

**Table 3-2: Water Quality in Vangorda Creek, near the Town of Faro
 at Station V8 (2003 to 2010)**

| Date | Sulphate (mg/L) | Zinc (Total) (mg/L) | Copper (mg/L) | TSS (mg/L) |
|----------------|---------------------------------------|------------------------|------------------|---------------|
| 14-Jan-03 | 143 | 0.04 | 0.027 | 5 |
| 15-Feb-03 | 152 | 0.033 | 0.008 | 14 |
| 6-Mar-03 | 146 | 0.014 | 0.013 | 4 |
| 15-Apr-03 | 172 | 0.018 | 0.01 | 3 |
| 13-May-03 | 61 | 0.025 | 0.001 | 12 |
| 14-Jun-03 | 42 | 0.03 | 0.031 | 11 |
| 17-Jun-03 | 43 | 0.026 | 0.024 | 6 |
| 14-Jul-03 | 107 | 0.054 | 0.021 | 9 |
| 11-Aug-03 | 225 | 0.071 | 0.048 | 5 |
| 3-Sep-03 | 109 | 0.015 | 0.02 | 2 |
| 8-Sep-03 | 88 | 0.019 | 0.036 | 1 |
| 15-Sep-03 | 75 | 0.015 | 0.021 | 2 |
| 14-Oct-03 | 95 | 0.02 | 0.019 | 1 |
| 15-Nov-03 | 97 | 0.015 | 0.014 | 2 |
| 13-Dec-03 | 134 | 0.014 | 0.013 | 1 |
| 15-Dec-03 | 117 | 0.014 | 0.013 | 1 |
| 12-Jan-04 | 133 | 0.017 | 0.016 | 2 |
| 16-Feb-04 | 148 | 0.017 | 0.017 | 1 |
| 14-Mar-04 | 153 | 0.022 | 0.01 | 1 |
| 15-Mar-04 | 154 | 0.013 | 0.001 | 3 |
| 15-Apr-04 | 159 | 0.013 | 0.02 | 1 |
| 14-May-04 | 44 | 0.032 | 0.008 | 84 |
| 14-Jun-04 | 43 | 0.018 | 0.002 | 25 |
| 12-Jul-04 | 144 | 0.013 | 0.001 | 1 |
| 9-Aug-04 | 327 | 0.021 | 0.001 | 2 |
| 13-Sep-04 | 109 | 0.010 | 0.0010 | 2 |
| 12-Oct-04 | 100 | 0.010 | 0.0010 | 1 |
| 15-Nov-04 | 115 | 0.011 | 0.0010 | 1 |
| 3-Dec-04 | 130 | 0.016 | 0.0010 | 1 |
| 21-Jan-05 | 159 | 0.012 | 0.0010 | 2 |
| 8-Feb-05 | 155 | 0.014 | 0.0010 | 1 |
| 15-Mar-05 | 176 | 0.009 | 0.0010 | 1 |
| 11-Apr-05 | 175 | 0.011 | 0.0010 | 1 |
| 9-May-05 | 33 | 0.037 | 0.0060 | 67 |
| 20-Jun-05 | 133 | 0.022 | 0.0020 | 2 |
| 25-Jul-05 | 238 | 0.024 | 0.0020 | 10 |
| 22-Aug-05 | 312 | 0.015 | 0.0010 | 1 |
| 5-Sep-05 | 102 | 0.026 | 0.0010 | 1 |
| 11-Oct-05 | 82 | 0.007 | 0.0010 | 1 |
| 1-Nov-05 | 112 | 0.031 | 0.0450 | 1 |
| 15-Dec-05 | 139 | 0.022 | 0.0010 | 1 |
| 24-Jan-06 | 166 | 0.015 | 0.0010 | 1 |
| 13-Feb-06 | 191 | 0.017 | 0.0010 | 1 |
| 24-Mar-06 | 204 | 0.019 | 0.0010 | 1 |
| 25-Apr-06 | 184 | 0.013 | 0.0010 | 1 |
| 17-May-06 | 52 | 0.022 | 0.0060 | 54 |
| 19-Jun-06 | 35 | 0.011 | 0.0030 | 24 |
| 17-Jul-06 | | 0.010 | 0.0020 | 12 |
| 21-Aug-06 | 62 | 0.010 | 0.0020 | 13 |
| 11-Sep-06 | 59 | 0.010 | 0.0010 | 4 |
| 16-Oct-06 | 84 | 0.011 | 0.0010 | 11 |
| 14-Nov-06 | 130 | 0.013 | 0.0010 | 1 |
| 13-Dec-06 | 144 | 0.028 | 0.0010 | 1 |
| Trigger | 75^a/171^b | 0.042 | 0.023 | 8 |

