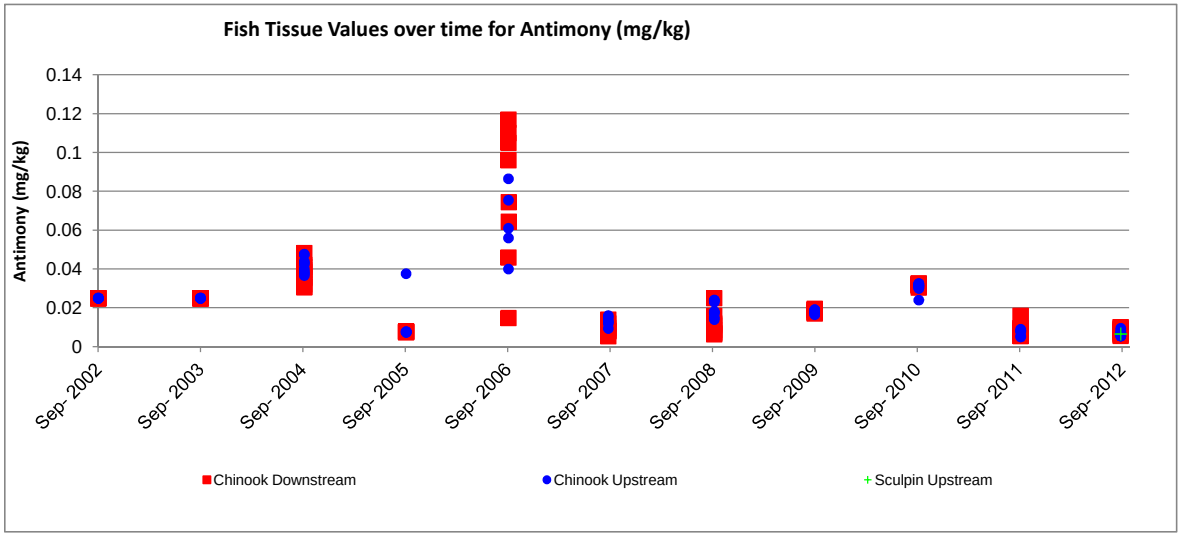
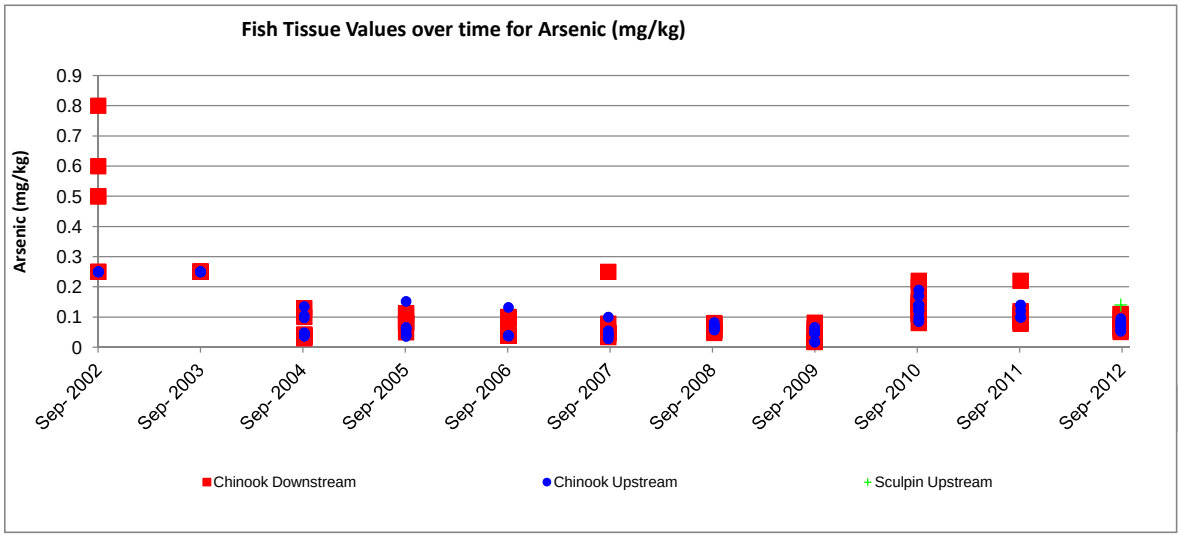
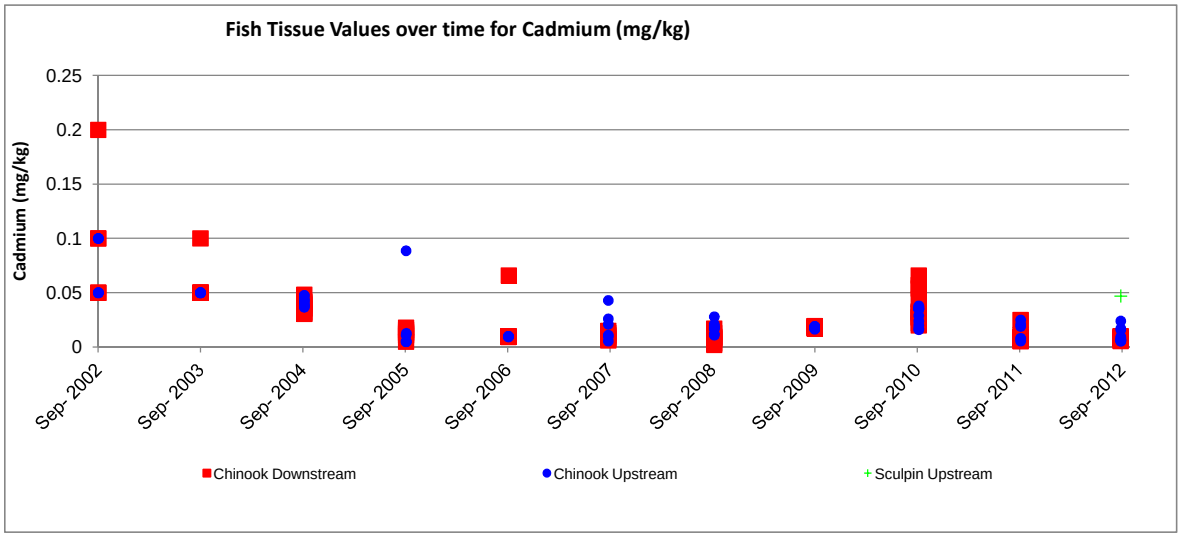
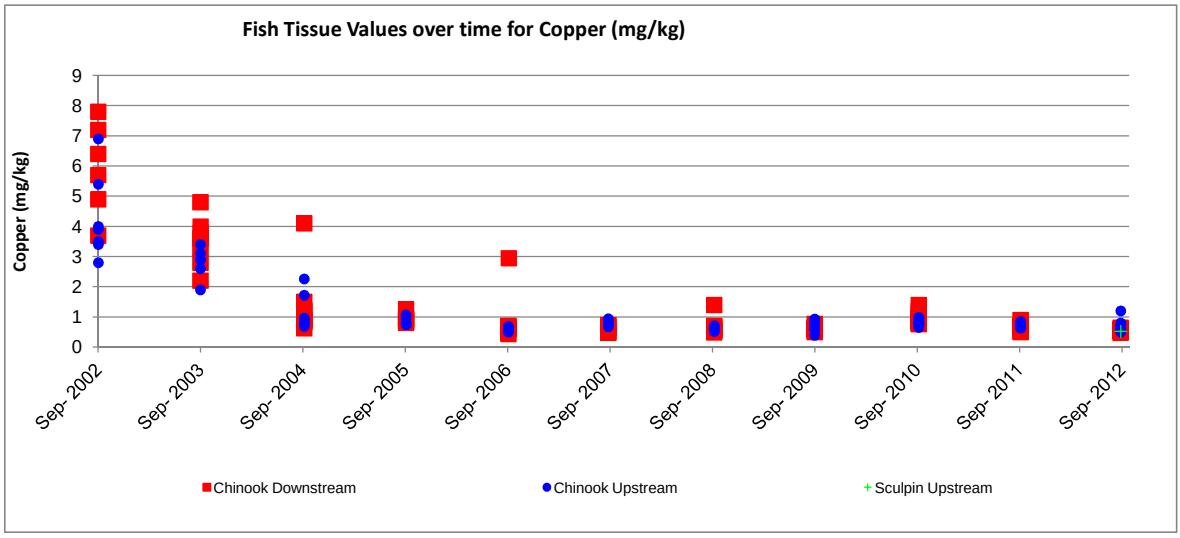
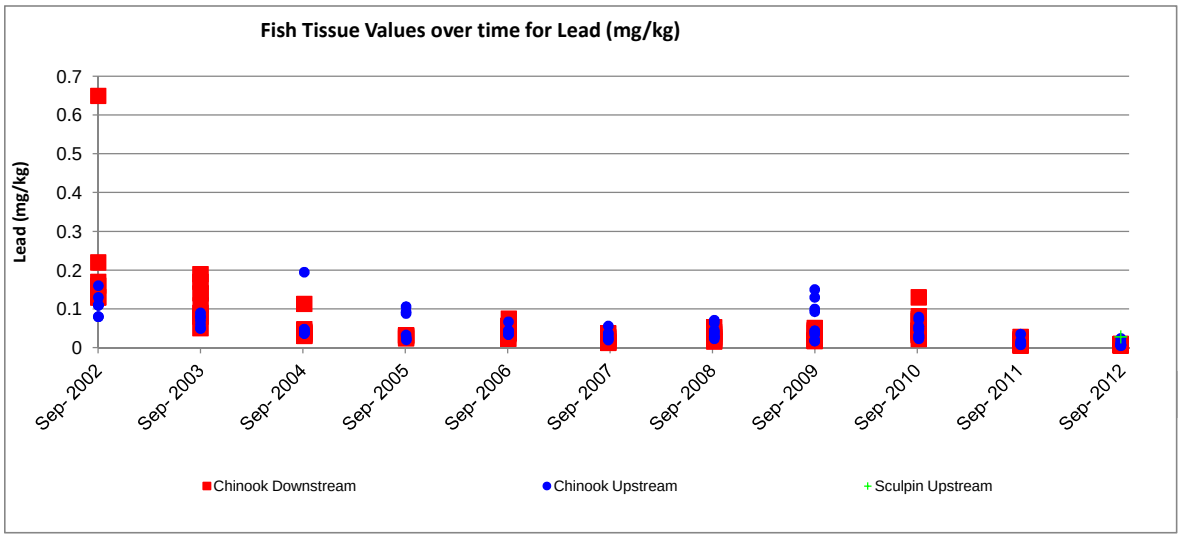
Appendix C: Time Series Graphs of Monitoring Data

