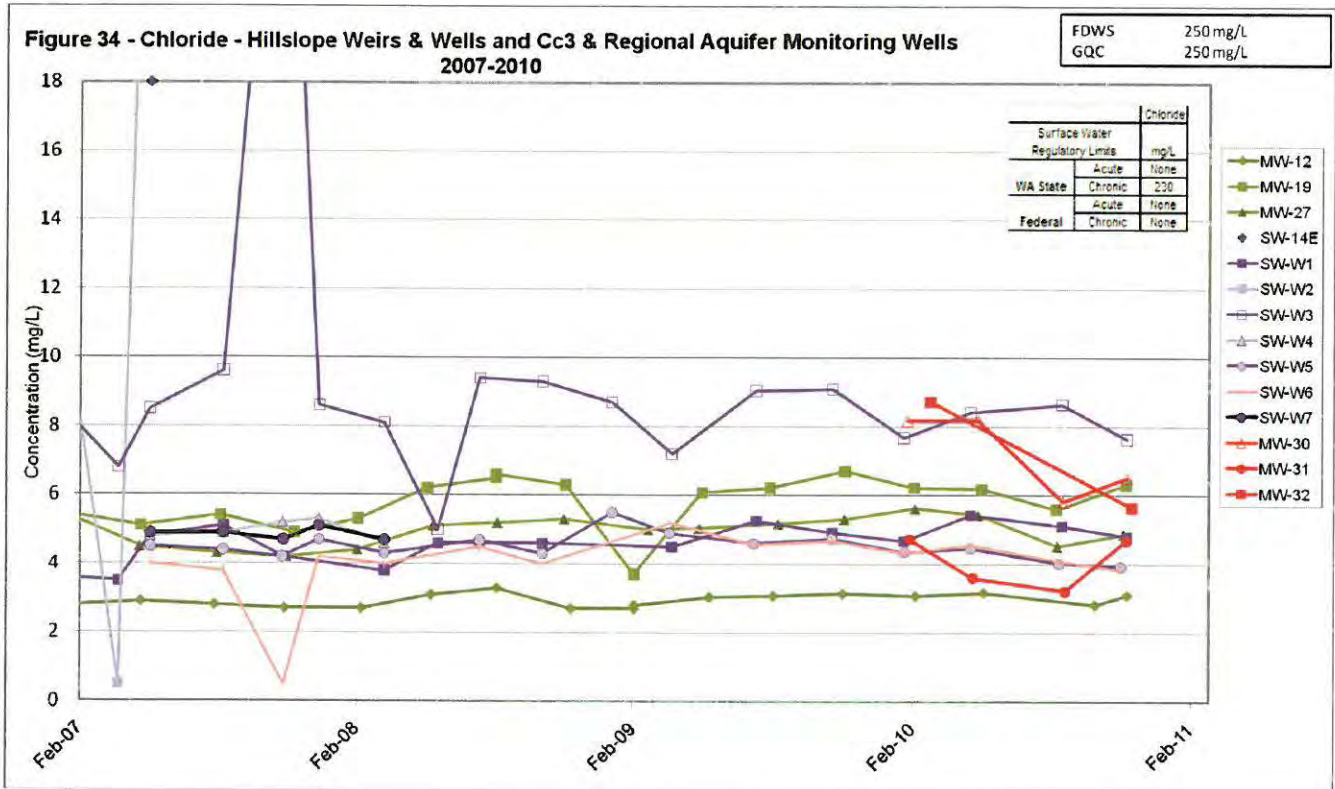
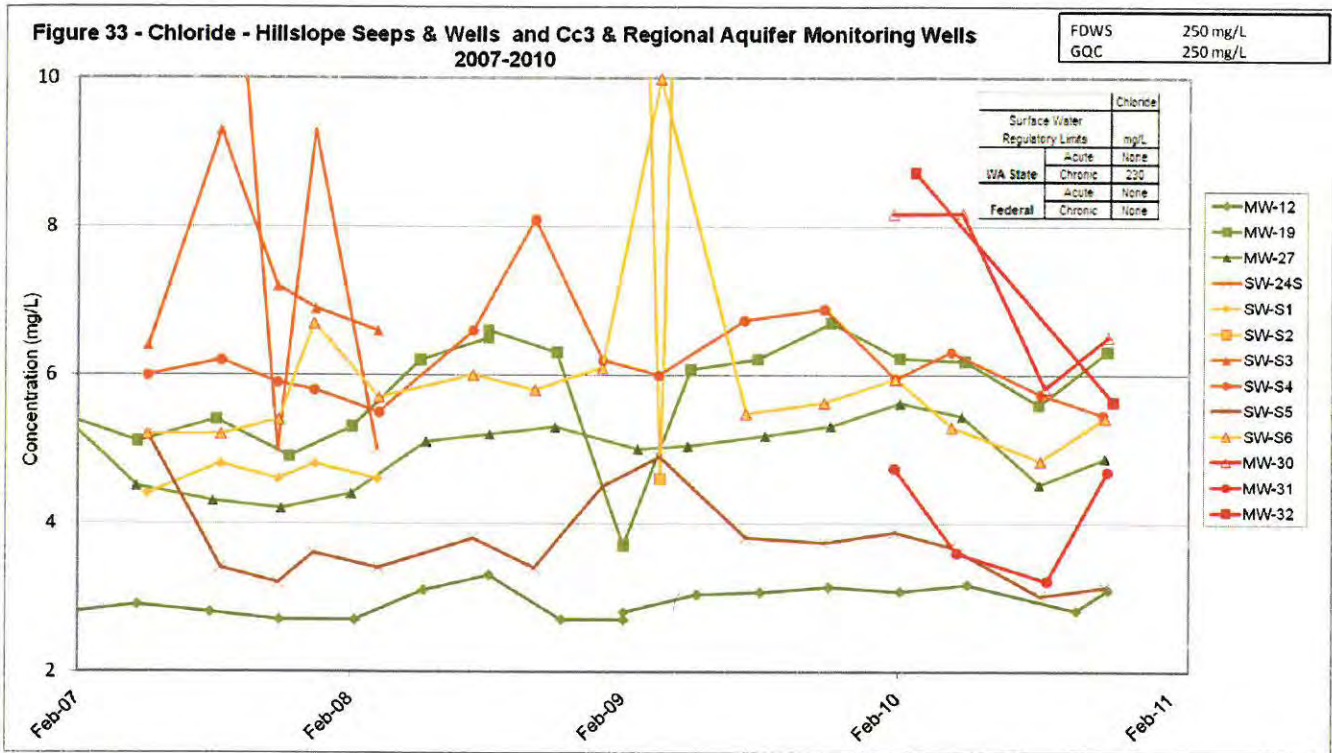


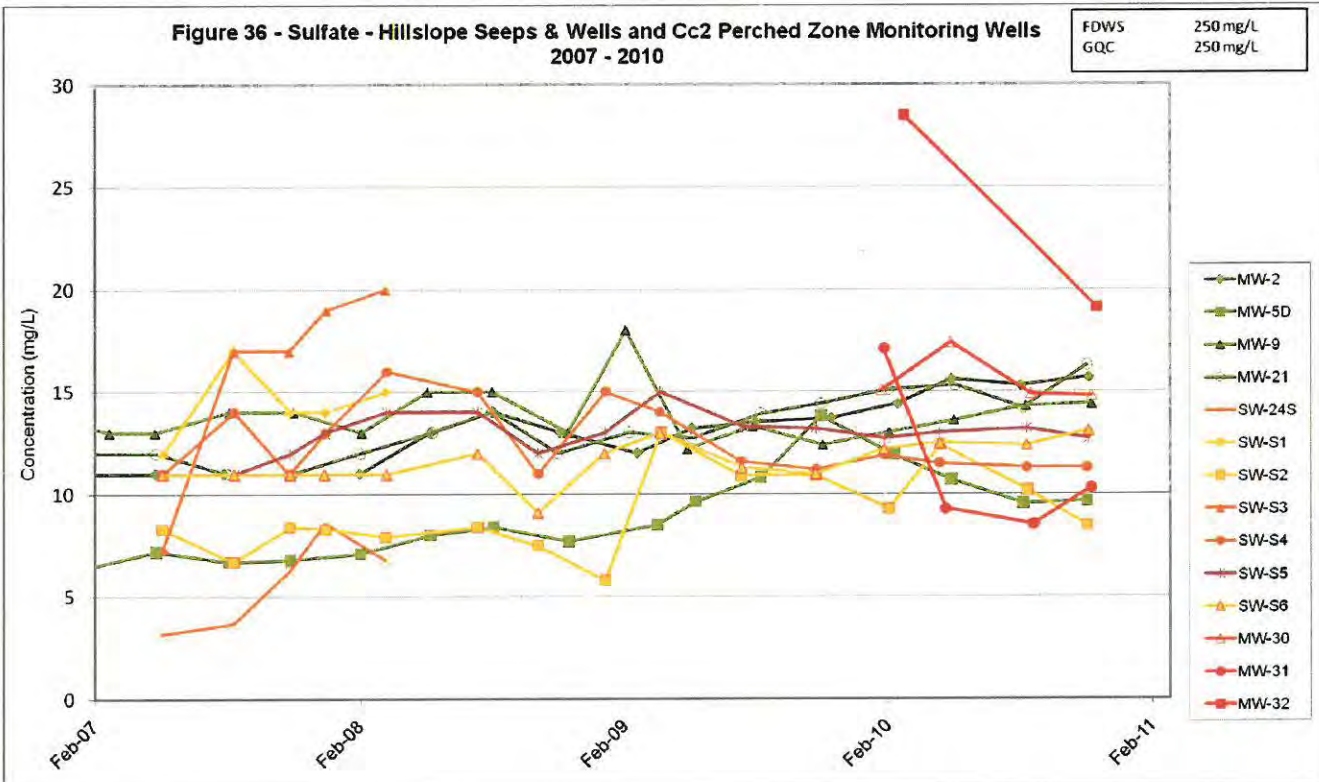
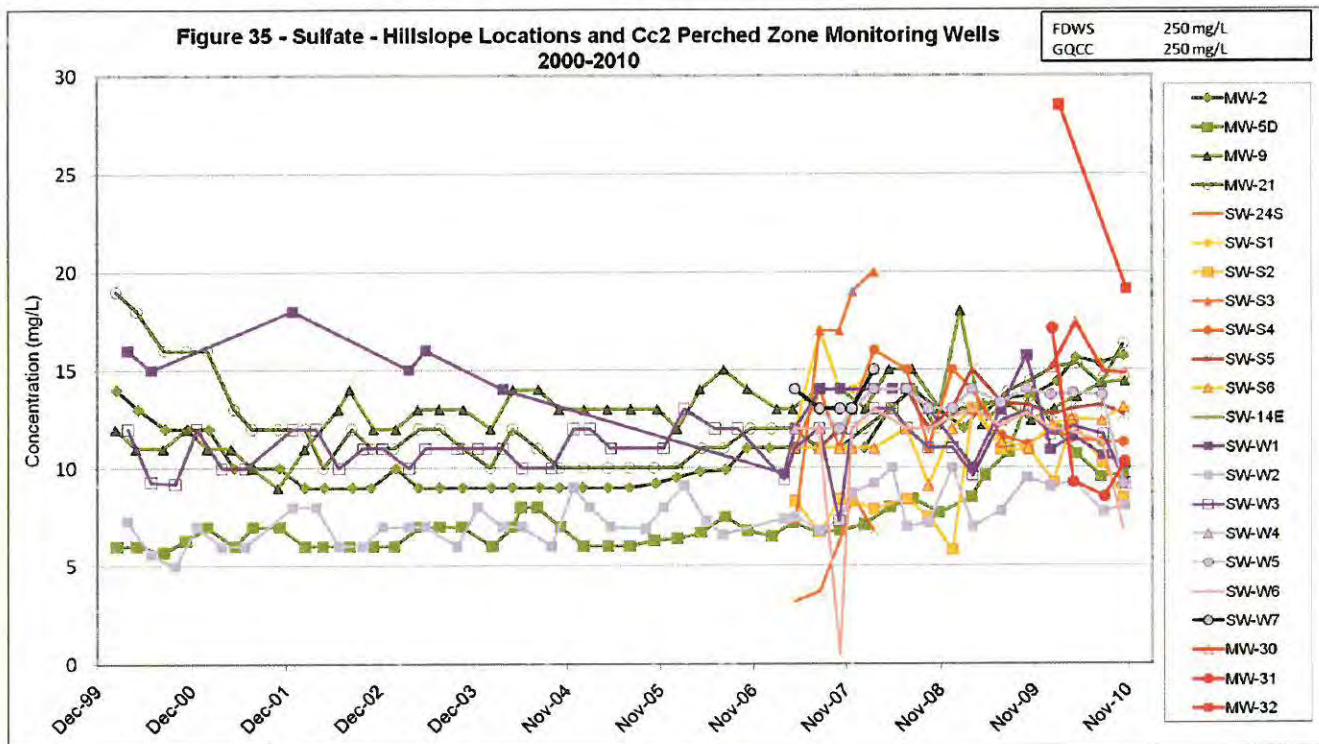


Appendix L.3 – Times Series Plots

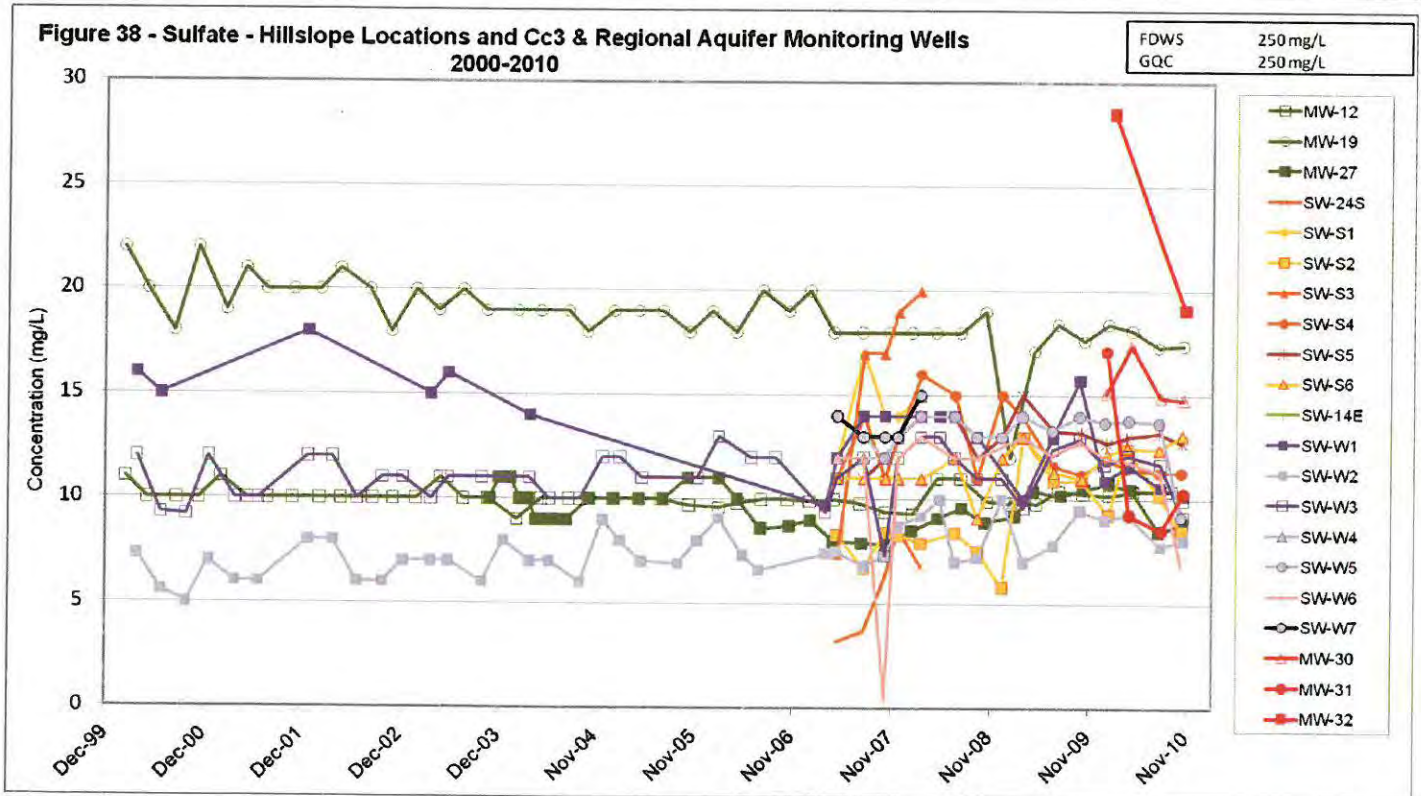
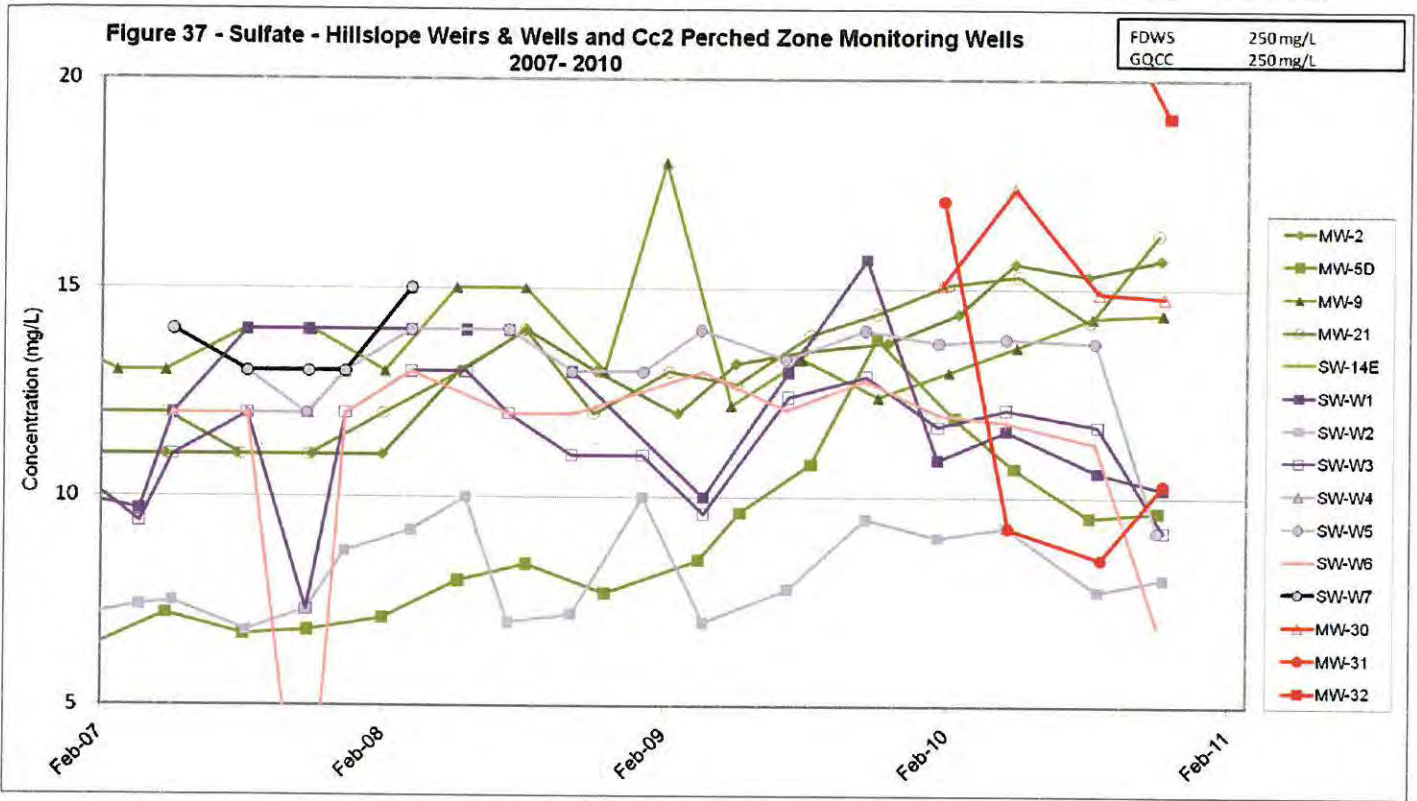


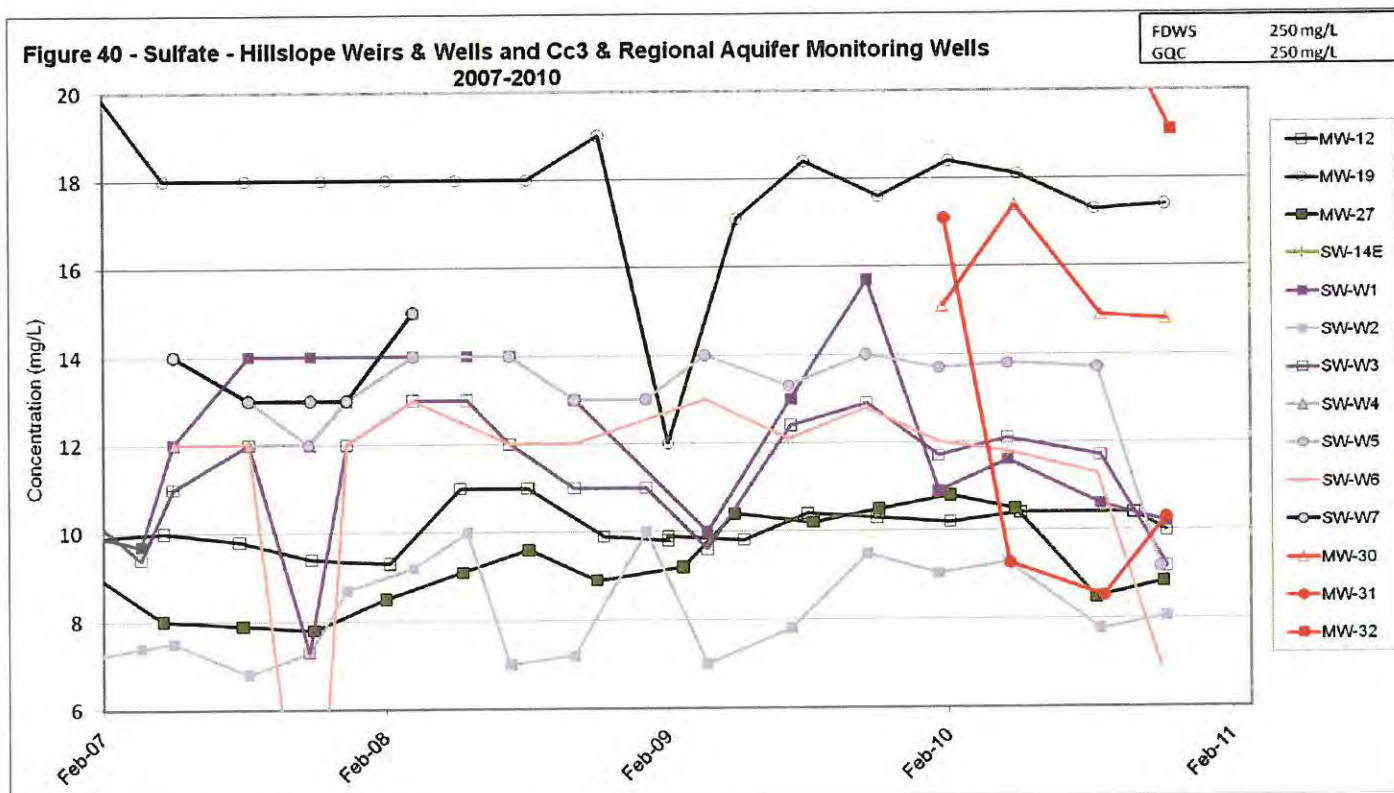
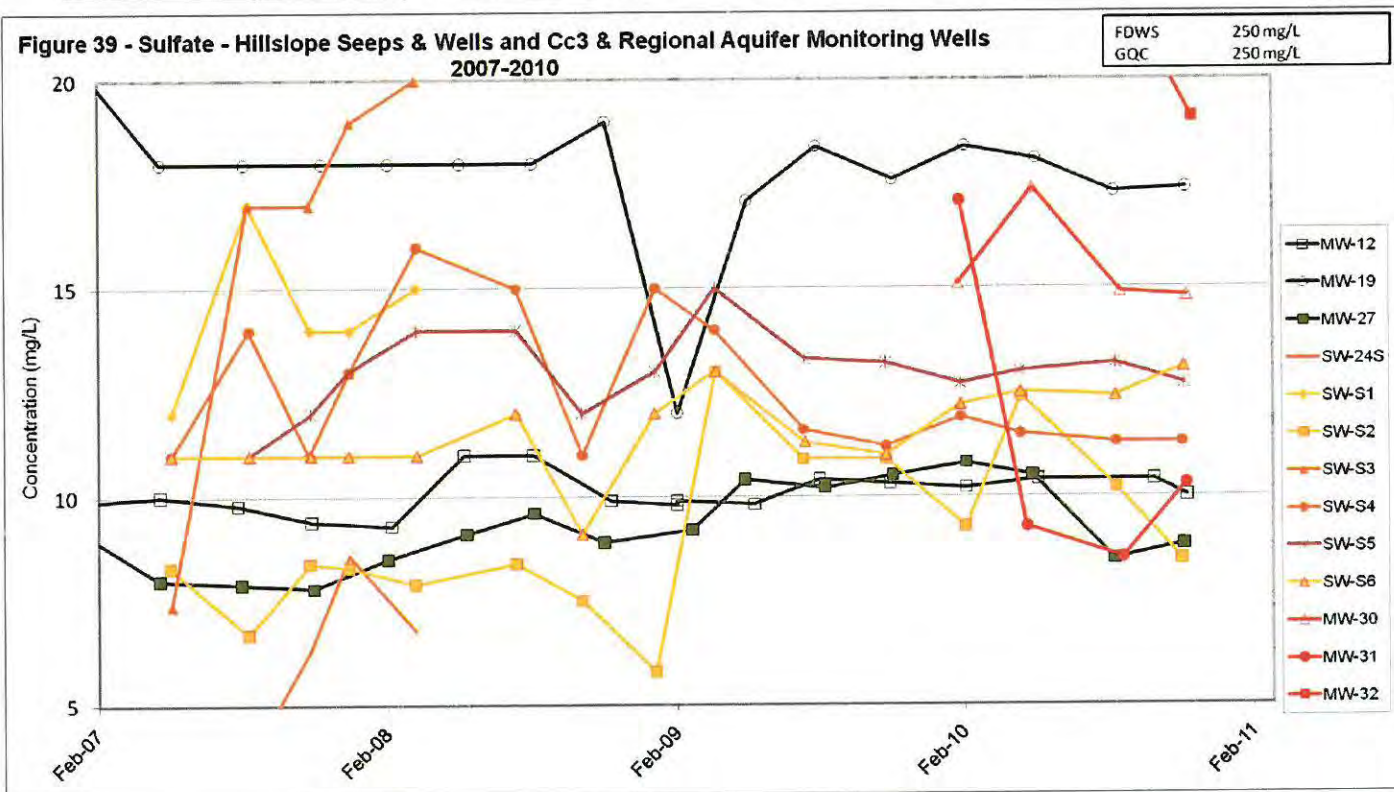




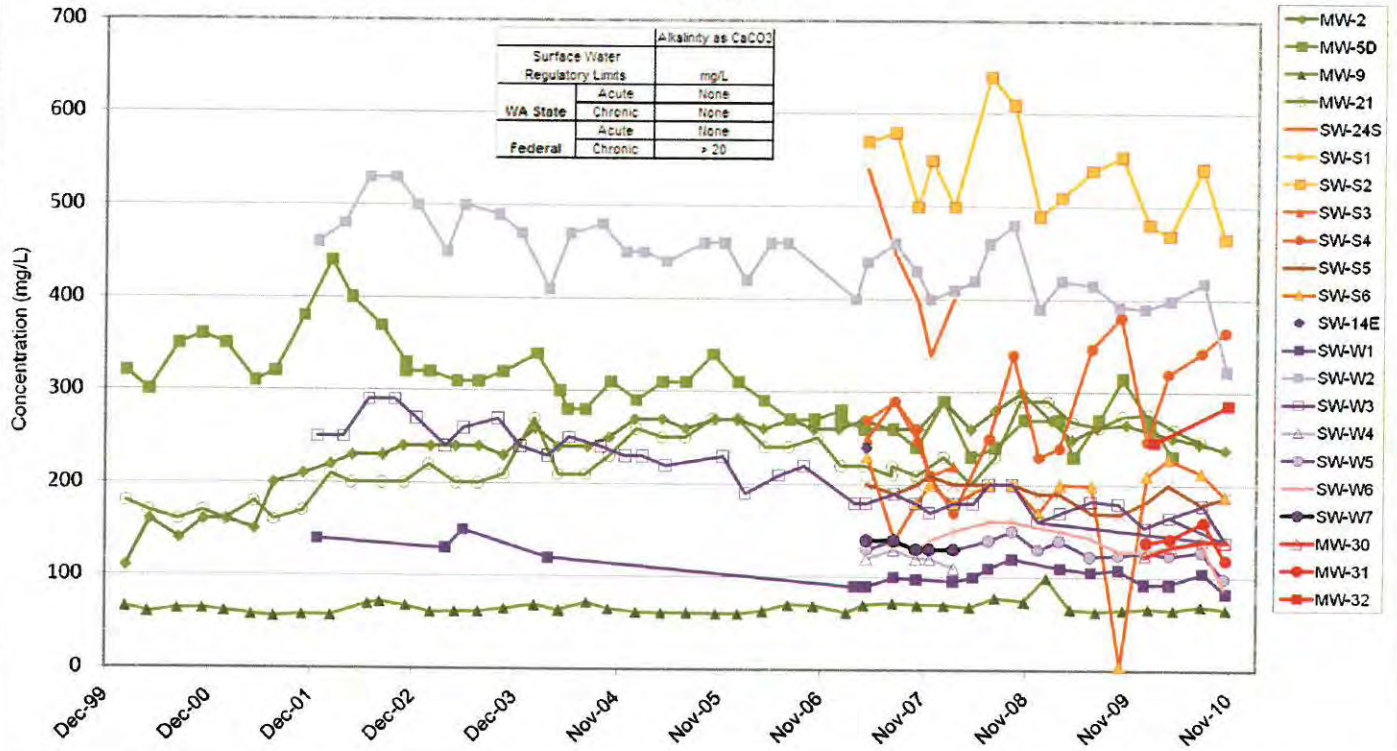




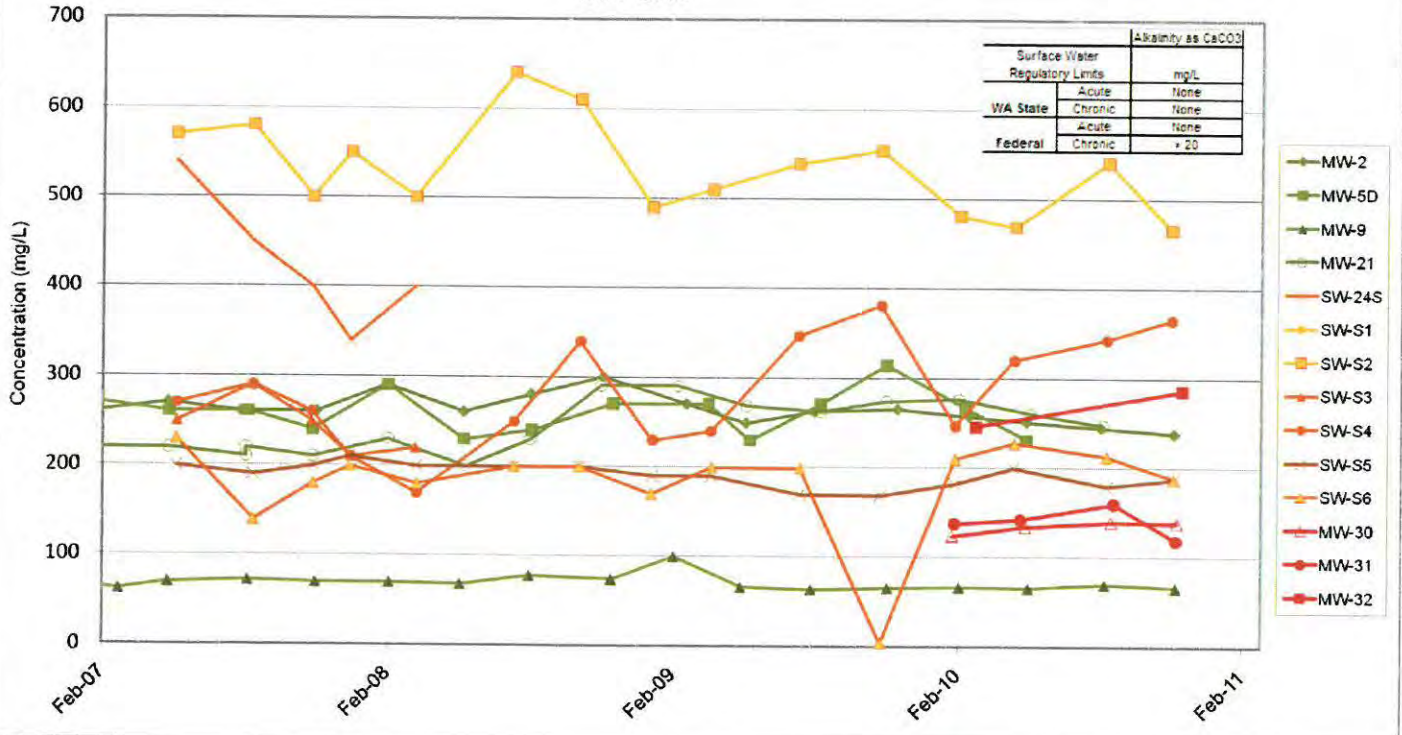


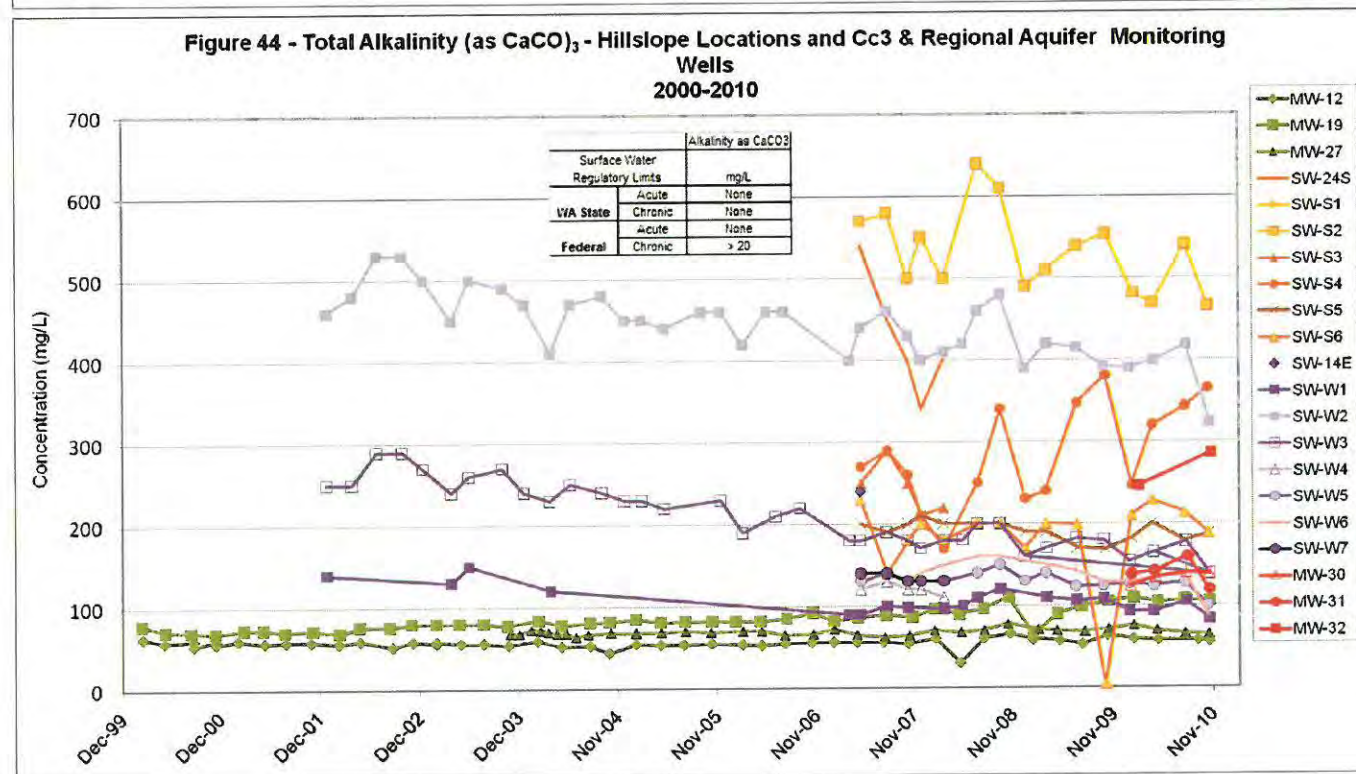
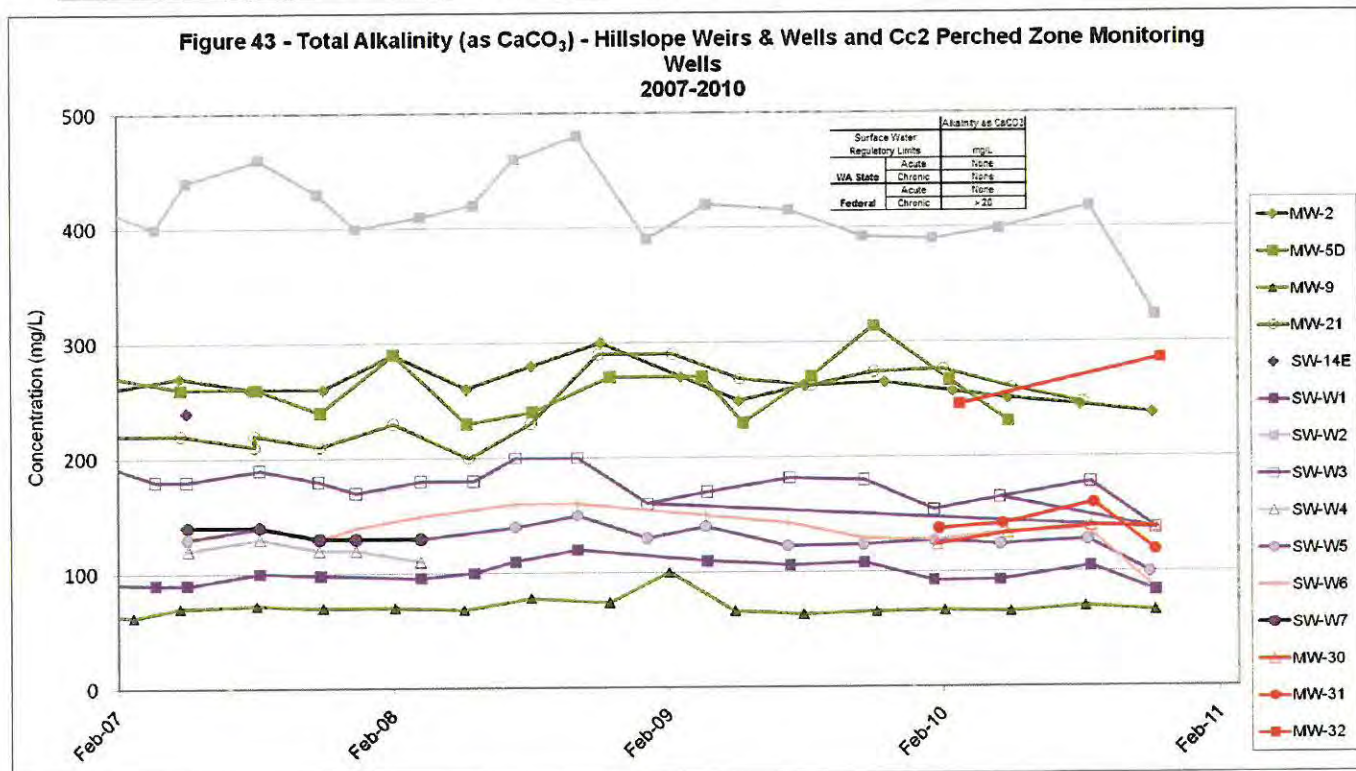