| Date | Sulphate (mg/L) | Zinc (Total) (mg/L) | Copper (mg/L) | TSS (mg/L) |
|----------------|---------------------------------------|------------------------|------------------|---------------|
| 15-Jan-07 | 165 | 0.064 | 0.0010 | 1 |
| 15-Feb-07 | 163 | 0.011 | 0.0010 | 1 |
| 11-Mar-07 | 201 | 0.028 | 0.0010 | 1 |
| 18-Apr-07 | 185 | 0.045 | 0.0010 | 1 |
| 14-May-07 | 61 | 0.018 | 0.0040 | 7 |
| 18-Jun-07 | 36 | 0.030 | 0.0020 | 13 |
| 16-Jul-07 | 48 | 0.017 | 0.0050 | 52 |
| 13-Aug-07 | 73 | 0.019 | 0.0010 | 2 |
| 10-Sep-07 | 74 | 0.007 | 0.0010 | 1 |
| 23-Oct-07 | 100 | 0.010 | 0.0010 | 1 |
| 13-Nov-07 | 111 | 0.010 | 0.0010 | 2 |
| 9-Dec-07 | 129 | 0.013 | 0.0010 | 2 |
| 7-Jan-08 | 137 | 0.016 | 0.0010 | 1 |
| 18-Feb-08 | 150 | 0.015 | 0.0010 | 2 |
| 17-Mar-08 | 168 | 0.011 | 0.0010 | 2 |
| 14-Apr-08 | 165 | 0.011 | 0.0010 | 1 |
| 14-May-08 | 70 | 0.022 | 0.0050 | 54 |
| 16-Jun-08 | 87 | 0.035 | 0.0010 | 4 |
| 14-Jul-08 | 79 | 0.025 | 0.0030 | 30 |
| 11-Aug-08 | 149 | 0.019 | 0.0010 | 8 |
| 15-Sep-08 | 57 | 0.020 | 0.0040 | 49 |
| 15-Oct-08 | 84 | 0.013 | 0.0010 | 4 |
| 3-Nov-08 | 104 | 0.019 | 0.0020 | 6 |
| 1-Dec-08 | 134 | 0.035 | 0.0010 | 2 |
| 12-Jan-09 | 183 | 0.015 | 0.0010 | 1 |
| 2-Feb-09 | 182 | 0.018 | 0.0010 | 1 |
| 3-Mar-09 | 210 | 0.014 | 0.0007 | 1 |
| 6-Apr-09 | 220 | 0.014 | 0.0005 | 1 |
| 6-May-09 | 45 | 0.044 | 0.0078 | 140 |
| 8-Jun-09 | 48 | 0.010 | 0.0013 | 16 |
| 13-Jul-09 | 190 | 0.024 | 0.0025 | 73 |
| 11-Aug-09 | 170 | 0.013 | 0.00104 | 14 |
| 10-Sep-09 | 110 | 0.012 | 0.00010 | 17 |
| 7-Oct-09 | 91 | 0.148 | 0.00070 | 8 |
| 10-Nov-09 | 110 | 0.0105 | 0.00060 | 4 |
| 2-Dec-09 | 130 | 0.014 | 0.00080 | 5 |
| 6-Jan-10 | 170 | 0.016 | 0.00090 | 4 |
| 18-Feb-10 | 200 | 0.0126 | 0.00050 | 2 |
| 30-Mar-10 | 200 | 0.0127 | 0.00060 | 2 |
| 20-Apr-10 | 160 | 0.0255 | 0.00510 | 130 |
| 12-May-10 | 110 | 0.0114 | 0.00210 | 23 |
| 17-Jun-10 | 59 | 0.0129 | 0.00200 | 48 |
| 14-Jul-10 | 230 | 0.0190 | 0.00130 | 26 |
| 4-Aug-10 | 100 | 0.0092 | 0.00090 | 2 |
| 7-Sep-10 | 97 | 0.0072 | 0.00090 | 3 |
| 5-Oct-10 | 100 | 0.0075 | 0.00070 | 1 |
| 2-Nov-10 | 120 | 0.0099 | 0.00090 | 2 |
| 1-Dec-10 | 150 | 0.0110 | 0.00060 | 2 |
| Trigger | 75^a/171^b | 0.042 | 0.023 | 8 |