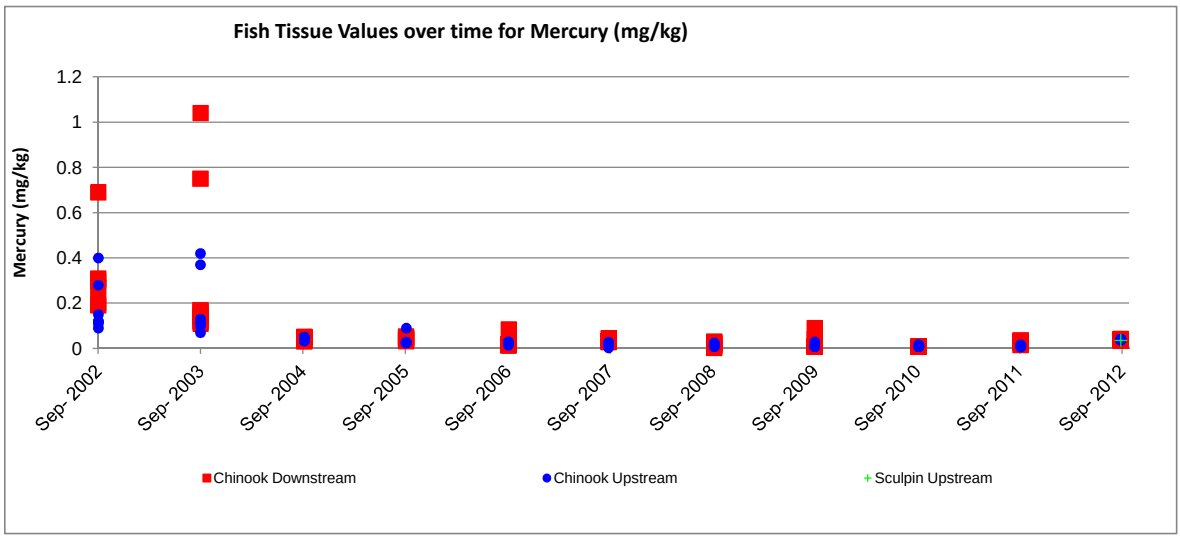

Fish Tissue Values over time for Antimony (mg/kg)
Antimony (mg/kg)
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

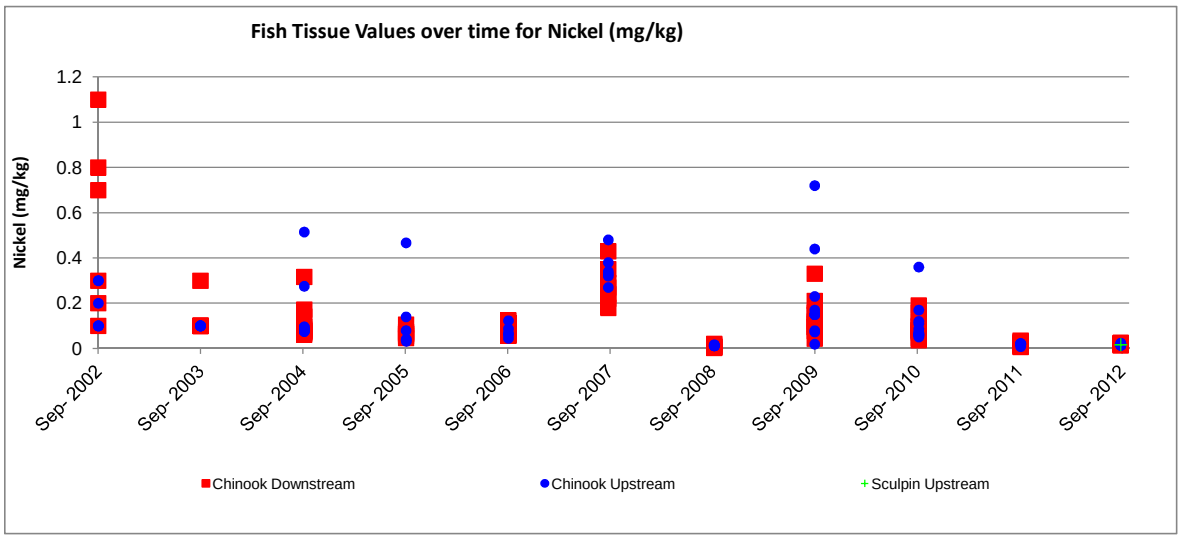

Fish Tissue Values over time for Arsenic (mg/kg)
Arsenic (mg/kg)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

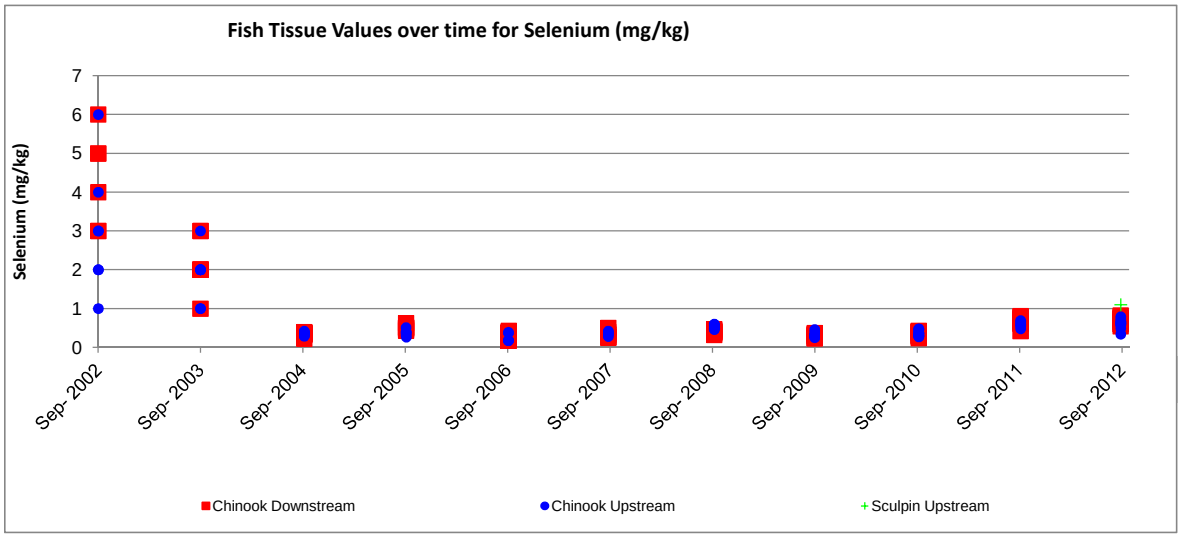

Fish Tissue Values over time for Cadmium (mg/kg)
Cadmium (mg/kg)
0.25
0.2
0.15
0.1
0.05
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

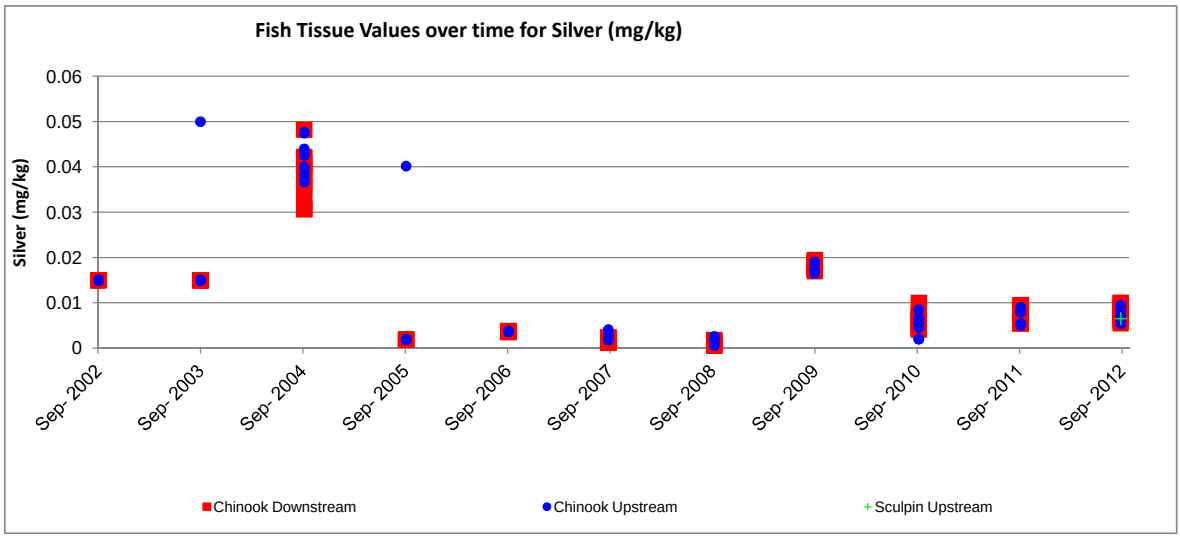

Fish Tissue Values over time for Copper (mg/kg)
Copper (mg/kg)
9
8
7
6
5
4
3
2
1
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