**Figure 41 - Total Alkalinity (as CaCO<sub>3</sub>) - Hillslope Locations and Cc2 Perched Zone Monitoring Wells 2000-2010**

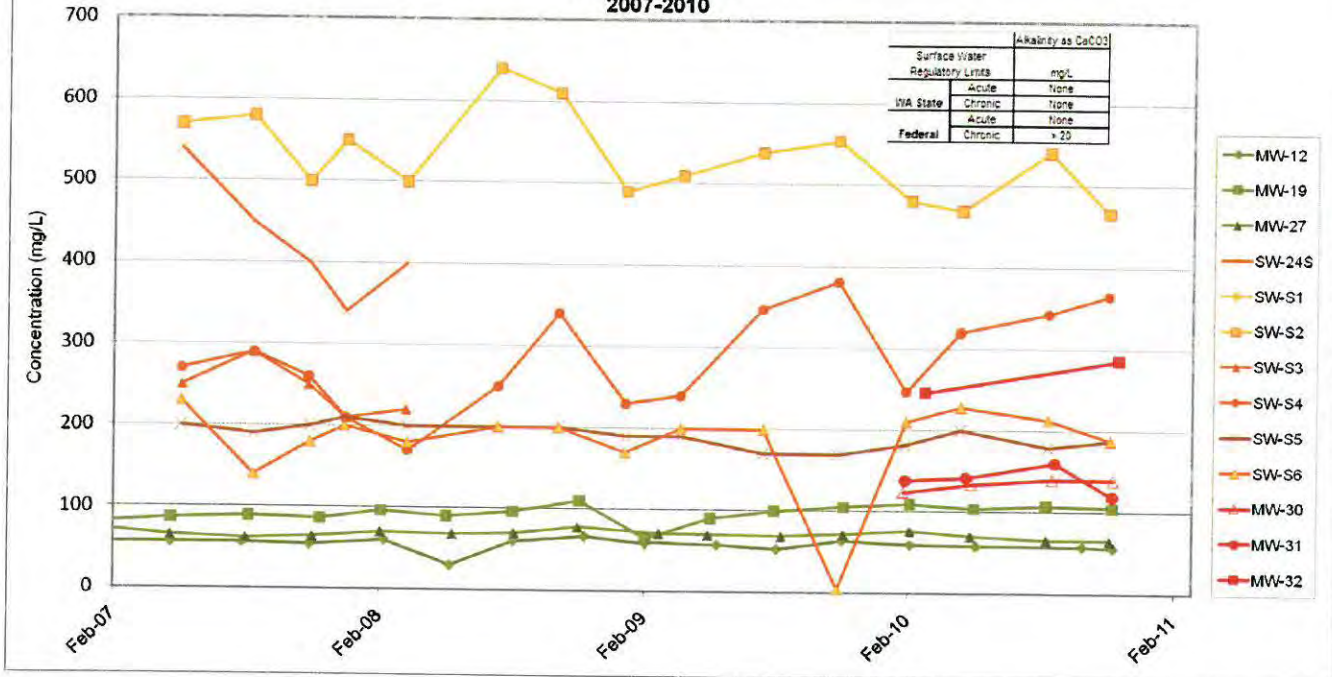


**Figure 42 - Total Alkalinity (as CaCO<sub>3</sub>) - Hillslope Seeps & Wells and Cc2 Perched Zone Monitoring Wells 2007-2010**

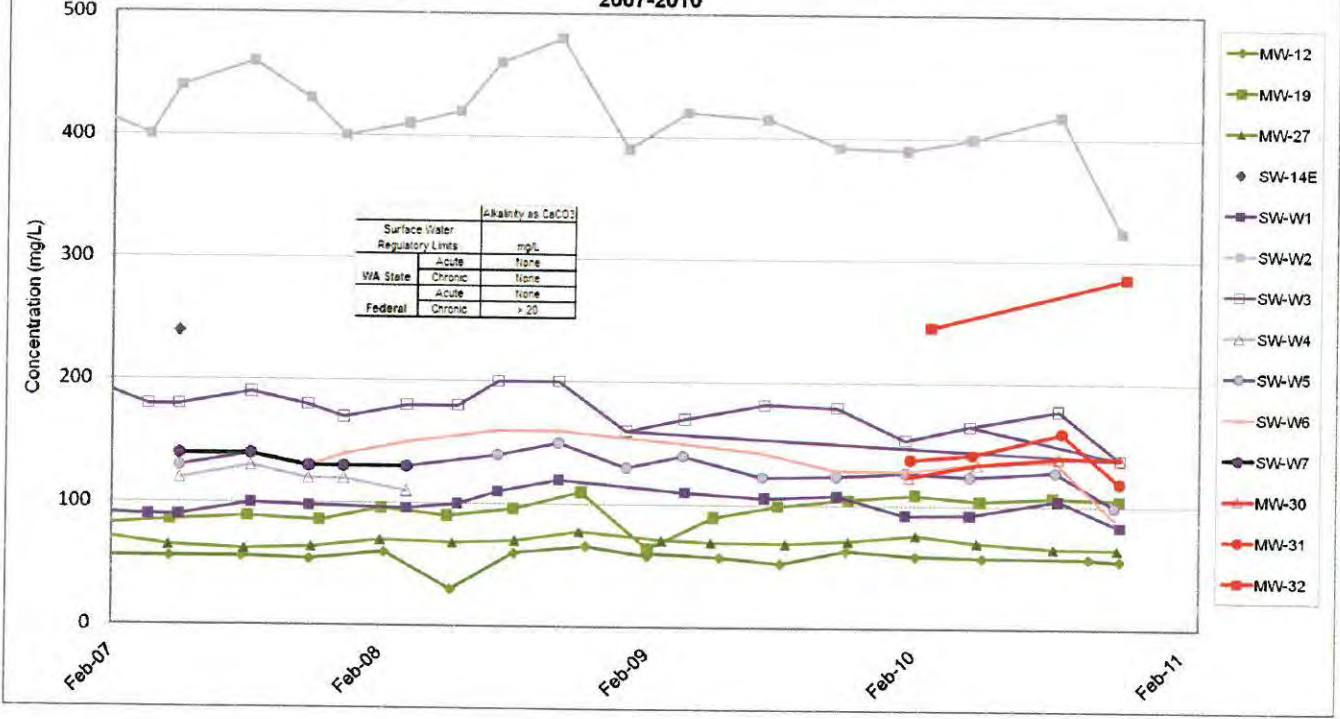




**Figure 45 - Total Alkalinity (as CaCO<sub>3</sub>) - Hillslope Seeps & Wells and Cc3 & Regional Aquifer Monitoring Wells 2007-2010**



**Figure 46 - Total Alkalinity (as CaCO<sub>3</sub>) - Hillslope Weirs & Wells and Cc3 & Regional Aquifer Monitoring Wells 2007-2010**



# **Appendix M**

## **Analytical Results**

M.1	Dissolved Metals
M.2	Volatiles
M.3	Conventionals

# **Appendix M.1**

# **Dissolved Metals**

Data collected during 2000 - 2010





Appendix M.1 Dissolved Metals in Surface Water and Groundwater

Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria (SWQC)		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
WA State	Acute	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
	Chronic	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
Federal	Acute	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
	Chronic	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
SW-S6	5/10/2007		< 0.001 U	< 0.001 U	0.015	< 0.002 U	32	< 0.005 U	< 0.002 U	0.091	< 0.001 U	27	0.0027	0.000159	< 0.01 U	1.9	< 0.001 U	< 0.003 U	9.3		< 0.002 U	0.018	
	8/16/2007		< 0.001 U	< 0.001 U	0.013	< 0.002 U	28	< 0.005 U	< 0.002 U	0.081	< 0.001 U	25	0.018	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	8.7		< 0.002 U	0.035	
	11/1/2007		< 0.001 U	< 0.001 U	0.014	< 0.002 U	26	< 0.005 U	< 0.002 U	0.33 B	< 0.001 U	24	0.056	< 0.00014 U	< 0.01 U	1.6	< 0.001 U	< 0.003 U	8.7		< 0.002 U	0.025	
	12/18/2007		< 0.001 U	< 0.001 U	0.015	< 0.002 U	27	< 0.005 U	< 0.002 U	0.51	< 0.001 U	25	0.089	< 0.0001 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	9.3		0.0026	0.024	
	3/13/2008		< 0.001 U	< 0.001 U	0.011	< 0.002 U	26	< 0.005 U	< 0.002 U	0.067	< 0.001 U	24	0.0041	< 0.0001 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	8.7		< 0.002 U	0.0065	
	7/16/2008		< 0.0009 U	< 0.0009 U	0.013	< 0.0018 U	26	< 0.0045 U	< 0.0018 U	0.13	< 0.0009 U	24	0.053	< 0.0001 U	< 0.009 U	1.9	< 0.0009 U	< 0.0027 U	9.3		< 0.0018 U	0.021	
	10/7/2008		< 0.001 U	< 0.001 U	0.012	< 0.002 U	28	< 0.005 U	< 0.002 U	0.11 B	< 0.001 U	26	0.0069 B	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	9.3		< 0.002 U	0.014	
	1/6/2009	< 0.02 U		0.0015	0.0063	< 0.002 U	18		< 0.002 U	0.057		20	0.0058 B	< 0.0001 U		2.1			7.3				
	1/7/2009		< 0.001 U	< 0.001 U	0.012	< 0.002 U	26	< 0.005 U	< 0.002 U	0.092	< 0.001 U	25	0.0027 B	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	8.1		< 0.002 U	0.019	
	3/24/2009		< 0.001 U	< 0.001 U	0.013	< 0.002 U	27	< 0.005 U	< 0.002 U	0.084	< 0.001 U	29	0.0034	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	9.6		< 0.002 U	< 0.004 U	
	7/16/2009		< 0.001 U	< 0.001 U	0.0141	< 0.002 U	31.4	< 0.005 U	< 0.002 U	0.023 T	< 0.001 U	29.4	0.00383	< 0.0001 U	< 0.01 U	2.51	< 0.001 U	< 0.003 U	10.2		< 0.002 U	0.0134	
	10/27/2009		< 0.001 U	< 0.001 U	0.0146	< 0.002 U	32.3	< 0.005 U	< 0.002 U	0.012 T	< 0.001 U	34.2	0.00291	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	11.4		< 0.002 U	0.0069	
	1/29/2010	< 0.02 U	< 0.001 DU	< 0.001 U	0.0131 D	< 0.002 U	30.7	< 0.005 DU	< 0.002 U	0.011 T	< 0.001 U	29.9 D	0.00311		< 0.01 U	2.22 D	< 0.001 U	< 0.003 U	10.2	< 0.01 U	< 0.002 DU	0.00914	
	4/14/2010	< 0.02 U	< 0.001 U	< 0.001 U	0.0151	< 0.002 U	31	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	30.1	0.00685		< 0.01 U	2.16	< 0.001 U	< 0.003 DU	10.1	< 0.01 U	< 0.002 U	0.0744	
	8/11/2010	< 0.02 U	< 0.001 U	< 0.001 U	0.014	< 0.002 U	30.3	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	31.1	0.00268		< 0.01 U	2.27	< 0.001 U	< 0.003 U	11.1	< 0.01 U	< 0.002 U	0.00775	
	11/5/2010	< 0.02 DU	< 0.001 U	< 0.001 U	0.0142	< 0.002 U	29.4 D	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	29.7	0.00231 D		< 0.01 U	2.22	< 0.001 U	< 0.003 U	10.3	< 0.01 U	< 0.002 U	0.011	
SW-14E	5/9/2007	0.044		0.0023	0.0022	< 0.002 U	37		< 0.002 U	0.15		30	0.087	< 0.0001 U		2.5		10					
SW-W1	3/28/2007	< 0.02 U	< 0.001 U	0.0014	< 0.001 U	< 0.002 U	16	< 0.005 U	< 0.002 U	0.18 B	< 0.001 U	12	0.067	< 0.0001 U	< 0.01 U	0.88	< 0.001 U	< 0.003 U	6.4	< 0.01 U	< 0.002 U	0.036	
	5/9/2007	< 0.02 U	< 0.001 U	0.0013	< 0.001 U	< 0.002 U	18	< 0.005 U	< 0.002 U	0.12	< 0.001 U	13	0.13	< 0.0001 U	< 0.01 U	0.91	< 0.001 U	< 0.003 U	7.1	< 0.01 U	< 0.002 U	< 0.004 U	
	8/14/2007	< 0.02 U	< 0.001 U	0.0015	< 0.001 U	< 0.002 U	17	< 0.005 U	< 0.002 U	0.1 B	< 0.001 U	13	0.29	< 0.0001 U	< 0.01 U	0.89	< 0.001 U	< 0.003 U	6.7	< 0.01 U	< 0.002 U	0.0045	
	11/1/2007	< 0.02 U	< 0.001 U	0.0016	< 0.001 U	< 0.002 U	17	< 0.005 U	< 0.002 U	0.12 B	< 0.001 U	14	0.14	< 0.00014 U	< 0.01 U	0.84	< 0.001 U	< 0.003 U	6.7	< 0.01 U	< 0.002 U	< 0.004 U	
	3/12/2008	< 0.02 U	< 0.001 U	0.0013	< 0.001 U	< 0.002 U	17	< 0.005 U	< 0.002 U	0.17 B	< 0.001 U	12	0.27	< 0.0001 U	< 0.01 U	0.93	< 0.001 U	< 0.003 U	6.8	< 0.01 U	< 0.002 U	< 0.004 U	
	7/15/2008	< 0.018 U	< 0.0009 U	0.0012	< 0.0009 U	< 0.0018 U	17	< 0.0045 U	< 0.0018 U	0.095	< 0.0009 U	14	0.12	< 0.0001 U	< 0.009 U	1.1	< 0.0009 U	< 0.0027 U	6.9	< 0.009 U	< 0.0018 U	0.0088	
	10/6/2008	< 0.02 U	< 0.001 U	0.0015	< 0.001 U	< 0.002 U	19	< 0.005 U	< 0.002 U	0.11 B	< 0.001 U	16	0.51	< 0.0001 U	< 0.01 U	1.3	< 0.001 U	< 0.003 U	7.6	< 0.01 U	< 0.002 U	< 0.004 U	
	3/26/2009	< 0.02 U	< 0.001 U	0.0037	0.0011	< 0.002 U	18	< 0.005 U	< 0.002 U	0.74 B	< 0.001 U	16 B	0.53	< 0.0001 U	< 0.01 U	< 0.3 U	< 0.001 U	< 0.003 U	8	< 0.01 U	< 0.002 U	< 0.004 U	
	7/13/2009	< 0.02 U	< 0.001 U	0.00692	0.00193	< 0.002 U	18.3	< 0.005 U	< 0.002 U	0.945	< 0.001 U	14.6	1.27	< 0.0001 U	< 0.01 U	1.44	< 0.001 U	< 0.003 DU	7.84	< 0.01 U	< 0.002 U	< 0.004 U	
	10/20/2009	< 0.02 DU	< 0.001 U	0.0086	0.00331	< 0.002 U	16.7	< 0.005 U	< 0.002 U	1.43	< 0.001 U	13	3.18 D	< 0.0001 U	< 0.01 U	1.28	< 0.001 U	< 0.003 DU	7.41 D	< 0.01 U	< 0.002 U	< 0.004 DU	
	1/21/2010	< 0.02 U	< 0.001 DU	0.00243	< 0.001 DU	< 0.002 U	14.9	< 0.005 DU	< 0.002 U	0.23	< 0.001 U	12.4 D	0.398		< 0.01 U	1.18 D	< 0.001 U	< 0.003 U	6.67	< 0.01 U	< 0.002 DU	0.00503	
	4/19/2010	< 0.02 U	< 0.001 U	0.00251	< 0.001 U	< 0.002 U	14.9	< 0.005 U	< 0.002 U	0.31	< 0.001 U	14.3	0.375		< 0.01 U	1.11	< 0.001 U	< 0.003 DU	7.31	< 0.01 U	< 0.002 U	< 0.004 DU	
	8/16/2010	< 0.02 U	< 0.001 U	0.00835	0.00232	< 0.002 U	16.6	< 0.005 U	< 0.002 U	1.01	< 0.001 U	14.7	1.41		< 0.01 U	1.4	< 0.001 U	< 0.003 U	8.04	< 0.01 U	< 0.002 U	< 0.004 U	
	11/9/2010	< 0.02 DHU	< 0.001 HU	0.00206 H	< 0.001 HU	< 0.002 HU	13.6 DH	< 0.005 HU	< 0.002 HU	0.121 H	< 0.001 HU	13.4 H	0.194 DH		< 0.01 HU	1.23 H	< 0.001 HU	< 0.003 HU	6.48 H	< 0.01 HU	< 0.002 HU	< 0.004 HU	
	SW-W2	3/28/2007	< 0.02 U	< 0.001 U	0.0019	0.0039	< 0.002 U	58	< 0.005 U	0.0021	0.27 B	< 0.001 U	50	0.16	< 0.0001 U	< 0.01 U	2.9	0.0035	< 0.003 U	14	< 0.01 U	< 0.002 U	0.009
		5/9/2007	< 0.02 U	< 0.001 U	0.0023	0.0052	< 0.002 U	68	< 0.005 U	< 0.002 U	0.22	< 0.001 U	56	0.27	< 0.0001 U	< 0.01 U	3.4	0.0038	< 0.003 U	16	< 0.01 U	< 0.002 U	0.0077
8/14/2007		< 0.02 U	< 0.001 U	0.0023	0.0049	< 0.002 U	63	< 0.005 U	< 0.002 U	0.23 B	< 0.001 U	56	0.24	< 0.0001 U	< 0.01 U	3.2	0.0035	< 0.003 U	15	< 0.01 U	< 0.002 U	0.0045	
10/30/2007		< 0.02 U	< 0.001 U	0.0023	0.0045	< 0.002 U	63	< 0.005 U	< 0.002 U	0.48 B	< 0.001 U	54	0.25	< 0.00014 U	< 0.01 U	3	0.0045	< 0.003 U	15	< 0.01 U	< 0.002 U	< 0.004 U	
12/18/2007		< 0.02 U		0.0022	0.0043	< 0.002 U	59		< 0.002 U	0.33		49	0.19	< 0.0001 U		2.9			14				
3/12/2008		< 0.02 U	< 0.001 U	0.0019	0.0049	< 0.002 U	63	< 0.005 U	< 0.002 U	0.23 B	< 0.001 U	51	0.18	< 0.0001 U	< 0.01 U	4	0.0022	< 0.003 U	15	< 0.01 U	< 0.002 U	< 0.004 U	
7/15/2008		< 0.018 U	< 0.0009 U	0.0013	0.0044	< 0.0018 U	60	< 0.0045 U	< 0.0018 U	0.33	< 0.0009 U	53	0.13	< 0.0001 U	< 0.009 U	3	< 0.0009 U	< 0.0027 U	14	< 0.009 U	< 0.0018 U	0.0038	
10/6/2008		< 0.02 U	< 0.001 U	0.0014	0.0042	< 0.002 U	67	< 0.005 U	< 0.002 U	0.24 B	< 0.001 U	60	0.21	< 0.0001 U	< 0.01 U	3.3	0.0013	< 0.003 U	17	< 0.01 U	< 0.002 U	< 0.004 U	
1/6/2009		< 0.02 U	< 0.001 U	< 0.001 U	0.0033	< 0.002 U	56	< 0.005 U	< 0.002 U	0.16	< 0.001 U	46	0.084	< 0.0001 U	< 0.01 U	3	< 0.001 U	< 0.003 U	13	< 0.01 U	< 0.002 U	< 0.004 U	
3/26/2009		< 0.02 U	< 0.001 U	< 0.001 U	0.0032	< 0.002 U	65	< 0.005 U	< 0.002 U	0.25 B	< 0.001 U	57 B	0.041	< 0.0001 U	< 0.01 U	1.2	< 0.001 U	< 0.003 U	16	< 0.01 U	< 0.002 U	< 0.004 U	
7/13/2009		< 0.02 U	< 0.001 U	0.00149	0.00376	< 0.002 U	66.5 D	< 0.005 U	< 0.002 U	0.014 T	< 0.001 U	59.1 D	0.0646	< 0.0001 U	< 0.01 U	4.05	< 0.001 U	< 0.003 U	17.1	< 0.01 U	< 0.002 U	< 0.004 U	
10/20/2009		< 0.02 DU	< 0.001 U	0.00128	0.00324	< 0.002 U	67.4 D	< 0.005 U	< 0.002 U	0.043 T	< 0.001 U	60.9 D											

## Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria (SWQC)		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WA State	Acute	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
	Chronic	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Federal	Acute	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
	Chronic	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
SW-W3 (cont.)	4/19/2010	< 0.02 U	< 0.001 U	0.00212	0.00373	< 0.002 U	24.3	< 0.005 U	< 0.002 U	0.028 T	< 0.001 U	22.7	0.202		< 0.01 U	2.25	< 0.001 U	< 0.003 DU	9.5	< 0.01 U	< 0.002 U	< 0.004 DU
	8/16/2010	< 0.02 U	< 0.001 U	0.0027	0.00368	< 0.002 U	27.7	< 0.005 U	0.00215	0.025 T	< 0.001 U	25.8	0.201		< 0.01 U	2.57	< 0.001 U	< 0.003 U	11.1	< 0.01 U	< 0.002 U	< 0.004 U
	11/9/2010	< 0.02 DU	< 0.001 U	0.00262	0.00236	< 0.002 U	22.4 D	< 0.005 U	0.00226	0.116	< 0.001 U	18.9	0.137 D		< 0.01 U	2.22	< 0.001 U	< 0.003 U	8.48	< 0.01 U	< 0.002 U	< 0.004 U
SW-W4	5/10/2007	< 0.02 U		0.0023	0.0058	< 0.002 U	17		< 0.002 U	0.12		16	0.087	< 0.0001 U		2			5.9			
	8/14/2007	< 0.02 U		0.0024	0.0049	< 0.002 U	16		< 0.002 U	0.16		16	0.064	< 0.0001 U		1.8			6.1			
	10/31/2007	< 0.02 U		0.0017	0.0053	< 0.002 U	17		< 0.002 U	0.21 B		17	0.031	< 0.00014 U		1.7			6.5			
	12/18/2007	< 0.02 U		0.0014	0.0051	< 0.002 U	16		< 0.002 U	0.14		16	0.017	< 0.0001 U		1.7			6.1			
	3/12/2008	0.044		0.0012	0.0059	< 0.002 U	16		< 0.002 U	0.092		17	0.017	< 0.0001 U		1.7			6.3			
SW-W5	5/10/2007	< 0.02 U		0.0015	0.0035	< 0.002 U	18		< 0.002 U	0.064		17	0.0098	< 0.0001 U		2			6.6			
	8/14/2007	< 0.02 U		0.0019	0.0036	< 0.002 U	18		< 0.002 U	0.075		17	0.018	< 0.0001 U		2			6.8			
	10/30/2007	< 0.02 U		0.0016	0.0036	< 0.002 U	19		< 0.002 U	0.077		17	0.013	< 0.00014 U		1.9			6.4			
	12/18/2007	0.031		0.0016	0.0038	< 0.002 U	17		< 0.002 U	0.22		17	0.015	< 0.0001 U		2			6.5			
	3/12/2008	< 0.02 U		0.0014	0.0032	< 0.002 U	19		< 0.002 U	0.14		19	0.011	< 0.0001 U		2			7.3			
	7/15/2008	< 0.018 U		0.0015	0.0034	< 0.0018 U	19		< 0.0018 U	0.081		18	0.013	< 0.0001 U		2			7.4			
	10/6/2008	< 0.02 U		0.0013	0.012	< 0.002 U	21		< 0.002 U	0.069 B		20	0.021 B	< 0.0001 U		2.2			7.6			
	1/6/2009	< 0.02 U		0.0013	0.0034	< 0.002 U	20		< 0.002 U	0.067		19	0.0087 B	< 0.0001 U		2.3			7.1			
	3/23/2009	< 0.02 U		< 0.001 U	0.0029	< 0.002 U	17		< 0.002 U	0.08		17	0.0062	< 0.0001 U		1.9			6.8			
	7/10/2009	< 0.02 U		0.00168	0.00311	< 0.002 U	18.8		< 0.002 U	< 0.01 U		19.8	0.0114	< 0.0001 U		2.33			7.79			
	10/19/2009	< 0.02 U		0.00155	0.00307	< 0.002 U	19		< 0.002 U	0.011 T		16.5	0.0117	< 0.0001 U		2.18			7.09			
	1/22/2010	< 0.02 U		0.00141	0.0028	< 0.002 U	17.8		< 0.002 U	0.012 T		19.7	0.00698			2.14			7.61			
	4/19/2010	< 0.02 U		0.00149	0.00313	< 0.002 U	17		< 0.002 U	0.011 T		17	0.00684			2.01			6.6			
8/12/2010	< 0.02 U		0.00166	0.00315	< 0.002 U	18.2		< 0.002 U	< 0.01 U		19.8	0.0111			2.23			7.93				
11/1/2010	0.0294		0.00157	0.00389	< 0.002 U	15.8		< 0.002 U	0.122		15.6	0.0173			2.54			6.09				
SW-W6	5/10/2007	< 0.02 U		0.0017	0.0073	< 0.002 U	19		< 0.002 U	0.063		20	0.013	< 0.0001 U		2.1			7.5			
	8/14/2007	< 0.02 U		0.0021	0.0069	< 0.002 U	17		< 0.002 U	0.077		18	0.012	< 0.0001 U		2			7.1			
	11/1/2007	< 0.02 U		0.0017	0.0068	< 0.002 U	18		< 0.002 U	0.092 B		19	0.015	< 0.00014 U		2			7.6			
	12/18/2007	< 0.02 U		0.0017	0.0064	< 0.002 U	17		< 0.002 U	0.11		19	0.0072	< 0.0001 U		2.1			7.1			
	3/12/2008	< 0.02 U		0.0015	0.0065	< 0.002 U	19		< 0.002 U	0.087		19	0.006	< 0.0001 U		1.8			7.4			
	7/15/2008	< 0.018 U		0.0018	0.0075	< 0.0018 U	20		< 0.0018 U	0.08		21	0.0071	< 0.0001 U		2.1			8.3			
	10/6/2008	< 0.02 U		0.0019	0.0083	< 0.002 U	20		< 0.002 U	0.069 B		21	0.01 B	< 0.0001 U		2.1			8.2			
	3/24/2009	0.12		0.0044	0.011	< 0.002 U	18		< 0.002 U	0.3		19	0.16	< 0.0001 U		1.7			6.9			
	7/10/2009	< 0.02 U		0.00237	0.00721	< 0.002 U	19.8		< 0.002 U	< 0.01 U		22.5	0.00844	< 0.0001 U		2.37			8.56			
	10/19/2009	< 0.02 U		0.00209	0.00609	< 0.002 U	18.4		< 0.002 U	< 0.01 U		17.3	0.00774	< 0.0001 U		2.42			7.39			
	1/22/2010	< 0.02 U		0.00165	0.00586	< 0.002 U	17		< 0.002 U	< 0.01 U		20.5	0.00266			2.1			7.69			
	4/19/2010	< 0.02 U		0.00183	0.00725	< 0.002 U	17.8		< 0.002 U	< 0.01 U		18.8	0.00302			2.1			7.19			
	8/12/2010	< 0.02 U		0.00246	0.00648	< 0.002 U	18.6		< 0.002 U	< 0.01 U		21.2	0.00707			2.22			8.61			
11/1/2010	0.0439		0.00242	0.00633	< 0.002 U	13.7		< 0.002 U	0.106		14.6	0.0138			3.14			5.82				
SW-W7	5/10/2007	< 0.02 U		0.0012	0.0068	< 0.002 U	19		< 0.002 U	0.063		18	0.0019	< 0.0001 U		1.8			7.4			
	8/14/2007	< 0.02 U		0.0014	0.0068	< 0.002 U	18		< 0.002 U	0.071		18	0.0035	< 0.0001 U		1.8			7.6			
	11/1/2007	< 0.02 U		0.0012	0.0066	< 0.002 U	19		< 0.002 U	0.19 B		19	0.0033	< 0.00014 U		1.8			7.6			
	12/18/2007	0.062		0.0012	0.0065	< 0.002 U	18		< 0.002 U	0.1		18	0.0027	< 0.0001 U		1.8			7.5			
	3/12/2008	< 0.02 U		0.0011	0.0065	< 0.002 U	20		< 0.002 U	0.076		20	0.002	< 0.0001 U		1.9			7.9			