Note: Italics = Exceeds Trigger Value; a: Open Water Trigger Value; b: Winter Trigger Value;

Shaded numbers are "less than" the value indicated.

Note 2: October 7, 2009 TSS was originally reported as 73 mg/L; the retest value is shown.

AMP - to Dec 2010

V8, lower Vangorda Creek

| DATE | DISSOLVED SULPHATE mg/L | DATE | TSS mg/L | DATE | ZN-T mg/L | DATE | CU-T mg/L |
|----------|-------------------------------|------------|-------------|------------|--------------|------------|--------------|
| 01/14/03 | 143 | 1/14/2003 | 5 | 1/14/2003 | 0.04 | 1/14/2003 | 0.027 |
| 02/15/03 | 152 | 2/15/2003 | 14 | 2/15/2003 | 0.033 | 2/15/2003 | 0.008 |
| 03/06/03 | 146 | 3/6/2003 | 4 | 3/6/2003 | 0.014 | 3/6/2003 | 0.013 |
| 04/15/03 | 172 | 4/15/2003 | 3 | 4/15/2003 | 0.018 | 4/15/2003 | 0.01 |
| 05/13/03 | 61 | 5/13/2003 | 12 | 5/13/2003 | 0.025 | 5/13/2003 | 0.001 |
| 06/14/03 | 42 | 6/14/2003 | 11 | 6/14/2003 | 0.03 | 6/14/2003 | 0.031 |
| 06/17/03 | 43 | 6/17/2003 | 6 | 6/17/2003 | 0.026 | 6/17/2003 | 0.024 |
| 07/14/03 | 107 | 7/14/2003 | 9 | 7/14/2003 | 0.054 | 7/14/2003 | 0.021 |
| 08/11/03 | 225 | 8/11/2003 | 5 | 8/11/2003 | 0.071 | 8/11/2003 | 0.048 |
| 09/03/03 | 109 | 9/3/2003 | 2 | 9/3/2003 | 0.015 | 9/3/2003 | 0.02 |
| 09/08/03 | 88 | 9/8/2003 | 1 | 9/8/2003 | 0.019 | 9/8/2003 | 0.036 |
| 09/15/03 | 75 | 9/15/2003 | 2 | 9/15/2003 | 0.015 | 9/15/2003 | 0.021 |
| 10/14/03 | 95 | 10/14/2003 | 1 | 10/14/2003 | 0.02 | 10/14/2003 | 0.019 |
| 11/15/03 | 97 | 11/15/2003 | 2 | 11/15/2003 | 0.015 | 11/15/2003 | 0.014 |
| 12/13/03 | 134 | 12/13/2003 | 1 | 12/13/2003 | 0.014 | 12/13/2003 | 0.013 |
| 12/15/03 | 117 | 12/15/2003 | 1 | 12/15/2003 | 0.014 | 12/15/2003 | 0.013 |
| 01/12/04 | 133 | 1/12/2004 | 2 | 1/12/2004 | 0.017 | 1/12/2004 | 0.016 |
| 02/16/04 | 148 | 2/16/2004 | 1 | 2/16/2004 | 0.017 | 2/16/2004 | 0.017 |
| 03/14/04 | 153 | 3/14/2004 | 1 | 3/14/2004 | 0.022 | 3/14/2004 | 0.01 |
| 03/15/04 | 154 | 3/15/2004 | 3 | 3/15/2004 | 0.013 | 3/15/2004 | 0.001 |
| 04/15/04 | 159 | 4/15/2004 | 1 | 4/15/2004 | 0.013 | 4/15/2004 | 0.02 |
| 05/14/04 | 44.4 | 5/14/2004 | 84 | 5/14/2004 | 0.032 | 5/14/2004 | 0.008 |
| 06/14/04 | 43.3 | 6/14/2004 | 25 | 6/14/2004 | 0.018 | 6/14/2004 | 0.002 |
| 07/12/04 | 144 | 7/12/2004 | 1 | 7/12/2004 | 0.013 | 7/12/2004 | 0.001 |
| 08/09/04 | 327 | 8/9/2004 | 2 | 8/9/2004 | 0.021 | 8/9/2004 | 0.001 |
| 09/13/04 | 109 | 9/13/2004 | 2 | 9/13/2004 | 0.010 | 9/13/2004 | 0.0010 |
| 10/12/04 | 100 | 10/12/2004 | 1 | 10/12/2004 | 0.010 | 10/12/2004 | 0.0010 |
| 11/15/04 | 115 | 11/15/2004 | 1 | 11/15/2004 | 0.011 | 11/15/2004 | 0.0010 |
| 12/03/04 | 130 | 12/3/2004 | 1 | 12/3/2004 | 0.016 | 12/3/2004 | 0.0010 |
| 01/21/05 | 159 | 1/21/2005 | 2 | 1/21/2005 | 0.012 | 1/21/2005 | 0.0010 |
| 02/08/05 | 155 | 2/8/2005 | 1 | 2/8/2005 | 0.014 | 2/8/2005 | 0.0010 |
| 03/15/05 | 176 | 3/15/2005 | 1 | 3/15/2005 | 0.009 | 3/15/2005 | 0.0010 |
| 04/11/05 | 175 | 4/11/2005 | 1 | 4/11/2005 | 0.011 | 4/11/2005 | 0.0010 |
| 05/09/05 | 33.3 | 5/9/2005 | 67 | 5/9/2005 | 0.037 | 5/9/2005 | 0.0060 |
| 06/20/05 | 133 | 6/20/2005 | 2 | 6/20/2005 | 0.022 | 6/20/2005 | 0.0020 |
| 07/25/05 | 238 | 7/25/2005 | 10 | 7/25/2005 | 0.024 | 7/25/2005 | 0.0020 |
| 08/22/05 | 312 | 8/22/2005 | 1 | 8/22/2005 | 0.015 | 8/22/2005 | 0.0010 |
| 09/05/05 | 102 | 9/5/2005 | 1 | 9/5/2005 | 0.026 | 9/5/2005 | 0.0010 |
| 10/11/05 | 82.1 | 10/11/2005 | 1 | 10/11/2005 | 0.007 | 10/11/2005 | 0.0010 |
| 11/01/05 | 112 | 11/1/2005 | 1 | 11/1/2005 | 0.031 | 11/1/2005 | 0.0450 |
| 12/15/05 | 139 | 12/15/2005 | 1 | 12/15/2005 | 0.022 | 12/15/2005 | 0.0010 |
| 01/24/06 | 166 | 1/24/2006 | 1 | 1/24/2006 | 0.015 | 1/24/2006 | 0.0010 |
| 02/13/06 | 191 | 2/13/2006 | 1 | 2/13/2006 | 0.017 | 2/13/2006 | 0.0010 |
| 03/24/06 | 204 | 3/24/2006 | 1 | 3/24/2006 | 0.019 | 3/24/2006 | 0.0010 |