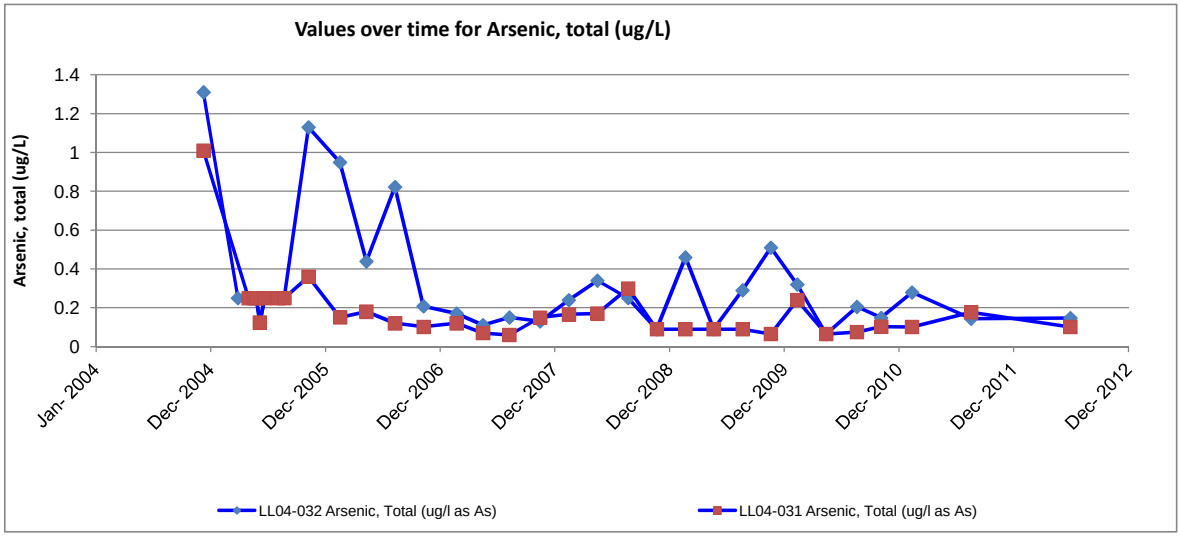

Fish Tissue Values over time for Lead (mg/kg)
Lead (mg/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

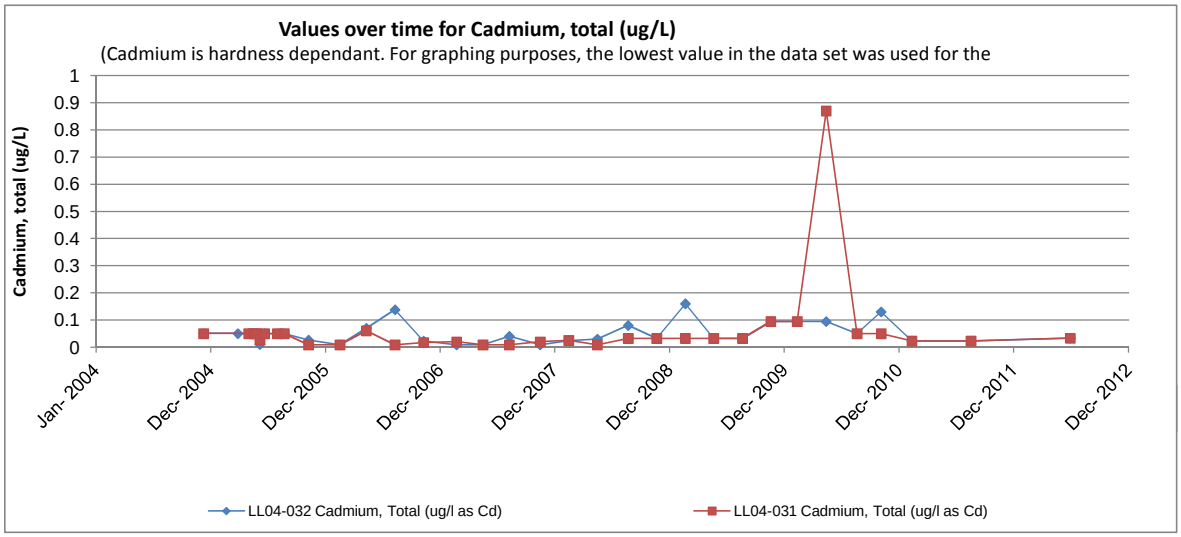

Fish Tissue Values over time for Mercury (mg/kg)
Mercury (mg/kg)
1.2
1
0.8
0.6
0.4
0.2
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

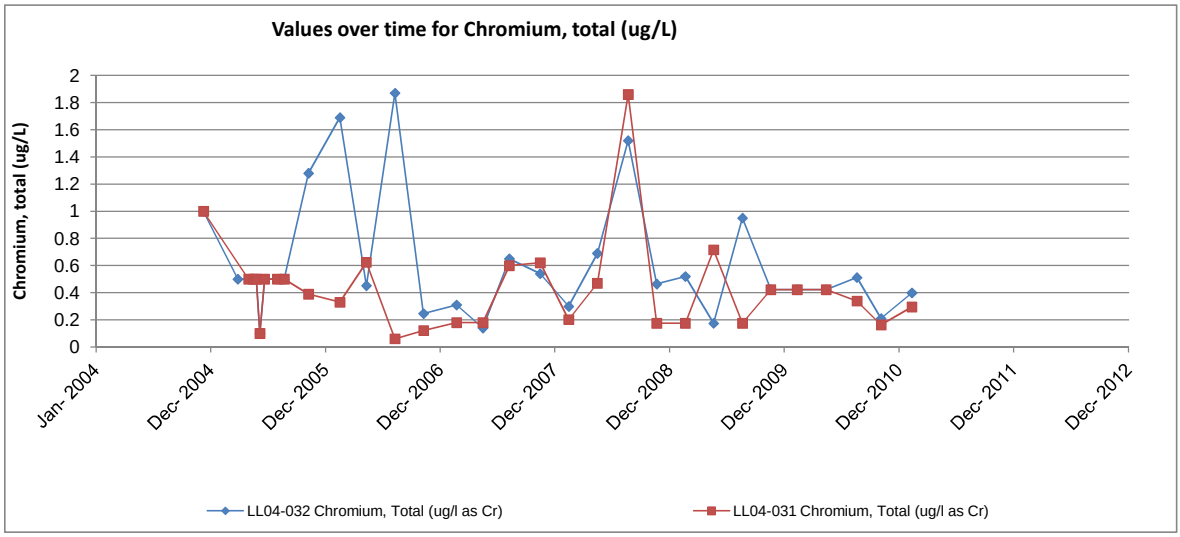

Fish Tissue Values over time for Nickel (mg/kg)
Nickel (mg/kg)
1.2
1
0.8
0.6
0.4
0.2
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

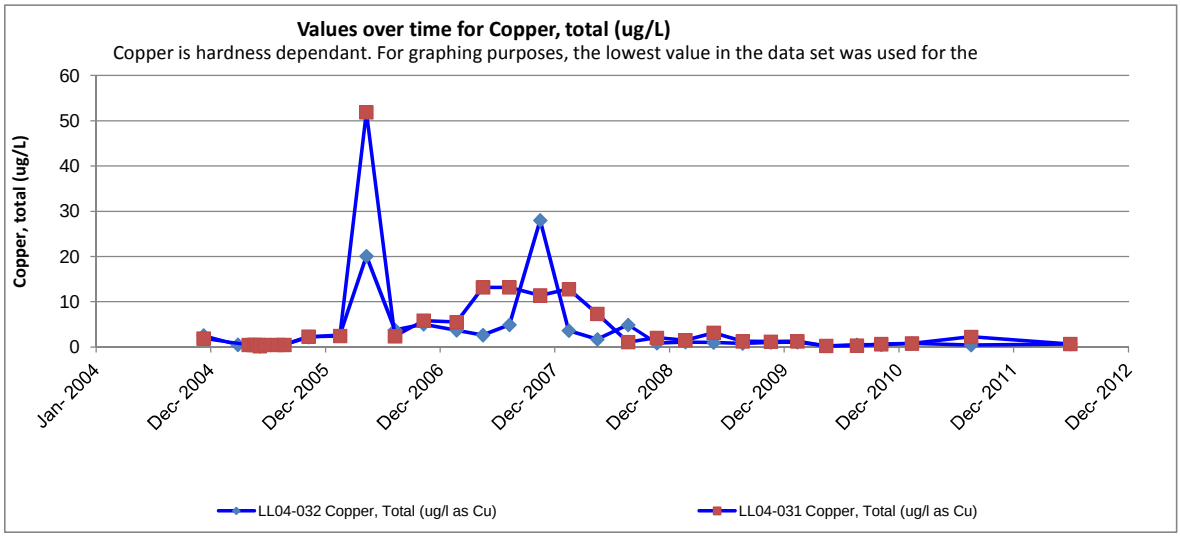

Fish Tissue Values over time for Selenium (mg/kg)
Selenium (mg/kg)
7
6
5
4
3
2
1
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

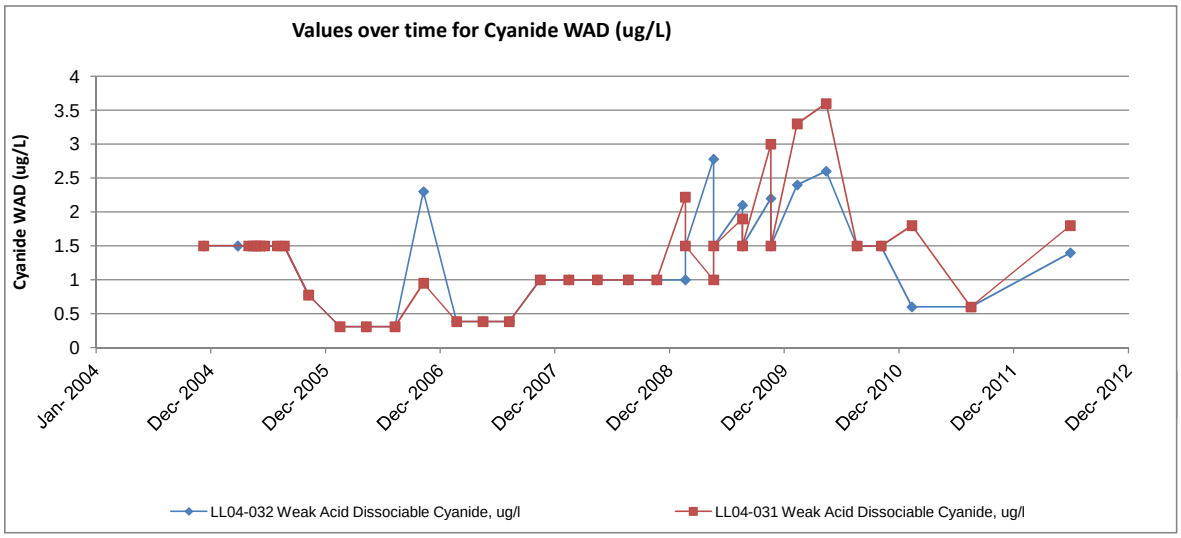

Fish Tissue Values over time for Silver (mg/kg)
Silver (mg/kg)
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep- 2002
Sep- 2003
Sep- 2004
Sep- 2005
Sep- 2006
Sep- 2007
Sep- 2008
Sep- 2009
Sep- 2010
Sep- 2011
Sep- 2012
Chinook Downstream
Chinook Upstream
Sculpin Upstream