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		ALUMINIUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 Secondary	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.00005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-2	2/17/2000	< 0.020 U	< 0.001 U	0.001 J	0.008	< 0.002 U	21	< 0.005 U	< 0.002 U	0.016	< 0.001 U	22	0.064	< 0.0001 U	< 0.010 U	2	< 0.001 U	< 0.003 U	8.3	< 0.010 U	0.004	< 0.004 U
	5/11/2000	< 0.020 U	< 0.001 U	0.001 J	0.008	< 0.002 U	22	< 0.005 U	< 0.002 U	0.044	< 0.001 U	22	0.067	< 0.0001 U	< 0.010 U	2	< 0.001 U	< 0.003 U	8.5	< 0.010 U	0.004	< 0.004 U
	8/22/2000	0.2	< 0.001 U	0.001 J	0.012	< 0.002 U	16	< 0.005 U	< 0.002 U	0.084	< 0.001 U	19	0.076	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	8.6	< 0.010 U	0.004	< 0.004 U
	11/17/2000	0.082	< 0.001 U	< 0.001 U	0.009	< 0.002 U	16	< 0.005 U	< 0.002 U	0.047	< 0.001 U	19	0.073	< 0.0001 U	< 0.010 U	2	< 0.001 U	< 0.003 U	7.8	< 0.010 U	0.003	< 0.004 U
	2/7/2001	< 0.020 U	< 0.001 U	0.001 J	0.009	< 0.002 U	18	< 0.005 U	< 0.002 U	0.032	< 0.001 U	21	0.077	< 0.0001 U	< 0.010 U	2	< 0.001 U	< 0.003 U	6.4	< 0.010 U	0.003	< 0.004 U
	5/16/2001	< 0.020 U	< 0.001 U	0.001 J	0.009	< 0.002 U	18	< 0.005 U	< 0.002 U	0.05	< 0.001 U	23	0.078	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	8.7	< 0.010 U	0.003	< 0.004 U
	7/24/2001	0.02	< 0.001 U	< 0.001 U	0.012 B	< 0.002 U	20	< 0.005 U	< 0.002 U	0.058	< 0.001 U	25	0.092	< 0.0001 U	< 0.010 U	2.3	< 0.001 U	< 0.003 U	9.8	< 0.010 U	0.003	< 0.004 U
	11/6/2001	0.051	< 0.001 U	0.001 J	0.012	< 0.002 U	22	< 0.005 U	< 0.002 U	0.089	< 0.001 U	28	0.082	< 0.0001 U	< 0.010 U	2.4	0.002 J	< 0.003 U	10	< 0.010 U	0.003	0.006
	2/13/2002	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	23	< 0.005 U	< 0.002 U	0.077 B	< 0.001 U	29	0.063	< 0.0001 U	< 0.010 U	2.4	0.001 J	< 0.003 U	10	< 0.010 U	0.004	< 0.004 U
	4/30/2002	< 0.020 U	< 0.001 U	0.001 J	0.012	< 0.002 U	25	< 0.005 U	< 0.002 U	0.12	< 0.001 U	32	0.074	< 0.0001 U	< 0.010 U	2.4	< 0.001 U	< 0.003 U	9.2	< 0.010 U	0.003	< 0.004 U
	8/16/2002	0.061 M	< 0.001 U	0.001 J	0.013	< 0.002 U	24	< 0.005 U	< 0.002 U	0.068	< 0.001 U	30	0.082	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	11	< 0.010 U	0.004	< 0.004 U
	10/28/2002	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	23	< 0.005 U	< 0.002 U	0.095	< 0.001 U	30	0.083	< 0.0001 U	< 0.010 U	2.4	< 0.001 U	< 0.003 U	9.6	< 0.010 U	0.004	< 0.004 U
	2/3/2003	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	29 B	< 0.005 U	0.008	0.088	< 0.001 U	35	0.09	< 0.0001 U	< 0.010 U	2.6	< 0.001 U	< 0.003 U	11	< 0.010 U	0.004	0.005
	5/2/2003	< 0.02 U	< 0.001 U	0.001 J	0.012	< 0.002 U	32	< 0.005 U	< 0.002 U	0.13	< 0.001 U	37	0.088	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	11	< 0.01 U	0.004	< 0.004 U
	7/24/2003	< 0.020 U	< 0.001 U	0.001 J	0.012	< 0.002 U	26 B	< 0.005 U	< 0.002 U	0.098	< 0.001 U	29	0.075	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	8.8	< 0.010 U	0.003	< 0.004 U
	10/20/2003	< 0.02 U	< 0.001 U	< 0.001 U	0.011	< 0.002 U	27	< 0.005 U	< 0.002 U	0.14	< 0.001 U	33	0.065	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	9.6	< 0.01 U	0.004	< 0.004 U
	2/9/2004	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	31	< 0.005 U	< 0.002 U	0.091	< 0.001 U	36	0.07	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	10	< 0.010 U	0.004	< 0.004 U
	4/30/2004	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	30	< 0.005 U	< 0.002 U	0.11	< 0.001 U	33	0.071	< 0.0001 U	< 0.010 U	2.6	< 0.001 U	< 0.003 U	9.7	< 0.010 U	0.004	< 0.004 U
	8/13/2004	< 0.020 U	< 0.001 U	0.001 J	0.013	< 0.002 U	30 B	< 0.005 U	< 0.002 U	0.13 B	< 0.001 U	35	0.091	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	9.8	< 0.010 U	0.004	0.004 J
	10/29/2004	0.021	< 0.001 U	0.001 J	0.013	< 0.002 U	32 B	< 0.005 U	< 0.002 U	0.16	< 0.001 U	36	0.092 B	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	10	< 0.01 U	0.004	< 0.004 U
	1/27/2005		< 0.001 U	< 0.001 U	0.015 J	< 0.0020 U	46	< 0.0050 U	< 0.0020 U	0.34	< 0.0010 U	50	0.099	< 0.0001 U	0.011	3.7	0.0019 J	< 0.0030 U	14		0.0052	0.0078 J
	5/6/2005		< 0.001 U	< 0.001 U	0.013 J	< 0.0020 U	37 B	< 0.0050 U	< 0.0020 U	0.11 BJ	< 0.0010 U	41	0.091	< 0.0001 U	< 0.010 U	2.9	< 0.010 U	< 0.0030 U	11		0.0041	< 0.0040 U
	7/29/2005		< 0.001 U	< 0.001 U	0.013 J	< 0.0020 U	35 BM	< 0.0050 U	< 0.0020 U	0.024 BJ	< 0.0010 U	40 M	0.086	< 0.0001 U	0.01	2.6	< 0.010 U	< 0.0030 U	9.9		0.0033	< 0.0040 U
	11/9/2005		< 0.001 U	0.00107	0.0147	< 0.002 U	39	< 0.005 U	< 0.002 U	0.139 B	< 0.001 U	41.9	0.104	< 0.0001 U	0.011	2.98	< 0.001 U	< 0.003 U	11.8		0.00453	< 0.004 U
	1/30/2006		< 0.001 U	< 0.001 U	0.015	< 0.002 U	38 D	< 0.005 U	< 0.002 U	0.12	< 0.001 U	39 D	0.081	< 0.0001 U	< 0.01 U	2.7	< 0.001 U	< 0.003 U	11		0.0041	< 0.004 U
	5/3/2006		< 0.001 U	< 0.001 U	0.015	< 0.002 U	37 D	< 0.005 U	< 0.002 U	0.01	0.0011	40 D	0.099		< 0.01 U	2.7	< 0.001 U	< 0.003 U	11		0.004	< 0.004 U
	8/10/2006		< 0.001 U	0.0014	0.015	< 0.002 U	34	< 0.005 U	< 0.002 UB	0.17	< 0.001 U	36	0.11 B	< 0.0001 U	0.011	2.5	0.0014	< 0.003 U	9.8		0.0042	< 0.004 U
	11/1/2006		< 0.001 U	0.0011	0.015	< 0.002 U	34	< 0.005 U	< 0.002 U	0.22	< 0.001 U	35	0.1	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	9.8		0.0041	< 0.004 U
	11/1/2006		< 0.001 U	0.0011	0.014	< 0.002 U	34	< 0.005 U	< 0.002 U	0.16	< 0.001 U	35	0.1	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	9.8		0.0041	< 0.004 U
	1/30/2007		< 0.001 U	< 0.001 U	0.014	< 0.002 U	32	< 0.005 U	< 0.002 U	0.15	< 0.001 U	33	0.098	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	9.9		0.0039	< 0.004 U
	4/30/2007		< 0.001 U	0.001	0.015	< 0.002 U	34	< 0.005 U	< 0.002 U	0.14	< 0.001 U	35	0.1	< 0.0001 U	0.01	2.5	< 0.001 U	< 0.003 U	9.7		0.005	0.0046
	4/30/2007		< 0.001 U	0.0012	0.015	< 0.002 U	34	< 0.005 U	< 0.002 U	0.17	< 0.001 U	35	0.1	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	9.9		0.0043	< 0.004 U
	8/1/2007		< 0.001 U	< 0.001 U	0.013	< 0.002 U	32	< 0.005 U	< 0.002 U	0.1	< 0.001 U	34	0.1	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	9.2		0.0038	< 0.004 U
	11/6/2007		< 0.001 U	< 0.001 U	0.014	< 0.002 U	34	< 0.005 U	< 0.002 U	0.22	< 0.001 U	37	0.14	< 0.00014 U	0.011	2.4	< 0.001 U	< 0.003 U	10		0.0053	< 0.004 U
	11/6/2007		< 0.001 U	< 0.001 U	0.014	< 0.002 U	34	< 0.005 U	< 0.002 U	0.15	< 0.001 U	36	0.14	< 0.00014 U	0.011	2.4	< 0.001 U	< 0.003 U	9.5		0.0052	< 0.004 U
	2/4/2008		< 0.001 U	< 0.001 U	0.012	< 0.002 U	32	< 0.005 U	< 0.002 U	0.096	< 0.001 U	33	0.11	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	9.2		0.0045	< 0.004 U
	5/12/2008		< 0.001 U	< 0.001 U	0.013	< 0.002 U	33	< 0.005 U	< 0.002 U	0.17 B	< 0.001 U	35	0.11	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	10 B		0.0042	< 0.004 U
	8/6/2008		< 0.0009 U	< 0.0009 U	0.014	< 0.0018 U	32	< 0.0045 U	< 0.0018 U	0.12	< 0.0009 U	33	0.11	< 0.0001 U	0.01	2.3	< 0.0009 U	< 0.0027 U	9.5		0.004	0.0039
	11/6/2008		< 0.001 U	0.0015	0.0012	< 0.002 U	4.3	< 0.005 U	< 0.002 U	0.0059	< 0.001 U	3.9	< 0.001 U	< 0.0001 U	< 0.01 U	0.59	< 0.001 U	< 0.003 U	2.2		< 0.002 U	< 0.004 U
	2/20/2009		< 0.001 U	0.0012	0.014	< 0.002 U	35	< 0.005 U	< 0.002 U	0.14 B	< 0.001 U	40	0.12	< 0.0001 U	0.01	2.6	< 0.001 U	< 0.003 U	11		0.0041	0

## Vashon Closed Landfill Western Hillslope Investigation

		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 <sup>Secondary</sup>	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.00005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-5D	2/17/2000	< 0.020 U	< 0.001 U	0.13	0.028	< 0.002 U	51	< 0.005 U	< 0.002 U	19	< 0.001 U	34	1.4	< 0.0001 U	< 0.010 U	2.9	0.001 J	< 0.003 U	15	< 0.010 U	< 0.002 U	< 0.004 U
	5/5/2000	< 0.020 U	< 0.001 U	0.12	0.027	< 0.002 U	52	< 0.005 U	< 0.002 U	17	< 0.001 U	35	1.4	< 0.0001 U	< 0.010 U	2.9	< 0.001 U	< 0.003 U	15	< 0.010 U	< 0.002 U	< 0.004 U
	8/18/2000	< 0.020 U	< 0.001 U	0.11	0.033	< 0.002 U	38	< 0.005 U	< 0.002 U	15	< 0.001 U	27	1.3	< 0.0001 U	< 0.010 U	2.9	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	11/9/2000	0.11	0.001 J	0.094	0.035	< 0.002 U	46	< 0.005 U	< 0.002 U	16	< 0.001 U	35	1.5	< 0.0001 U	< 0.010 U	3	0.001 J	< 0.003 U	15	< 0.010 U	< 0.002 U	< 0.004 U
	1/31/2001	< 0.020 U	< 0.001 U	0.022	0.028	< 0.002 U	47	< 0.005 U	< 0.002 U	3.3	< 0.001 U	33	1.3	< 0.0001 U	< 0.010 U	2.7	< 0.001 U	< 0.003 U	13	< 0.010 U	< 0.002 U	< 0.004 U
	5/16/2001	0.02	< 0.001 U	0.031	0.021	< 0.002 U	39	< 0.005 U	< 0.002 U	5.8	< 0.001 U	31	1	< 0.0001 U	< 0.010 U	2.7	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	7/27/2001	< 0.020 U	< 0.001 U	0.015	0.018	< 0.002 U	40	< 0.005 U	< 0.002 U	1.9	< 0.001 U	30	1.2	< 0.0001 U	< 0.010 U	3.1	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	11/7/2001	< 0.020 U	< 0.001 U	0.021	0.021	< 0.002 U	50	< 0.005 U	< 0.002 U	5.6	< 0.001 U	40	1.6	< 0.0001 U	< 0.010 U	3.3	0.002 J	< 0.003 U	17	< 0.010 U	< 0.002 U	< 0.004 U
	2/13/2002	0.13	< 0.001 U	0.014	0.026	< 0.002 U	57	< 0.005 U	< 0.002 U	5.7 B	< 0.001 U	46	2.4	< 0.0001 U	< 0.010 U	3.4	0.002 J	< 0.003 U	17	< 0.010 U	< 0.002 U	< 0.004 U
	4/25/2002	0.18	< 0.001 U	0.035	0.017	< 0.002 U	51	< 0.005 U	< 0.002 U	8.5 B	< 0.001 U	39	1.8	< 0.0001 U	< 0.010 U	3	0.001 J	< 0.003 U	15	< 0.010 U	< 0.002 U	< 0.004 U
	8/7/2002	< 0.020 U	< 0.001 U	0.079	0.015	< 0.002 U	55 B	< 0.005 U	< 0.002 U	13 B	< 0.001 U	38	2.2 M	< 0.0001 U	< 0.010 U	3.5	< 0.001 U	< 0.003 U	17	< 0.010 U	< 0.002 U	< 0.004 U
	11/5/2002	< 0.020 UM	< 0.001 U	0.11	0.019	< 0.002 U	46 M	< 0.005 U	< 0.002 U	15	< 0.001 U	28	1.1	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	11/5/2002	0.083 M	< 0.001 U	0.11	0.02	< 0.002 U	47 M	< 0.005 U	< 0.002 U	16	< 0.001 U	28	1.1	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	1/28/2003	0.035	< 0.001 U	0.14	0.02	< 0.002 U	44	< 0.005 U	< 0.002 U	19	< 0.001 U	30	1.2	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	14	< 0.010 U	< 0.002 U	< 0.004 U
	5/5/2003	< 0.02 U	< 0.001 U	0.12	0.019	< 0.002 U	56	< 0.005 U	< 0.002 U	22	< 0.001 U	37	1.4	< 0.0001 U	< 0.01 U	3.5	< 0.001 U	< 0.003 U	16	< 0.01 U	< 0.002 U	< 0.004 U
	7/22/2003	< 0.020 U	< 0.001 U	0.11	0.018	< 0.002 U	45 B	< 0.005 U	< 0.002 U	23	< 0.001 U	29	1.2	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	13	< 0.010 U	< 0.002 U	< 0.004 U
	10/17/2003	< 0.02 U	< 0.001 U	0.049	0.019	< 0.002 U	57	< 0.005 U	< 0.004	19	< 0.001 U	35	1.4	< 0.0001 U	< 0.01 U	3.2	< 0.001 U	< 0.003 U	15	< 0.010 U	< 0.002 U	< 0.004 U
	2/12/2004	< 0.020 U	< 0.001 U	0.12	0.018	< 0.002 U	51	< 0.005 U	< 0.002 U	21	< 0.001 U	34	1.3	< 0.0001 U	< 0.010 U	3.2	< 0.001 U	< 0.003 U	17	< 0.010 U	< 0.002 U	< 0.004 U
	5/4/2004	0.039	< 0.001 U	0.11	0.020 B	< 0.002 U	55	< 0.005 U	< 0.002 U	23 B	< 0.001 U	35	1.4	< 0.0001 U	< 0.010 U	3.3	0.001 J	< 0.003 U	16	< 0.010 U	< 0.002 U	< 0.004 U
	6/1/2004	< 0.020 U	< 0.001 U	0.096	0.019	< 0.002 U	50 B	< 0.005 U	< 0.002 U	20	< 0.001 U	35	1.3	< 0.0001 U	< 0.010 U	3.5	< 0.001 U	< 0.003 U	17	< 0.010 U	< 0.002 U	< 0.004 U
	8/3/2004	< 0.020 U	< 0.001 U	0.11	0.02	< 0.002 U	43 B	< 0.005 U	< 0.002 U	22 B	< 0.001 U	29	1.3	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	13	< 0.010 U	< 0.002 U	0.006
	11/2/2004	< 0.02 U	< 0.001 U	0.11	0.02	0.003	49 B	< 0.005 U	< 0.002 U	22	< 0.001 U	32	1.4	< 0.0001 U	< 0.01 U	3.2	< 0.001 U	< 0.003 U	15	< 0.01 U	< 0.002 U	< 0.004 U
	1/31/2005		< 0.001 U	0.044	0.021 J	0.0023 J	50	< 0.0050 U	< 0.0020 U	13 B	< 0.0010 U	38	0.94	< 0.0001 U	< 0.010 U	3.5	< 0.010 U	< 0.0030 U	18		< 0.0020 U	< 0.0040 U
	5/6/2005		< 0.001 U	0.12	0.022 J	< 0.0020 U	57 B	< 0.0050 U	< 0.0020 U	26 B	< 0.0010 U	38	1.7	< 0.0001 U	< 0.010 U	3.7	< 0.010 U	< 0.0030 U	17		< 0.0020 U	< 0.0040 U
	7/29/2005		< 0.001 U	0.07	0.022 J	< 0.0020 U	45 M	< 0.0050 U	< 0.0020 U	16 BM	< 0.0010 U	32 M	1.4 M	< 0.0001 U	< 0.010 U	3.8	< 0.010 U	< 0.0030 U	18		< 0.0020 U	< 0.0040 U
	11/2/2005		< 0.001 U	0.077	0.0236	< 0.002 U		< 0.005 U	< 0.002 U		< 0.001 U			< 0.0001 U	< 0.010 U	3.87	< 0.001 U	< 0.003 U	18.5		< 0.002 U	< 0.004 U
	2/1/2006		< 0.001 U	0.09	0.021	< 0.002 U	53	< 0.005 U	< 0.002 U	19	< 0.001 U	37	1.5	< 0.0001 U	< 0.01 U	3	< 0.001 U	< 0.003 U	13		< 0.002 U	< 0.004 U
	5/5/2006		< 0.001 U	0.11	0.02	< 0.002 U	48 D	< 0.005 U	< 0.002 U	23 D	< 0.001 U	35 D	1.4 D		< 0.01 U	3.3	< 0.001 U	< 0.003 U	16		< 0.002 U	< 0.004 U
	8/7/2006		< 0.001 U	0.1	0.018 B	< 0.002 U	33	< 0.005 U	< 0.002 U	21 D	< 0.001 U	23	1.2 D	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	12		< 0.002 U	< 0.004 U
	11/3/2006		< 0.001 U	0.11	0.019	< 0.002 U	37	< 0.005 U	< 0.002 U	19 D	< 0.001 U	25 B	1.2 D	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	13 B		< 0.002 U	< 0.004 U
	2/6/2007		< 0.001 U	0.11	0.016	< 0.002 U	35 B	< 0.005 U	< 0.002 U	21 D	< 0.001 U	24	1.3 D	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	13		< 0.002 U	0.0043
	2/6/2007		< 0.001 U	0.11	0.017	< 0.002 U	34 B	< 0.005 U	< 0.002 U	20 D	< 0.001 U	24	1.1	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	13		< 0.002 U	< 0.004 U
	5/1/2007		< 0.001 U	0.11	0.018	< 0.002 U	34	< 0.005 U	< 0.002 U	19	< 0.001 U	23	1.1	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	12		< 0.002 U	0.006
	8/10/2007		< 0.001 U	0.1	0.018	< 0.002 U	35	< 0.005 U	< 0.002 U	15 B	< 0.001 U	23	1.3 E	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	13		< 0.002 U	< 0.004 U
	11/1/2007		< 0.001 U	0.11	0.018	< 0.002 U	35	< 0.005 U	< 0.002 U	16 B	< 0.001 U	24	1.2	< 0.00014 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	14		< 0.002 U	< 0.004 U
	2/5/2008		< 0.001 U	0.11	0.017	< 0.002 U	32	< 0.005 U	< 0.002 U	15	< 0.001 U	22	1.1	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	13		< 0.002 U	< 0.004 U
	5/12/2008		< 0.001 U	0.1	0.021	< 0.002 U	32	< 0.005 U	< 0.002 U	16 B	< 0.001 U	22	1	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	14 B		< 0.002 U	0.0093
	8/7/2008		< 0.0009 U	0.092	0.017	< 0.0018 U	31	< 0.0045 U	< 0.0018 U	14	< 0.0009 U	21	0.88	< 0.0001 U	< 0.009 U	2.3	< 0.0009 U	< 0.0027 U	13		< 0.0018 U	< 0.0036 U
	11/18/2008		< 0.001 U	0.12	0.027	< 0.002 U	33	< 0.005 U	< 0.002 U	19 B	< 0.001 U	23	1.1	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	14		< 0.002 U	0.0059
	3/20/2009		< 0.001 U	0.047	0.015	< 0.002 U	41	< 0.005 U	< 0.002 U	9.2	< 0.001 U	27	1	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	15		< 0.002 U	< 0.004 U
	5/12/2009		< 0.001 U	0.107	0.0172	< 0.002 U																

## Vashon Closed Landfill Western Hillslope Investigation

		ALUMINIUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 <sup>Secondary</sup>	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.0005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-9	2/14/2000	< 0.020 U	< 0.001 U	0.003 J	0.004	< 0.002 U	12	< 0.005 U	< 0.002 U	0.009 J	< 0.001 U	9.1	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	0.001 J	< 0.003 U	5	< 0.010 U	0.006	< 0.004 U
	5/3/2000	0.02	< 0.001 U	0.003 J	0.004	< 0.002 U	12	< 0.005 U	< 0.002 U	0.026	< 0.001 U	9.5	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	5.1	< 0.010 U	0.006	< 0.004 U
	5/3/2000	< 0.020 U	< 0.001 U	0.003 J	0.003	< 0.002 U	12	< 0.005 U	< 0.002 U	0.015	< 0.001 U	9.8	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	5.1	< 0.010 U	0.006	< 0.004 U
	8/15/2000	< 0.020 U	< 0.001 U	0.003 J	0.007	0.003	9.9	< 0.005 U	< 0.002 U	0.018	< 0.001 U	8.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	4.9	< 0.010 U	0.005	< 0.004 U
	11/13/2000	0.048	< 0.001 U	0.003 J	0.004	< 0.002 U	7.9	< 0.005 U	< 0.002 U	0.033	0.001	6.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	4.7	< 0.010 U	0.005	< 0.004 U
	1/30/2001	< 0.020 U	< 0.001 U	0.003 J	0.004	< 0.002 U	9.7	< 0.005 U	< 0.002 U	0.016	< 0.001 U	8.1	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	4.7	< 0.010 U	0.005	< 0.004 U
	5/4/2001	0.074 B	< 0.001 U	0.003 J	0.003	< 0.002 U	7.9	< 0.005 U	< 0.002 U	0.025 B	< 0.001 U	7.2	< 0.001 U	< 0.0001 U	< 0.010 U	1.6	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U
	7/24/2001	< 0.020 U	< 0.001 U	0.002 J	0.003 B	< 0.002 U	7.8	< 0.005 U	< 0.002 U	0.018	< 0.001 U	6.7	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U
	11/1/2001	< 0.020 U	< 0.001 U	0.003 J	0.003	< 0.002 U	8.1	< 0.005 U	< 0.002 U	0.028	< 0.001 U	7	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	4.9	< 0.010 U	0.005	< 0.004 U
	2/12/2002	0.046	< 0.001 U	< 0.001 U	0.002	< 0.002 U	14	< 0.005 U	< 0.002 U	0.062	< 0.001 U	7.6	0.044	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	5.2	< 0.010 U	< 0.002 U	< 0.004 U
	6/24/2002	< 0.020 U	< 0.001 U	0.002 J	0.004	< 0.002 U	10	< 0.005 U	< 0.002 U	< 0.005 U	< 0.001 U	8.5	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	4.9	< 0.010 U	0.005	< 0.004 U
	8/6/2002	0.03	< 0.001 U	0.002 J	0.003	< 0.002 U	13 B	< 0.005 U	< 0.002 U	< 0.005 UB	< 0.001 U	9.8	< 0.001 U	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	5.5	< 0.010 U	0.005	< 0.004 UB
	11/7/2002	0.039	< 0.001 U	0.003 J	0.005	< 0.002 U	11 M	< 0.005 U	< 0.002 U	0.048	< 0.001 U	7.2	< 0.001 U	0.0001	< 0.010 U	1.8	< 0.001 U	< 0.003 U	4.6	< 0.010 U	0.005	< 0.004 U
	2/3/2003	0.026	< 0.001 U	0.003 J	0.004	< 0.002 U	10 B	< 0.005 U	0.004	0.031	< 0.001 U	8.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	5	< 0.010 U	0.005	< 0.004 U
	4/29/2003	< 0.020 U	< 0.001 U	0.002 J	0.001	< 0.002 U	5.1	< 0.005 U	< 0.002 U	< 0.005 U	< 0.001 U	3.8	< 0.001 U	< 0.0001 U	< 0.010 U	0.78	0.002 J	< 0.003 U	2	< 0.010 U	0.002	< 0.004 U
	7/22/2003	< 0.020 U	< 0.001 U	0.003 J	0.003	< 0.002 U	11 B	< 0.005 U	< 0.002 U	0.033	< 0.001 U	8.1	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U
	10/24/2003	< 0.020 U	< 0.001 U	0.003 J	0.003	< 0.002 U	12	< 0.005 U	< 0.002 U	0.21	< 0.001 U	8.5	0.001	< 0.0001 U	< 0.010 U	1.9	< 0.001 U	< 0.003 U	4.9	< 0.010 U	0.005	< 0.004 U
	2/6/2004	< 0.020 U	< 0.001 U	0.002 J	0.004	< 0.002 U	11	< 0.005 U	< 0.002 U	0.029	< 0.001 U	8.5	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	5	< 0.010 U	0.005	< 0.004 U
	5/3/2004	< 0.020 U	< 0.001 U	0.002 J	0.005	0.002	12	< 0.005 U	< 0.002 U	0.045	< 0.001 U	8.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.9	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U
	5/3/2004	< 0.020 U	< 0.001 U	0.003 J	0.004	< 0.002 U	11	< 0.005 U	< 0.002 U	0.047	< 0.001 U	8.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U
	8/10/2004	< 0.020 BU	< 0.001 U	0.002 J	0.004	< 0.002 U	13 B	< 0.005 U	< 0.002 U	0.052 B	< 0.001 U	9.3	< 0.001 U	< 0.0001 U	< 0.010 U	1.9	< 0.001 U	< 0.003 U	5.1	< 0.010 U	0.005	0.01
	10/27/2004	0.026	< 0.001 U	0.002 J	0.004	< 0.002 U	12	< 0.005 U	< 0.002 U	0.063	< 0.001 U	9	< 0.001 U	< 0.0001 U	< 0.010 U	2	< 0.001 U	< 0.003 U	5.2	< 0.010 U	0.005	< 0.004 U
	2/2/2005		< 0.001 U	0.0024	0.0042 J	0.002	12 B	< 0.0050 U	< 0.0020 U	0.066 BJ	< 0.0010 U	9.4	< 0.0010 U	< 0.0001 U	< 0.010 U	1.9	< 0.010 U	< 0.0030 U	5.2		0.0046	< 0.0040 U
	5/3/2005		< 0.001 U	0.0024	0.0031 J	< 0.0020 U	12 B	< 0.0050 U	< 0.0020 U	0.039 BJ	< 0.0010 U	9.3	< 0.0010 U	< 0.0001 U	< 0.010 U	2	< 0.010 U	< 0.0030 U	5.6		0.0052	< 0.0040 U
	8/3/2005		< 0.001 U	0.003	0.0036 J	< 0.0020 U	13	< 0.0050 U	< 0.0020 U	0.051 BJ	< 0.0010 U	10	0.0011 J	< 0.0001 U	< 0.010 U	2.1	0.0031 J	< 0.0030 U	5.9		0.005	< 0.0040 U
	11/15/2005		< 0.001 U	0.0024	0.00421	< 0.002 U	12.7	0.00567	< 0.002 U	0.0672 B	< 0.001 U	8.8	< 0.001 U	< 0.0001 U	< 0.01 U	1.93	< 0.001 U	< 0.003 U	5.17 B		0.0059	< 0.004 U
	2/1/2006		< 0.001 U	0.0026	0.0033	< 0.002 U	11	0.0059	< 0.002 U	0.059	< 0.001 U	8.3	< 0.001 U	< 0.0001 U	< 0.01 U	1.8	< 0.001 U	< 0.003 U	4.9		0.0057	< 0.004 U
	5/2/2006		< 0.001 U	0.0025	0.0035	< 0.002 U	13	< 0.005 U	< 0.002 U	0.042	< 0.001 U	9.7	< 0.001 U	< 0.0001 U	< 0.01 U	2	0.0013	< 0.003 U	5.5		0.0051	< 0.004 U
	8/3/2006		< 0.001 U	0.0023	0.0039 B	< 0.002 U	12	< 0.005 U	< 0.002 U	0.069	< 0.001 U	9	< 0.001 U	< 0.0001 U	< 0.01 U	1.6	< 0.001 U	< 0.003 U	4.9		0.0049	< 0.004 U
	11/2/2006		< 0.001 U	0.0021	0.0038	< 0.002 U	13	< 0.005 U	< 0.002 U	0.06 B	< 0.001 U	9.4 B	< 0.001 U	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	5.2 B		0.0046	< 0.004 U
	2/27/2007		< 0.001 U	0.0021	0.0039	< 0.002 U	13 B	< 0.005 U	< 0.002 U	0.044 B	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	5.6		0.0048	< 0.004 U
	4/30/2007		< 0.001 U	0.0022	0.0036	< 0.002 U	11	< 0.005 U	< 0.002 U	0.14	< 0.001 U	8.4	< 0.001 U	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	4.7		0.0049	< 0.004 U
	8/10/2007		< 0.001 U	0.0024	0.0036	< 0.002 U	12	< 0.005 U	0.0026	0.048	< 0.001 U	9.2	< 0.001 U	< 0.0001 U	< 0.01 U	1.9	0.0013	< 0.003 U	4.9		0.0048	0.0045
	11/5/2007		< 0.001 U	0.0021	0.0034	< 0.002 U	12	< 0.005 U	< 0.002 U	0.041 B	< 0.001 U	9.2	< 0.001 U	< 0.00014 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	4.8		0.0047	< 0.004 U
	2/7/2008		< 0.001 U	0.0022	0.0029	< 0.002 U	11	< 0.005 U	< 0.002 U	0.023	< 0.001 U	8.7	< 0.001 U	< 0.0001 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	5		0.0047	< 0.004 U
	5/8/2008		< 0.001 U	0.0026	0.006	< 0.002 U	13	< 0.005 U	0.0023	0.29 B	< 0.001 U	10	0.0022	< 0.0001 UB	< 0.01 U	2.1	< 0.001 U	< 0.003 U	5.9		0.0047	0.0083
	8/5/2008		< 0.0009 U	0.002	0.0031	< 0.0018 U	11	< 0.0045 U	< 0.0018 U	0.051	< 0.0009 U	8.8	0.0022	< 0.0001 U	< 0.009 U	1.7	< 0.0009 U	< 0.0027 U	5.1		0.0053	0.017
	11/17/2008		< 0.001 U	0.0023	0.003	< 0.002 U	11	< 0.005 U	< 0.002 U	0.043 B	< 0.001 U	8.5	0.0014	< 0.0001 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	4.9		0.0047	0.029
	11/17/2008		< 0.001 U	0.0022	0.0031	< 0.002 U	11	< 0.005 U	< 0.002 U	0.045 B	< 0.001 U	8.5	0.001	< 0.0001 U	< 0.01 U	1.8	< 0.001 U	< 0.003 U	5		0.0046	0.0063
	2/4/2009		< 0.001 U	0.0017	0.016	< 0.002 U	15	< 0.005 U	< 0.002 U	0.067 B	< 0.001 U	13	0.54	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	<				

Vashon Closed Landfill Western Hillside Investigation

		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 Secondary	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.0005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-21 (cont.)	11/2/2001	< 0.020 U	< 0.001 U	0.004 J	0.016	< 0.002 U	19	< 0.005 U	< 0.002 U	0.9	< 0.001 U	23	0.35	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	9.5	< 0.010 U	< 0.002 U	< 0.004 U
	2/13/2002	< 0.020 U	< 0.001 U	0.005	0.021	< 0.002 U	23	< 0.005 U	< 0.002 U	1.2 B	< 0.001 U	27	0.46	< 0.0001 U	< 0.010 U	2.6	0.001 J	< 0.003 U	10	< 0.010 U	< 0.002 U	< 0.004 U
	4/25/2002	0.032	< 0.001 U	0.007	0.015	< 0.002 U	23	< 0.005 U	< 0.002 U	1.5 B	< 0.001 U	24	0.66	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	9.1	< 0.010 U	< 0.002 U	< 0.004 U
	8/14/2002	< 0.020 UM	< 0.001 U	0.009	0.013	< 0.002 U	22 M	< 0.005 UM	< 0.002 U	2.1 M	< 0.001 U	23 M	0.90 M	< 0.0001 U	< 0.010 UM	2.1 M	< 0.001 U	< 0.003 U	9.5 M	< 0.010 U	< 0.002 UM	< 0.004 U
	8/14/2002	< 0.020 UM	< 0.001 U	0.009	0.013	< 0.002 U	22 M	< 0.005 UM	< 0.002 U	2.1 M	< 0.001 U	22 M	0.91 M	< 0.0001 U	< 0.010 UM	2.1 M	< 0.001 U	< 0.003 U	9.4 M	< 0.010 U	< 0.002 UM	< 0.004 U
	10/31/2002	< 0.020 U	< 0.001 U	0.008	0.016	< 0.002 U	20	< 0.005 U	< 0.002 U	1.8	< 0.001 U	21	0.62	< 0.0001 U	< 0.010 U	2.1	< 0.001 U	< 0.003 U	8.9	< 0.010 U	< 0.002 U	< 0.004 U
	1/27/2003	< 0.020 U	< 0.001 U	0.007	0.017	< 0.002 U	26	< 0.005 U	< 0.002 U	1.4	< 0.001 U	27	0.49	< 0.0001 U	< 0.010 U	2.4	< 0.001 U	< 0.003 U	9.6	< 0.010 U	< 0.002 U	0.006
	5/2/2003	< 0.02 U	< 0.001 U	0.009	0.002	< 0.002 U	28	< 0.005 U	< 0.002 U	2.5	< 0.001 U	26	0.79	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	10	< 0.01 U	< 0.002 U	< 0.004 U
	7/22/2003	< 0.02 U	< 0.001 U	0.008	0.016	< 0.002 U	25 B	< 0.005 U	< 0.002 U	2.3	< 0.001 U	23	0.67	< 0.0001 U	< 0.010 U	2.2	< 0.001 U	< 0.003 U	9.5	< 0.010 U	< 0.002 U	< 0.004 U
	10/20/2003	< 0.02 U	< 0.001 U	0.004 J	0.015	< 0.002 U	29	< 0.005 U	< 0.002 U	1.5	< 0.001 U	29	0.47	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	9.9	< 0.01 U	< 0.002 U	< 0.004 U
	2/5/2004	0.031	< 0.001 U	0.005 J	0.019	< 0.002 U	33	< 0.005 U	0.003	1.7	< 0.001 U	34	0.52	< 0.0001 U	< 0.010 U	2.8	< 0.001 U	< 0.003 U	11	< 0.010 U	< 0.002 U	0.005 J
	4/30/2004	< 0.020 U	< 0.001 U	0.008	0.017	< 0.002 U	29	< 0.005 U	< 0.002 U	2.7	< 0.001 U	27	0.8	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	10	< 0.010 U	< 0.002 U	< 0.004 U
	8/3/2004	< 0.020 U	< 0.001 U	0.008	0.018	< 0.002 U	28 B	< 0.005 U	< 0.002 U	2.7 B	< 0.001 U	25	0.77	< 0.0001 U	< 0.010 U	2.3	< 0.001 U	< 0.003 U	9.6	< 0.010 U	< 0.002 U	0.008
	10/29/2004	< 0.02 U	< 0.001 U	0.006	0.018	0.003	31 B	< 0.005 U	< 0.002 U	1.9 B	< 0.001 U	32	0.52	< 0.0001 U	< 0.01 U	2.7	< 0.001 U	< 0.003 U	10	< 0.01 U	< 0.002 U	< 0.004 U
	1/31/2005		< 0.001 U	0.005	0.020 J	0.0022 J	36	< 0.0050 U	< 0.0020 U	1.8 B	< 0.0010 U	41	0.49	< 0.0001 U	< 0.010 U	3.2	< 0.010 U	< 0.0030 U	13		< 0.0020 U	< 0.0040 U
	5/4/2005		< 0.001 U	0.0044	0.019 J	< 0.0020 U	40 B	< 0.0050 U	< 0.0020 U	1.9 B	< 0.0010 U	42	0.57	< 0.0001 U	< 0.010 U	3.3	< 0.010 U	< 0.0030 U	13		< 0.0020 U	< 0.0040 U
	7/27/2005		< 0.010 U	0.0031	0.018 J	< 0.0020 U	35 BM	< 0.0050 U	< 0.0020 U	1.4	< 0.0010 U	39 M	0.44 MJ	< 0.0001 U	< 0.010 U	2.8	< 0.0010 U	< 0.0030 U	9.9		< 0.0020 U	< 0.0040 U
	11/2/2005		< 0.001 U	0.00168	0.0185	< 0.002 U	36.9	< 0.005 U	< 0.002 U	1.54 B	< 0.001 U	40.9		< 0.0001 U	< 0.01 U	3.18	< 0.001 U	< 0.003 U	11.3		< 0.002 U	< 0.004 U
	2/1/2006		< 0.001 U	0.0017	0.023	< 0.002 U	38	< 0.005 U	< 0.002 U	1.4	< 0.001 U	43	0.36	< 0.0001 U	< 0.01 U	2.9	< 0.001 U	< 0.003 U	10		< 0.002 U	0.0061
	2/1/2006		< 0.001 U	0.0016	0.022	< 0.002 U	38	< 0.005 U	< 0.002 U	1.4	< 0.001 U	44	0.37	< 0.0001 U	< 0.01 U	2.9	< 0.001 U	< 0.003 U	9.8		< 0.002 U	< 0.004 U
	5/8/2006		< 0.001 U	0.0035	0.019	< 0.002 U	33 D	< 0.005 U	< 0.002 U	1.6	< 0.001 U	37 D	0.5 D	< 0.0001 U	< 0.01 U	2.9	< 0.001 U	< 0.003 U	11		< 0.002 U	< 0.004 U
	8/2/2006		< 0.001 U	0.0046	0.018 B	< 0.002 U	27	< 0.005 U	< 0.002 U	2.1	< 0.001 U	28	0.46	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	9.2		< 0.002 U	< 0.004 U
	11/14/2006		< 0.001 U	0.0016	0.018	< 0.002 U	30	< 0.005 U	< 0.002 U	1.4	< 0.001 U	34	0.3	< 0.0001 U	< 0.01 U	2.6	0.0013	< 0.003 U	9.7		< 0.002 U	< 0.004 U
	2/6/2007		< 0.001 U	0.0044	0.015	< 0.002 U	27 B	< 0.005 U	< 0.002 U	2.1	< 0.001 U	27	0.6	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	11		< 0.002 U	0.0045
	5/1/2007		< 0.001 U	0.0049	0.015	< 0.002 U	26	< 0.005 U	< 0.002 U	2.1	< 0.001 U	23	0.87	< 0.0001 U	< 0.01 U	2.1	< 0.001 U	< 0.003 U	9.8		< 0.002 U	0.0042
	8/7/2007		< 0.001 U	0.0035	0.013	< 0.002 U	25	< 0.005 U	< 0.002 U	1.6	< 0.001 U	23	0.64	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	9.7		< 0.002 U	0.005
	8/7/2007		< 0.001 U	0.0035	0.013	< 0.002 U	26	< 0.005 U	< 0.002 U	1.6	< 0.001 U	23	0.64	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	9.9		< 0.002 U	0.0041
	11/1/2007		< 0.001 U	0.0044	0.015	< 0.002 U	27	< 0.005 U	< 0.002 U	2.2 B	< 0.001 U	27	0.7	< 0.00014 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	10		< 0.002 U	< 0.004 U
	2/5/2008		< 0.001 U	0.0027	0.014	< 0.002 U	26	< 0.005 U	< 0.002 U	1.4	< 0.001 U	25	0.63	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	10		< 0.002 U	0.0075
5/15/2008		< 0.001 U	0.0046	0.016	< 0.002 U	27	< 0.005 U	< 0.002 U	2.3 B	< 0.001 U	26	0.64	< 0.0001 U	< 0.01 U	2.4	< 0.001 U	< 0.003 U	11 B		< 0.002 U	0.0077	
8/5/2008		< 0.0009 U	0.0041	0.017	< 0.0018 U	26	< 0.0045 U	< 0.0018 U	2.1	< 0.0009 U	26	0.57	< 0.0001 U	< 0.009 U	2.2	< 0.0009 U	< 0.0027 U	10		< 0.0018 U	0.0066	
11/3/2008		< 0.001 U	0.0019	0.017	< 0.002 U	31	< 0.005 U	< 0.002 U	1.6	< 0.001 U	34	0.43	< 0.0001 U	< 0.01 U	2.6	< 0.001 U	< 0.003 U	10		< 0.002 U	< 0.004 U	
5/8/2009		< 0.001 U	0.00113	0.0179	< 0.002 U	32.8	< 0.005 U	< 0.002 U	0.699	< 0.001 U	41.6	0.31	< 0.0001 U	< 0.01 U	3.01	< 0.001 U	< 0.003 U	11.2		< 0.002 U	< 0.004 U	
8/11/2009		< 0.001 U	0.00145	0.0184	< 0.002 U	34.8	< 0.005 U	< 0.002 U	0.855	< 0.001 U	41.6	0.331	< 0.0001 U	< 0.01 U	3.15	< 0.001 U	< 0.003 U	11.7		< 0.002 U	< 0.004 U	
11/3/2009		< 0.001 U	< 0.001 U	0.0181	< 0.002 U	34.6	< 0.005 U	< 0.002 U	0.775	< 0.001 U	38.6	0.313	< 0.0001 U	< 0.01 U	3.13	< 0.001 U	< 0.003 U	10.6		< 0.002 U	< 0.004 DU	
2/3/2010		< 0.001 U	< 0.001 U	0.0168	< 0.002 U	34.5	< 0.005 U	< 0.002 U	0.718	< 0.001 U	43.2	0.308	< 0.0001 U	< 0.01 U	2.92	< 0.001 U	< 0.003 U	11.8		< 0.002 U	< 0.004 U	
5/5/2010		< 0.001 U	0.00126	0.0164	< 0.002 U	29.6	< 0.005 U	< 0.002 U	0.823	< 0.001 U	36.8	0.396	< 0.0001 U	< 0.01 U	2.64	< 0.001 U	< 0.003 U	11.3		< 0.002 U	< 0.004 U	
8/6/2010		< 0.001 U	0.00155	0.0177	< 0.002 U	36.9	< 0.005 U	< 0.002 U	1.03	< 0.001 U	38.8	0.523	< 0.0001 U	< 0.01 U	2.91	< 0.001 U	< 0.003 U	12.3		< 0.002 U	< 0.004 U	
11/2/2010		< 0.001 U	0.00101	0.016	< 0.002 U	28.8	< 0.005 U	< 0.002 U	0.654	< 0.001 U	30.6	0.292	< 0.0001 U	< 0.01 U	2.81	< 0.001 U	< 0.003 U	10		< 0.002 U	< 0.004 U	
MW-12	2/18/2000	< 0.020 U	< 0.001 U	0.002 J	0.005	< 0.002 U	11	< 0.005 U	< 0.002 U	0.015	< 0.001 U	8	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	5.5	< 0.010 U	0.005	< 0.004 U
	5/8/2000	0.14	< 0.001 U	0.002 J	0.007	< 0.002 U	11	< 0.005 U	< 0.002 U	0.033	< 0											