| | | | | | | | |
|----------|------|------------|-----|------------|--------|------------|---------|
| 04/25/06 | 184 | 4/25/2006 | 1 | 4/25/2006 | 0.013 | 4/25/2006 | 0.0010 |
| 05/17/06 | 51.9 | 5/17/2006 | 54 | 5/17/2006 | 0.022 | 5/17/2006 | 0.0060 |
| 06/19/06 | 35 | 6/19/2006 | 24 | 6/19/2006 | 0.011 | 6/19/2006 | 0.0030 |
| 08/21/06 | 61.5 | 7/17/2006 | 12 | 7/17/2006 | 0.010 | 7/17/2006 | 0.0020 |
| 09/11/06 | 58.7 | 8/21/2006 | 13 | 8/21/2006 | 0.010 | 8/21/2006 | 0.0020 |
| 10/16/06 | 84 | 9/11/2006 | 4 | 9/11/2006 | 0.010 | 9/11/2006 | 0.0010 |
| 11/14/06 | 130 | 10/16/2006 | 11 | 10/16/2006 | 0.011 | 10/16/2006 | 0.0010 |
| 12/13/06 | 144 | 11/14/2006 | 1 | 11/14/2006 | 0.013 | 11/14/2006 | 0.0010 |
| 01/15/07 | 165 | 12/13/2006 | 1 | 12/13/2006 | 0.028 | 12/13/2006 | 0.0010 |
| 02/15/07 | 163 | 1/15/2007 | 1 | 1/15/2007 | 0.064 | 1/15/2007 | 0.0010 |
| 03/11/07 | 201 | 2/15/2007 | 1 | 2/15/2007 | 0.011 | 2/15/2007 | 0.0010 |
| 04/18/07 | 185 | 3/11/2007 | 1 | 3/11/2007 | 0.028 | 3/11/2007 | 0.0010 |
| 05/14/07 | 61.2 | 4/18/2007 | 1 | 4/18/2007 | 0.045 | 4/18/2007 | 0.0010 |
| 06/18/07 | 35.8 | 5/14/2007 | 7 | 5/14/2007 | 0.018 | 5/14/2007 | 0.0040 |
| 07/16/07 | 48.4 | 6/18/2007 | 13 | 6/18/2007 | 0.030 | 6/18/2007 | 0.0020 |
| 08/13/07 | 73 | 7/16/2007 | 52 | 7/16/2007 | 0.017 | 7/16/2007 | 0.0050 |
| 09/10/07 | 74 | 8/13/2007 | 2 | 8/16/2007 | 0.019 | 8/13/2007 | 0.0010 |
| 10/23/07 | 99.8 | 9/10/2007 | 1 | 9/10/2007 | 0.007 | 9/10/2007 | 0.0010 |
| 11/13/07 | 111 | 10/23/2007 | 1 | 10/23/2007 | 0.010 | 10/23/2007 | 0.0010 |
| 12/09/07 | 129 | 11/13/2007 | 2 | 11/13/2007 | 0.010 | 11/13/2007 | 0.0010 |
| 01/07/08 | 137 | 12/9/2007 | 2 | 12/9/2007 | 0.013 | 12/9/2007 | 0.0010 |
| 02/18/08 | 150 | 1/7/2008 | 1 | 1/7/2008 | 0.016 | 1/7/2008 | 0.0010 |
| 03/17/08 | 168 | 2/18/2008 | 2 | 2/18/2008 | 0.015 | 2/18/2008 | 0.0010 |
| 04/14/08 | 165 | 3/17/2008 | 2 | 3/17/2008 | 0.011 | 3/17/2008 | 0.0010 |
| 05/14/08 | 69.6 | 4/14/2008 | 1 | 4/14/2008 | 0.011 | 4/14/2008 | 0.0010 |