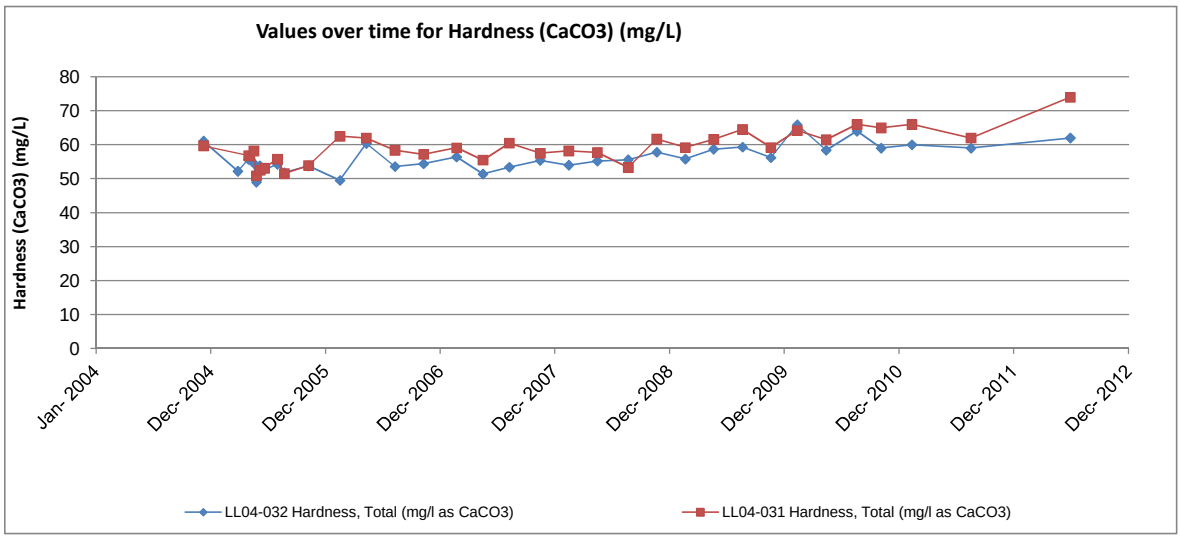

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Arsenic, Total (ug/l as As)
LL04-031 Arsenic, Total (ug/l as As)

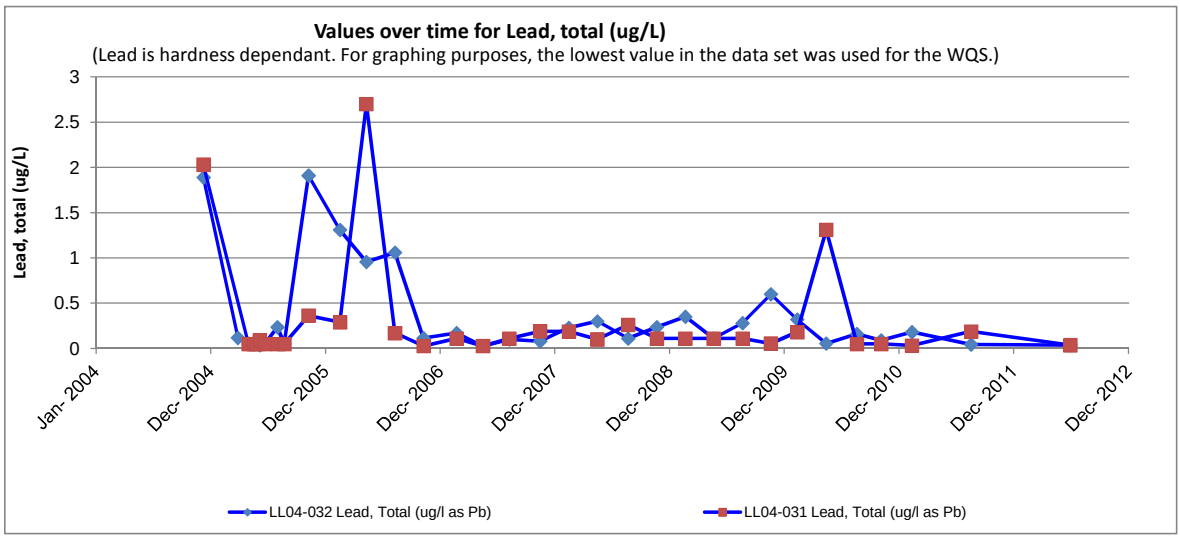

Values over time for Cadmium, total (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Cadmium, total (ug/L)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Cadmium, Total (ug/l as Cd)
LL04-031 Cadmium, Total (ug/l as Cd)

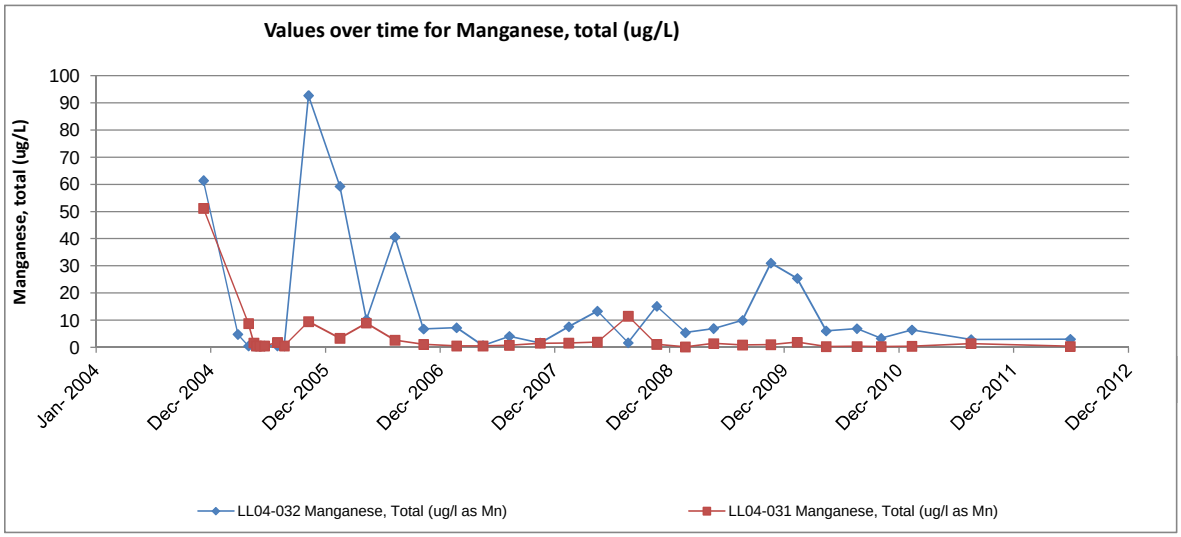

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Chromium, Total (ug/l as Cr)
LL04-031 Chromium, Total (ug/l as Cr)

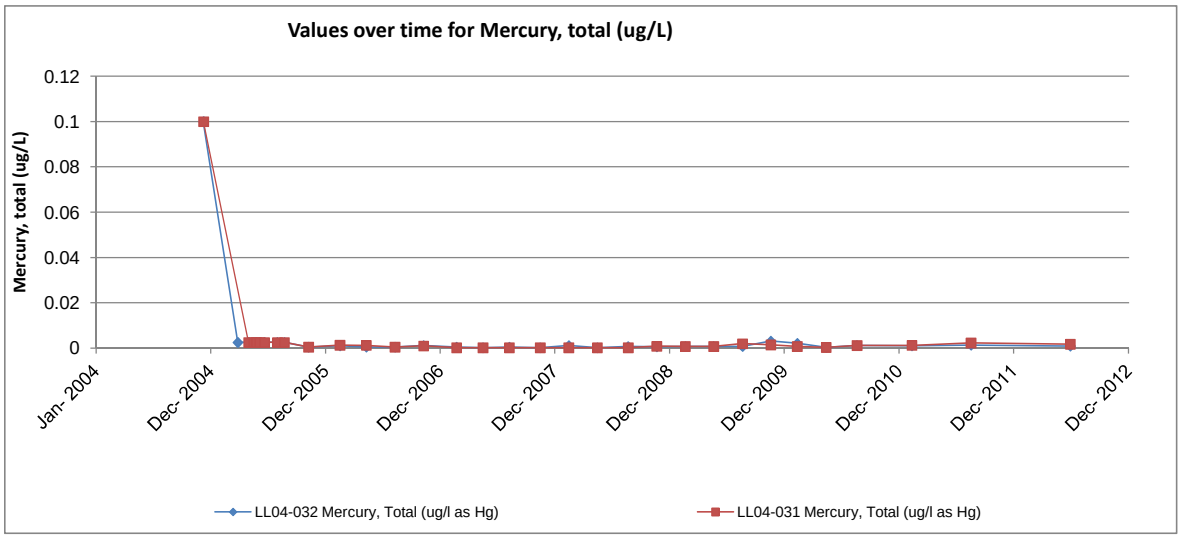

Values over time for Copper, total (ug/L)
Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Copper, total (ug/L)
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Copper, Total (ug/l as Cu)
LL04-031 Copper, Total (ug/l as Cu)