## Vashon Closed Landfill Western Hillslope Investigation

		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 <sup>Secondary</sup>	20	None	None	5	
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.00005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5	
MW-12 (cont.)	1/31/2003	< 0.020 U	< 0.001 U	0.002 J	0.006	< 0.002 U	10	< 0.005 U	< 0.002 U	0.032	< 0.001 U	7.8	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	5.2	< 0.010 U	0.005	< 0.004 U	
	1/31/2003	0.024	< 0.001 U	0.002 J	0.006	< 0.002 U	9.7	< 0.005 U	< 0.002 U	0.027	< 0.001 U	7.7	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	< 0.001 U	< 0.003 U	5	< 0.010 U	0.005	< 0.004 U	
	4/30/2003	0.034	< 0.001 U	0.002 J	0.005	< 0.002 U	10	< 0.005 U	< 0.002 U	0.034	< 0.001 U	7.9	< 0.001 U	< 0.0001 U	< 0.010 U	1.6	< 0.001 U	< 0.003 U	5	< 0.010 U	0.005	< 0.004 U	
	7/23/2003	< 0.020 U	< 0.001 U	0.002 J	0.004	< 0.002 U	8.6 B	< 0.005 U	< 0.002 U	0.039	< 0.001 U	6.6	< 0.001 U	< 0.0001 U	< 0.010 U	1.4	< 0.001 U	< 0.003 U	4.3	< 0.010 U	0.004	< 0.004 U	
	10/23/2003	< 0.020 U	< 0.001 U	0.002 J	0.005	< 0.002 U	10	< 0.005 U	< 0.002 U	0.42	< 0.001 U	7.2	0.005	< 0.0001 U	< 0.010 U	1.6	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	0.005	
	2/6/2004	< 0.020 U	< 0.001 U	0.002 J	0.005	< 0.002 U	9.5	< 0.005 U	< 0.002 U	0.031	< 0.001 U	7	< 0.001 U	< 0.0001 U	< 0.010 U	1.5	< 0.001 U	< 0.003 U	4.8	< 0.010 U	0.005	< 0.004 U	
	5/6/2004	< 0.020 U	< 0.001 U	0.002 J	0.005 B	< 0.002 U	12	< 0.005 U	< 0.002 U	0.050 B	< 0.001 U	7.8	< 0.001 U	< 0.0001 U	< 0.010 U	1.7	0.001 J	< 0.003 U	5.3	< 0.010 U	0.005	< 0.004 U	
	8/19/2004	< 0.020 U	< 0.001 U	0.002 J	0.005	< 0.002 U	10 B	< 0.005 U	< 0.002 U	0.038 B	< 0.001 U	7.8	< 0.001 U	< 0.0001 U	< 0.010 U	1.6	< 0.001 U	< 0.003 U	4.9	< 0.010 U	0.005	< 0.004 U	
	10/28/2004	< 0.020 U	< 0.001 U	0.002 J	0.006	< 0.002 U	10 B	< 0.005 U	< 0.002 U	0.053 B	< 0.001 U	7.3	< 0.001 U	< 0.0001 U	< 0.010 U	1.8	< 0.001 U	< 0.003 U	5	< 0.010 U	0.005	< 0.004 U	
	2/3/2005	< 0.001 U	0.0022	0.0050 J	< 0.0020 U	11 B	< 0.0050 U	< 0.0020 U	0.059 B	< 0.0010 U	8.5	< 0.0010 U	< 0.0001 U	< 0.010 U	1.7	< 0.010 U	< 0.0030 U	5.5			0.0046	< 0.0040 U	
	5/5/2005	< 0.001 U	0.0022	0.0050 J	< 0.0020 U	12 B	< 0.0050 U	< 0.0020 U	0.082 B	< 0.0010 U	9.5	< 0.0010 U	< 0.0001 U	< 0.010 U	2	< 0.010 U	< 0.0030 U	6.3			0.0058	< 0.0040 U	
	7/28/2005	< 0.001 U	0.0019	0.0042 J	< 0.0020 U	9.1 B	< 0.0050 U	< 0.0020 U	0.026 J	< 0.0010 U	7	< 0.0010 U	< 0.0001 U	< 0.010 U	1.6	< 0.010 U	< 0.0030 U	4.5			0.0043	< 0.0040 U	
	7/28/2005	< 0.010 U	0.002	0.0044 J	< 0.0020 U	9.0 B	< 0.0050 U	< 0.0020 U	0.0089 J	< 0.0010 U	6.9	< 0.0010 U	< 0.0001 U	< 0.010 U	1.6	< 0.0010 U	< 0.0030 U	4.4			0.0043	< 0.0040 U	
	11/8/2005	< 0.001 U	0.00224	0.00481	< 0.002 U	11.5	< 0.005 U	< 0.002 U	0.0545 B	< 0.001 U	8.74	< 0.001 U	< 0.0001 U	< 0.01 U	1.82	< 0.001 U	< 0.003 U	5.73			0.00551	< 0.004 U	
	2/28/2006	< 0.001 U	0.0022	0.0059	< 0.002 U	12	< 0.005 U	< 0.002 U	0.027	< 0.001 U	8.8	< 0.001 U	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	5.8			0.0054	< 0.004 U	
	5/9/2006	< 0.001 U	0.0021	0.0047	< 0.002 U	9	< 0.005 U	< 0.002 U	< 0.0005 U	< 0.001 U	7.4	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	5			0.0053	< 0.004 U	
	8/4/2006	< 0.001 U	0.0023	0.0045 B	< 0.002 U	9	< 0.005 U	< 0.002 U	0.072	< 0.001 U	6.8	< 0.001 U	< 0.0001 U	< 0.01 U	1.4	< 0.001 U	< 0.003 U	4.5			0.0053	< 0.004 U	
	11/9/2006	< 0.001 U	0.0019	0.0047	< 0.002 U	9.5	< 0.005 U	< 0.002 U	0.047 B	< 0.001 U	7.2 B	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.6 B			0.0044	< 0.004 U	
	1/30/2007	< 0.001 U	0.0019	0.0036	< 0.002 U	9.1	< 0.005 U	< 0.002 U	0.059	< 0.001 U	6.9	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.6			0.0047	0.0063	
	1/30/2007	< 0.001 U	0.0021	0.0039	< 0.002 U	9.3	< 0.005 U	< 0.002 U	0.026	< 0.001 U	7.1	< 0.001 U	< 0.0001 U	< 0.01 U	1.6	< 0.001 U	< 0.003 U	4.7			0.0049	0.006	
	4/27/2007	< 0.001 U	0.0022	0.0046	< 0.002 U	9.3	< 0.005 U	< 0.002 U	0.066	< 0.001 U	7	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.6			0.0053	< 0.004 U	
	8/2/2007	< 0.001 U	0.0021	0.0043	< 0.002 U	8.7	< 0.005 U	< 0.002 U	0.026	< 0.001 U	7	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.4			0.0049	< 0.004 U	
	11/2/2007	< 0.001 U	0.0021	0.0044	< 0.002 U	9.1	< 0.005 U	< 0.002 U	0.12 B	< 0.001 U	7	< 0.001 U	< 0.00014 U	< 0.01 U	1.4	< 0.001 U	< 0.003 U	4.5			0.005	< 0.004 U	
	2/11/2008	< 0.001 U	0.002	0.004	< 0.002 U	9.1	< 0.005 U	< 0.002 U	0.033	< 0.001 U	7	< 0.001 U	< 0.0001 U	< 0.01 U	1.4	< 0.001 U	< 0.003 U	4.7			0.0048	< 0.004 U	
	5/12/2008	< 0.001 U	0.0056 U	0.011 U	< 0.002 U	13 U	< 0.005 U	< 0.002 U	0.067 B	< 0.001 U	7.9 U	0.14 U	< 0.0001 U	< 0.01 U	2.3 U	< 0.001 U	< 0.003 U	5.4 B			< 0.002 U	0.0048	
	8/7/2008	< 0.0009 U	0.0017	0.0043	< 0.0018 U	9.2	< 0.0045 U	< 0.0018 U	0.031	< 0.0009 U	7	< 0.0009 U	< 0.0001 U	< 0.009 U	1.4	< 0.0009 U	< 0.0027 U	4.4			0.0047	< 0.0036 U	
	11/13/2008	< 0.001 U	0.0019	0.0046	< 0.002 U	9.7	< 0.005 U	< 0.002 U	0.068	< 0.001 U	7.6	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.9			0.005	< 0.004 U	
	2/4/2009	< 0.001 U	0.0021	0.0042	< 0.002 U	9.5	< 0.005 U	< 0.002 U	0.051 B	< 0.001 U	7.5	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.7			0.0052	< 0.004 U	
	2/4/2009	< 0.001 U	0.0018	0.004	< 0.002 U	9.3	< 0.005 U	< 0.002 U	0.023 B	< 0.001 U	7.4	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	4.6			0.005	< 0.004 U	
	5/13/2009	< 0.001 U	0.00222	0.00438	< 0.002 U	9.84	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	7.79	< 0.001 U	< 0.0001 U	< 0.01 U	1.65	< 0.001 U	< 0.003 U	5.1			0.00456	< 0.004 U	
	8/4/2009	< 0.001 U	0.00227	0.0042	< 0.002 U	9.88	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	8.46	< 0.001 U	< 0.0001 U	< 0.01 U	1.75	< 0.001 U	< 0.003 U	5.39			0.00513	< 0.004 U	
	11/2/2009	< 0.001 U	0.00203	0.00443	< 0.002 U	9.88	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	7.55	< 0.001 U	< 0.0001 U	< 0.01 U	1.64	< 0.001 U	< 0.003 U	4.93			0.00453	< 0.004 U	
	2/5/2010	< 0.001 U	0.00226	0.00445	< 0.002 U	9.87	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	8.21	< 0.001 U	< 0.0001 U	< 0.01 U	1.66	< 0.001 U	< 0.003 U	5.3			0.00509	< 0.004 U	
	5/6/2010	< 0.001 U	0.00225	0.00411	< 0.002 U	8.97	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	8.08	< 0.001 U	< 0.0001 U	< 0.01 U	1.58	< 0.001 U	< 0.003 U	5.17			0.00481	< 0.004 U	
	9/28/2010	< 0.001 U	0.00207	0.00397	< 0.002 U	9.22	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	8.43	< 0.001 DU	< 0.0001 U	< 0.01 U	1.67	< 0.001 U	< 0.003 U	5.21			0.00462	< 0.004 U	
	11/9/2010	< 0.001 U	0.0022	0.00415	< 0.002 U	9.11 D	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	8.11	< 0.001 DU	< 0.0001 U	< 0.01 U	1.74	< 0.001 U	< 0.003 U	5.16			0.00489	< 0.004 U	
	MW-19	2/15/2000	< 0.020 U	< 0.001 U	0.005	0.02	< 0.002 U	14	< 0.005 U	< 0.002 U	0.007 J	< 0.001 U	12	0.32	< 0.0001 U	< 0.010 U	2.3	< 0.001 U	< 0.003 U	5.8	< 0.010 U	< 0.002 U	< 0.004 U
		5/11/2000	< 0.020 U	< 0.001 U	0.004 J	0.02	< 0.002 U	18	< 0.005 U	< 0.002 U	0.014	< 0.001 U	16	0.26	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	7.5	< 0.010 U	< 0.002 U	0.005 J
		8/16/2000	< 0.020 U	< 0.001 U	0.004 J	0.021	0.002	12	< 0.005 U	< 0.002 U	0.031	< 0.001 U	11	0.31	< 0.0001 U	< 0.010 U	2.3	< 0.001 U	< 0.003 U	5.9	< 0.010 U	< 0.002 U	< 0.004 U
		11/14/2000	< 0.020 U	< 0.001 U	0.004 J	0.019	< 0.002 U	9.2	< 0.005 U	< 0.002 U	0.028	< 0.001 U	8.8	0.22	< 0.0001 U	< 0.010 U	2.1						

Vashon Closed Landfill Western Hillslope Investigation

		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 <sup>Secondary</sup>	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.00005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-19	8/17/2004	< 0.020 U	< 0.001 U	0.003 J	0.018	< 0.002 U	14 B	< 0.005 U	< 0.002 U	0.066 B	< 0.001 U	12	0.52	< 0.0001 U	< 0.010 U	2.2	< 0.001 U	< 0.003 U	6	< 0.010 U	< 0.002 U	< 0.004 U
	10/27/2004	0.047	< 0.001 U	0.027	0.018	< 0.002 U	15	< 0.005 U	< 0.002 U	0.12	< 0.001 U	13	0.55	< 0.0001 U	< 0.010 U	2.5	< 0.001 U	< 0.003 U	6.8	< 0.010 U	< 0.002 U	< 0.004 U
	2/1/2005		< 0.001 U	0.0023	0.021 J	< 0.0020 U	15	< 0.0050 U	< 0.0020 U	0.091 BJ	< 0.0010 U	14	0.49	< 0.0001 U	0.011	2.4	< 0.010 U	< 0.0030 U	6.6		< 0.0020 U	< 0.0040 U
	5/4/2005		< 0.001 U	0.0026	0.016 J	< 0.0020 U	15 B	< 0.0050 U	< 0.0020 U	0.057 BJ	< 0.0010 U	14	0.51	< 0.0001 U	< 0.010 U	2.5	< 0.010 U	< 0.0030 U	7		< 0.0020 U	< 0.0040 U
	8/1/2005		< 0.001 U	0.0022	0.016 J	< 0.0020 U	16	< 0.0050 U	< 0.0020 U	0.057 BJ	< 0.0010 U	14	0.48 MJ	< 0.0001 U	< 0.010 U	2.6	< 0.010 U	< 0.0030 U	7.3		< 0.0020 U	< 0.0040 U
	11/8/2005		< 0.001 U	0.00246	0.0184	< 0.002 U	16	< 0.005 U	< 0.002 U	0.0822 B	< 0.001 U	13.6		< 0.0001 U	< 0.01 U	2.42	< 0.001 U	< 0.003 U	6.73		< 0.002 U	0.0112
	2/2/2006		< 0.001 U	0.0023	0.019	< 0.002 U	13	< 0.005 U	< 0.002 U	0.063	< 0.001 U	11	0.47	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	5.5		< 0.002 U	< 0.004 U
	5/3/2006		< 0.001 U	0.0022	0.017	< 0.002 U	14	< 0.005 U	< 0.002 U	0.013	< 0.001 U	13	0.51 D	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	6.3		< 0.002 U	< 0.004 U
	8/8/2006		< 0.001 U	0.0024	0.017 B	< 0.002 U	13	< 0.005 U	< 0.002 U	0.09	< 0.001 U	11	0.45	< 0.0001 U	< 0.01 U	1.9	< 0.001 U	< 0.003 U	5.6		< 0.002 U	< 0.004 U
	11/13/2006		< 0.001 U	0.002	0.017	< 0.002 U	14	< 0.005 U	< 0.002 U	0.075 B	< 0.001 U	12 B	0.47	< 0.0001 U	< 0.01 U	2.1	< 0.001 U	< 0.003 U	5.8 B		< 0.002 U	< 0.004 U
	1/30/2007		< 0.001 U	0.0021	0.015	< 0.002 U	13	< 0.005 U	< 0.002 U	0.073	< 0.001 U	12	0.51	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	5.9		< 0.002 U	< 0.004 U
	4/27/2007		< 0.001 U	0.0021	0.017	< 0.002 U	14	< 0.005 U	< 0.002 U	0.11	< 0.001 U	12	0.5	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	5.7		< 0.002 U	0.0054
	8/10/2007		< 0.001 U	0.0023	0.016	< 0.002 U	14	< 0.005 U	< 0.002 U	0.07	< 0.001 U	12	0.51	< 0.0001 U	< 0.01 U	2.3	< 0.001 U	< 0.003 U	5.9		< 0.002 U	< 0.004 U
	11/16/2007		< 0.001 U	0.0022	0.016	< 0.002 U	14	< 0.005 U	< 0.002 U	0.047 B	< 0.001 U	11	0.43	< 0.00014 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	5.4		< 0.002 U	< 0.004 U
	2/7/2008		< 0.001 U	0.002	0.015	< 0.002 U	14	< 0.005 U	< 0.002 U	0.15	< 0.001 U	12	0.48	< 0.0001 U	< 0.01 U	2.1	< 0.001 U	< 0.003 U	5.8		< 0.002 U	0.066
	5/7/2008		< 0.001 U	0.0022	0.019	< 0.002 U	16	< 0.005 U	< 0.002 U	0.15 B	< 0.001 U	14	0.49	< 0.0001 U	< 0.01 U	2.5	< 0.001 U	< 0.003 U	6.8		< 0.002 U	0.0055
	8/6/2008		< 0.0009 U	0.0018	0.017	< 0.0018 U	15	< 0.0045 U	< 0.0018 U	0.17	< 0.0009 U	13	0.54	< 0.0001 U	< 0.009 U	2.1	< 0.0009 U	< 0.0027 U	6.1		< 0.0018 U	0.0048
	8/6/2008		< 0.0009 U	0.0018	0.018	< 0.0018 U	15	< 0.0045 U	< 0.0018 U	0.18	< 0.0009 U	14	0.55	< 0.0001 U	< 0.009 U	2.2	< 0.0009 U	< 0.0027 U	6.4		< 0.0018 U	0.0088
	11/6/2008		< 0.001 U	0.0017	0.016	< 0.002 U	15	< 0.005 U	< 0.002 U	0.083	< 0.001 U	13	0.56	< 0.0001 U	< 0.01 U	2.2	< 0.001 U	< 0.003 U	6.2		< 0.002 U	< 0.004 U
	2/4/2009		< 0.001 U	0.002	0.0031	< 0.002 U	10	< 0.005 U	< 0.002 U	0.035 B	< 0.001 U	8.4	< 0.001 U	< 0.0001 U	< 0.01 U	1.7	< 0.001 U	< 0.003 U	4.8		0.0036	0.0049
	5/4/2009		< 0.001 U	0.00182	0.0176	< 0.002 U	16.2	< 0.005 U	< 0.002 U	0.027 T	< 0.001 U	15.1	0.533	< 0.0001 U	< 0.01 U	2.63	< 0.001 U	< 0.003 U	6.89		< 0.002 U	< 0.004 U
	7/31/2009		< 0.001 U	0.00209	0.0206	< 0.002 U	16.1	< 0.005 U	< 0.002 U	0.0532	< 0.001 U	14.2	0.706 D	< 0.0001 U	< 0.01 U	2.69	< 0.001 U	< 0.003 U	6.43		< 0.002 U	< 0.004 U
	11/5/2009		< 0.001 U	0.00188	0.0189	< 0.002 U	15.8	< 0.005 U	< 0.002 U	0.048 T	< 0.001 U	14.9	0.574	< 0.0001 U	< 0.01 U	2.45	< 0.001 U	< 0.003 U	6.86		< 0.002 U	< 0.004 U
	2/4/2010		< 0.001 U	0.00189	0.0191	< 0.002 U	16.7	< 0.005 U	< 0.002 U	0.042 T	< 0.001 U	16.2	0.558	< 0.0001 U	< 0.01 U	2.57	< 0.001 U	< 0.003 U	7.28		< 0.002 U	< 0.004 U
	5/3/2010		< 0.001 U	0.00173	0.0171	< 0.002 U	14.8	< 0.005 U	< 0.002 U	0.042 T	< 0.001 U	15.1	0.491	< 0.0001 U	< 0.01 U	2.32	< 0.001 U	< 0.003 U	6.83		< 0.002 U	< 0.004 U
	8/9/2010		< 0.001 U	0.00223	0.035	< 0.002 U	18.1	< 0.005 U	< 0.002 U	0.101	< 0.001 U	16.1	1.35	< 0.0001 U	< 0.01 U	2.56	< 0.001 U	< 0.003 U	7.27		< 0.002 U	< 0.004 U
11/8/2010		< 0.001 U	0.00235	0.0643	< 0.002 U	15.9 D	< 0.005 U	< 0.002 U	0.191	< 0.001 U	16.2	1.29 D	< 0.0001 U	< 0.01 U	2.57	< 0.001 U	< 0.003 U	7.04		< 0.002 U	< 0.004 U	
MW-27	10/28/2003	< 0.020 U	< 0.001 U	< 0.001 U	0.004	< 0.002 U	11	< 0.005 U	< 0.002 U	0.046	< 0.001 U	8.8	< 0.001 U	< 0.0001 U	< 0.010 U	0.99	< 0.001 U	< 0.003 U	5.3	< 0.010 U	0.002	< 0.004 U
	12/2/2003	< 0.020 U	< 0.001 U	< 0.001 U	0.004	< 0.002 U	14	< 0.005 U	< 0.002 U	0.061	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.010 U	1.3	< 0.001 U	< 0.003 U	7	< 0.010 U	0.003	< 0.004 U
	1/14/2004	0.03	< 0.001 U	< 0.001 U	0.004	< 0.002 U	13	< 0.005 U	< 0.002 U	0.037	< 0.001 U	10	< 0.001 U	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	6.3	< 0.010 U	0.003	< 0.004 U
	2/17/2004	< 0.020 U	< 0.001 U	< 0.001 U	0.004	< 0.002 U	14	< 0.005 U	< 0.002 U	0.048	< 0.001 U	10	< 0.001 U	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	6.1	< 0.010 U	0.003	< 0.004 U
	3/17/2004	0.047	< 0.001 U	< 0.001 U	0.005	< 0.002 U	13	< 0.005 U	< 0.002 U	0.071	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	6.3	< 0.010 U	0.003	0.016
	4/19/2004	< 0.020 U	< 0.001 U	< 0.001 U	0.005	< 0.002 U	13	< 0.005 U	< 0.002 U	0.038 B	< 0.001 U	10	< 0.001 U	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	5.8	< 0.010 U	0.003	< 0.004 U
	5/24/2004	< 0.020 U	< 0.001 U	< 0.001 U	0.004	< 0.002 U	14	< 0.005 U	< 0.002 U	0.05	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.010 U	1.3	< 0.001 U	< 0.003 U	6.2	< 0.010 U	0.003	< 0.004 U
	6/28/2004	0.029	< 0.001 U	< 0.001 U	0.004	< 0.002 U	13 B	< 0.005 U	< 0.002 U	0.046 B	< 0.001 U	9.9	< 0.001 U	< 0.0001 BU	< 0.010 U	1.2	< 0.001 U	< 0.003 U	6.1	< 0.010 U	0.003	< 0.004 BU
	8/1/2004	< 0.020 BU	< 0.001 U	< 0.001 U	0.048	< 0.002 U	13 B	< 0.005 U	< 0.002 U	0.054 B	< 0.001 U	10	< 0.001 U	< 0.0001 U	< 0.010 U	1.2	< 0.001 U	< 0.003 U	5.8	< 0.010 U	0.003	0.011
	11/2/2004	0.041	< 0.001 U	< 0.001 U	0.005	0.003	14 B	< 0.005 U	< 0.002 U	0.11	< 0.001 U	10	< 0.001 U	< 0.0001 U	< 0.01 U	1.3	< 0.001 U	< 0.003 U	6.2	< 0.01 U	0.003	< 0.004 U
	2/2/2005		< 0.001 U	0.0011	0.0070 J	< 0.0020 U	15 B	< 0.0050 U	< 0.0020 U	0.086 BJ	< 0.0010 U	12	< 0.0010 U	< 0.0001 U	< 0.010 U	1.5	0.0014 J	< 0.0030 U	7.1		0.0029	< 0.004 U
	2/2/2005		< 0.001 U	< 0.001 U	0.0064 J	< 0.0020 U	14 B	< 0.0050 U	< 0.0020 U	0.077 BJ	< 0.0010 U	12	< 0.0010 U	< 0.0001 U	< 0.010 U	1.3	< 0.001 U	< 0.0030 U	6.7		0.0028	< 0.004 U
	5/6/2005		< 0.001 U	< 0.001 U	0.0039 J	< 0.0020 U	15 B	< 0.0050 U	< 0.0020 U	0.062 BJ	< 0.0010 U	12	< 0.0010 U	< 0.0001 U	< 0.010 U	1.5	< 0.001 U	< 0.0030 U	7.3		0.0031	< 0.004 U
	8/3/2005		< 0.001 U	< 0.001 U	0.0044 J	< 0.0020 U	13	< 0.0050 U	0.0026 J	0.011 BJ	< 0.0010 U	12	< 0.0010 U	< 0.0001 U	< 0.010 U	1.3	< 0.001 U	< 0.0030 U	6.3		0.0027	< 0.004 U
	11/4/2005		< 0.001 U	< 0.001 U	0.00416	< 0.002 U	15.3	< 0.005 U	< 0.002 U	0.0703 B	< 0.001 U	12	< 0.001 U	< 0.0001 U	< 0.01 U	1.39	< 0.001 U	< 0.003 U	6.92		0.00316	< 0.004 U
	2/28/2006		< 0.001 U	< 0.001 U	0.0052	< 0.002 U	17	< 0.005 U	< 0.002 U	0.049	< 0.001 U	13	< 0.001 U	< 0.0001 U	< 0.01 U	1.5	< 0.001 U	< 0.003 U	7.4		0.0033	< 0.004 U
	5/8/2006		< 0.001 U	< 0.001 U	0.0045	< 0.002 U	13	< 0.005 U	< 0.002 U	< 0.005 U	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.01 U	1.3						



Vashon Closed Landfill Western Hillslope Investigation

		ALUMINUM	ANTIMONY	ARSENIC	BARIUM	CADMIUM	CALCIUM	CHROMIUM	COPPER	IRON	LEAD	MAGNESIUM	MANGANESE	MERCURY	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	TIN	VANADIUM	ZINC
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Federal Drinking Water Standards		0.05 - 0.2	0.006	0.01	2	0.005	None	0.1	1	0.3	0.015	None	0.05	0.002	0.1	None	0.05	0.1 Secondary	20	None	None	5
Groundwater Quality Criteria		0.05 - 0.2	0.006	0.00005	1	0.005	None	0.05	1	0.3	0.015	None	0.05	0.002	0.1	None	0.01	0.05	20	None	None	5
MW-27 (cont.)	2/5/2010		< 0.001 U	< 0.001 U	0.00434	< 0.002 U	13	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	11.2	< 0.001 U	< 0.0001 U	< 0.01 U	1.35	< 0.001 U	< 0.003 U	6.55		0.00296	< 0.004 U
	4/29/2010		< 0.001 U	< 0.001 U	0.00414	< 0.002 U	12.3	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	11.5	< 0.001 U	< 0.0001 U	< 0.01 U	1.32	< 0.001 U	< 0.003 U	6.63		0.00267	< 0.004 U
	8/10/2010		< 0.001 U	< 0.001 U	0.00413	< 0.002 U	12.2	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	11	< 0.001 U	< 0.0001 U	< 0.01 U	1.34	< 0.001 U	< 0.003 U	6.72		0.00279	< 0.004 U
	11/5/2010		< 0.001 U	< 0.001 U	0.00415	< 0.002 U	11.7 D	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	10.7	< 0.001 DU	< 0.0001 U	< 0.01 U	1.36	< 0.001 U	< 0.003 U	6.33		0.00273	< 0.004 U
MW-30	1/26/2010		< 0.001 U	< 0.001 U	0.0125	< 0.002 U	24.4	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	19.5	0.0888	< 0.0001 U	< 0.01 U	1.3	< 0.001 U	< 0.003 U	11.6		0.00234	0.0174
	4/29/2010		< 0.001 U	< 0.001 U	0.0108	< 0.002 U	24.8	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	20.7	0.0582	< 0.0001 U	< 0.01 U	1.36	< 0.001 U	< 0.003 U	11.9		0.0022	0.00498
	8/17/2010		< 0.001 U	< 0.001 U	0.0111	< 0.002 U	26.2	0.00507	< 0.002 U	< 0.01 U	< 0.001 U	20.5	0.0177	< 0.0001 U	< 0.01 U	1.48	< 0.001 U	< 0.003 U	12.1		0.00265	0.0724
	11/9/2010		< 0.001 U	< 0.001 U	0.0125	< 0.002 U	24.3 D	< 0.005 U	< 0.002 U	0.056	< 0.001 U	19.2	0.00621 D	< 0.0001 U	< 0.01 U	1.43	< 0.001 U	< 0.003 U	11.3		0.00268	0.00445
MW-31	1/28/2010		< 0.001 DU	< 0.001 U	0.00985 D	< 0.002 U	22.1	< 0.005 DU	0.00275	0.043 T	< 0.001 U	22.8 D	0.0261	< 0.0001 U	< 0.01 U	0.695 D	< 0.001 U	< 0.003 U	7.61		0.00231 D	0.00744
	4/22/2010		< 0.001 U	< 0.001 U	0.00605	< 0.002 U	18.6	< 0.005 U	0.00232	< 0.01 U	< 0.001 U	22.3	0.00626	< 0.0001 U	< 0.01 U	0.618	< 0.001 U	< 0.003 DU	8.25		< 0.002 U	0.016 D
	8/20/2010		< 0.001 U	< 0.001 U	0.00885	< 0.002 U	23.1	< 0.005 U	0.00289	0.011 T	< 0.001 U	24.7	0.00334 D	< 0.0001 U	< 0.01 U	0.729	< 0.001 U	< 0.003 U	8.02		0.00325	0.478
	11/8/2010		< 0.001 U	< 0.001 U	0.00662	< 0.002 U	18.3 D	< 0.005 U	0.00416	0.017 T	< 0.001 U	20.5	0.00176 D	< 0.0001 U	< 0.01 U	0.728	< 0.001 U	< 0.003 U	9.08		< 0.002 U	0.00533
MW-32	2/25/2010		0.00134	< 0.001 U	0.0122	< 0.002 U	47.1	< 0.005 U	< 0.002 U	< 0.01 U	< 0.001 U	30.6	0.00361	< 0.0001 U	< 0.01 U	2.51	< 0.001 U	< 0.003 U	15.7		0.00227	0.0832
	11/9/2010		< 0.001 HU	< 0.001 HU	0.011 H	< 0.002 HU	42.3 DH	< 0.005 HU	0.00315 H	< 0.01 HU	< 0.001 HU	32.1 H	0.00442 DH	< 0.0001 HU	< 0.01 HU	2.84 H	< 0.001 HU	< 0.003 HU	16.1 H		0.00279 H	0.0203 H

NOTE: Blank cell notes sample not analyzed for constituent  
NC Not calculated

QUAL QUALIFIER DESCRIPTION for samples taken prior to 4/1/2009 (as per KC SWD)

- B Analyte Found In Associated Method Blank
- D Compound Analyzed at a Secondary Dilution Factor.
- E Exceed The Calibration or Linear Range.
- J Estimated Value Less Than Practical Quantitation Limit And Greater Than The Method Detection Limit.
- M Raised Detection Limit. Due to Matrix Interference.
- O Analyzed Beyond Specified Holding Time.
- P Pesticide/PCBs > 25% Difference Between Columns.
- R Rejected Data
- U Analyte Not Detected at Given Value.
- CG Confluent Growth (Bacterial Analyses Only)
- ED Excess Debris on Growth Media (Bacterial Analyses Only)

Non-numeric result NOTATIONS:

- Not Not Analyzed
- NT Not Tested
- TNTC Too numerous to count
- NM Coliforms 'Not Measured' in sample (no CO2 production).
- P Coliforms 'Present' in sample (CO2 production) but can't be quantified.