| 06/16/08 | 86.7 | 5/14/2008 | 54 | 5/14/2008 | 0.022 | 5/14/2008 | 0.0050 |
| 07/14/08 | 78.7 | 6/16/2008 | 4 | 6/16/2008 | 0.035 | 6/16/2008 | 0.0010 |
| 08/11/08 | 149 | 7/14/2008 | 30 | 7/14/2008 | 0.025 | 7/14/2008 | 0.0030 |
| 09/15/08 | 56.8 | 8/11/2008 | 8 | 8/11/2008 | 0.019 | 8/11/2008 | 0.0010 |
| 10/15/08 | 83.8 | 9/15/2008 | 49 | 9/15/2008 | 0.020 | 9/15/2008 | 0.0040 |
| 11/03/08 | 104 | 10/15/2008 | 4 | 10/15/2008 | 0.013 | 10/15/2008 | 0.0010 |
| 12/01/08 | 134 | 11/3/2008 | 6 | 11/3/2008 | 0.019 | 11/3/2008 | 0.0020 |
| 01/12/09 | 183 | 12/1/2008 | 2 | 12/1/2008 | 0.035 | 12/1/2008 | 0.0010 |
| 02/02/09 | 182 | 1/12/2009 | 1 | 1/12/2009 | 0.015 | 1/12/2009 | 0.0010 |
| 03/03/09 | 210 | 2/2/2009 | 1 | 2/2/2009 | 0.018 | 2/2/2009 | 0.0010 |
| 04/06/09 | 220 | 3/3/2009 | 1 | 3/3/2009 | 0.014 | 3/3/2009 | 0.0007 |
| 05/06/09 | 45 | 4/6/2009 | 1 | 4/6/2009 | 0.014 | 4/8/2009 | 0.0005 |
| 06/08/09 | 48 | 05/06/09 | 140 | 05/06/09 | 0.044 | 05/06/09 | 0.0078 |
| 07/13/09 | 190 | 06/08/09 | 16 | 06/08/09 | 0.010 | 06/08/09 | 0.0013 |
| 08/11/09 | 170 | 07/13/09 | 73 | 07/13/09 | 0.024 | 07/13/09 | 0.0025 |
| 09/10/09 | 110 | 08/11/09 | 14 | 08/11/09 | 0.013 | 08/11/09 | 0.00104 |
| 10/07/09 | 91 | 09/10/09 | 17 | 09/10/09 | 0.012 | 09/10/09 | 0.00010 |
| 11/10/09 | 110 | 10/07/09 | 8 | 10/07/09 | 0.148 | 10/07/09 | 0.00070 |
| 12/02/09 | 130 | 11/10/09 | 4 | 11/10/09 | 0.0105 | 11/10/09 | 0.00060 |
| 01/06/10 | 170 | 12/02/09 | 5 | 12/02/09 | 0.014 | 12/02/09 | 0.00080 |
| 02/18/10 | 200 | 01/06/10 | 4 | 01/06/10 | 0.016 | 01/06/10 | 0.00090 |
| 03/30/10 | 200 | 02/18/10 | 2 | 02/18/10 | 0.0126 | 02/18/10 | 0.00050 |
| 04/20/10 | 160 | 03/30/10 | 2 | 03/30/10 | 0.0127 | 03/30/10 | 0.00060 |
| 05/12/10 | 110 | 04/20/10 | 130 | 04/20/10 | 0.0255 | 04/20/10 | 0.00510 |
| 06/17/10 | 59 | 05/12/10 | 23 | 05/12/10 | 0.0114 | 05/12/10 | 0.00210 |
| 07/14/10 | 230 | 06/17/10 | 48 | 06/17/10 | 0.0129 | 06/17/10 | 0.00200 |
| 08/04/10 | 100 | 07/14/10 | 26 | 07/14/10 | 0.0190 | 07/14/10 | 0.00130 |