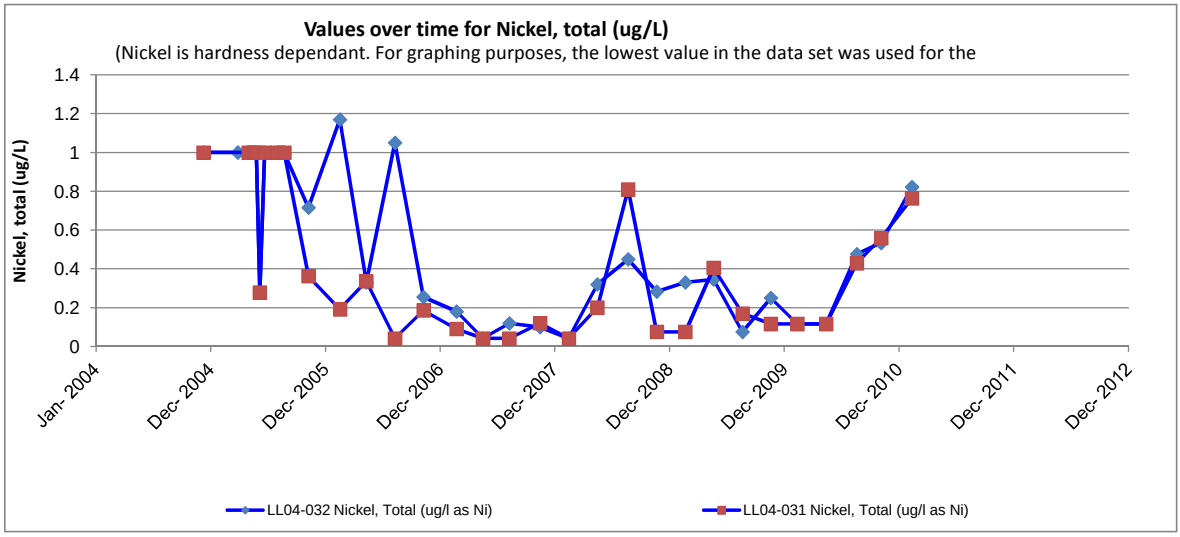

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Weak Acid Dissociable Cyanide, ug/l
LL04-031 Weak Acid Dissociable Cyanide, ug/l

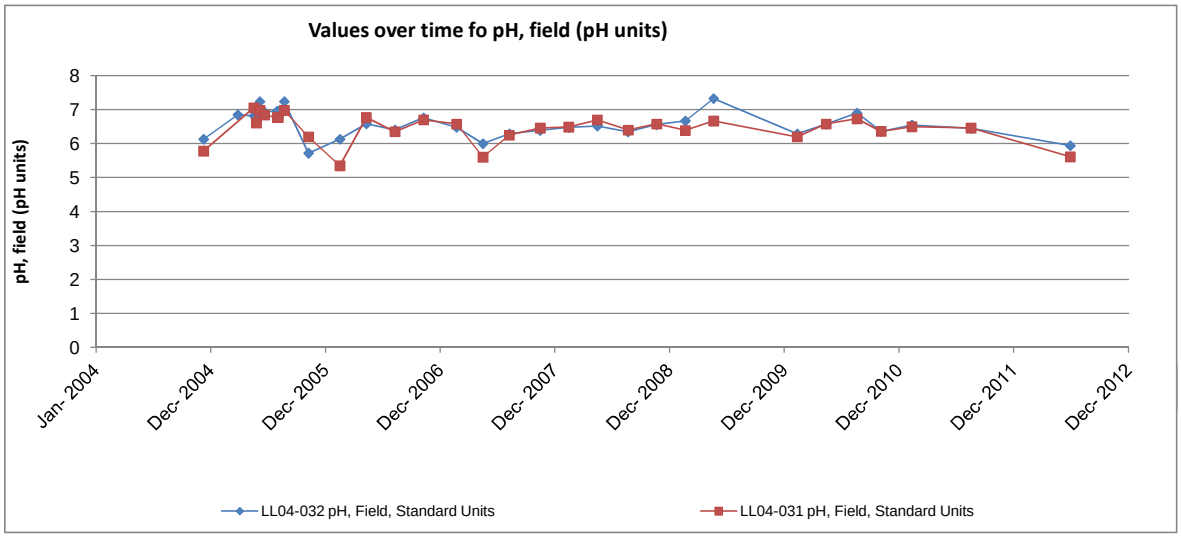

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
80
70
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Hardness, Total (mg/l as CaCO3)
LL04-031 Hardness, Total (mg/l as CaCO3)

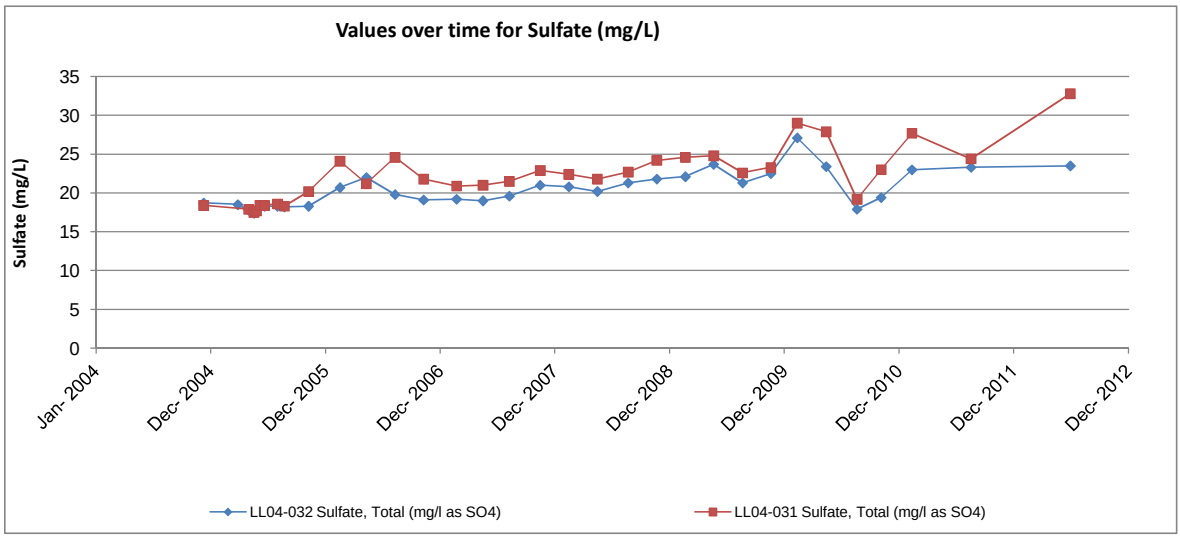

Values over time for Lead, total (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Lead, total (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Lead, Total (ug/l as Pb)
LL04-031 Lead, Total (ug/l as Pb)

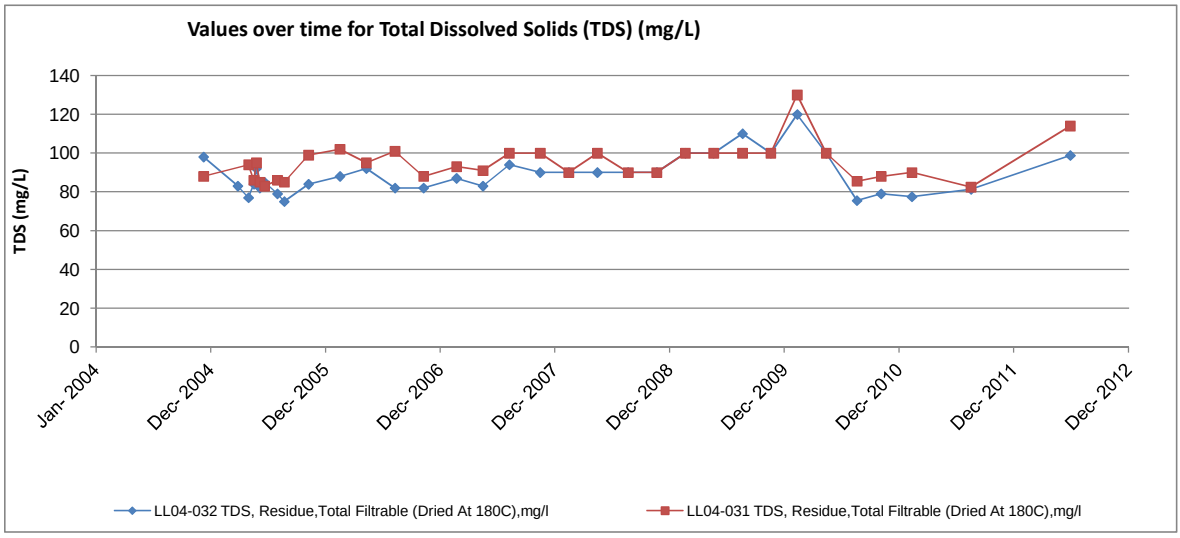

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Manganese, Total (ug/l as Mn)
LL04-031 Manganese, Total (ug/l as Mn)

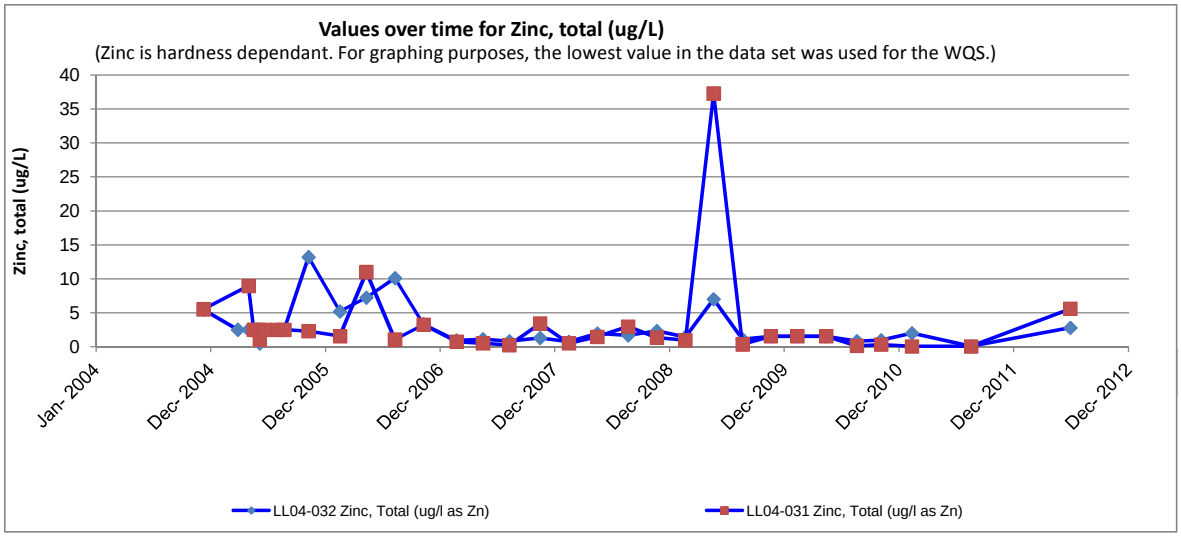

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Mercury, Total (ug/l as Hg)
LL04-031 Mercury, Total (ug/l as Hg)