QUAL QUALIFIER DESCRIPTION for samples taken after 4/12/2009 (as per KC SWD)

- U Undetected Analyte concentration <MDL - Less than Method detection limit
- T Estimated, Less than Reporting Detection Limit but greater than Method detection limit
- J Reported value is an estimate
- B Contamination present in Blank
- C Confluent Growth
- E Estimated, outside expected accuracy
- H Exceeds holding time
- R Data Rejected
- S Sample handling errors
- X Too numerous to count
- D Dilution
- P PASS - Qualitative result acceptable
- F FAIL - Qualitative result is not acceptable
- G Greater than
- L Less than

# **Appendix M.2**

## **Volatiles**

Data collected during 2000 - 2010







Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria		1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	ACETONE	ACRYLONITRILE	BENZENE	BROMOMETHANE	CARBON DISULFIDE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHENE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE	M & P XYLENE	METHYL IODIDE	METHYLENE CHLORIDE	O-XYLENE	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRICHLOROETHENE	TRICHLOROFUOROMETHANE	VINYL CHLORIDE	
WA State	Acute	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	
Federal	Acute	None	None	118,000 µg/L	23,000 µg/L	None	7,550 µg/L	5,300 µg/L	None	None	None	None	None	11,600 µg/L	None	32,000 µg/L	None	None	None	None	None	17,500 µg/L	11,600 µg/L	45,000 µg/L	None	None
	Chronic	None	None	20,000 µg/L	5,700 µg/L	None	2,600 µg/L	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	21,900 µg/L	None	None	
SW-W5	5/10/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	8/14/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	10/30/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	12/18/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	3/12/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	7/15/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	10/6/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	1/6/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	3/23/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	7/10/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	10/19/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	1/22/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	4/19/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	8/12/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	11/1/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
SW-W6	5/10/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	8/14/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	11/1/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	12/18/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	3/12/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	7/15/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	10/6/2008	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	3/24/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	7/10/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	10/19/2009	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	1/22/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	4/19/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	8/12/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	11/1/2010	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
	SW-W7	5/10/2007	< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U	
8/14/2007		< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
11/1/2007		< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
12/18/2007		< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		
3/12/2008		< 0.2 U		< 0.2 U				< 0.2 U					< 0.2 U	< 0.2 U							< 0.2 U		< 0.2 U	< 0.02 U		









Appendix M.2 VOC Detections in Surface Water and Groundwater

Vashon Closed Landfill Western Hillslope Investigation

		1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	ACETONE	ACRYLONITRILE	BENZENE	BROMOMETHANE	CARBON DISULFIDE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHENE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE	M & P XYLENE	METHYL IODIDE	METHYLENE CHLORIDE	O-XYLENE	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRICHLOROETHENE	TRICHLOROFLUOROMETHANE	VINYL CHLORIDE	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Federal Drinking Water Standards		200 µg/L	None	5 µg/L	5 µg/L	None	None	5 µg/L	None	None	None	None	70 µg/L	None	700 µg/L		None	5 µg/L		1000 µg/L	100 µg/L	5 µg/L	None	2 µg/L		
Groundwater Quality Criteria		200 µg/L	1 µg/L	0.5 µg/L	0.6 µg/L	None	0.07 µg/L	1 µg/L	None	None	None	7 µg/L	None	70 µg/L	None	700 µg/L		None	5 µg/L		1000 µg/L	100 µg/L	3 µg/L	None	0.02 µg/L	
MW-21 (cont.)	2/5/2004	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	1.8	10	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	4.2	0.67	
	4/30/2004	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	2.5	5.8	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	2	0.4	
	8/3/2004	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	2.3	8	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	1.8	0.45	
	10/29/2004	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.3	7.8	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.9	0.36	
	1/31/2005	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	1.3 J		< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	3.5	0.33	
	5/4/2005	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	4	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	1.7 J	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	0.51
	7/27/2005	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	1.1 J	9.6	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	6.9	0.57	
	11/2/2005	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.79	16	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	9	0.42	
	2/1/2006	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.71	11	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	7.2	0.5	
	5/8/2006	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.4	9.8	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	6	0.49	
	8/2/2006	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.8	20	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	7.4	0.54	
	11/14/2006	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.69	14	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	6.7	0.6	
	2/6/2007	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.3	8.4	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	4.5	0.55	
	5/1/2007	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.4	6.1	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.3	0.54	
	8/7/2007	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.3	5.3	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.1	0.46	
	11/1/2007	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2	2.9	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.9	0.34	
	2/5/2008	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.7	2.7	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.9	0.4
	5/15/2008	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.3	5.9	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.9	0.4
	8/5/2008	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1.9	7.1	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.27	
	11/3/2008	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	1	4.2	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	4.3	0.28	
2/9/2009	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.53	12	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.9	0.31		
5/8/2009	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.467	9.34	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	6.7	0.53		
8/11/2009	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	9.26 B	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.601	12.4	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	8.21	0.5		
11/3/2009	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	4.27	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.523	6.17	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.21 BT	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	4.88	0.452	
2/3/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.611	6.84	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	6.62	0.442		
5/5/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.785	6.64	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	5.41	0.334		
8/6/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.731	5.54	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.3 T	< 0.2 U	< 0.2 U	< 0.2 U	4.35	0.324		
11/2/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.33 T	0.77	7.5	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	4.15	0.327		
MW-12	2/18/2000	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.020 U	
	5/8/2000	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.020 U	
	8/25/2000	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.020 U	
	11/16/2000	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.020 U	
	2/5/2001	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 10 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.020 U	
	5/15/2001	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 4.0 U	< 10 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.020 U	
	7/31/2001	< 0.20 U	< 0.20 U</																							





Vashon Closed Landfill Western Hillslope Investigation

		1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,2-DICHLOROETHANE	1,2-DICHLOROETHANE	ACETONE	ACRYLONITRILE	BENZENE	BROMOMETHANE	CARBON DISULFIDE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHENE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE	M & P XYLENE	METHYL IODIDE	METHYLENE CHLORIDE	O-XYLENE	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRICHLOROETHENE	TRICHLOROFLUOROMETHANE	VINYL CHLORIDE
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Federal Drinking Water Standards	200 µg/L	None	5 µg/L	5 µg/L	None	None	5 µg/L	None	None	None	None	None	70 µg/L	None	700 µg/L		None	5 µg/L		1000 µg/L	100 µg/L	5 µg/L	None	2 µg/L	
Groundwater Quality Criteria	200 µg/L	1 µg/L	0.5 µg/L	0.6 µg/L	None	0.07 µg/L	1 µg/L	None	None	None	7 µg/L	None	70 µg/L	None	700 µg/L		None	5 µg/L		1000 µg/L	100 µg/L	3 µg/L	None	0.02 µg/L	
MW-30	1/26/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.29 BT	< 0.2 U	0.32 T	< 0.2 U	0.21 T	< 0.2 U	< 0.2 U	< 0.2 U	0.27 T	< 0.2 U	< 0.2 U	0.35 T	< 0.02 U
	4/29/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.28 T	< 0.2 U	< 0.2 U	0.37 T	< 0.02 U
	8/17/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.418	< 0.2 U	0.23 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.33 T	< 0.2 U	< 0.2 U	0.25 T	0.026
	11/9/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.25 T	< 0.2 U	0.3 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.3 T	< 0.02 U
MW-31	1/28/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.37 T	< 0.2 U	< 0.2 U	< 0.2 U	0.485	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
	4/22/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.22 T	< 0.2 U	< 0.2 U	< 0.2 U	0.39 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
	8/20/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.3 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.34 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
	11/8/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	5.24 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.24 T	< 0.2 U	< 0.2 U	< 0.2 U	< 0.02 U
MW-32	2/19/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 4 U	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	2.29	< 0.2 U	< 0.2 U	< 0.2 U	0.27 T	< 0.2 U	0.2 T	< 0.2 U	0.457	< 0.2 U	< 0.2 U	< 0.2 U	0.138
	11/9/2010	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	6.21 B	< 0.07 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	0.504	1.53	< 0.2 U	< 0.2 U	< 0.2 U	0.43	< 0.2 U	< 0.2 U	0.21 T	< 0.2 U	< 0.2 U	< 0.2 U	0.0478

NOTE: Blank cell notes sample not analyzed for constituent

QUAL QUALIFIER DESCRIPTION for samples taken prior to 4/1/2009 (as per KC SWD)

- B Analyte Found In Associated Method Blank
- D Compound Analyzed at a Secondary Dilution Factor.
- E Exceed The Calibration or Linear Range.
- J Estimated Value Less Than Practical Quantitation Limit And Greater Than The Method Detection Limit.
- M Raised Detection Limit. Due to Matrix Interference.
- O Analyzed Beyond Specified Holding Time.
- P Pesticide/PCBs > 25% Difference Between Columns.
- R Rejected Data
- U Analyte Not Detected at Given Value.
- CG Confluent Growth (Bacterial Analyses Only)
- ED Excess Debris on Growth Media (Bacterial Analyses Only).

Non-numeric result NOTATIONS:

- Not Not Analyzed
- NT Not Tested
- TNTC Too numerous to count
- NM Coliforms 'Not Measured' in sample (no CO2 production).
- P Coliforms 'Present' in sample (CO2 production) but can't be quantified.

QUAL QUALIFIER DESCRIPTION for samples taken after 4/12/2009 (as per KC SWD)

- U Undetected Analyte concentration <MDL – Less than Method detection limit
- T Estimated, Less than Reporting Detection Limit but greater than Method detection limit
- J Reported value is an estimate
- B Contamination present in Blank
- C Confluent Growth
- E Estimated, outside expected accuracy
- H Exceeds holding time
- R Data Rejected
- S Sample handling errors
- X Too numerous to count
- D Dilution
- P PASS – Qualitative result acceptable
- F FAIL – Qualitative result is not acceptable
- G Greater than
- L Less than

# **Appendix M.3**

# **Conventionals**

Data collected during 2000 - 2010

## Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria		TOTAL ALKALINITY (AS CaCO3)	AMMONIA AS N	CHLORIDE	HARDNESS	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TOTAL ORGANIC CARBON	
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
WA State	Acute	None	NC	None	None	None	None	None	None	None	None	
	Chronic	None	NC	230 mg/L	None	None	None	None	None	None	None	
Federal	Acute	None	NC	NC	None	NC	NC	None	None	None	NC	
	Chronic	> 20 mg/L	NC	NC	None	NC	NC	None	None	None	NC	
SW-24S	5/9/2007	540 DB	0.099	16 D		0.44	3.2	600	650	51	6	
	8/15/2007	450 DB	0.062	14 D		0.5	3.7	530	590	61	4.7	
	10/31/2007	400 DB	< 0.03 U	< 10 U		1.3	6.3	420	490	71	4.2	
	12/19/2007	340 DB	0.059	9.3		2	8.6	360	440	86	5	
SW-S1	3/11/2008	400 DB	< 0.03 U	< 10 U		2.1	6.8	400 D	470	62 D	5.1	
	5/11/2007	92 DB	0.034	4.4		2.7	12	120	350	230	2.8	
	8/14-15/2007	90 DB	0.056	4.8		3.3	17	< 40 U	4100	4100 D	8.2	
	10/31/2007	88 DB	< 0.03 U	4.6		2.3	14	130	190	58	7.2	
SW-S2	12/19-20/2007	100 DB	< 0.03 U	4.8		1.3	14	150	190	42	2.2	
	3/12/2008	94 B	< 0.03 U	4.6		1.4	15	130	170	35	2.8	
	5/9/2007	570 DB	0.23	55 D		0.08	8.3	720	790	71	8.2	
	8/15/2007	580 DB	0.12	55 D		< 0.05 U	6.7	660 D	1400	750 D	7.4	
	10/31/2007	500 DB	0.15	170 D		< 0.05 U	8.4	590	640	51	6.8	
	12/19/2007	550 DB	0.39	47 D		0.38	8.3	570	630	58	7	
	3/11/2008	500 DB	0.12	48 D		0.9	7.9	570 D	650	86 D	5.8	
	7/16/2008	640 DB	0.11	59 D		< 0.05 U	8.4	660	740	79	9.3	
	10/7/2008	610 DB	0.075	55 D		< 0.05 U	7.5	650	700	48	7.7	
	1/7/2009	490 D	0.2	29 D		< 0.05 U	5.8 D	600	610	9	7.2	
	3/25/2009	510 D	0.11	4.6		< 0.05 U	13	590	660	75	4.6	
	7/14/2009	539	1.24	53.2		< 0.01 U	10.9	680	760	61.3	10.4	
	10/27/2009	554	0.118	50.3		0.011 T	10.9	658	758	72	10.1	
	2/4/2010	481	0.571	52.2	525	0.01 T	9.27	626	700	59	9.51	
4/15/2010	469	0.0996	52.8	463	0.017 T	12.4	595	664	46.5	9.09		
SW-S3	8/12/2010	541	0.116	48	528	< 0.01 U	10.2	647	717	92.9	10.9	
	11/2/2010	466	0.0953	47.4	541	< 0.01 U	8.48	565	641	44.4	11.4	
	5/11/2007	250 DB	0.3	6.4		0.07	7.4	240	250	8	9.5	
	8/15/2007	290 DB	0.15	9.3		< 0.05 U	17	320	340	16	6.7	
	10/30/2007	250 DB	0.052	7.2		< 0.05 U	17	290 B	300	10	6.4	
	12/20/2007	210 DB	0.052	6.9		< 0.05 U	19	230	240	4	7.4	
	3/11/2008	220 DB	0.052	6.6		1.1	20 D	240	250	4	6.5	
	5/10/2007	270 DB	0.035	6		1.5	11	330	670	340	1.6	
	8/16/2007	290 DB	0.03	6.2		0.67	14	370 D	2200	1900 D	2.5	
	10/30/2007	260 DB	< 0.03 U	5.9		0.57	11	300 B	370	68	1.5	
SW-S4	12/19/2007	210 DB	0.033	5.8		1.7	13	240	290	55	1.2	
	3/13/2008	170 B	< 0.03 U	5.5		1.7	16	210	450	240	< 1 U	
	7/16/2008	250 DB	0.045	6.6		< 0.05 U	15	260	330	70	1.3	
	10/7/2008	340 DB	0.07	8.1		< 0.05 U	11	290	870	580	1.5	
	1/7/2009	230	0.044	6.2		< 0.05 U	15	260	260	< 2 U	1.6	
	3/23/2009	240 D	< 0.03 U	6		0.079	14	250	250	< 2 U	1.2	
	7/14/2009	347	0.0419	6.74		0.018 T	11.6	368	488	180	3.12	
	10/27/2009	381	0.0317	6.89		0.014 T	11.2	440	606	167	9.41	
	1/29/2010	247	0.0237	5.95		0.276 H	11.9	285	330	2.36	2.78	
	4/14/2010	320	< 0.01 U	6.31	276	0.0733	11.5	331	358	3.2	3.65	
	8/11/2010	343	0.0749	5.74	335	0.241	11.3	361	377	14.1	3.74	
	11/2/2010	365	0.0367	5.46	355	< 0.01 U	11.3	364	381	< 1 U	4.91	
	SW-S5	5/10/2007	200 DB	0.092	5.2		0.96	11	240	530	290	1.6
		8/16/2007	190 DB	< 0.03 U	3.4		< 0.05 U	11	200	220	18	< 1 U
11/1/2007		200 DB	< 0.03 U	3.2		0.059	12	230 D	560	330	< 1 U	
12/18/2007		210 DB	< 0.03 U	3.6		< 0.05 U	13	180	230	53 O	1.9	
3/13/2008		200 B	< 0.03 U	3.4		1.2	14	190	200	4	< 1 U	
7/16/2008		200 B	< 0.03 U	3.8		0.11	14	220	270	43	< 1 U	
10/7/2008		200 B	0.05	3.4		0.18	12	200	210	12	1.3	
1/7/2009		190	< 0.03 U	4.5		0.2	13	210	210	< 2 U	1.5	
3/24/2009		190 D	< 0.03 U	4.9		0.12	15	210	210	5	< 1 U	
7/16/2009		170	< 0.01 U	3.81		0.271	13.3	204	231	3.2	1.2	
10/27/2009		169	< 0.01 U	3.74		0.205	13.2	227	233	2.45	1.92	
1/29/2010		182	< 0.01 U	3.88	177	0.31 H	12.7	228	245	6.53	4.33	
4/14/2010		200	< 0.01 U	3.68	176	0.481	13	209	228	11.4	2.49	
8/11/2010		179	0.013 T	3.02	180	0.319	13.2	209	264	2.42	3.02	
11/5/2010		187	< 0.01 U	3.14	185	0.411	12.7	192	215	15.1	2.43	

## Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria		TOTAL ALKALINITY (AS CACO3)	AMMONIA AS N	CHLORIDE	HARDNESS	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TOTAL ORGANIC CARBON
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
WA State	Acute	None	NC	None	None	None	None	None	None	None	None
	Chronic	None	NC	230 mg/L	None	None	None	None	None	None	None
Federal	Acute	None	NC	NC	None	NC	NC	None	None	None	NC
	Chronic	> 20 mg/L	NC	NC	None	NC	NC	None	None	None	NC
SW-S6	5/10/2007	230 DB	< 0.03 U	5.2		0.7	11	250	280	27	1.5
	8/16/2007	140 DB	< 0.03 U	5.2		1.7	11	250 D	740	490 D	2.2
	11/1/2007	180 DB	< 0.03 U	5.4		1	11	220	320	93	1.2
	12/18/2007	200 DB	< 0.03 U	6.7		1.9	11	200	330	120 O	1
	3/13/2008	180 B	< 0.03 U	5.7		2.6	11	210	270	51	< 4 U
	7/16/2008	200 B	0.031	6		0.69	12	220	270	55	1.1
	10/7/2008	200 B	0.046	5.8		0.79	9.1	200	280	83	1.7
	1/6/2009	170 D	< 0.03 U	6.1	130	1	12	230	250	12	1.5
	3/24/2009	200 D	< 0.03 U	10 D		1.2	13 D	230	260	34	1.2
	7/16/2009	199	< 0.01 U	5.48		0.28	11.3	250	291	39.3	2.17
	10/27/2009	4.2 T	< 0.01 U	5.63		0.508	11	270	383	47	26.8
	1/29/2010	210	< 0.01 U	5.95	200	1.21 H	12.2	250	327		11.8
	4/14-15/2010	228	< 0.01 U	5.3	206	0.759	12.5	250	358	31.6	17.6
	8/11/2010	213	0.015 T	4.84	233	0.673	12.4	248	338	56.8	14.3
	11/5/2010	188	< 0.01 U	5.42	226	1.04	13.1	240	497	275	6.26
SW-14E	5/9/2007	240 DB	< 0.03 U	18 D	210	0.58	11	310	420	110	
SW-W1	3/31/2000		0.03	5.7	270	1.9	16		340	70	5
	6/29/2000		0.03	6.1	160	0.92	15		400	96	2.7
	12/27/2001	140 M	< 0.01 U	6	160	0.81	18		240	19	3.3
	3/28/2003	130 M	< 0.01 U	5	120	1.1	15		200	9	3.4
	5/29/2003	150 M	0.11	6	370	0.54 MJ	16		430	280	4.6
	3/28/2004	120 M	0.09	5	130	1.4 M	14		190	13	9.4
	3/28/2007	90 DB	< 0.03 U	3.5	90	3.1	9.7	120	140	22	3
	5/9/2007	90 DB	< 0.03 U	4.8	100	2.7	12	180	340	160	5.2
	8/14/2007	100 DB	< 0.03 U	5.1	100	2.7	14	110 D	250	140 D	3.3
	11/1/2007	98 DB	< 0.03 U	4.2	110	1.9	14	180	370	190	3.8
	3/12/2008	96 DB	< 0.03 U	3.8	100 O	2.2	14	140	180	31	3.2
	5/21/2008	100 DB	< 0.03 U	4.6	110	1.4	14	190	210	16	3.2
	7/15/2008	110 B	< 0.03 U	4.6	100	0.75	14	140	160	21	3.5
	10/6/2008	120 B	0.062	4.6	120	0.35	13	150	240	86	3.8 O
	3/26/2009	110 D	< 0.03 U	4.5	110	1.4	10	160	170	8	2
	7/13/2009	106	0.0732	5.26	103	0.334	13	168	197	52	9.24
	10/20/2009	108	0.0904	4.91	107	0.245	15.7	182	255	8.11	7.86
	1/21/2010	92.6	0.0205	4.68	90.5	2.15	10.9	151	180	40	7.14
	4/19/2010	92.8	0.018 T	5.43	95.8	2.11	11.6	151	162	28	5.28
	8/16/2010	105	0.0419	5.11	117	0.637	10.6	156	168	10.1	45.5
	11/9/2010	83.4	0.017 T	4.8	106	2.29	10.2	145	217	77.3	14.6
SW-W2	3/31/2000		0.02	30	480	< 0.2 UM	7.3		600	50	4.8
	6/29/2000		0.02	30 M	370	< 0.5 UM	5.6 M		580	25	4.7
	9/29/2000		0.02	32 M	450	< 0.05 UM	5		670	58	5.2
	12/21/2000		< 0.01 U	34 M	410	0.03 J	7		580	11	5.2
	3/29/2001		< 0.01 U	30 M	420	0.09 J	6 M		560	19	5.9
	6/26/2001		< 0.01 U	35 M	420	< 0.01 U	6		220	31	5
	12/27/2001	460 M	0.01	31 M	490	0.02 J	8		620	56	5.4
	3/28/2002	480 M	0.04	34 M	460	0.12 J	8		920 B	380	4.8
	6/26/2002	530 M	0.05	36 M	460	0.11 J	6		850	240	5.8
	9/27/2002	530 M	0.01	38 M	400	< 0.01 U	6		610	36	5.2
	12/13/2002	500 M	0.01	33 M	430	< 0.01 U	7		560	14	6.8
	3/26/2003	450 M	< 0.01 U	26 M	370	0.01 J	7		520	11	5.2
	5/29/2003	500 M	< 0.01 U	32 M	500	< 0.05 UM	7		640	75	5.2
	9/30/2003	490 M	< 0.01 U	34 M	470	< 0.05 UM	6		630	34	4.6
	12/18/2003	470 M	< 0.01 U	33 M	480	0.05 MJ	8		550	12	4.9
	3/25/2004	410 M	< 0.01 U	26 M	470	< 0.05 UM	7		660	200	7.9
	6/7/2004	470 M	< 0.01 U	33 M	490	< 0.05 UM	7		610	56	4.7
	9/29/2004	480 M	< 0.05 UM	31 M	510	< 0.05 UM	6		600	14	4.9
	12/22/2004	450 M	< 0.05 UM	32 M	580	9.0 MJ	9		570	20	5
	2/23/2005	450 M	< 0.05 UM	31 M	430	0.21 MJ	8		570	29	4.4
	5/16/2005	440 M	0.10 M	32 M	640	0.16 MJ	7		600	29	5.3
	9/29/2005	460 DB	0.047		520	< 0.05 U	6.9	520 O	540	25	5
	12/9/2005	460 DB	< 0.03 U		500	< 0.05 U	8	490	500	11	4.7
	2/27/2006	420 DB	< 0.03 U	34 D	470 U	0.2	9.1	450	480	30	4.7
	5/26/2006	460 D	45 D	33 D	490	0.11	7.3	540	570	26	58 D
	7/27/2006	460 DB	< 0.03 U	38 D	360	0.086	6.6	510	530	23	5
	3/28/2007	400 DB	< 0.03 U	< 1 U	150	0.22	7.4	430	440	11	4.9
	5/9/2007	440 DB	< 0.03 U	33 D	400	0.15	7.5	520	540	18	5.4
	8/14/2007	460 DB	< 0.03 U	36 D	390	0.11	6.8	490	520	30	4.7
	10/30/2007	430 DB	< 0.03 U	30 D	380 O	0.11	7.3	460 O	590	130	5.1



## Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria		TOTAL ALKALINITY (AS CaCO <sub>3</sub> )	AMMONIA AS N	CHLORIDE	HARDNESS	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TOTAL ORGANIC CARBON
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
WA State	Acute	None	NC	None	None	None	None	None	None	None	None
	Chronic	None	NC	230 mg/L	None	None	None	None	None	None	None
Federal	Acute	None	NC	NC	None	NC	NC	None	None	None	NC
	Chronic	> 20 mg/L	NC	NC	None	NC	NC	None	None	None	NC
SW-W2 (cont.)	12/18/2007	400 DB	< 0.03 U	26 D	350	0.42	8.7	390	410	19 O	
	3/12/2008	410 DB	< 0.03 U	26 D	380 O	0.35	9.2	430	490	64	5
	5/21/2008	420 DB	< 0.03 U	33 D	400	0.18	10 D	74	95	21	5.4
	7/15/2008	480 DB	< 0.03 U	36 D	380	0.13	7	470	510	39	5.2
	10/6/2008	480 DB	< 0.03 U	37 D	420	0.085	7.2	450	470	22	5.5 O
	1/6/2009	390 D	< 0.03 U	32 D	330	0.27	10 D	450	450	2	6.5
	3/26/2009	420 D	< 0.03 U	26 D	430	0.21	7	470	490	16	3
	7/13/2009	415	< 0.01 U	34.4	405	0.0932	7.8	494	536	30.6	6.88
	10/20/2009	392	< 0.01 U	33.1	411	0.0653	9.48	491	533	14	7
	1/21/2010	390	0.011 T	28	373	0.204	9.04	449	487	24.4	8.75
	4/19/2010	399	0.011 T	32.6	401	0.159	9.29	441	472	22.9	7.04
	8/16/2010	418	0.013 T	31.5	461	0.106	7.76	456	507	28.7	10.2
	11/9/2010	323	< 0.01 U	24.7	390	0.0613	8.05	393	493	65	18
	SW-W3	3/31/2000		0.03	12	260	0.55	12		340	29
6/29/2000			< 0.01 U	10 M	200	0.16 J	9.3		350	26	3.1
9/29/2000			< 0.05 UM	14 M	240	0.11 J	9.2		500	130	3.1
12/21/2000			< 0.01 U	15 M	230	0.3	12		350	37	3.5
3/29/2001			< 0.01 U	12 M	230	0.24	10		320	19	3.5
6/26/2001			< 0.01 U	13 M	220	0.12 J	10		420	69	2.8
12/27/2001		250 M	< 0.01 U	12 M	240	0.35	12		320	6	3.7
3/29/2002		250 M	0.02	12 M	250	0.32	12		430 B	160	2.9
6/26/2002		290 M	< 0.01 U	12 M	230	0.15 J	10		340	29	3.3
9/27/2002		290 M	< 0.01 U	16 M	210	0.15 J	11 M		330	11	3
12/13/2002		270 M	< 0.01 U	13 M	260	0.18 J	11		600	180	4.9
3/26/2003		240 M	< 0.01 U	10 M	200	0.18 J	10		300	8	4.2
5/29/2003		260 M	0.02	15 M	250	0.14 MJ	11		330	29	3
9/30/2003		270 M	0.07	13 M	260	0.09 MJ	11		380	43	2.9
12/18/2003		240 M	< 0.01 U	10 M	310	0.18 MJ	11		300	440	3.5
3/24/2004		230 M	< 0.01 U	11 M	240	0.13 MJ	11		270	44	3.6
6/7/2004		250 M	< 0.01 U	10 M	250	0.10 MJ	10		350	70	2.8
9/29/2004		240 M	0.2 M	10 M	270	< 0.05 UM	10		350	80	2.8
12/23/2004		230 M	< 0.05 UM	10 M	330	0.25 MJ	12		310	11	3.1
2/24/2005		230 M	< 0.05 UM	9	240	0.32 MJ	12		310	37	2.8
5/17/2005		220 M	0.09 M	10 M	270	0.20 MJ	11		320	66	3.5
12/9/2005		230 DB	< 0.03 U		230	0.12	11	390	390	9	2.8
2/27/2006		190 DB	< 0.03 U	9.9	210 U	0.5	13	200	200	2	3
6/29/2006		210	< 0.03 U	9.9	220	0.2	12	250	290	34	2.8
9/27/2006		220	< 0.03 U	11	190	0.18	12	290	330	32	3.5
3/28/2007		180 DB	< 0.03 U	6.8	350	0.73	9.4	200	220	20	3.9
5/9/2007		180 DB	< 0.03 U	8.5	170	0.58	11	250	280	34	3.3
8/14/2007		190 DB	< 0.03 U	9.6	170	0.54	12	240	310	73	2.8
10/30/2007		180 DB	< 0.03 U	30 D	150 O	0.47	7.3	220	270	49	3.4
12/18/2007		170 DB	< 0.03 U	8.6	150	0.76	12	180	180	< 2 U	
3/12/2008		180 DB	< 0.03 U	8.1	160 O	0.56	13	190	230	45	3
5/21/2008		180 DB	< 0.03 U	< 10 UO	180	0.32	13 O	89	120	27	3.1
7/15/2008		200 DB	0.045	9.4 D	160	0.28	12	200	260	61	3.6
10/6/2008	200 B	< 0.03 U	9.3	190	0.26	11	180	180	19	3.7 O	
1/6/2009	160	< 0.03 U	8.7	140	0.78	11	200	210	11	6.3	
3/26/2009	170 D	< 0.03 U	7.2	170	0.53	9.6	220	240	18	1.8	
7/13/2009	182	< 0.01 U	9.04	174	0.29	12.4	238	271	22.5	5.11	
10/20/2009	180	< 0.01 U	9.09	173	0.342	12.9	238	287	14.5	5.2	
1/21/2010	154	< 0.01 U	7.68	142	0.49	11.7	205	222	12.4	7.04	
4/19/2010	165	< 0.01 U	8.41	154	0.407	12.1	212	226	25.6	6.71	
8/16/2010	178	< 0.01 U	8.64	197	0.305	11.7	223	253	27.3	5.9	
11/9/2010	138	< 0.01 U	7.64	176	0.373	9.18	187	463	156	25.3	

## Vashon Closed Landfill Western Hillslope Investigation

Surface Water Quality Criteria		TOTAL ALKALINITY (AS CaCO3)	AMMONIA AS N	CHLORIDE	HARDNESS	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TOTAL ORGANIC CARBON
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
WA State	Acute	None	NC	None	None	None	None	None	None	None	None
	Chronic	None	NC	230 mg/L	None	None	None	None	None	None	None
Federal	Acute	None	NC	NC	None	NC	NC	None	None	None	NC
	Chronic	> 20 mg/L	NC	NC	None	NC	NC	None	None	None	NC
SW-W4	5/10/2007	120 DB	< 0.03 U	4.8	110	< 0.05 U	12	180	210	27	
	8/14/2007	130 DB	< 0.03 U	4.9	110	0.082	12	140	170	26	
	10/31/2007	120 DB	< 0.03 U	5.2	110	0.054	12	150	160	13	
	12/18/2007	120 DB	< 0.03 U	5.3	110	< 0.05 U	13	120	140	21 O	
	3/12/2008	110 B	< 0.03 U	4.6	110	0.08	15	130	150	21	
SW-W5	5/10/2007	130 DB	< 0.03 U	4.5	120	0.27	14	190	230	44	
	8/14/2007	140 DB	< 0.03 U	4.4	120	0.26	13	170	220	49	
	10/30/2007	130 DB	< 0.03 U	4.2	120	0.25	12	180 B	180	2	
	12/18/2007	130 DB	< 0.03 U	4.7	110	0.36	13	120	170	47 O	
	3/12/2008	130 B	< 0.03 U	4.3	130	1.6	14	140	160	17	
	7/15/2008	140 B	0.032	4.7	120	0.28	14	150	170	19	
	10/6/2008	150 B	< 0.03 U	4.3	130	0.26	13	160	170	5	
	1/6/2009	130	< 0.03 U	5.5	130	0.44	13	170	170	< 2 U	
	3/23/2009	140 D	< 0.03 U	4.9	110	0.32	14	180	190	8	
	7/10/2009	123	< 0.01 U	4.6	123	0.241	13.3	181	211	34.3	
	10/19/2009	124	< 0.01 U	4.74	123	0.211	14	194	195	2.27	
	1/22/2010	127	< 0.01 U	4.36	118	0.339	13.7	184	190	10.6	
	4/19/2010	124	< 0.01 U	4.47	121	0.254	13.8	164	203	26.2	
	8/12/2010	128	0.012 T	4.02	148	0.199	13.7	176	192	5.9	
	11/1/2010	99.5	< 0.01 U	3.93	114	1.44	9.18	171	214	57.8	
SW-W6	5/10/2007	140 DB	< 0.03 U	4	130	0.31	12	180	180	4	
	8/14/2007	140 DB	< 0.03 U	3.8	120	0.33	12	160	160	2	
	11/1/2007	130 DB	< 0.03 U	< 1 U	130	0.29	< 1 U	180	200	19	
	12/18/2007	140 DB	< 0.03 U	4.2	120	0.42	12	120	120	2 O	
	3/12/2008	150 B	< 0.03 U	4	130	1.7	13	140	150	4	
	7/15/2008	160 B	< 0.03 U	4.5	140	0.32	12	180	180	3	
	10/6/2008	160 B	< 0.03 U	4	140	0.33	12	170	180	5	
	3/24/2009	150 D	< 0.03 U	5.2	120	0.39	13	170	180	4	
	7/10/2009	143	< 0.01 U	4.57	133	0.355	12.1	190	205	4.51	
	10/19/2009	129	< 0.01 U	4.68	127	0.259	12.8	192	209	129	
	1/22/2010	128	< 0.01 U	4.33	117	0.447	12	176	174	4.2	
	4/19/2010	134	< 0.01 U	4.56	130	0.315	11.8	174	185	8.4	
	8/12/2010	137	0.015 T	4.1	149	0.314	11.3	183	185	3.4	
	11/1/2010	89.2	< 0.01 U	3.84	106	0.4	6.95	162	233	83.2	
	SW-W7	5/10/2007	140 DB	< 0.03 U	4.9	120	0.99	14	130	140	12
8/14/2007		140 DB	< 0.03 U	4.9	120	1.2	13	170	190	14	
11/1/2007		130 DB	< 0.03 U	4.7	130	1	13	190	200	12	
12/18/2007		130 DB	< 0.03 U	5.1	120	1.1	13	160	170	7 O	
3/12/2008		130 B	< 0.03 U	4.7	130	2.1	15	150	160	6	

Vashon Closed Landfill Western Hillslope Investigation

		TOTAL ALKALINITY (AS CaCO3) mg/l	AMMONIA AS N mg/l	CHLORIDE mg/l	HARDNESS mg/l	NITRATE mg/l	SULFATE mg/l	TOTAL DISSOLVED SOLIDS mg/l	TOTAL SOLIDS mg/l	TOTAL SUSPENDED SOLIDS mg/l	TOTAL ORGANIC CARBON mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-2	2/17/2000	110 M	< 0.01 U	4		< 0.01 U	14	190	200	1. U	< 1.0 U
	5/11/2000	160 M	< 0.01 U	3.7		0.02 J	13	180	190	< 1 U	< 1.0 U
	8/22/2000	140 M	< 0.01 U	3.7		0.01 J	12	180	180 B	1 J	< 1.0 U
	11/17/2000	160 M	< 0.01 U	3.8		< 0.01 U	12	180	200	< 1 U	< 1.0 U
	2/7/2001	160 M	< 0.01 U	4		0.02 J	12	190	210	2	< 1.0 U
	5/16/2001	150 M	< 0.01 U	3		< 0.01 U	10	200	220	< 1 U	< 1.0 U
	7/24/2001	200 M	< 0.01 U	4		0.02 J	10	210 B	230 B	1 J	< 1.0 U
	11/6/2001	210 M	0.03	3		0.05 J	10	240	250 B	< 1 U	1.2
	2/13/2002	220 M	< 0.01 U	4		0.08 BJ	9	260 B	200	< 1 U	< 1.0 U
	4/30/2002	230 M	< 0.01 U	4		0.04 J	9	240	260	< 1 U	< 1.0 U
	8/16/2002	230 M	< 0.01 U	4		< 0.01 U	9	230 B	240	1 J	< 1.0 U
	10/29/2002	240 M	< 0.01 U	3		< 0.01 U	9	230	260	1. U	1.4
	2/3/2003	240 M	< 0.01 U	4		0.02 J	10	230	250	< 1 U	< 1.0 U
	5/2/2003	240 M	< 0.01 U	4		< 0.05 UM	9	250	270	1 J	< 1 U
	7/24/2003	240 M	0.04	4		< 0.05 UM	9	240	270	1 J	< 1.0 U
	10/20/2003	230 M	< 0.01 U	3		< 0.05 UM	9	260	260 M	< 1 U	< 1 U
	2/9/2004	260 M	< 0.01 U	4		0.05 MJ	9	250	250 M	< 1 U	< 1.0 U
	4/30/2004	240 M	0.04	4		< 0.05 UM	9	250	250 M	< 1 U	< 1.0 U
	8/13/2004	240 M	< 0.01 U	3		< 0.05 UM	9	270	270 M	3	< 1.0 U
	10/29/2004	250 M	< 0.05 UM	3		< 0.05 UM	9	250	250 M	< 1 U	< 1 U
	1/27/2005	270 M	< 0.05 UM	3		0.05 MJ	9	250	250 M	< 1 U	< 1.0 U
	5/6/2005	270 M	< 0.05 UM	3		0.07 MJ	9	230	230 M	3	< 1.0 U
	7/29/2005	260 M	< 0.05 UM	3		0.19 MJ	9	250	250 M	1 J	< 1.0 U
	11/9/2005	270 DB	< 0.03 U	3.6		0.062	9.2	270	270	2	< 1 U
	1/30/2006	270	< 0.03 U	3.5		0.075	9.5	250	250	< 2 U	< 1 U
	5/3/2006	260 DB	< 0.03 U	3.5		0.063	9.8	270	270	< 2 U	< 1 U
	8/10/2006	270 DB	< 0.03 U	3.5		< 0.05 U	9.9	260	260	< 2 U	< 1 U
	11/1/2006	260 DB	< 0.03 U	3.1		0.068	11	300	300	< 2 U	< 1 U
	11/1/2006	260 DB	< 0.03 U	3		0.071	10	290	290	< 2 U	< 1 U
	1/30/2007	260 DB	< 0.03 U	3.7		0.069	11	260	260	< 2 U	< 1 U
	4/30/2007	270 DB	< 0.03 U	3.3		0.075	11	260	260	< 2 U	< 1 U
	8/1/2007	260 DB	< 0.03 U	3		< 0.05 U	11	270 D	270	< 2 U	< 1 U
	11/6/2007	260 DB	< 0.03 U	2.9		0.081	11	260	260	2	< 1 U
	2/4/2008	290	< 0.03 U	3		0.091	11	260	270	2	< 1 U
	5/12/2008	260 B	< 0.03 U	3.4		0.22	13	270	270	< 2 U	< 1 U
	8/6/2008	280 B	< 0.03 U	4		0.19	14	320	320	4	< 1 U
	11/6/2008	300 B	< 0.03 U	4.2		0.28	13	280	280	< 2 U	< 1 U
	2/20/2009	270 D	< 0.03 U	4		0.3	12	34 O	35 O	< 2 U	< 1 U
	5/7/2009	249	< 0.01 U	4.28		0.326	13.2	289	302	< 1 U	2.02
	8/3/2009	262	< 0.01 U	4.28		0.356	13.5	297	306	< 1 U	2.79
	11/17/2009	265	< 0.01 U	4.24		0.442	13.7	300	311	1	3.65
	2/16/2010	257	< 0.01 U	4.19		0.501	14.4	290	296	< 1 U	1.85
	4/30/2010	251	< 0.01 U	4.1		0.461	15.6	286	291	< 1 U	< 1 U
	8/3/2010	245	< 0.01 U	3.13		0.339	15.3	275	288	< 1 U	2.82
	11/5/2010	238	< 0.01 U	3.38		0.356	15.7	256	262	< 1 U	2.21
MW-5D	2/17/2000	320 M	0.05	4		< 0.20 UM	6	350	380	33	3
	5/5/2000	300 M	0.05	3.9		1. UM	6	330	380	21	2.8
	8/18/2000	350 M	< 0.05 UM	4.1		< 0.5 UM	5.7	330	410	44 B	3.5
	11/9/2000	360 M	0.06	7.6		< 0.2 UM	6.3	410	520	89	4
	1/31/2001	350 M	< 0.01 U	5		0.03 J	7	370	410	6	3.5
	5/16/2001	310 M	0.01	5		0.03 J	6	350	400	14	2.9
	7/27/2001	320 M	< 0.01 U	5		0.06 J	7	360	410	33	2.6
	11/7/2001	380 M	< 0.01 U	8		< 0.01 U	7	450	490 BM	64 M	3.7 O
	2/13/2002	440 M	< 0.01 U	11 M		0.01 J	6	490 B	570	64	4.2
	4/25/2002	400 M	0.09	6		< 0.01 U	6	400	440	32	3.7
	8/7/2002	370 M	0.03	4		< 0.01 U	6	370 B	410 B	14	2.3
	11/5/2002	330 M	0.07	4		< 0.01 U	6	320	420	68	3.4
	11/5/2002	320 M	0.06	4		< 0.01 U	6	330	410	62	3.3
	1/28/2003	320 M	0.07	4		< 0.01 U	6	340	470	95	2.8
	5/5/2003	310 M	0.04	4		< 0.05 UM	7	350	390	33	2.4