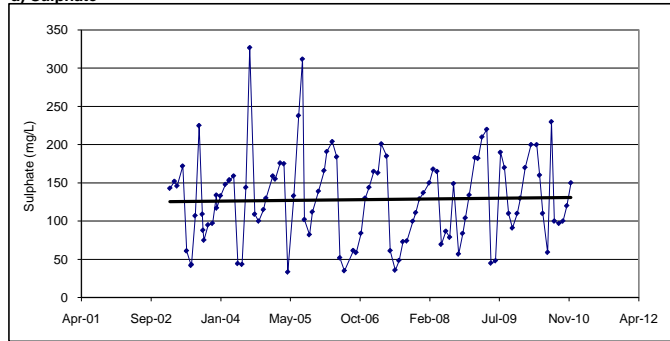
| | | | | | | | |
|----------|-----|----------|---|----------|--------|----------|---------|
| 09/07/10 | 97 | 08/04/10 | 2 | 08/04/10 | 0.0092 | 08/04/10 | 0.00090 |
| 10/05/10 | 100 | 09/07/10 | 3 | 09/07/10 | 0.0072 | 09/07/10 | 0.00090 |
| 11/02/10 | 120 | 10/05/10 | 1 | 10/05/10 | 0.0075 | 10/05/10 | 0.00070 |
| 12/01/10 | 150 | 11/02/10 | 2 | 11/02/10 | 0.0099 | 11/02/10 | 0.00090 |
| | | 12/01/10 | 2 | 12/01/10 | 0.0110 | 12/01/10 | 0.00060 |