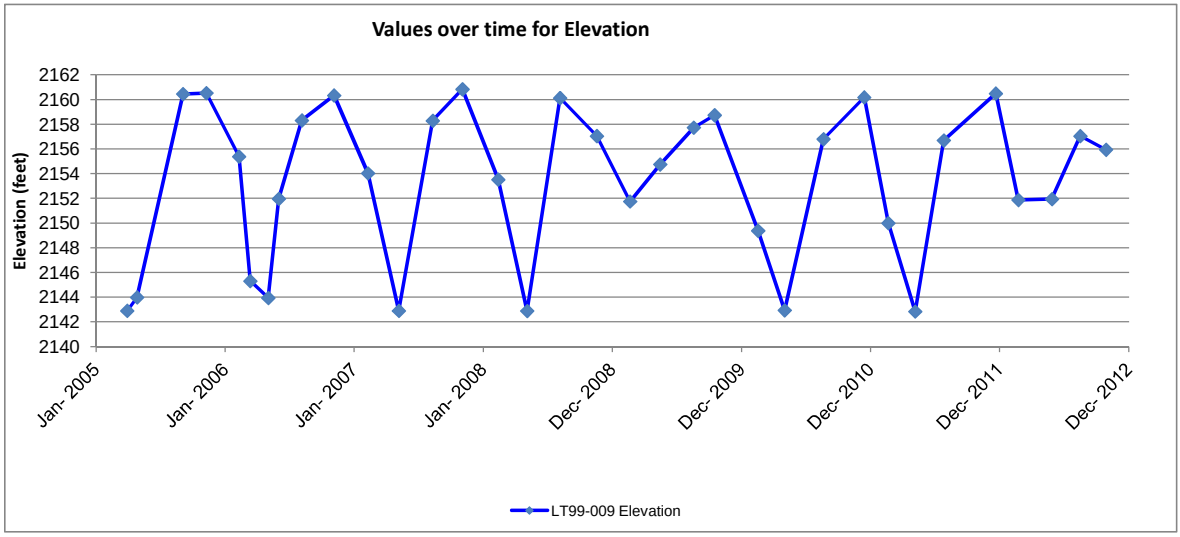

Values over time for Nickel, total (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Nickel, total (ug/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Nickel, Total (ug/l as Ni)
LL04-031 Nickel, Total (ug/l as Ni)

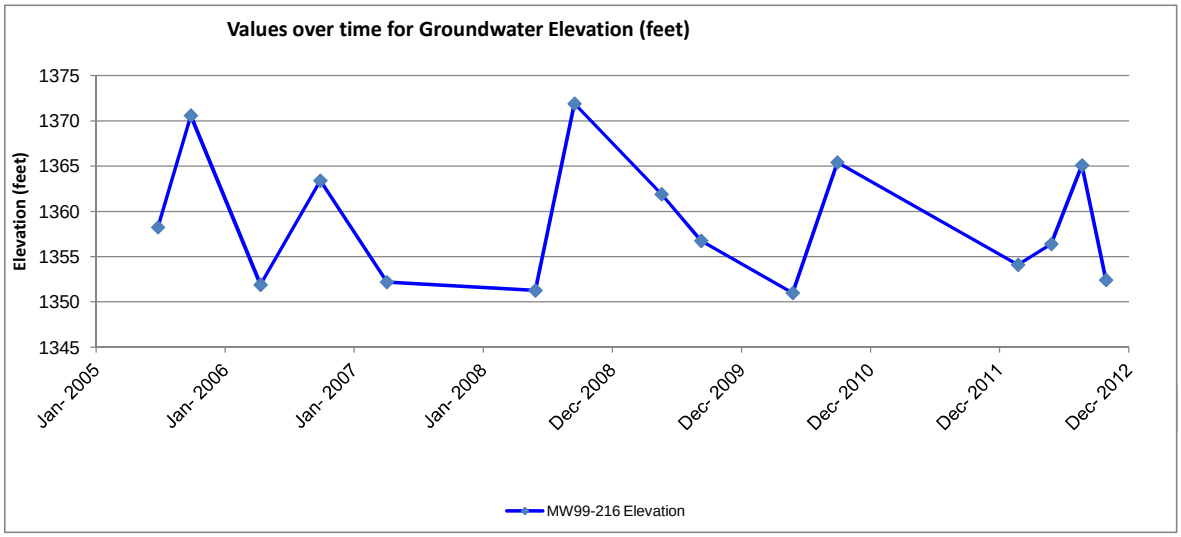

Values over time fo pH, field (pH units)
pH, field (pH units)
8
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 pH, Field, Standard Units
LL04-031 pH, Field, Standard Units

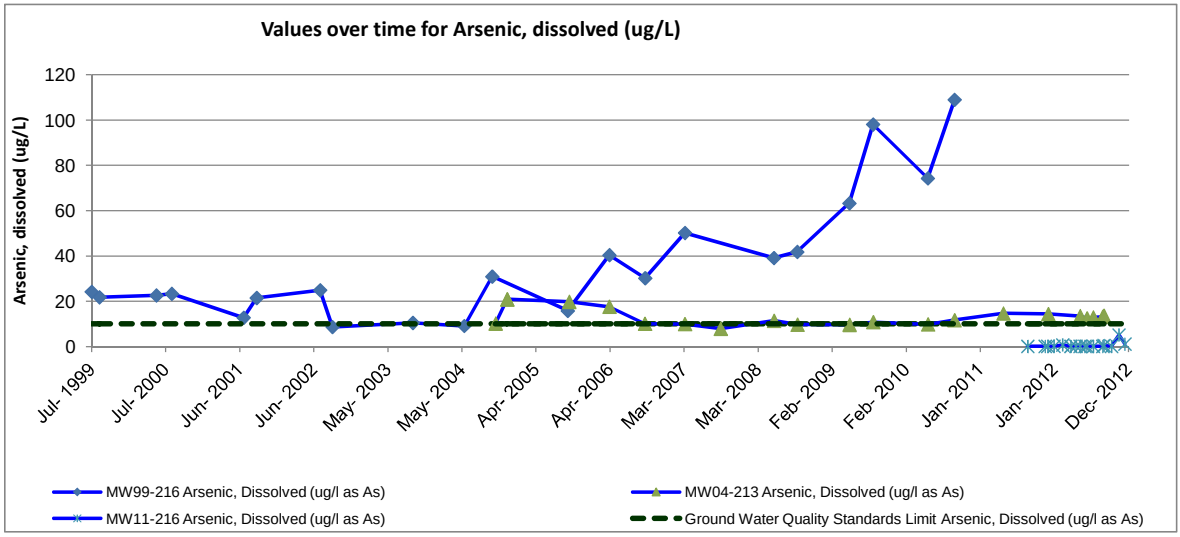

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
35
30
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Sulfate, Total (mg/l as SO4)
LL04-031 Sulfate, Total (mg/l as SO4)

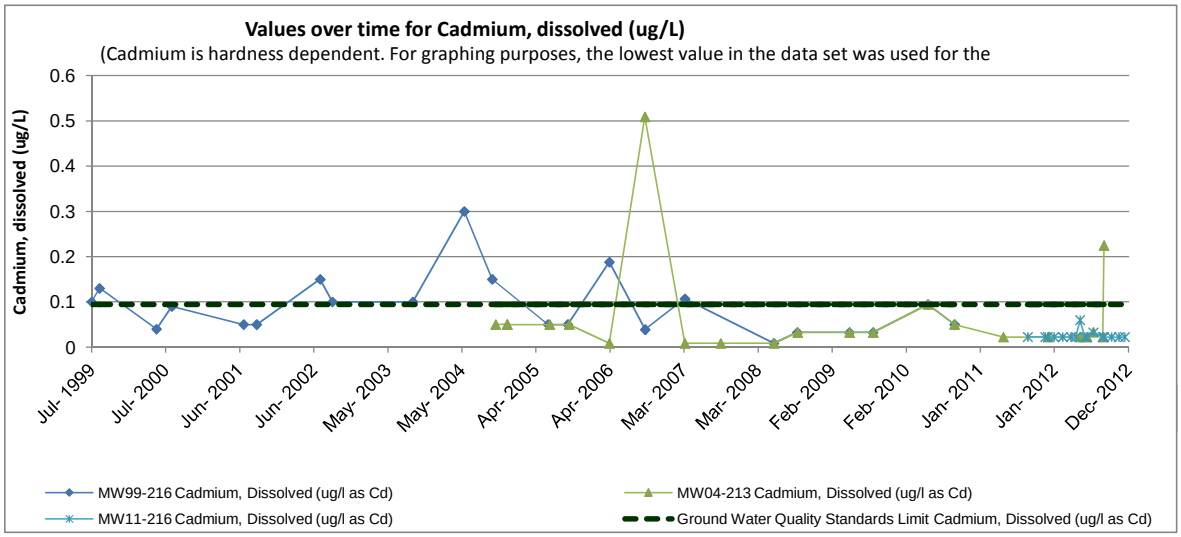

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
140
120
100
80
60
40
20
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
LL04-031 TDS, Residue,Total Filtrable (Dried At 180C),mg/l