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		TOTAL ALKALINITY (AS CaCO3) mg/l	AMMONIA AS N mg/l	CHLORIDE mg/l	HARDNESS mg/l	NITRATE mg/l	SULFATE mg/l	TOTAL DISSOLVED SOLIDS mg/l	TOTAL SOLIDS mg/l	TOTAL SUSPENDED SOLIDS mg/l	TOTAL ORGANIC CARBON mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-5D (cont.)	7/22/2003	310 M	0.05	4		< 0.05 UM	7	310 M	200	44 M	2.4
	10/17/2003	320 M	0.31	6		< 0.05 UM	7	350	380 M	27	2.8
	2/12/2004	340 M	0.11	3		< 0.05 UM	6	340	430 M	90	2
	5/4/2004	300 M	0.23	5		< 0.05 UM	7	310	510 M	200	3.1
	6/1/2004	280 M	0.05	5		< 0.05 UM	8	350	360 M	12	2.6
	8/3/2004	280 M	0.14	4		< 0.05 UM	8	330	380 M	47	2.4
	11/2/2004	310 M	< 0.05 UM	4		< 0.05 UM	7	350	400 M	48	2.2
	1/31/2005	290 M	0.05 M	4		< 0.05 UM	6	340	350 M	12	2.1
	5/6/2005	310 M	0.14 M	4		0.07 MJ	6	310 O	360 M	48	2.5
	7/29/2005	310 M	0.05 M	4		< 0.05 UM	6	340	380 M	35	2.5
	11/2/2005	340 DB	< 0.03 U	3.6		< 0.05 U	6.3	350	400	53	2.6
	2/1/2006	310 DB	0.047	4.1		< 0.05 U	6.4	330	360	27	2.6
	5/5/2006	290 DB	< 0.03 U	3.6		< 0.05 U	6.7	350	360	7	2.4
	8/7/2006	270 DB	0.049	3.6		0.15	7.5	360	380	29	2
	11/3/2006	270 DB	0.067	2.9		0.066	6.8	330	360	32	2.1
	2/6/2007	280 DB	0.068	3.4		< 0.05 U	6.5	330	330	4	< 1 U
	2/6/2007	270 DB	0.06	3.6		< 0.05 U	6.9	330	340	5	1.8
	5/1/2007	260 DB	0.038	3		< 0.05 U	7.2	330	330	4	2
	8/10/2007	280 DB	< 0.03 U	2.6		< 0.05 U	6.7	300	330	31	2
	11/1/2007	240 DB	0.057	2.9		< 0.05 U	6.8	270	300	30	2.5
	2/5/2008	290	0.059	2.9		< 0.05 U	7.1	250	280	30	2.1
	5/12/2008	230 B	0.075	3.1		0.094	8	270	290	13	2
	8/7/2008	240 B	0.059	3.6		< 0.05 U	8.4	260	330	68	2.2
	11/18/2008	270 DB	0.052	3.1		0.063	7.7	250	300	48	2.5
	3/20/2009	270 D	0.18	3.8		< 0.05 U	8.5	270	300	25	1.5
	5/12/2009	230	0.0442	4.35		< 0.01 U	9.63	279	317	7.4	4.53
	8/11/2009	270	0.0445	5.66		< 0.01 U	10.8	324	354	25.3	4.68
	11/3/2009	314	0.0451	7.03		0.013 T	13.8	351	381	16	4.42
	2/11/2010	267	0.025	5.68		< 0.01 U	11.9	316	330	8	3.9
	4/30/2010	231	0.0534	4.43		< 0.01 U	10.7	282	322	3.6	2.51
	8/6/2010	199	0.0467	3.04		0.018 T	9.53	236	270	29.6	3.58
	11/2/2010	209	0.0488	3.79		< 0.01 U	9.65	229	255	10.4	3.27
MW-9	2/14/2000	68 M	< 0.01 U	4		0.09 J	12	110	110	1 U	< 1.0 U
	5/3/2000	61 M	< 0.01 U	3.2		0.09 J	11	96	100	< 1 U	< 1.0 U
	5/3/2000	60 M	0.01	3.5		0.10 J	11	90	99	< 1 U	< 1.0 U
	8/15/2000	64 M	< 0.01 U	3.6		0.11 J	11	92	110	2	< 1.0 U
	11/13/2000	64 M	< 0.01 U	3.7		0.12 BJ	12	120	130	< 1 U	< 1.0 U
	1/30/2001	62 M	< 0.01 U	3		0.13 J	11	110	120	< 1 U	< 1.0 U
	5/4/2001	58 M	< 0.01 U	4		0.15 J	11	97	120	< 1 U	< 1.0 U
	7/24/2001	56 M	< 0.01 U	3		0.17 J	10	100 B	110 B	2	< 1.0 U
	11/1/2001	58 M	0.04	3		0.23	9	110	110 B	2	< 1.0 U
	2/12/2002	57 M	< 0.01 U	3		0.05 J	11	110 B	160	38	< 1.0 U
	6/24/2002	70 M	< 0.01 U	4		0.14 J	13	110	110	1 J	< 1.0 U
	8/6/2002	72 M	< 0.01 U	4		0.17 J	14	120 B	130 B	1 J	< 1.0 U
	11/7/2002	68 M	0.05	4		0.15 J	12	110	120	1 J	< 1.0 U
	2/3/2003	61 M	< 0.01 U	4		0.11 J	12	88	120	2	< 1.0 U
	4/29/2003	62 M	< 0.01 U	4		0.12 J	13	110	120	2	< 1.0 U
	7/22/2003	62 M	< 0.01 U	4		0.13 MJ	13	110	120	1 J	< 1.0 U
	10/24/2003	65 M	0.03	4		0.14 MJ	13	99	100 M	1 J	< 1.0 U
	2/6/2004	69 M	< 0.01 U	4		0.12 MJ	12	96	98 M	2	< 1.0 U
	5/3/2004	63 M	< 0.01 U	4		0.09 MJ	14	90	90 M	< 1 U	< 1.0 U
	5/3/2004	64 M	< 0.01 U	4		0.09 MJ	13	91	91 M	< 1 U	< 1.0 U
	8/10/2004	72 M	0.02	4		0.20 M	14	140	140 M	< 1 U	< 1.0 U
	10/27/2004	65 M	< 0.05 UM	4		0.15 MJ	13	91	91 M	< 1 U	< 1.0 U
	2/2/2005	62 M	< 0.05 UM	4		0.14 MJ	13	95	97 M	2	< 1.0 U
	5/3/2005	61 M	0.06 M	4		0.16 MJ	13	130	130 M	1 J	< 1.0 U
	8/3/2005	61 M	< 0.05 UM	4		0.25 MJ	13	110	110 M	2	< 1.0 U
	11/15/2005	60 DB	< 0.03 U	4.1		0.087	13	100	100	< 2 U	< 1 U
	2/1/2006	60 DB	< 0.03 U	3.8		0.098	12	85	87	2	< 1 U
	5/2/2006	63 DB	< 0.03 U	4.2		0.21	14	120	120	< 2 U	< 1 U
	8/3/2006	70 DB	< 0.03 U	4.6		0.24	15	97	97	< 2 U	< 1 U
	11/2/2006	69 DB	< 0.03 U	3.9		0.23	14	160	160	< 2 U	< 1 U

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		TOTAL ALKALINITY (AS CaCO3) mg/l	AMMONIA AS N mg/l	CHLORIDE mg/l	HARDNESS mg/l	NITRATE mg/l	SULFATE mg/l	TOTAL DISSOLVED SOLIDS mg/l	TOTAL SOLIDS mg/l	TOTAL SUSPENDED SOLIDS mg/l	TOTAL ORGANIC CARBON mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-9 (cont.)	2/27/2007	62 DB	< 0.03 U	5.2		1.1	13	67	69	2	< 1 U
	4/30/2007	70 DB	< 0.03 U	4.4		0.53	13	82	82	< 2 U	< 1 U
	8/10/2007	72 DB	< 0.03 U	4.4		0.37	14	150	150	< 2 U	< 1 U
	11/5/2007	70 DB	< 0.03 U	4		0.25	14	94	95	< 2 U	< 1 U
	2/7/2008	70 DB	< 0.03 U	3.7		0.088	13	82	82	< 2 U	< 1 U
	5/9/2008	68 B	< 0.03 U	4.3		0.14	15	58	59	< 2 U	< 1 U
	8/5/2008	78 B	< 0.03 U	4.4		0.11	15	110	120	< 2 U	< 1 U
	11/17/2008	74 B	< 0.03 U	3.5		0.15	13	91 O	190	2	< 1 U
	11/17/2008	74 B	< 0.03 U	3.6		0.15	13	95 O	200	5	< 1 U
	2/4/2009	100	< 0.03 U	5.9		< 0.05 U	18	150	150	< 2 U	1.1
	5/1/2009	66	< 0.01 U	3.91		0.139	12.2	104	109	< 1 U	< 1 U
	7/31/2009	63.3	< 0.01 U	4.16		0.138	13.3	113	118	< 1 U	< 1 U
	11/5/2009	65.2	< 0.01 U	4.11		0.157	12.4	112	108	< 1 U	< 1 U
	2/4/2010	66.6	< 0.01 U	4.3		0.134	13	115	111	< 1 U	< 1 U
	5/3/2010	65.3	< 0.01 U	4.41		0.186	13.6	119	120	1 T	< 1 U
	8/9/2010	69.7	< 0.01 U	4.4		0.199	14.3	120	128	< 1 U	< 1 U
	11/8/2010	66	< 0.01 U	4.53		0.176	14.4	125	126	< 1 U	< 1 U
MW-21	2/16/2000	180 M	0.03	6		< 0.05 UM	19	250	260	12	2
	5/5/2000	170 M	0.02	6.4		< 0.2 UM	18	230	240	5	2
	8/18/2000	160 M	0.02	5.4		< 0.5 UM	16	230	260	8 B	2.2
	11/13/2000	170 M	0.02	6.3		< 0.05 UM	16	240	260	3	2.4
	1/31/2001	160 M	0.02	6		0.01 J	16	200	230	5	2.6
	5/14/2001	180 M	0.02	5		0.02 J	13	200	210	2	2.1
	7/24/2001	160 M	0.01	5		< 0.01 U	12	210 B	230 B	5	1.4
	11/2/2001	170 M	0.07	4		0.01 J	12	240	220 B	4 M	1.4
	2/13/2002	210 M	0.01	5		< 0.01 U	12	260 B	260	< 1 U	1.2
	4/25/2002	200 M	0.11	4		< 0.01 U	10	210	240	5 B	3.2
	8/14/2002	200 M	< 0.01 U	4		< 0.01 U	12	230	240 B	4	1.5
	8/14/2002	200 M	0.06	4		< 0.01 U	12	220	250 B	1 J	2.7
	10/31/2002	200 M	< 0.01 U	4		< 0.01 U	11	200	240	3	1.8
	1/27/2003	220 M	< 0.01 U	4		< 0.01 U	11	240	260	2	1.5
	5/2/2003	200 M	0.13	4		< 0.05 UM	12	230	250	6	1.3
	7/22/2003	200 M	< 0.01 U	4		< 0.05 UM	12	230	250	4	1.4
	10/20/2003	210 M	< 0.01 U	4		< 0.05 UM	11	260	260 M	4	1.1
	2/5/2004	270 M	0.03	4		< 0.05 UM	10	250	250 M	2	< 1.0 U
	4/30/2004	210 M	< 0.01 U	4		< 0.05 UM	12	240	240 M	4	1.2
	8/3/2004	210 M	0.03	4		< 0.05 UM	11	240	240 M	4	1.4
	10/29/2004	230 M	< 0.05 UM	4		< 0.05 UM	10	240	250 M	10	< 1 U
	1/31/2005	260 M	< 0.05 UM	4		< 0.05 UM	10	270	270 M	2	< 1.0 U
	5/4/2005	250 M	< 0.05 UM	4		< 0.05 UM	10	220	220 M	5	< 1.0 U
	7/27/2005	250 M	< 0.05 UM	4		< 0.05 UM	10	240	240 M	5	< 1.0 U
	11/2/2005	270 DB	< 0.03 U	3.8		< 0.05 U	10	280	280	3	1.1
	2/1/2006	270 DB	< 0.03 U	3.7		< 0.05 U	10	260	270	7	< 1 U
	2/1/2006	270 DB	< 0.03 U	3.6		< 0.05 U	10	260	260	2	< 1 U
	5/8/2006	240 DB	< 0.03 U	3.8		< 0.05 U	11	260	260	8	1
	8/2/2006	240 DB	< 0.03 U	3.5		< 0.05 U	11	270	270	3	< 1 U
	11/14/2006	250 DB	< 0.03 U	3.2		0.064	12	290	290	< 2 U	< 1 U
	2/6/2007	220 DB	< 0.03 U	3.2		< 0.05 U	12	240	240	< 2 U	1.1
	5/1/2007	220 DB	< 0.03 U	2.8		< 0.05 U	12	260	260	2	1.2
	8/7/2007	210 DB	< 0.03 U	2.8		0.092	11	250	250	< 2 U	1
	8/7/2007	220 DB	< 0.03 U	2.7		0.068	12	250	250	< 2 U	< 1 U
	11/1/2007	210 DB	< 0.03 U	2.8		< 0.05 U	11	220	230	5	1.9
	2/5/2008	230	< 0.03 U	3.3		< 0.05 U	12	220	230	6	1.4
	5/15/2008	200 B	< 0.03 U	3.7		< 0.05 U	13	240	240	4	1.2
	8/5/2008	230 B	< 0.03 U	4.2		< 0.05 U	14	240	240	< 2 U	1.2
	11/3/2008	290 B	< 0.03 U	5		0.088	12	260	260	2	1.1
	2/9/2009	290 D	< 0.03 U	4.4		0.17	13	290	290	< 2 U	< 1 U
	5/8/2009	268	< 0.01 U	4.52		0.152	12.7	307	324	4.4	2.51
	8/11/2009	262	< 0.01 U	4.6		0.137	13.9	307	320	2.6	2.55
	11/3/2009	274	< 0.01 U	4.74		0.137	14.4	297	323	17.6	2.41
	2/3/2010	276	< 0.01 U	4.54		0.193	15.1	284	287	6.3	2.78
	5/5/2010	260	< 0.01 U	4.95		0.174	15.3	278	295	5.1	1.02
	8/6/2010	247	< 0.01 U	3.89		0.264	14.2	277	300	2	2.41
	11/2/2010	208	0.011 T	4.07		0.12	16.3	237	252	13.6	2.45

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		TOTAL ALKALINITY (AS CaCO3)	AMMONIA AS N	CHLORIDE	HARDNESS	NITRATE	SULFATE	TOTAL DISSOLVED SOLIDS	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TOTAL ORGANIC CARBON
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-12	2/18/2000	63 M	< 0.01 U	3		0.64	11	110	110	1. U	< 1.0 U
	5/9/2000	58 M	< 0.01 U	2.6		0.64	10	88	97	< 1 U	< 1.0 U
	8/25/2000	60 M	< 0.01 U	2.9		0.68	10	90	100 B	4	< 1.0 U
	8/25/2000	54 M	0.01	2.8		0.67	10	91	100 B	4	< 1.0 U
	11/16/2000	60 M	< 0.01 U	3.1		0.67	10	100	120	< 1 U	< 1.0 U
	11/16/2000	56 M	< 0.01 U	3		0.66	10	94	110	< 1 U	< 1.0 U
	2/5/2001	60 M	< 0.01 U	5		0.75 B	11	99	110	< 1 U	< 1 U
	5/15/2001	57 M	< 0.01 U	3		0.7	10	100	110	1 J	< 1.0 U
	7/31/2001	58 M	< 0.01 U	3		0.66	10	100	110	1 J	< 1.0 U
	10/31/2001	58 M	< 0.01 U	3		0.7	10	120	100 B	1 J	< 1.0 U
	2/8/2002	56 M	< 0.01 U	3		0.76	10	140	150	1 J	2.4
	4/26/2002	59 M	0.06	3		0.74	10	80	94	< 1 U	< 1.0 U
	8/23/2002	52 M	< 0.01 U	3		0.78	10	94	96	< 1 U	< 1.0 U
	11/5/2002	58 M	< 0.01 U	3		0.75	10	82	100	< 1 U	< 1.0 U
	1/31/2003	56 M	< 0.01 U	3		0.77	10	84	100	< 1 U	< 1.0 U
	1/31/2003	58 M	< 0.01 U	3		0.77	10	89	100	< 1 U	< 1.0 U
	4/30/2003	56 M	< 0.01 U	3		0.82	11	90	110	< 1 U	< 1.0 U
	7/23/2003	56 M	< 0.01 U	3		0.85 MJ	10	93	110	1 J	< 1.0 U
	10/23/2003	54 M	0.02	3		0.73 MJ	10	99	99 M	< 1 U	< 1.0 U
	2/6/2004	59 M	< 0.01 U	3		0.81 MJ	9	88	88 M	< 1 U	< 1.0 U
	5/6/2004	52 M	< 0.01 U	3		0.9 MJ	10	74	74 M	< 1 U	< 1.0 U
	8/19/2004	53 M	0.01	3		0.79 MJ	10	110	3. UM	1. U	< 1.0 U
	10/29/2004	44 M	< 0.05 UM	3		0.77 MJ	10	110	110 M	< 1 U	< 1.0 U
	2/3/2005	55 M	< 0.05 UM	3		1.0 M	10	90	90 M	< 1 U	< 1.0 U
	5/5/2005	54 M	< 0.05 UM	3		0.82 MJ	10	63	65 M	2	< 1.0 U
	7/29/2005	54 M	< 0.05 UM	3		1.9 M	10	100	100 M	1 J	< 1.0 U
	7/29/2005	54 M	< 0.05 UM	3		1.9 M	10	120	120 M	2	< 1.0 U
	11/9/2005	55 DB		3		0.7	9.7	150	150	< 2 U	< 1 U
	2/29/2006	54 DB	< 0.03 U	3		0.78	9.6	69	73	4	< 1 U
	5/9/2006	53 DB	< 0.03 U	3.1		0.78	9.8	100	100	< 2 U	< 1 U
	8/4/2006	55 DB	< 0.03 U	2.9		0.73	10	78	79	< 2 U	< 1 U
	11/9/2006	56 DB	< 0.03 U	3		0.55	10	62	62	< 2 U	< 1 U
	1/30/2007	56 DB	< 0.03 U	3		0.8	9.9	84	84	< 2 U	< 1 U
	1/30/2007	56 DB	< 0.03 U	2.8		0.8	11	91	93	2	< 1 U
	4/27/2007	56 DB	< 0.03 U	2.9		0.8	10	90	90	< 2 U	< 1 U
	8/2/2007	56 DB	< 0.03 U	2.8		0.75	9.8	110 D	110	< 2 U	< 1 U
	11/2/2007	54 DB	< 0.03 U	2.7		0.75	9.4	99	99	< 2 U	< 1 U
	2/11/2008	60 DB	< 0.03 U	2.7		0.76	9.3	83	84	< 2 U	< 1 U
	5/12/2008	30 B	< 0.03 U	3.1		0.79	11	89	89	< 2 U	< 1 U
	8/7/2008	60 B	< 0.03 U	3.3		0.71	11	99	99	< 2 U	< 1 U
	11/13/2008	66 B	< 0.03 U	2.7		0.78	9.9	110	110	< 2 U	< 1 U
	2/4/2009	58	< 0.03 U	2.7		0.76	9.8	110	110	< 2 U	1
	2/4/2009	60	< 0.03 U	2.8		0.72	9.9	100	100	< 2 U	1
	5/13/2009	57.2	< 0.01 U	3.04		0.748	9.81	108 B	109 B	< 1 U	1.15
	8/4/2009	52.5	< 0.01 U	3.07		0.768	10.4	105	112	< 1 U	< 1 U
	11/2/2009	63.4	< 0.01 U	3.14		0.618	10.3	115	114	7	1.36
	2/5/2010	58.9	< 0.01 U	3.08		0.719	10.2	102	109	< 1 U	< 1 U
	5/6/2010	57.6	< 0.01 U	3.17		0.75	10.4	103	108	< 1 U	< 1 U
	9/28/2010	57.4	< 0.01 U	2.82		0.736	10.4	90	114	3.6	< 1 U
	11/9/2010	55.7	< 0.01 U	3.1		0.747	10	95	98	< 1 U	< 1 U
MW-19	2/15/2000	79 M	0.04	5		< 0.01 U	22	120	130	1. U	< 1.0 U
	5/11/2000	71 M	0.05	4.5		0.01 J	20	120	120	< 1 U	< 1.0 U
	8/16/2000	70 M	0.04	4.6		< 0.01 U	18	100	120	< 1 U	< 1.0 U
	11/14/2000	69 M	0.03	5.3		0.03 BJ	22 M	110	120	< 1 U	< 1.0 U
	2/28/2001	73 M	< 0.01 U	4		0.02 J	19	130	140	< 1 U	< 1.0 U
	5/9/2001	73 M	0.03	5		0.01 J	21 M	110	130	1 J	< 1.0 U
	7/26/2001	70 M	0.03	5		< 0.01 U	20	120 B	140 B	< 1 U	< 1.0 U
	11/6/2001	72 M	< 0.01 U	5		0.07 J	20	140	140 B	< 1 U	< 1.0 U
	2/11/2002	69 M	0.01	5.0		< 0.01 U	20 MO	140 B	140	2	2.2
	4/24/2002	76 M	0.12	5		< 0.01 U	21 MO	120	130	< 1 UB	< 1.0 U
	8/12/2002	76 M	0.02	5		0.06 J	20	120 B	140	1 J	< 1.0 U
	10/30/2002	80 M	0.03	4		0.01 J	18	130 B	150 B	1. U	< 1.0 U
	1/30/2003	80 M	0.04	5		< 0.01 U	20	110	140	< 1 U	< 1.0 U
	4/23/2003	80 M	0.03	5		< 0.01 U	19 M	130	140	< 1 U	< 1.0 U
	7/21/2003	80 M	0.02	5		< 0.05 UM	20	130	140	1 J	< 1.0 U
	10/17/2003	78 M	0.03	5		< 0.05 UM	19	140	130	< 1 U	< 1 U
	2/10/2004	84 M	0.2	5		< 0.05 UM	19	120	120 M	< 1 U	< 1.0 U
	5/5/2004	78 M	0.03	5		0.81 MJ	19	100	100 M	< 1 U	< 1.0 U
	8/17/2004	81 M	0.06	5		< 0.05 UM	19	130	130 M	< 1 U	< 1.0 U
	10/27/2004	82 M	< 0.05 UM	4		< 0.05 UM	18	120	120 M	2	< 1.0 U
	2/1/2005	85 M	< 0.05 UM	5		< 0.05 UM	19	130	130 M	< 1 U	< 1.0 U
	5/4/2005	81 M	0.08 M	5		< 0.05 UM	19	80	82 M	2	< 1.0 U
	8/1/2005	82 M	< 0.05 UM	5		< 0.05 UM	19	120	110 M	1 J	< 1.0 U
	11/9/2005	82 DB	< 0.03 U	5		< 0.05 U	18	120	120	3	< 1 U

## Vashon Closed Landfill Western Hillslope Investigation

		TOTAL ALKALINITY (AS CaCO <sub>3</sub> ) mg/l	AMMONIA AS N mg/l	CHLORIDE mg/l	HARDNESS mg/l	NITRATE mg/l	SULFATE mg/l	TOTAL DISSOLVED SOLIDS mg/l	TOTAL SOLIDS mg/l	TOTAL SUSPENDED SOLIDS mg/l	TOTAL ORGANIC CARBON mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-19 (cont.)	2/2/2006	82 DB	< 0.03 U	5.1		< 0.05 U	19	100	100	< 2 U	< 1 U
	5/3/2006	82 DB	< 0.03 U	5.1		< 0.05 U	18	81	82	< 2 U	< 1 U
	8/8/2006	85 DB	< 0.03 U	5.1		< 0.05 U	20 D	130	130	< 2 U	< 1 U
	11/13/2006	92 DB	< 0.03 U	6.2		< 0.05 U	19	180	160	3	< 1 U
	1/30/2007	82 DB	< 0.03 U	5.4		< 0.05 U	20	130	130	< 2 U	< 1 U
	4/27/2007	86 DB	0.035	5.1		< 0.05 U	18	120	120	< 2 U	< 1 U
	8/10/2007	89 DB	< 0.03 U	5.4		< 0.05 U	18	150	150	< 2 U	< 1 U
	11/16/2007	86 DB	< 0.03 U	4.9		< 0.05 U	18	110	110	< 2 U	< 1 U
	2/7/2008	96 DB	< 0.03 U	5.3		< 0.05 U	18	130	130	< 2 U	< 1 U
	5/7/2008	90 B	0.046	6.2		< 0.05 U	18 D	140	140	4	< 1 U
	8/6/2008	96 B	0.053	6.5		< 0.05 U	18 D	140	140	3	< 1 U
	8/6/2008	96 B	0.047	6.6		< 0.05 U	18 D	150	150	2	< 1 U
	11/6/2008	110 B	0.04	6.3		< 0.05 U	19	170	170	< 2 U	< 1 U
	2/4/2009	64	< 0.03 U	3.7		0.12	12	110	110	2	1.1
	5/4/2009	90	0.036	6.07		< 0.01 U	17.1	95	99	< 1 U	< 1 U
	7/31/2009	99.3	0.0431	6.21		0.016 T	18.4	158	162	< 1 U	< 1 U
	11/5/2009	105	0.0537	6.7		< 0.01 U	17.6	152	154	< 1 U	< 1 U
	2/4/2010	109	0.0369 B	6.22		< 0.01 U	18.4	154	153	< 1 U	1.18
	5/3/2010	104	0.0465	6.18		< 0.01 U	18.1	159	162	< 1 U	< 1 U
	8/9/2010	107	0.07	5.59		0.019 T	17.3	159	190	< 1 U	< 1 U
	11/8/2010	105	0.0933	6.31		0.039 T	17.4	155	162	< 1 U	1.13
MW-27	10/28/2003	68 M	0.04	4		2.4 MJ	10	110	110 M	< 1 U	< 1.0 U
	12/2/2003	68 M	< 0.01 U	5		0.22 MJ	11	120	120 M	2	< 1.0 U
	1/14/2004	73 M	< 0.01 U	5		2.1 M	11	93	93 M	< 1 U	< 1.0 U
	2/17/2004	72 M	< 0.01 U	4		2.1 M	10	110	110 M	1 J	< 1.0 U
	3/17/2004	70 M	0.07	5		2.3 M	10	120	120 M	< 1 U	< 1.0 U
	4/19/2004	68 M	< 0.01 U	4		6.0 M	9	120	120 M	< 1 U	< 1.0 U
	5/24/2004	68 M	0.02	4		6.5 M	9	120	120 M	< 1 U	< 1.0 U
	6/29/2004	64 M	< 0.01 U	4		3.6 MJ	9	120	120 M	1. U	< 1.0 U
	8/11/2004	67 M	0.05	4		6.2 MJ	9	110	110 M	< 1 U	< 1.0 U
	11/2/2004	69 M	0.46 M	4		3.1 M	10	130	130 M	1 J	< 1 U
	2/2/2005	68 M	0.12 M	5		3.6 M	10	120	120 M	< 1 U	< 1.0 U
	2/2/2005	69 M	0.09 M	5		3.8 M	10	110	110 M	< 1 U	< 1.0 U
	5/6/2005	69 M	< 0.05 UM	5		2.0 M	10	87	89 M	2	< 1.0 U
	8/3/2005	70 M	< 0.05 UM	5		4.6 MJ	10	100	100 M	3	< 1.0 U
	11/4/2005	69 DB	< 0.03 U	5.1		2.1	11	110	110	3	< 1 U
	2/23/2006	70 DB	< 0.03 U	5.1		1.8	11	57	58	< 2 U	< 1 U
	5/8/2006	70 DB	< 0.03 U	4.9		3.2	10	72	74	2	< 1 U
	8/1/2006	65 DB	< 0.03 U	4.3		3.4	8.6	130	140	< 2 U	< 1 U
	11/15/2006	68 DB	< 0.03 U	4.4		3.6	8.7	110	110	< 2 U	< 1 U
	1/31/2007	72 DB	< 0.03 U	5.3		3.2	9	140	140	< 2 U	< 1 U
	4/26/2007	65 DB	< 0.03 U	4.5		4.9	8	140	150	2	< 1 U
	8/6/2007	82 DB	< 0.03 U	4.3		4.8	7.9	130	130	< 2 U	< 1 U
	11/5/2007	64 DB	< 0.03 U	4.2		4	7.8	96	98	2	< 1 U
	2/6/2008	70 B	< 0.03 U	4.4		< 0.05 U	8.5	100	100	< 2 U	< 1 U
	5/15/2008	68 B	< 0.03 U	5.1		3.5	9.1	120	120	< 2 U	< 1 U
	8/8/2008	70 B	< 0.03 U	5.2		3.1	9.6	130	130	< 2 U	< 1 U
	11/4/2008	78 B	< 0.03 U	5.3		2.9	8.9	89	90	< 2 U	< 1 U
	2/23/2009	71 D	< 0.03 U	5		2.1	9.2	110	120	3	< 1 U
	5/1/2009	69.5	< 0.01 U	5.04		2.29	10.4	121	127	< 1 U	< 1 U
	8/11/2009	68.5	< 0.01 U	5.18		2.23	10.2	130	133	< 1 U	< 1 U
	11/5/2009	71.4	< 0.01 U	5.31		2.13	10.5	128	131	< 1 U	< 1 U
	2/5/2010	76.2	< 0.01 U	5.62		1.87	10.8	122	122	< 1 U	1.1
	4/29/2010	69.9	< 0.01 U	5.44		2.58	10.5	131	138	< 1 U	< 1 U
	8/10/2010	65.7	< 0.01 U	4.52		3.38	8.49	132	139	< 1 U	< 1 U
	11/5/2010	64.9	< 0.01 U	4.87		3.15	8.84	110	110	1	< 1 U

## Vashon Closed Landfill Western Hillslope Investigation

		TOTAL ALKALINITY (AS CACO3) mg/l	AMMONIA AS N mg/l	CHLORIDE mg/l	HARDNESS mg/l	NITRATE mg/l	SULFATE mg/l	TOTAL DISSOLVED SOLIDS mg/l	TOTAL SOLIDS mg/l	TOTAL SUSPENDED SOLIDS mg/l	TOTAL ORGANIC CARBON mg/l
Federal Drinking Water Standards		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
Groundwater Quality Criteria		None	None	250 mg/L	None	10 mg/L	250 mg/L	500 mg/L	None	None	None
MW-30	1/26/2010	124	0.0205	8.17		6.91	15.1	229	236	10.8	2.48
	4/29/2010	134	< 0.01 U	8.18		4.74	17.4	215	234	12.6	2.63
	8/17/2010	140	< 0.01 U	5.82		4.41	14.9	208	287	76.6	2.96
	11/9/2010	139	< 0.01 U	6.51		4.58	14.8	202	323	80.6	2.66
MW-31	1/28/2010	138	< 0.01 U	4.74		1.07	17.1	198	236	164	6.76
	4/22/2010	142	< 0.01 U	3.6		1.46	9.27	190	355	32.9	7.15
	8/20/2010	160	< 0.01 U	3.22		0.0688	8.52	210	298	43.7	6.92
	11/8/2010	119	< 0.01 U	4.69		5.54	10.3	202	274	54.8	7.43
MW-32	2/19-25/2010	246	0.162	8.73		1.32 HS	28.5				17 S
	4/29/2010		< 0.01 U			0.977		309	326		
	11/8-16/2010	236	< 0.01 U	5.64		0.412	19.1	240	322		12.4

NOTE: Blank cell notes sample not analyzed for constituent

NC Not calculated

QUAL QUALIFIER DESCRIPTION for samples taken prior to 4/1/2009 (as per KC SWD)

B Analyte Found In Associated Method Blank

D Compound Analyzed at a Secondary Dilution Factor.

E Exceed The Calibration or Linear Range.

J Estimated Value Less Than Practical Quantitation Limit And Greater Than The Method Detection Limit.

M Raised Detection Limit. Due to Matrix Interference.

O Analyzed Beyond Specified Holding Time.

P Pesticide/PCBs &gt; 25% Difference Between Columns.

R Rejected Data

U Analyte Not Detected at Given Value.

CG Confluent Growth (Bacterial Analyses Only)

ED Excess Debris on Growth Media (Bacterial Analyses Only).

Non-numeric result NOTATIONS:

Not Not Analyzed

NT Not Tested

TNTC Too numerous to count

NM Coliforms 'Not Measured' in sample (no CO2 production).

P Coliforms 'Present' in sample (CO2 production) but can't be quantified.

QUAL QUALIFIER DESCRIPTION for samples taken after 4/12/2009 (as per KC SWD)

U Undetected Analyte concentration &lt;MDL – Less than Method detection limit

T Estimated, Less than Reporting Detection Limit but greater than Method detection limit

J Reported value is an estimate

B Contamination present in Blank

C Confluent Growth

E Estimated, outside expected accuracy

H Exceeds holding time

R Data Rejected

S Sample handling errors

X Too numerous to count

P PASS – Qualitative result acceptable

F FAIL – Qualitative result is not acceptable

G Greater than

L Less than

D Dilution



## **APPENDIX C.6**

**Report for South Hillslope Investigation  
(King County, 2007)**

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# Vashon Island Closed Landfill : Report for South Hillslope Investigation

## Part of the Vashon Island Closed Landfill Hydrogeologic Investigation

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November 20, 2007

**DRAFT**



**King County**

Department of Natural Resources and Parks  
Water and Land Resources Division

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# **Vashon Island Closed Landfill : Report for South Hillslope Investigation**

## **Part of the Vashon Island Closed Landfill Hydrogeologic Investigation**

### **Prepared for:**

Landfill and Environmental Monitoring  
Engineering Services  
Solid Waste Division  
Department of Natural Resources and Parks

### **Submitted by:**

Water Quality and Quantity Groups Unit  
Science, Monitoring and Data Management - Scientific and Technical Support Section  
Water and Land Resources Division  
King County Department of Natural Resources and Parks



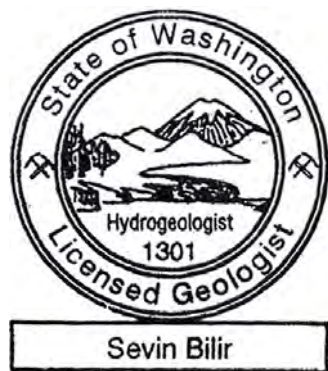
**King County**

Department of Natural Resources and Parks  
**Water and Land Resources Division**  
201 S Jackson St. Ste 600  
Seattle, WA 98104  
(206) 296-6519

# Vashon Island Closed Landfill: Report for South Hillslope Investigation

## Part of the Vashon Island Closed Landfill Hydrogeologic Investigation

This document was prepared under the supervision and direction of the undersigned whose seal as licensed hydrogeologist is affixed below:



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Sevin Bilir, L. HG. (WA)

King County  
Department of Natural Resources and Parks  
Water & Land Resources Division

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November 20, 2007

Date

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Appendix A. Sediment Descriptions

Appendix B. Pictures

## **EXECUTIVE SUMMARY**

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King County Solid Waste Division (SWD) manages the Vashon Island Closed Landfill & Transfer Station (VICLF), located at 18910 Westside Hwy SW on the western side of Vashon Island, WA. A hydrogeologic study of the southern portion of the VICLF, along the southernmost hillslope and property boundary, was completed by WLRD personnel to assist SWD in ongoing characterization at the site. The following questions were posed:

- Where do the coarse grained units of Unit C (Cc1, Cc2, and Cc3) outcrop on the hillslope?
- Is there any saturation in the Unit C outcrops, if present?