| | | | | | | | |
|----------------|------------|--|----------|--|-------------|--|--------------|
| Trigger | 75 | | | | | | |
| Trigger | 171 | | 8 | | 0.05 | | 0.023 |

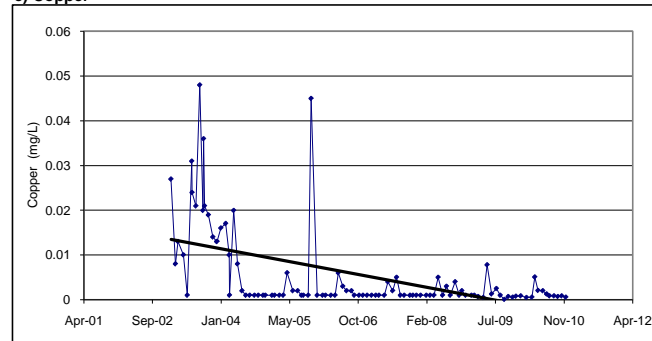
Figure 3-1: Water Quality in Vangorda Creek, near the Town of Faro
at Site V8 (2003 to 2010)



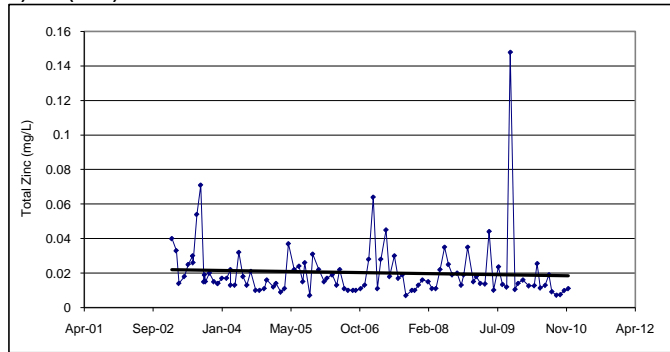
a) Sulphate



c) Copper



b) Zinc (Total)



d) TSS