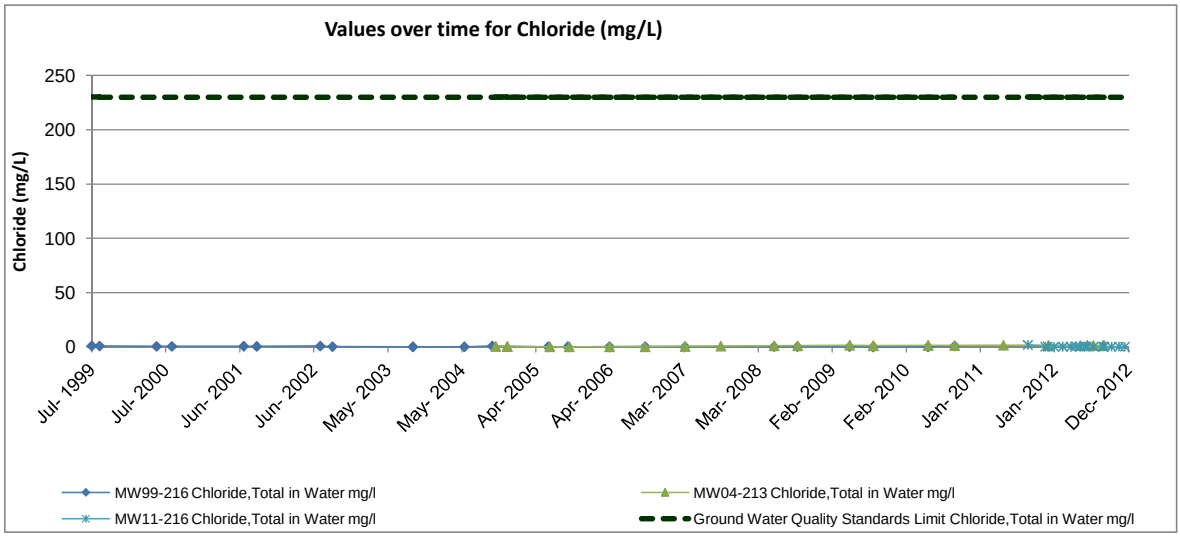

Values over time for Zinc, total (ug/L)
(Zinc is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, total (ug/L)
40
35
30
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LL04-032 Zinc, Total (ug/l as Zn)
LL04-031 Zinc, Total (ug/l as Zn)

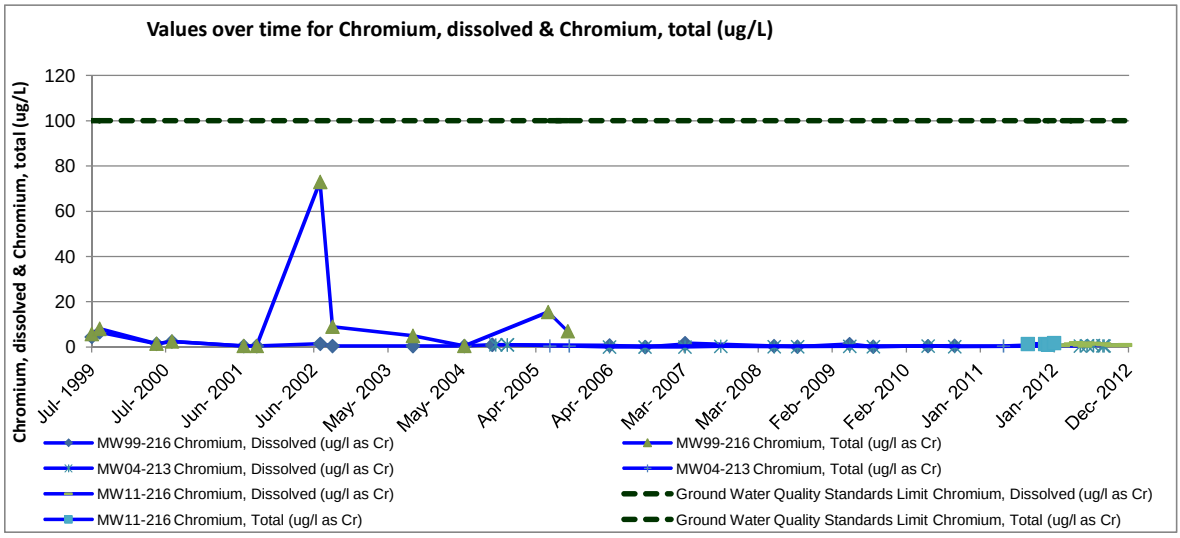

Values over time for Elevation
Elevation (feet)
2162
2160
2158
2156
2154
2152
2150
2148
2146
2144
2142
2140
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
LT99-009 Elevation

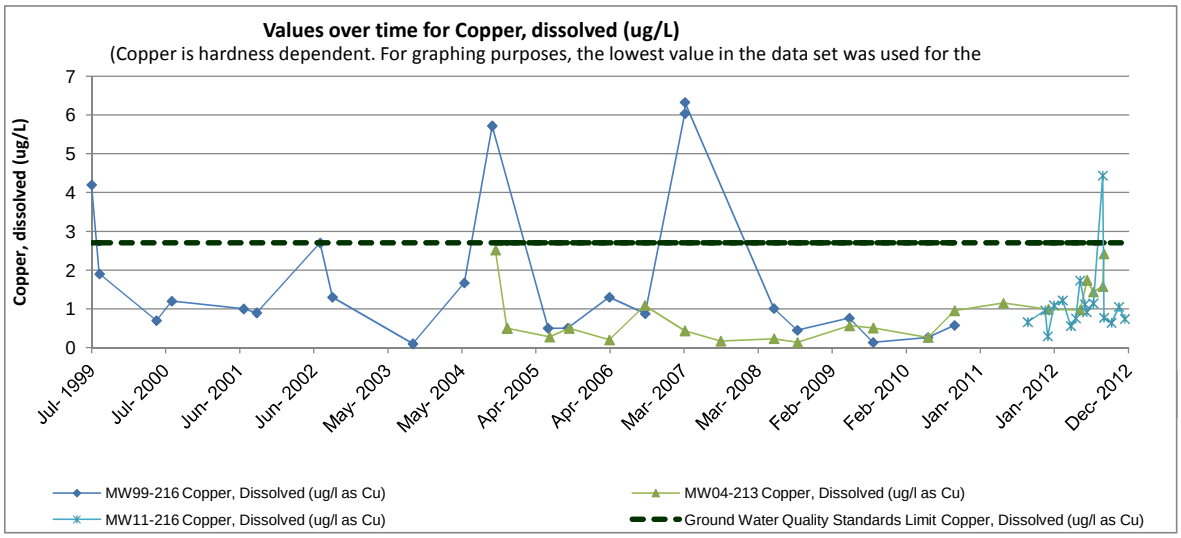

Values over time for Groundwater Elevation (feet)
Elevation (feet)
1375
1370
1365
1360
1355
1350
1345
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW99-216 Elevation

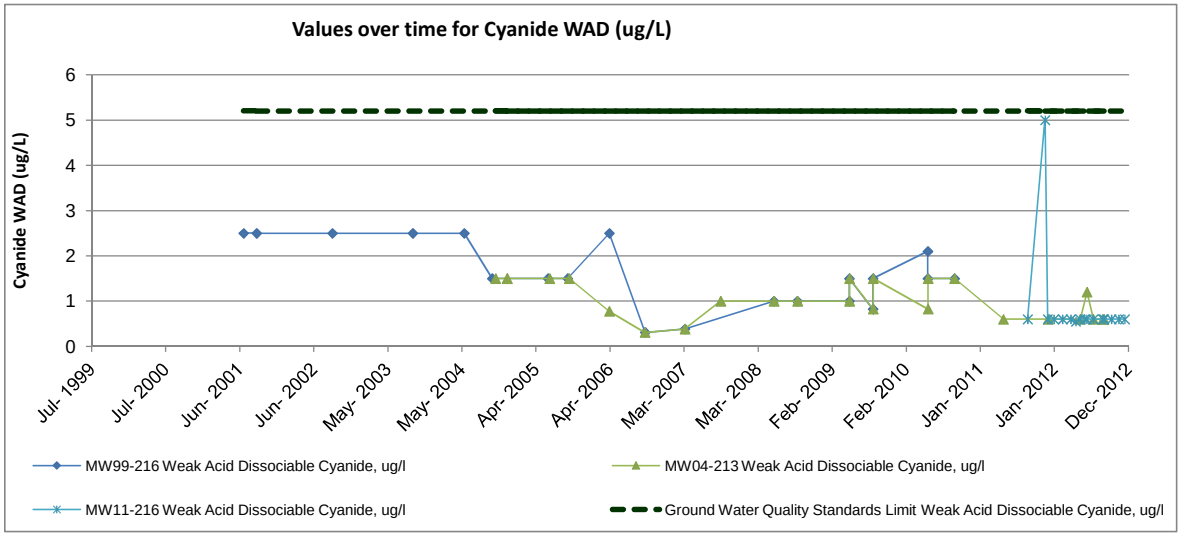

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
120
100
80
60
40
20
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Arsenic, Dissolved (ug/l as As)
MW04-213 Arsenic, Dissolved (ug/l as As)
MW11-216 Arsenic, Dissolved (ug/l as As)
Ground Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)

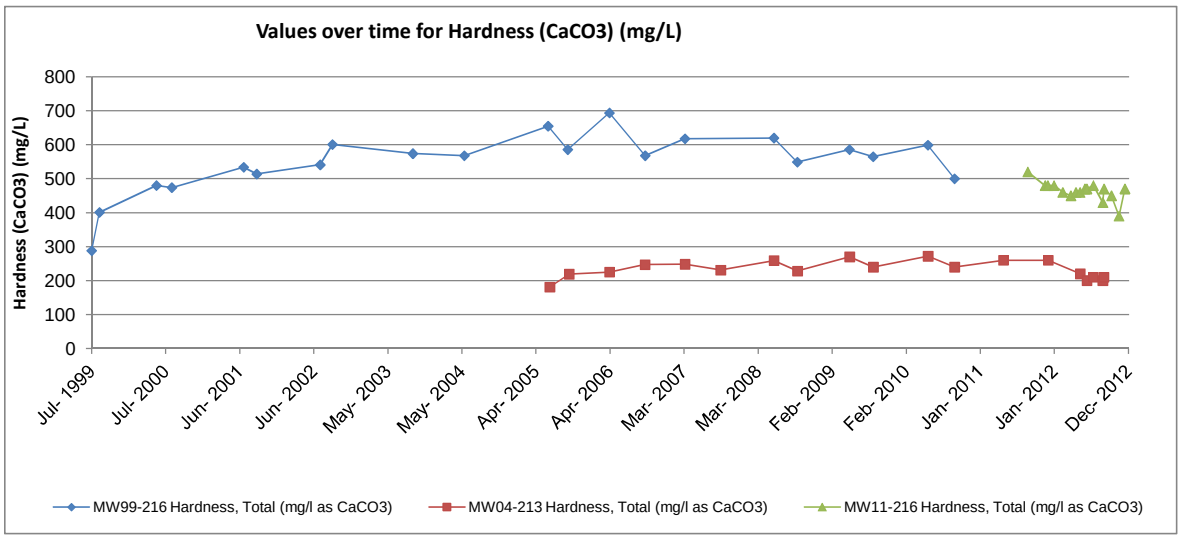

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependent. For graphing purposes, the lowest value in the data set was used for the
Cadmium, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Cadmium, Dissolved (ug/l as Cd)
MW04-213 Cadmium, Dissolved (ug/l as Cd)
MW11-216 Cadmium, Dissolved (ug/l as Cd)
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)