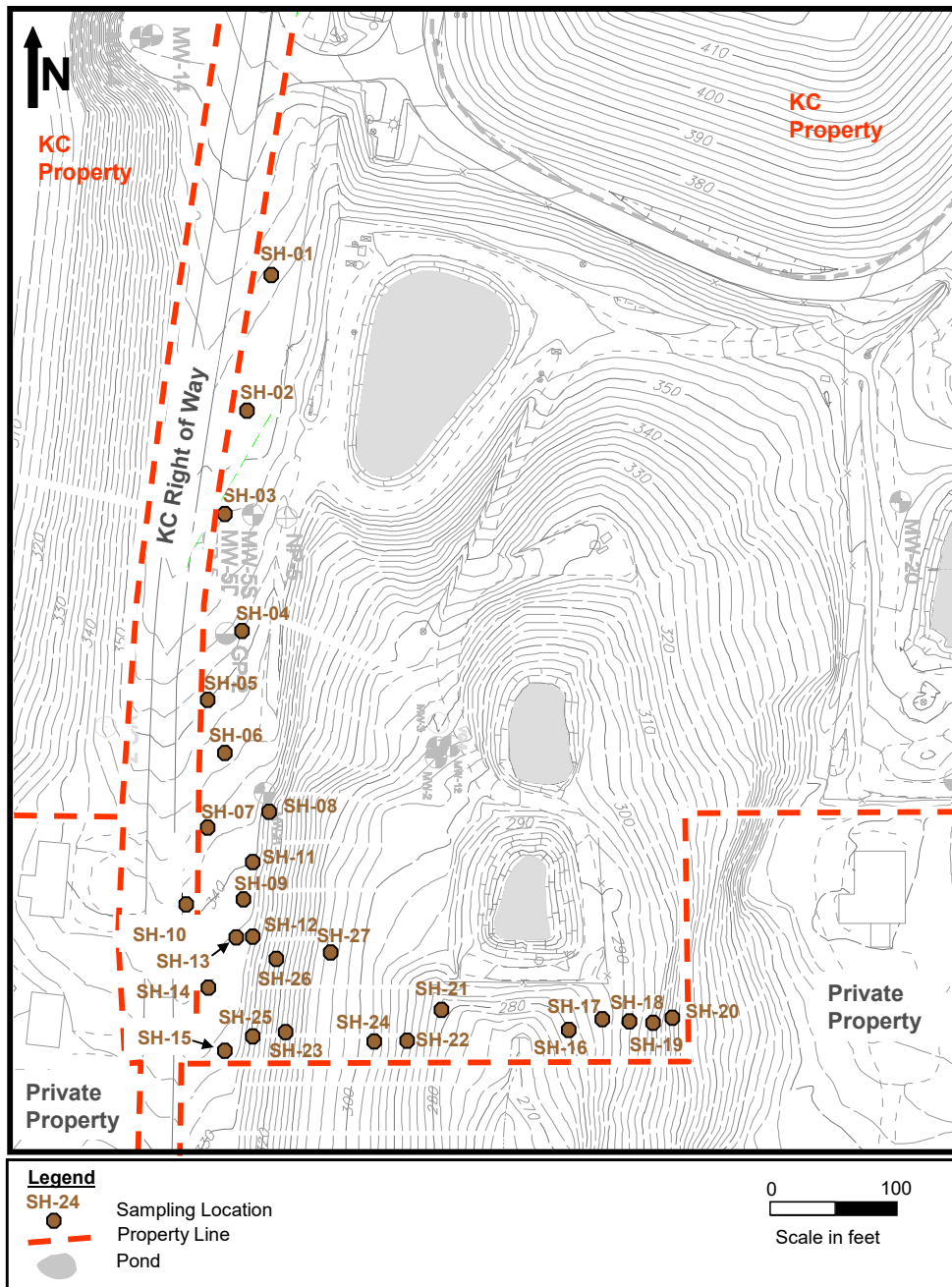
The main scope was to map the geologic units on the southernmost hillslope area, with the plan of correlating outcropping units to underlying units at the VICLF. A preliminary geologic map was prepared, reconnaissance of the study area conducted, sediment samples collected, and geologic mapping was completed. Due to thick vegetation and steepness of terrain, not all areas could be inspected. Based on comparison of collected samples with previously collected drill cutting samples, lithology logs, and sediment samples from the western hillslope area, Units A, B and Cc1 were mapped in the study area. All observations were limited to the VICLF property. Neither seepage, saturation, springs, nor running water was observed exiting from Units A, B, Cc1 or across the property line.

# 1.0. INTRODUCTION

## 1.1 Overview & Objectives

This document is intended to supplement work already completed and ongoing by the King County Solid Waste Division (SWD) at the Vashon Island Closed Landfill & Transfer Station (VICLF) located at 18910 Westside Hwy SW, Vashon Island, WA (Figure 1).

Figure 1 Site Map





This document is submitted to assist SWD in evaluating hydrogeological units in southern portion of the VICLF along the southernmost hillslope. Previous investigations (1999 – 2006) by Berryman & Henigar, Inc. (B&H) and Udaloy Environmental Associates (UES) (B&H/UES) characterized the hydrogeologic units underlying the VICLF area.

The objective of this study was to gather enough field data to answer a few key questions about the hydrogeology in the south hillslope area near the southernmost property line and the adjacent private property. The following questions were posed and are answered in Section 3 Results and in Section 4.0 Discussion:

- Where do the coarse grained units of Unit C (Cc1, Cc2, and Cc3) outcrop on the hillslope?
- Is there any saturation in the Unit C outcrops, if present?

## **1.2 Scope of Work**

The study area is located southwest of the VICLF footprint and east of Westside Hwy SW (Figure 1). The main scope was to map the geologic units on the southernmost hillslope area, with the plan of correlating outcropping units to underlying units at the VICLF. The units of interest were the coarse grained layers within Unit C; Cc1, Cc2, and Cc3. The scope was carried out by first defining the study area, which included areas from the landfill to downslope of the South Detention Pond and Outfall areas. Preliminary geologic maps were prepared. This work entailed reviewing geologic borings, using data from various related site reports (Section 5.0 References). Interpretations by B&H/UES are assumed to be correct.

The scope of work included reconnaissance of the hillslope to refine mapping of Unit C outcrops and related seepage areas, if any, collecting sediment samples, and marking locations for survey data collection. Field work was completed by Sevin Bilir (WLRD) and various WLRD field assistant personnel.

## **1.3 Setting**

The hillslope area is a modified landscape with steep slopes, has little road access and is covered with trees, holly bushes and salmon berry bushes. The forest floor is thick with undergrowth, roots, and fallen trees/ branches and typically has a thick vegetative cover. The topography on the hillslope ranges from 370 ft, MSL near the road to 270 ft, MSL in the southern creek and property line area.

A few minor man-made structures (gravel roads, surface water ponds, drainage outlets, monitoring wells and fences) are present in this area. Former grading activities changed the natural creek shape to a wider valley floor to make room for a surface water pond in the southernmost area. The three surface water ponds in the area were constructed for use in the site-wide stormwater drainage system.

The climate at the study area during the field work was typical of summer conditions on Vashon Island. Temperatures ranged from about 60°F to around 85°F.

## **2.0. FIELD ACTIVITIES**

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### **2.1 Health and Safety Communication**

Due to the potential risks of working alone on the hillslope, a communication plan was developed and implemented. When working alone, the individual would contact a member of the SWD to alert them of the planned field work on that day and to contact them when he/she had left the field site. This was an attempt to prepare for emergency response if there was no contact from the individual at the expected time period.

### **2.2 Sediment Sampling**

A preliminary array of sampling locations was designed and refined in the field. Due to the amount of thick vegetation and steep slopes, not all areas could be inspected or sampled. Twenty-seven shallow pits (less than two feet deep) were dug throughout the study area. Figure 1 shows the sampling locations and identification names (SH-01 through SH-27). Sediments were investigated using a shovel. Samples were collected in plastic bags and the locations marked with a labeled wooden stake and high contrast flagging.

Samples were then processed in the office. A portion of the sediment sample was air dried. Sample descriptions were made using the unified soil classification systems (USCS). Complete descriptions of the sediments are presented in Appendix A. Photos were taken of each sample and are presented in Appendix B.

### **2.3 Surveying**

Sampling locations were marked with stakes and flagging. Due to scheduling difficulties, locations were not surveyed prior to this report. Locations were estimated in the field using maps, known locations for objects, such as fences, and approximating distances.

## 3.0. RESULTS

### 3.1 Sediment Sampling

Sediment descriptions, completed for each sample site, are listed in Table 1. All sample sites were located on VICLF property. More detailed descriptions, along with site and sediment photos, are presented in Appendix A and B, respectively.

**Table 1. Sample Descriptions**

ID	Unit	Geotech Class.	Description	Color Wet or Fresh/Dry	Penetration	Size/Shape fraction				Sorting	Permeability
						C	Silt	S	G		
SH-01	A	SP	gravelly sand	dk brn/brn	med. dense		<5	60	35	poorly	low - mod.
SH-02	A	SW/SP	sand w/ gravel	orange-ish lt brn/yellowish brn	med. dense		<5	70	25	mod.	low - mod.
SH-03	A	SP	sand w/ gravel	orange-ish brn/yellowish brn	med. dense		<5	70	25	poorly-mod.	mod.
SH-04	A	SC/SP	sand w/ gravel	lt brnish gray/pale brn	dense	<1	<5	74	20	poorly	mod. - high
SH-05	A	SP/SC	sand w/ gravel	pale brn/lt yellowish brn	dense	<1	<5	74	20	poorly-mod.	high
SH-06	A	SM/SP	sand w/ silt & gravel	lt brn/brn	dense	<1	<10	79	10	mod.	mod. - high
SH-07	A	SP/SC	sand w/ gravel	lt brn/yellowish brn	v. dense	<1	<5	79	15	poorly-mod.	mod. - high
SH-08	A	SP	sand w/ gravel	grayish-dk brn/dk grayish brn	med. dense		<2	80	<18	poorly-mod.	mod. - high
SH-09	A	SP	sand w/ gravel	lt brn/dk grayish brn	loose	<1	<5	79	15	poorly-mod.	low - mod.
SH-10	A	SP	sand w/ gravel	lt yellowish brn/pale brn	dense		<2	86	12	well	high
SH-11	A	SP	sand	lt yellowish brn/lt yellowish gray	med. dense		<1	92	7	mod. - well	high - v. high
SH-12	A	SP	sand	brn/dk yellowish brn	med. dense	<2	<5	88	5	mod.	low
SH-13	A	SP	sand w/ gravel	dk grayish brn/lt olive brn	dense		<1	89	10	mod.	high

**Table 1. Sample Descriptions (continued)**

ID	Unit	Geotech Class.	Description	Color	Penetration	Size/Shape fraction				Sorting	Permeability
				Wet or Fresh/Dry		C	Silt	S	G		
SH-14	A	SM/SC	sand	v. dk grayish brn/lt yellowish brn	med. dense	<2	<5	88	5	mod. - well	high
SH-15	A	SP	sand w/ gravel	dk grayish brn/yellowish brn	med. dense	<3	<5	79	13	mod.	mod.
SH-16	Cc1	SW/SP	sand	dk yellowish brn/lt yellowish brn	v. loose		<1	97	2	mod. - well	v. high
SH-17	B	SW/SP	sand	dk olive brn/lt yellowish brn	v. loose	<1	<1	96	2	mod. - well	v. high
SH-18	B	SW	sand	dark yellowish brn/yellowish brn	v. loose		2	95	3	well	v. high
SH-19	B	SW	sand	dk yellowish brn/brnish yellow	v. loose		<2	95	3	well	v. high
SH-20	B	SW	sand	dk yellowish brn/brnish yellow	v. loose		2	95	<3	mod. - well	v. high
SH-21	Cc1	SW	sand	dk yellowish brn/lt yellowish brn	loose	<1	5	89	5	mod.	mod.
SH-22	Cc1	SW	Sand w/ gravel	dk yellowish brn/lt yellowish brn	loose	<1	5	85	9	mod.	v. high
SH-23	B	SW	sand	dk brn/brn	v. loose	<2	<10	80	8	mod.	high
SH-24	B	SW	sand	olive brn/pale brn	loose	<1	<5	92	3	mod.	v. high
SH-25	B	SW	Sand w/ gravel	olive brn/lt olive brn	loose	<1	3	84	12	mod.	v. high
SH-26	B	SW	sand	dk grayish brn/lt olive brn	loose	<1	2	92	5	well	v. high
SH-27	B	SM	sand w/ silt	v. dk grayish brn/lt olive brn	loose	<1	<10	85	4	mod.	v. high

**Notes:**

dk = dark

lt = light

v. = very

mod. = moderate

Class. = classification

C = clay

S = sand

G = gravel

brn = brown

### 3.2 Hydrogeologic Mapping

The purpose of the mapping exercise was to identify where corresponding hydrogeologic units underlying the VICLF outcrop on the southernmost hillslope. Prior to the start of field work, a preliminary geologic map was prepared using the VICLF site borehole lithologic logs. Upon completion of the field work and comparison of drill cuttings samples from a few VICLF boreholes and samples from the west hillslope area, a geologic map was prepared (Figure 2).

Figure 2 Surface Geology Map of Southern Hillslope

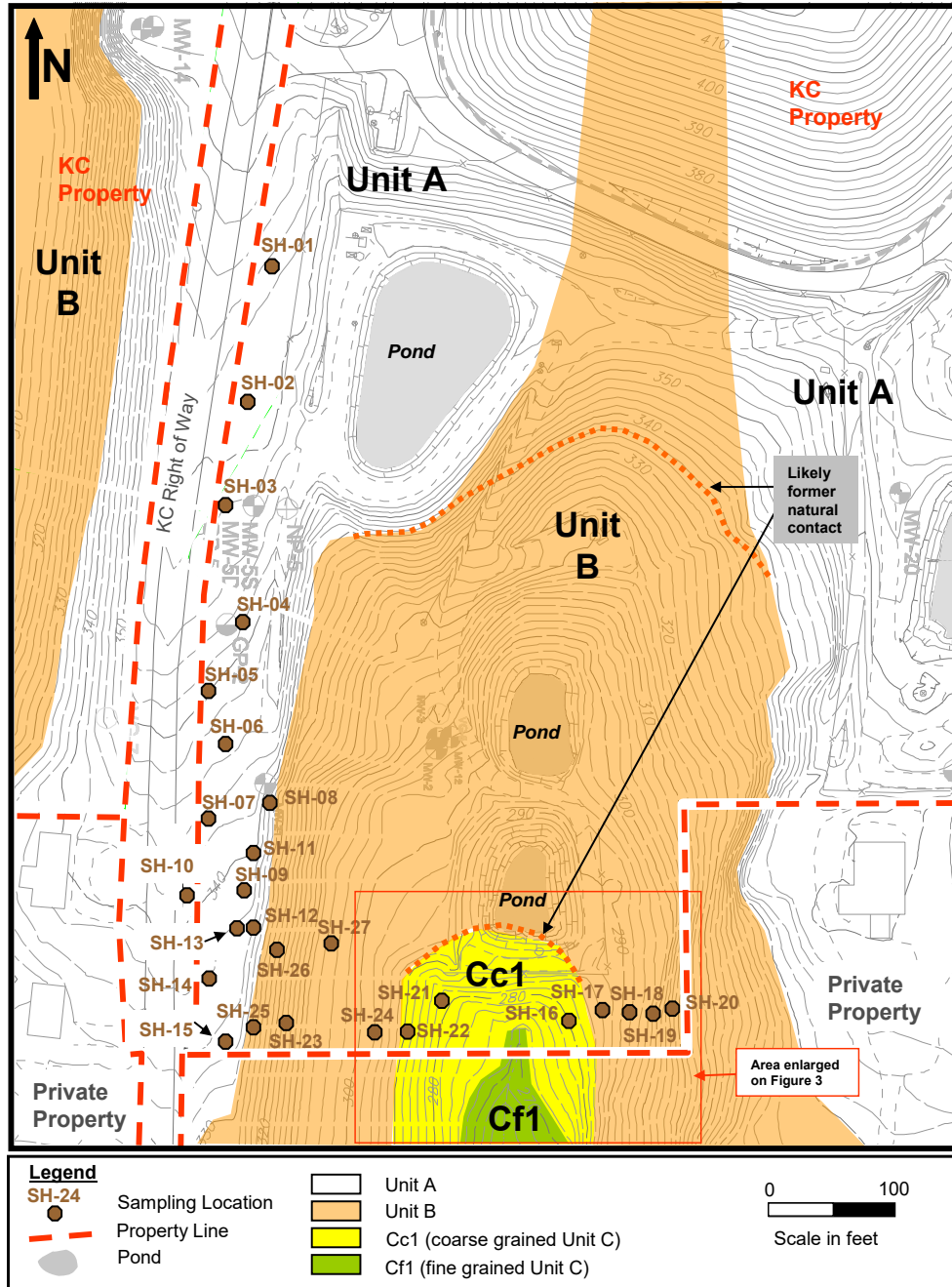
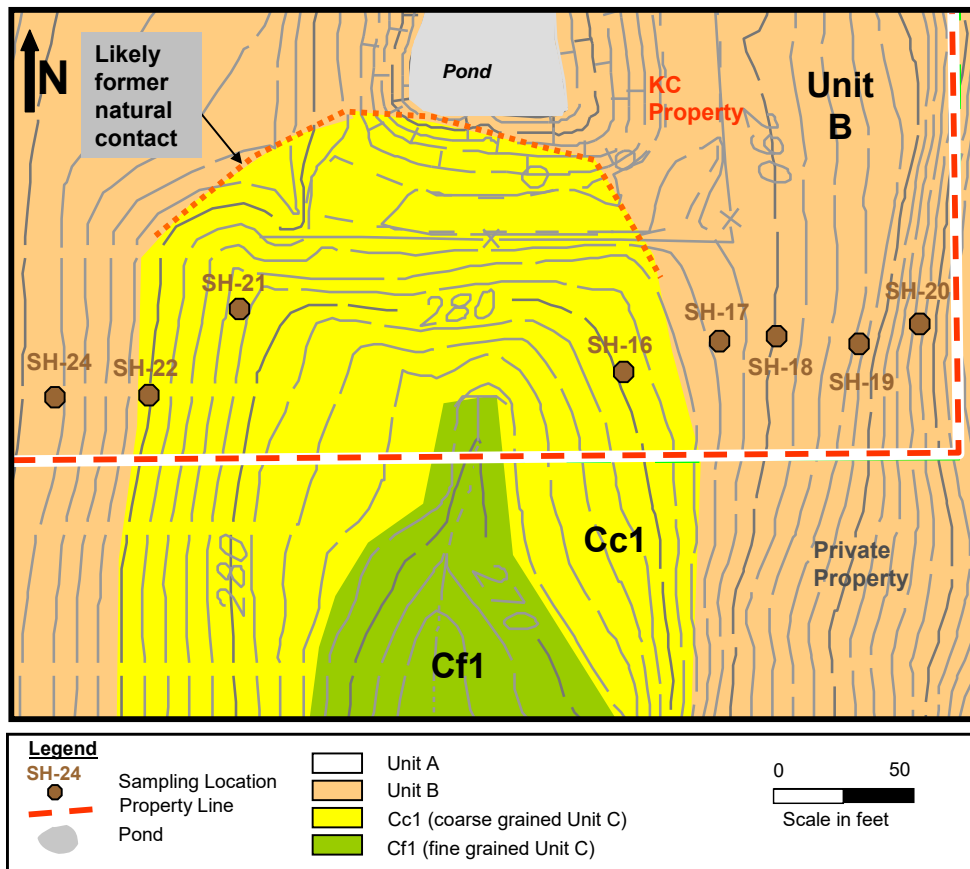


Figure 3 shows a close-up of the geology near the southernmost property line. No saturation was observed on the hillslope, other than damp soils due to recent rains and in the surface ponds.

Grading activities related to the construction of the surface pond most likely removed and then covered the former natural outcrop of the Unit A/Unit B contact. Figures 2 and 3 show an estimated location of that contact. Figure 2 shows where Unit A was removed along the creek to the north (creating a tongue-like shape of exposed Unit B underneath and south of the landfill footprint) (B&H/UES, 2006).



## 4.0. DISCUSSION

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The objective of this study was to gather enough field data to answer a few key questions about the hydrogeology in the south hillslope area near the southernmost property line and the adjacent private property.

- Where do the coarse grained units of Unit C (Cc1, Cc2, and Cc3) outcrop on the hillslope?
- Is there any saturation in the Unit C outcrops, if present?

Due to the amount of thick vegetation, not all areas could be inspected. Based on comparison of collected samples with VICLF drill cutting samples, well logs, and west hillslope sediment samples, Units A, B and Cc1 were observed in the study area on the VICLF property. Based on nearby borehole lithologic descriptions, the top of Unit B and Cc1 outcrops on the hillslope were as anticipated. Units Cc2 and Cc3 were not observed in the study area.

Dampness, when noted, in the dug sample sites, was most likely due to recent precipitation. Water-filled surface ponds in the study area were part of the stormwater drainage system at the VICLF. Neither seepage, saturation, springs, nor running water was observed exiting Units A, B, Cc1 or across the property boundary line.

## 5.0. REFERENCES

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# **Appendix A**

## **Sediment Descriptions**

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**SAMPLE DESCRIPTION**

Sample ID # SH-1

Location description WTT 100'S of gate, E of ROW

Geotech classification A SP granulley sand

Color 10YR 4/3 brown (copyish brown)

Penetration N/A v. soft med. stiff stiff

Moisture dry damp moist wet (surface 120)

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay

& silt LS%

% sand VF-F 55% M 5%

% gravel F 25% C-up to 5" subrounded 10%

Sorting poorly well - poorly

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

**SAMPLE DESCRIPTION**

Sample ID # SH-2

Location description 100'S of SH-1

Geotech classification unit GUSP sand w/ gravel

Color 10YR 5/4 orange-ish light brown

Penetration N/A v. soft soft med. stiff stiff

Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay

& silt LS%

% sand VF-F 60% M 10%

% gravel subangular C-up to 4" 5% C-up to 20%

Sorting moderately well - poorly

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

Notes: similar to SH-1, 3-7 on same slope as SH-1, 9-15

**SAMPLE DESCRIPTION**

Sample ID # **SH-3**

Location description ~20' W of MW-5

Geotech classification UNIT A SP

Color 10 YR 5/4 Description orange-ist brown  
yellowish brown

Penetration N/A

Finer v. soft soft med. stiff stiff

S&G v. loose loose med. dense dense v. dense

Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay < 5%

& silt < 5%

% sand 5-10% coarse

% gravel 5-10% subrounded c. up to 2.5"

Sorting well - poorly

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

Notes:

similar to SH-2 w/ less large cobbles  
 on same slope as SH-1, 3, 4-15

**SAMPLE DESCRIPTION**

Sample ID # **SH-4**

Location description ~5' E of GP-2

Geotech classification UNIT A SC/SP

Color 10 YR 6/3 Description light brownish grey w/ light orange  
pale brown

Penetration N/A

Finer v. soft soft med. stiff stiff

S&G v. loose loose med. dense dense v. dense

Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay < 1%

& silt < 5%

% sand 5-10% coarse

% gravel 5-10% subrounded c. up to 2" 10% f. 5% cobbles up to 6"

Sorting well - poorly

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

Notes:

similar to SH-1, SH-2  
 on same slope as SH-1, 3, 5-15

**SAMPLE DESCRIPTION**

Sample ID # **SH-5**

Location description **100' NW of MW-24E of Row**

Geotech classification **UNIT SP/SC**

Color **Wet** **dry** **10 yr 6/4**

Description **pale brown**  
**light yellowish brown**

Penetration **N/A**

Finest **v. soft** **med. stiff** **stiff**

S&G **v. loose** **loose** **med. dense** **dense** **v. dense**

Moisture **dry** **damp** **moist** **wet**

Size & Shape **(shape=rounded, subrounded, subangular, angular)**

% clay **< 1%**

& silt **< 5%**

% sand **VS-f 74%**

% gravel **subangular 10% ; up to 0.5m 10**

Sorting **well - poorly** **moderately poorly**

Plasticity **nonplastic** **v. low** **low** **med** **high** **v. high**

Permeability **v. low** **low** **mod** **high** **v. high**

Notes:

similar to **SH-4, but less cobbles, more bigger than 1.5"**

on same slope as **SH-1-4, 6-15** **more fines than SH-1 →**

**SAMPLE DESCRIPTION**

Sample ID # **SH-6**

Location description **150' NW of MW-21**

Geotech classification **UNIT SP/SP**

Color **Fresh** **Wet** **dry** **10 yr 4/3**

Description **light brown** **orange tint/multicolor**  
**brown**

Penetration **N/A**

Finest **v. soft** **soft** **med. stiff** **stiff**

S&G **v. loose** **loose** **med. dense** **dense** **v. dense**

Moisture **dry** **damp** **moist** **wet**

Size & Shape **(shape=rounded, subrounded, subangular, angular)**

% clay **< 1%**

& silt **< 10%**

% sand **VS-f 74%** **in 5%**

% gravel **up to 0.75' 5% ; subangular cobbles up to 4" 15%**

Sorting **well - poorly** **moderately**

Plasticity **nonplastic** **v. low** **low** **med** **high** **v. high**

Permeability **v. low** **low** **mod** **high** **v. high**

Notes:

similar to **SH-1-5, 7-15**

on same slope as **SH-1-5, 7-15**

**More fine than SH-1 → SH-4, but less than SH-5**

**SAMPLE DESCRIPTION**

Sample ID # **SH-7**  
 Location description in E Row; 20' S of fence corner  
 Geotech classification UNIT A SP/SC Sand w/ gravel  
 Color Munsell # 10 YR 5/4  
 Description light brown  
 (Fresh) Wet yellowish brown  
 Dry yellowish brown  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose med. dense dense (dense) compact  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular)  
 % clay < 1%  
 & silt < 5%  
 % sand v-f 79%  
 % gravel Subangular G. up to 2" 5% of photo 10%  
 Sorting Moderately-poor  
 well -- poorly  
 Plasticity nonplastic, v. low low med high v. high  
 v. low low mod high v. high  
 Permeability v. low low mod high v. high  
 Notes:

**SAMPLE DESCRIPTION**

Sample ID # **SH-8**  
 Location description 20' ESE of fence corner  
 Geotech classification UNIT SP Sand w/ gravel  
 Color Munsell # 10 YR 4/2  
 Description grayish-dark brown  
 (Fresh) Wet dk grayish brown  
 Dry dk grayish brown  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose (med. dense) dense v. dense  
 Moisture dry (damp) moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular)  
 % clay < 2%  
 & silt f-m 80%  
 % sand f up to 1" 15%, rounded, v. to 2" < 3%  
 % gravel Moderately-poor  
 Sorting well -- poorly  
 well -- poorly  
 Plasticity nonplastic, v. low low med high v. high  
 v. low low mod high v. high  
 Permeability v. low low mod high v. high  
 Notes:

SAMPLE DESCRIPTION

Sample ID # SH-9  
 Location description WIT A SP 75'S of fence line corner sand w/ gravel  
 Geotech classification A SP  
 Color Munsell # 10 YR 4/2  
 Description light brown w/ multi colors  
 Fresh Wet DK grayish brown  
 Dry  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay < 1%  
 & silt < 5%  
 % sand S-M 69%, C 10%  
 % gravel S up to 0.5cm 10%, round to subround c up to 5%  
 Sorting Moderately poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

SAMPLE DESCRIPTION

Sample ID # SH-10  
 Location description IN E ROW; 20' N of med. boxes  
 Geotech classification WIT A SP  
 Color Munsell # 10 YR 6/4  
 Description sand gravel  
 Fresh Wet light yellowish brown  
 Dry dark brown (more pale than SH-4)  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay < 2%  
 & silt v-f 10%, M-C 70%  
 % sand f. 10%, c up to 1.5" 2%  
 % gravel well - poorly  
 Sorting well  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes:

similar to SH-5-8 for HC(R); very different in color from SH-1-9  
 on same slope as SH-1-9, 11-15

**SAMPLE DESCRIPTION**

Sample ID # SH-11

Location description 150' SE of SH-8, NE of SH-9

Geotech classification U1A SP Sand

Color Munsell # 10 YR 6/4 Description light yellowish brown

Fresh Wet

Dry 2.5 Y 6/3 light yellowish gray

Penetration N/A

Fines v. soft soft med. stiff stiff

S&G v. loose loose med. dense dense v. dense

Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay

& silt 10%

% sand v.f. 57%, m-c 55%

% gravel f. up to 0.5 mm 5%, subangular 2%

Sorting well - poorly moderately - well

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

Notes:

similar to SH-10, 12, 15

on same slope as SH-10, 12, 15

near top of steep slope

**SAMPLE DESCRIPTION**

Sample ID # SH-12

Location description 150'S of SH-11, E of SH-3

Geotech classification U1A SP Sand

Color Munsell # 10 YR 5/0 Description brown

Fresh Wet

Dry 10 YR 4/4 dark yellowish brown

Penetration N/A

Fines v. soft soft med. stiff stiff

S&G v. loose loose med. dense dense v. dense

Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay

& silt 49%

% sand 15%

% gravel v.f. 48%, m-c 40%

Sorting f. up to 0.75" subangular 5% moderately

Plasticity nonplastic v. low low med high v. high

Permeability v. low low mod high v. high

Notes:



**SAMPLE DESCRIPTION**

Sample ID # SH-13  
 Location description top of steep slope, v. 6 b's of SH-9  
 Geotech classification UNIT A SP  
 Color Munsell #  
 Fresh 10 YR 4/2 dark grayish brown, multicolored  
 Dry 2.5 Y 5/3 light olive brown  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose med. dense dense v. dense  
 Moisture (dry) damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape % clay < 10%  
 & silt < 10%  
 % sand v. fine, fine, medium, coarse, v. coarse  
 % gravel (plus diam) M-C 50%  
 Sorting well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes:  
 similar to SH-11  
 on same slope as SH-11, 12, 14-15

near top of steep slope

**SAMPLE DESCRIPTION**

Sample ID # SH-14  
 Location description 10' E Row, 50' N of mailboxes  
 Geotech classification UNIT A SM SC  
 Color Munsell #  
 Fresh 10 YR 3/2 very dark grayish brown  
 Dry 10 YR 6/4 light yellowish brown  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose (med. dense) dense v. dense  
 Moisture (dry) damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape % clay < 2%  
 & silt < 5%  
 % sand (v. fine, fine, medium, coarse, v. coarse) v. f 53%, M-C 35%  
 % gravel (plus diam) s. subangular up to 0.75" 5%  
 Sorting well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes:  
 Moderately well

**SAMPLE DESCRIPTION**

Sample ID # **SH-15**

Location description **50' E of ROW, 20' N of prop. line**

Geotech classification **UNIT A SP**

Color **Description**

Fresh **(Wet)** **10 YR 4/2 DK grayish brn., multicolored**

Dry **10 YR 5/4 yellowish brown**

Penetration **N/A**

Fines **v. soft soft med. stiff stiff**

S&G **v. loose loose (med. dense) dense v. dense**

Moisture **dry damp moist wet**

**Size & Shape** (shape=rounded, subrounded, subangular, angular)

% clay **< 3%**

& silt **< 5%**

% sand **VF-F 50%; M-C 29%**

% gravel **F. up to 1 cm 10%; C subrounded up to 1.5" 3%**

Sorting **moderately**

Plasticity **nonplastic** v. low low med high v. high

Permeability **v. low low (mod) high v. high**

Notes:

**SAMPLE DESCRIPTION**

Sample ID # **SH-16**

Location description **60' NE of sample pt.**

Geotech classification **UNIT SW/SP**

Color **Description**

Fresh **(Wet)** **10 YR 4/6 DK yellowish brn**

Dry **10 YR 6/4 light "**

Penetration **N/A**

Fines **v. soft soft med. stiff stiff**

S&G **v. loose loose med. dense dense v. dense**

Moisture **dry damp moist wet**

**Size & Shape** (shape=rounded, subrounded, subangular, angular)

% clay **< 1%**

& silt **F-M 87%; C 10%**

% sand **F up to 0.5 cm 2%**

% gravel **well - moderately**

Sorting **well - poorly**

Plasticity **nonplastic** v. low low med high v. high

Permeability **v. low low mod high (v. high)**

Notes:

**SAMPLE DESCRIPTION**

Sample ID # SH-17  
 Location description 20' E of SH-16  
 Geotech classification UUT # SW/SP Sand  
 Color 2.5Y 3/3  
 Fresh 2.5Y 6/4  
 Dry light yellowish tan  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G (v. loose) loose med. dense dense v. dense  
 Moisture dry damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape < 10%  
 % clay  
 & silt < 1%  
 (v fine, fine, medium, coarse, v coarse)  
 % sand fine to med. coarse  
 % gravel C. subrounded up to 2" 2%  
 Sorting well - moderately  
 well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high (v. high)

Notes:

**SAMPLE DESCRIPTION**

Sample ID # SH-18  
 Location description 15' E of SH-17  
 Geotech classification UUT # SW Sand  
 Color 10 YR 3/4  
 Fresh 10 YR 5/6  
 Dry dark yellowish brn yellowish tan  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G (loose) loose med. dense dense v. dense  
 Moisture dry damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape 2%  
 % clay  
 & silt 2%  
 (v fine, fine, medium, coarse, v coarse)  
 % sand F 35% M 60%  
 % gravel F. up to 1cm, subrounded 3%  
 Sorting well - poorly  
 well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high (v. high)

Notes:

similar to SH-19, 20 but finer  
 on same slope as SH-17, 21, 22

**SAMPLE DESCRIPTION**

Sample ID # SH-19  
 Location description UNIT B SW 20 E of SH-18 sand  
 Geotech classification UNIT B SW  
 Color Wet 10 YR 4/4 dark yellowish brn, multicolored  
Dry 10 YR 6/6 brownish yellow  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G loose loose med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay  
 & silt 22%  
 % sand F-10.8; med. 9%  
 % gravel F subangular up to 1cm 3%  
 Sorting well  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high (v. high)  
 Notes:

similar to SH-18, 20  
 on same slope as SH-20, 23, 25, 26, 24, 27

**SAMPLE DESCRIPTION**

Sample ID # SH-20  
 Location description UNIT B SW 20 E of SH-19  
 Geotech classification UNIT B SW sand  
 Color Wet 10 YR 4/6 dark yellowish brn  
Dry 10 YR 6/6 brownish yellow  
 Penetration N/A  
 Fines v. soft soft med. stiff stiff  
 S&G v. loose loose med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) % clay  
 & silt 2%  
 % sand (v. fine, fine, medium, coarse, v. coarse) off-75%; M-C 20%  
 % gravel (plus diam) F up to 2cm, subrounded < 30%  
 Sorting well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high (v. high)  
 Notes:

similar to SH-18, 19  
 on same slope as SH-19, 23, 25, 26

**SAMPLE DESCRIPTION**

Sample ID # SH-21  
 Location description 20' W of pond slope border  
 Geotech classification UWT Ck SW Sand  
 Color (Wet) Munsell # 10 YR 3/4 Description dark yellowish brn  
 Fresh (Wet) 10 YR 3/4 light " " "  
 Dry 10 YR 6/4 " " "  
 Penetration N/A v. soft soft med. stiff stiff  
 Fines (loose) med. dense dense v. dense  
 S&G (loose) med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) 10%  
 % clay 5%  
 & silt VF-F 60% ; M 50% ; C 10%  
 % sand F up to 1.5cm subrounded 5%  
 % gravel moderately  
 Sorting well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes: Similar to SH-18, 19, 20 but more gravels

**SAMPLE DESCRIPTION**

Sample ID # SH-22  
 Location description 20' W of SH-21  
 Geotech classification UWT Ck SW Sand w/ gravel  
 Color (Wet) Munsell # 10 YR 4/4 Description dark yellowish brn  
 Fresh (Wet) 10 YR 4/4 light yellowish brn  
 Dry 10 YR 6/4 " " "  
 Penetration N/A v. soft soft med. stiff stiff  
 Fines (loose) med. dense dense v. dense  
 S&G (loose) med. dense dense v. dense  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) 10%  
 % clay 5%  
 & silt VF-F 60% ; M-C 25%  
 % sand F up to 2cm 9%  
 % gravel moderately  
 Sorting well - poorly  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes: Similar to SH-18, 19, 20 but more gravels  
similar to SH-17, 23, 24 (when wet too); finer than SH-26  
on same slope as SH-24, 27.

**SAMPLE DESCRIPTION**

Sample ID # SH-23  
 Location description 30' W of SH-24  
 Geotech classification UNIT B SW Sand  
 Color dark brown  
 Fresh Wet 10 YR 3/3  
 Dry 10 YR 5/3  
 Penetration N/A  
 Fines loose med. dense v dense  
 S&G dry damp moist wet  
 Moisture dry damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape % clay 22%  
 & silt 10%  
 % sand F 50% ; m-c 30%  
 %gravel F up to 2cm 8%  
 Sorting moderately  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low med high v. high

Notes: more closely like 27  
 similar to SH-25, 26, 27, 24 but more fines (more fines than 27)  
 on same slope as SH-25, 26, 20, 19

- steepest slope

**SAMPLE DESCRIPTION**

Sample ID # SH-24  
 Location description 20' W of SH-22  
 Geotech classification UNIT B SW Sand  
 Color light brown  
 Fresh Wet 2.5 Y 4/3  
 Dry 10 YR 6/3  
 Penetration 2.5 Y 6/4  
 Fines N/A  
 S&G v. soft soft med. stiff stiff  
 Moisture dry damp moist wet

(shape=rounded, subrounded, subangular, angular)  
 Size & Shape % clay < 1%  
 & silt < 5%  
 % sand F 60% ; m-c 32%  
 %gravel F up to 1cm 3%  
 Sorting moderately  
 Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low mod high v. high

Notes: 2.5, 26, 27  
 similar to SH 25, 26, 27  
 on same slope as SH-22, 18, 23, 25, 26

- steepest slope

SAMPLE DESCRIPTION

Sample ID # **SH-25**  
 Location description W11 30' W of SH-23  
 Geotech classification B SW Sand of gravel  
 Color Munsell # Description  
 Fresh Wet 2.5 Y 4/3 olive brown  
 Dry 2.5 Y 5/4 light olive brown  
 Penetration N/A  
 Fines v. soft med. stiff stiff  
 S&G v. loose (loose) med. dense dense v. dense  
 Moisture (dry) damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) <1  
 % clay <3%  
 & silt <3%  
 % sand (v fine, fine, medium, coarse, v coarse) F 60% ; m-c 24%  
 %gravel (plus diam) f up to 5mm 10% ; c up to 2" 2%  
 Sorting well - poorly Moderately  
 Plasticity (non)plastic v. low low med high v. high  
 Permeability v. low low mod high (v)high

Notes:  
 similar to SH-27, 26  
 on same slope as SH-26, 23, 20, 19  
steepest slope

SAMPLE DESCRIPTION

Sample ID # **SH-26**  
 Location description W11 30' E of SH-13  
 Geotech classification B SW Sand  
 Color Munsell # Description  
 Fresh Wet 2.5 Y 4/2 dk grayish brown  
 Dry 2.5 Y 5/3 light blue brown  
 Penetration N/A  
 Fines v. soft med. stiff stiff  
 S&G v. loose (loose) med. dense dense v. dense  
 Moisture (dry) damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular) <1%  
 % clay 2%  
 & silt 2%  
 % sand (v fine, fine, medium, coarse, v coarse) F 10% ; m 60% ; c 22%  
 %gravel (plus diam) f up to 0.5cm 5%  
 Sorting well - poorly well  
 Plasticity (non)plastic v. low low med high v. high  
 Permeability v. low low mod high (v)high

Notes:  
 similar to SH-27, 26  
 on same slope as SH-26, 23, 20, 19  
steepest slope

**SAMPLE DESCRIPTION**

Sample ID # **SH-27**

Location description v. 60'E of 26  
 Geotech classification UMT B SM Sand w/ silt  
 Color 2.5Y 3/2 2.5Y 5/3 Description v. dk grayish brown  
 Fresh Wet 2.5Y 3/2 2.5Y 5/3 light olive brown  
 Dry  
 Penetration N/A v. soft soft med. stiff stiff  
 Fines v. loose loose med. dense dense v. dense  
 S&G  
 Moisture dry damp moist wet

Size & Shape (shape=rounded, subrounded, subangular, angular)  
 % clay < 1%

& silt < 10%  
 % sand (v. fine, fine, medium, coarse, v. coarse) f 30% ; m 50% ; c 15%  
 % gravel (plus diam) f up to 1.5cm 4%  
 Sorting moderately  
 well - poorly

Plasticity nonplastic v. low low med high v. high  
 Permeability v. low low med high v. high

Notes: similar to SH-25, 26  
on same slope as SH-24, 23, 25

near base of steep slope



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# **Appendix B**

## **Pictures**

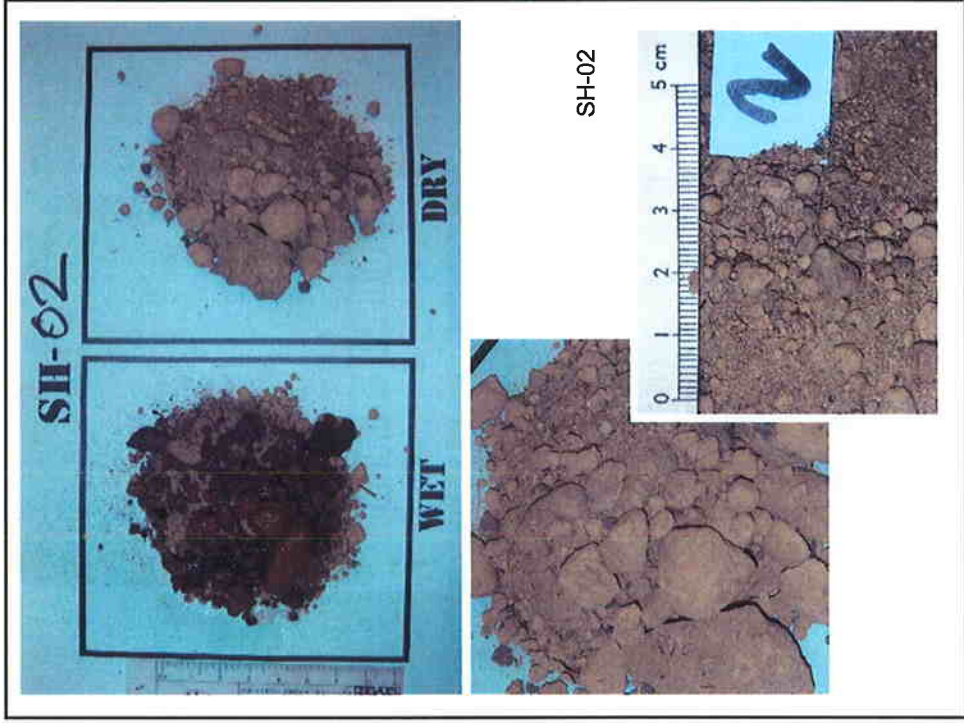
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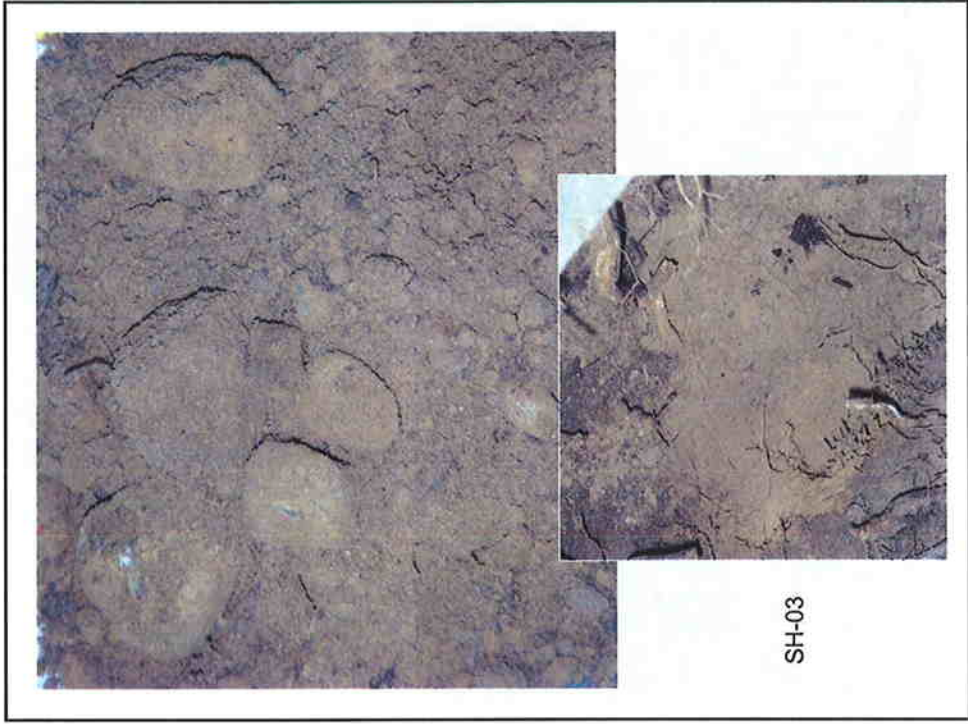
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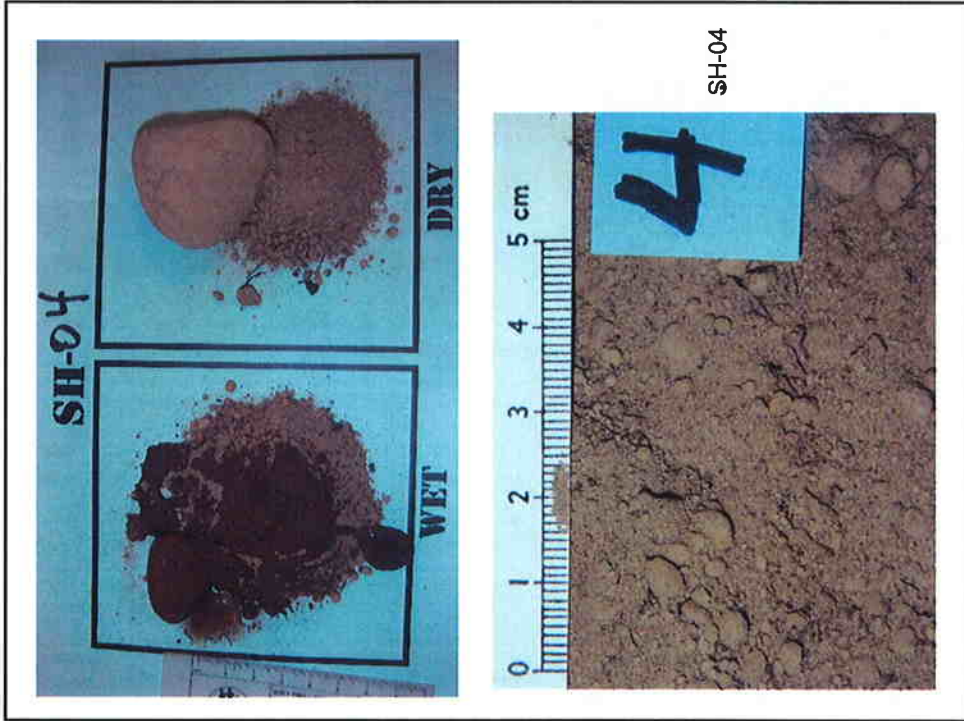
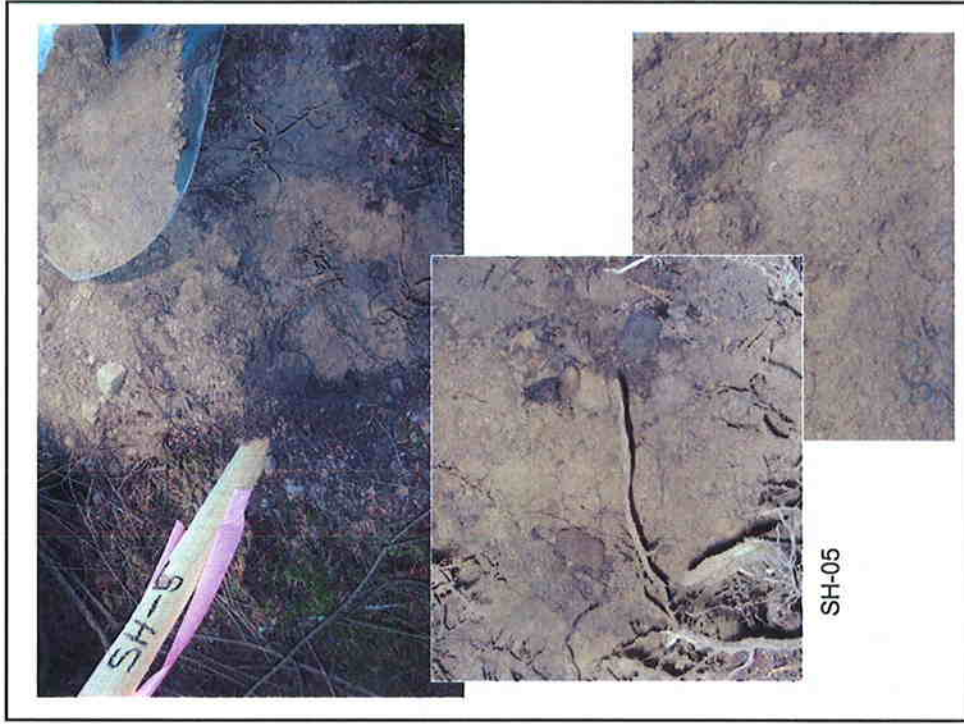


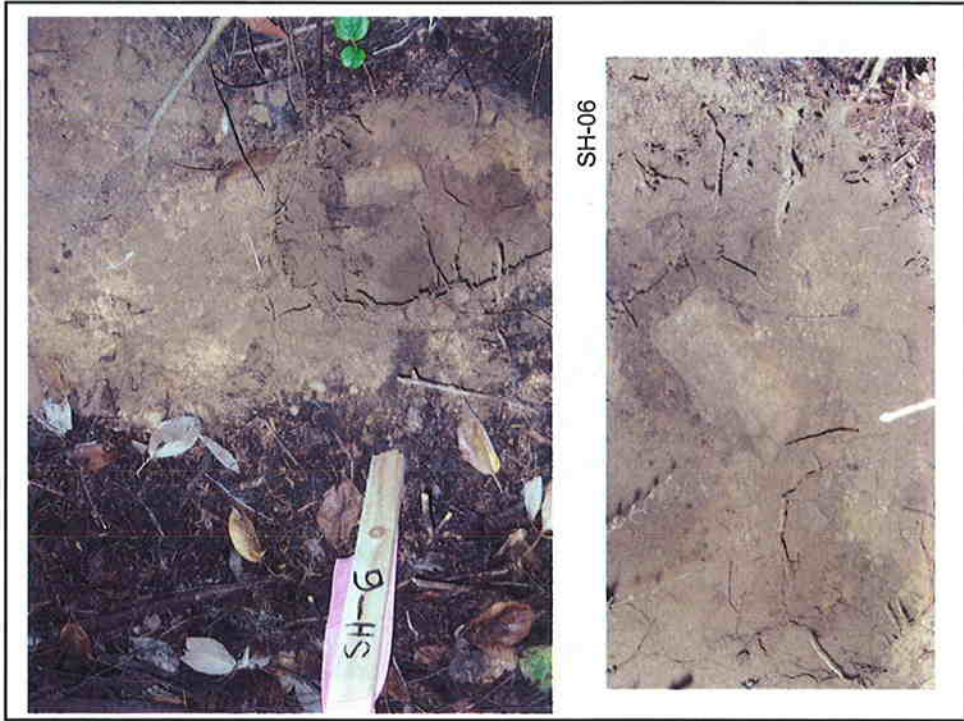
SH-03



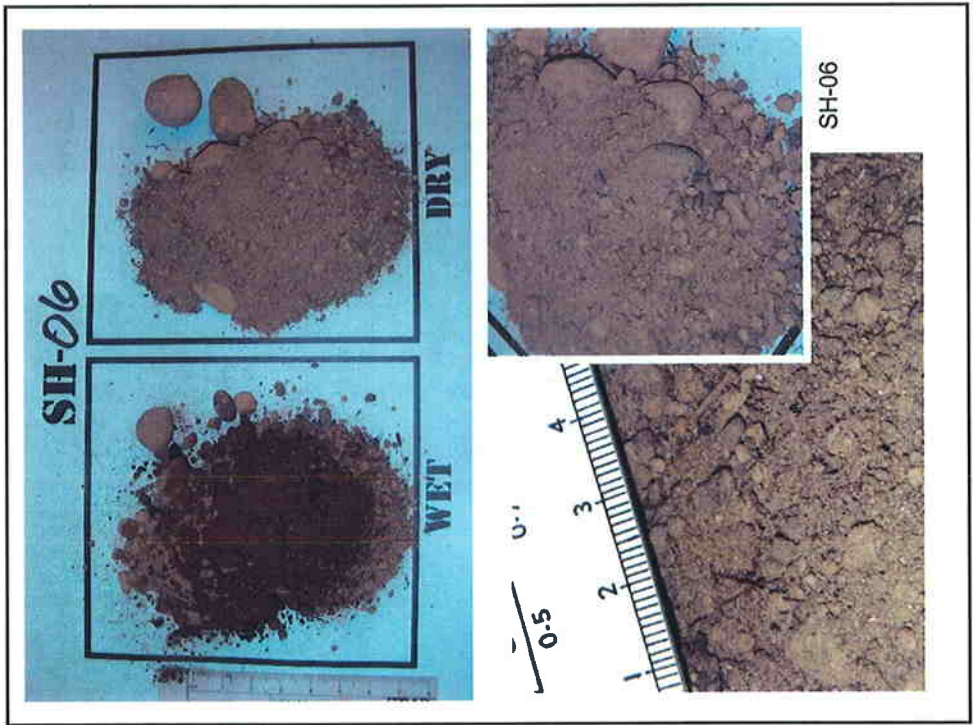
SH-03

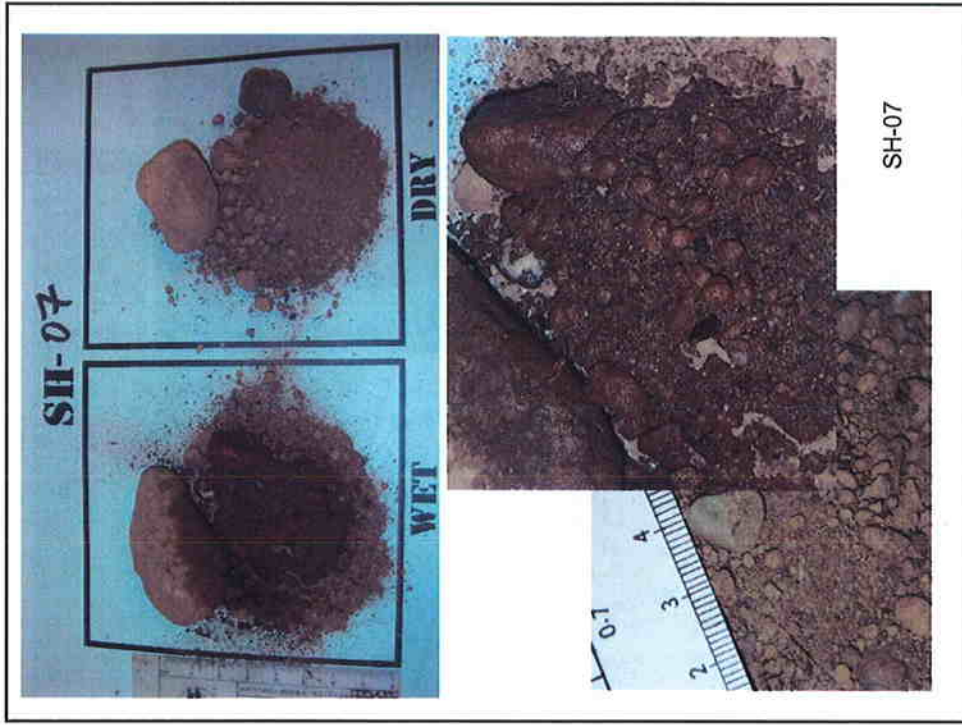






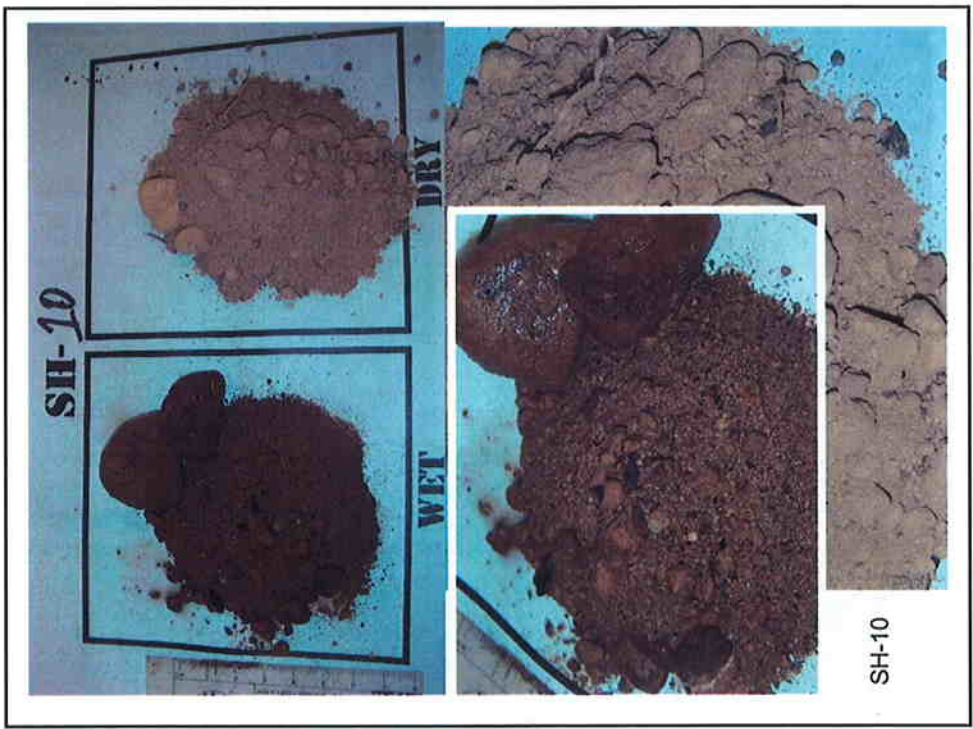
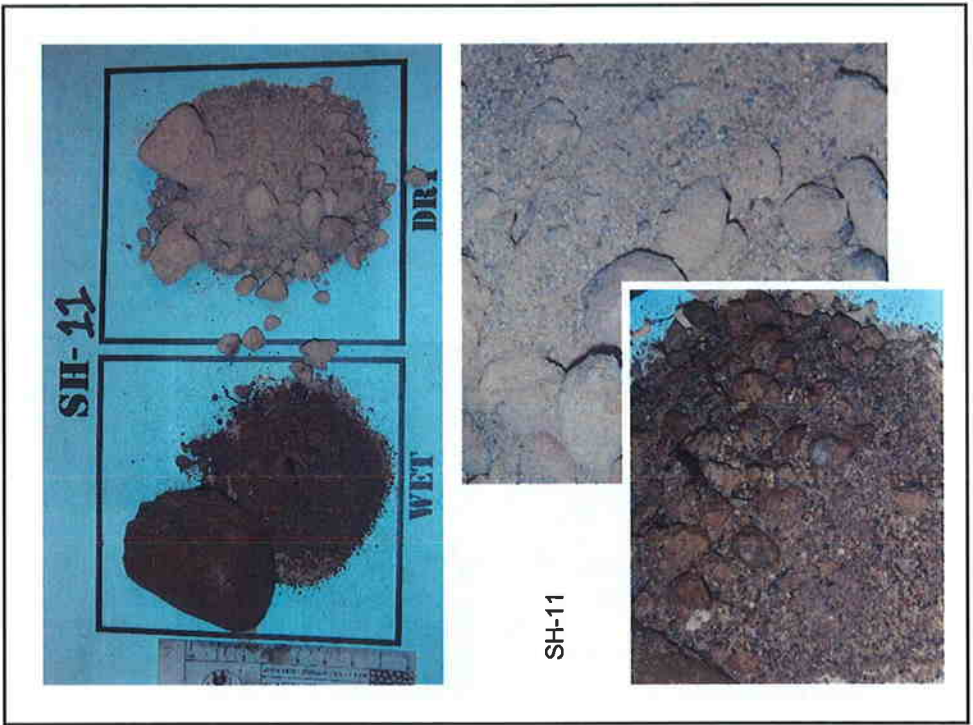




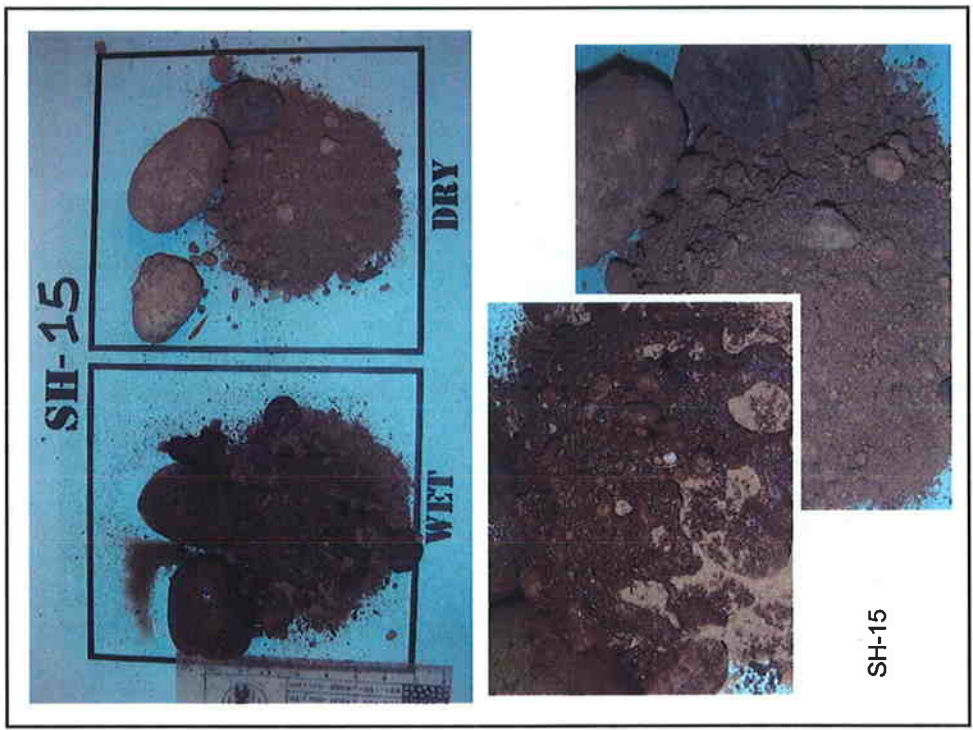


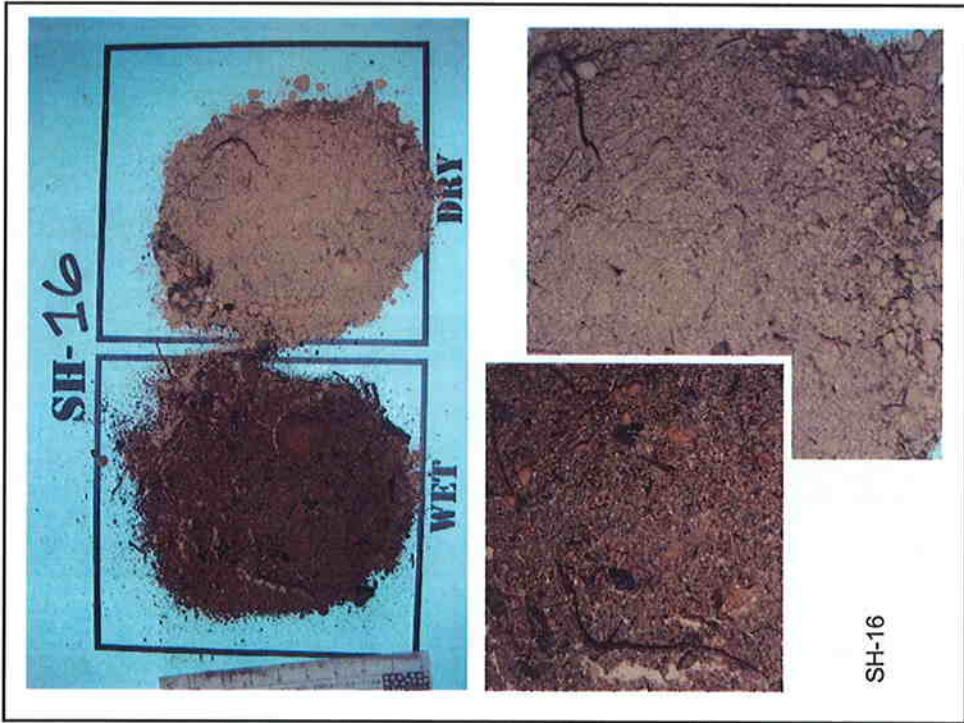








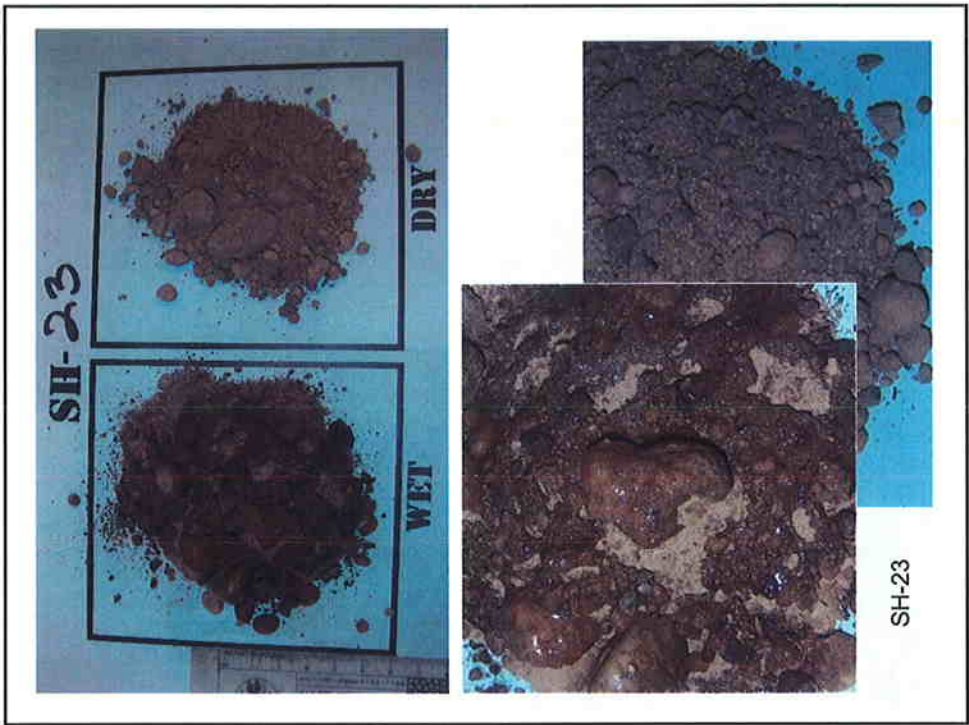


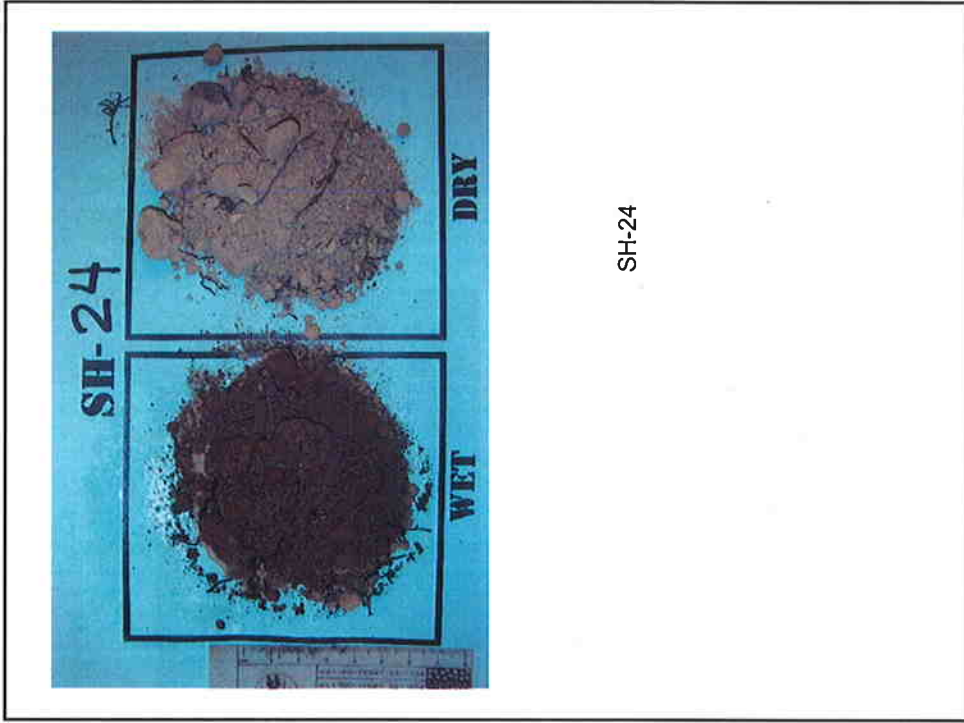




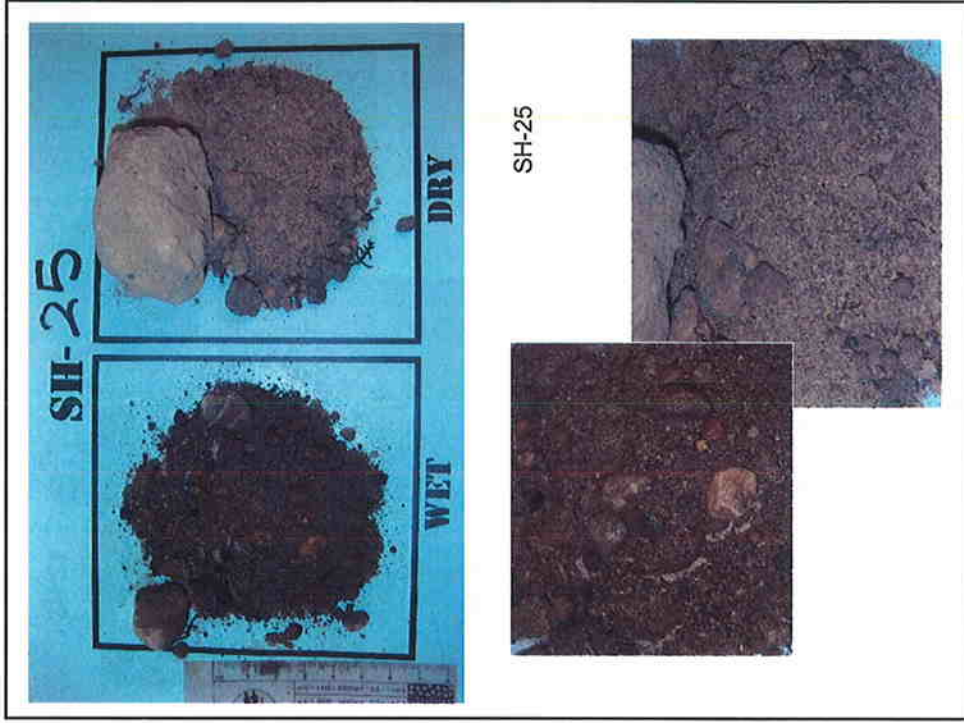








SH-24



SH-25