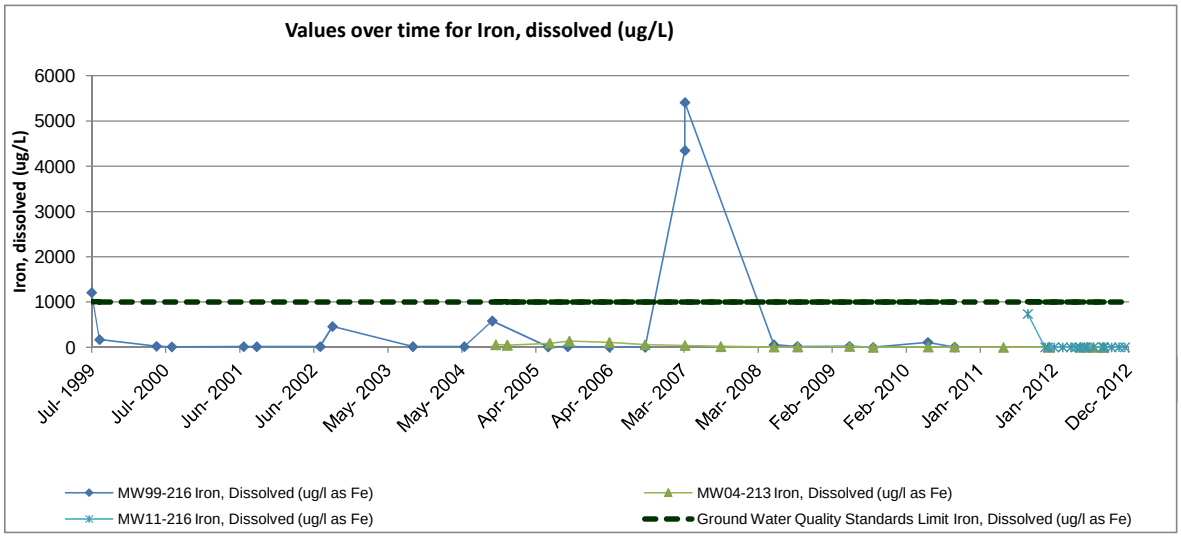

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Chloride,Total in Water mg/l
MW04-213 Chloride,Total in Water mg/l
MW11-216 Chloride,Total in Water mg/l
Ground Water Quality Standards Limit Chloride,Total in Water mg/l

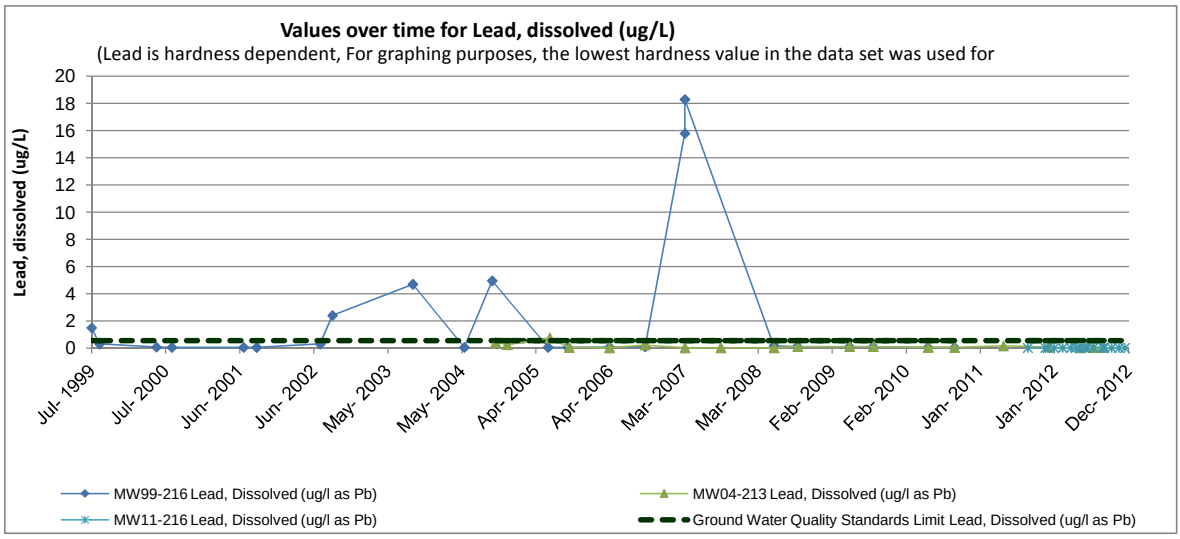

Values over time for Chromium, dissolved & Chromium, total (ug/L)
Chromium, dissolved & Chromium, total (ug/L)
120
100
80
60
40
20
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Chromium, Dissolved (ug/l as Cr)
MW99-216 Chromium, Total (ug/l as Cr)
MW04-213 Chromium, Dissolved (ug/l as Cr)
MW04-213 Chromium, Total (ug/l as Cr)
MW11-216 Chromium, Dissolved (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)
MW11-216 Chromium, Total (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Total (ug/l as Cr)

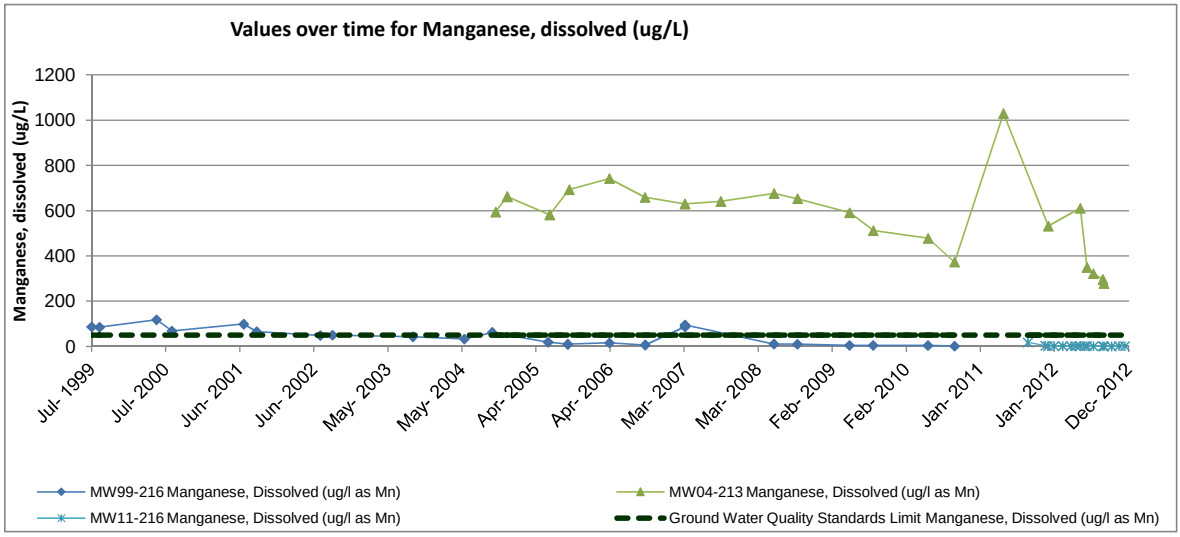

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependent. For graphing purposes, the lowest value in the data set was used for the
Copper, dissolved (ug/L)
7
6
5
4
3
2
1
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Copper, Dissolved (ug/l as Cu)
MW04-213 Copper, Dissolved (ug/l as Cu)
MW11-216 Copper, Dissolved (ug/l as Cu)
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)

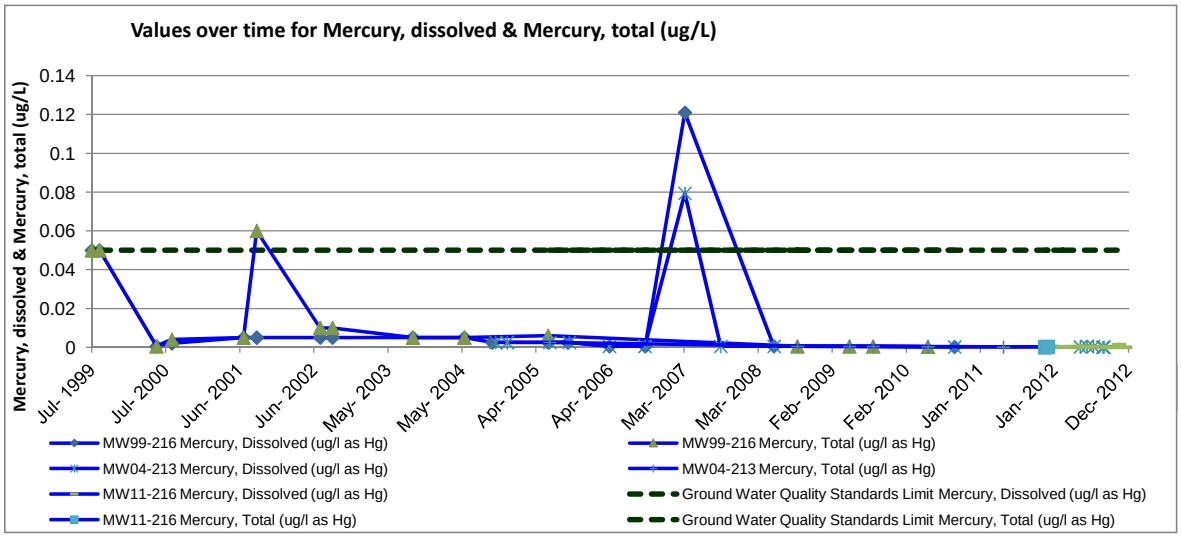

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
6
5
4
3
2
1
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Weak Acid Dissociable Cyanide, ug/l
MW04-213 Weak Acid Dissociable Cyanide, ug/l
MW11-216 Weak Acid Dissociable Cyanide, ug/l
Ground Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l

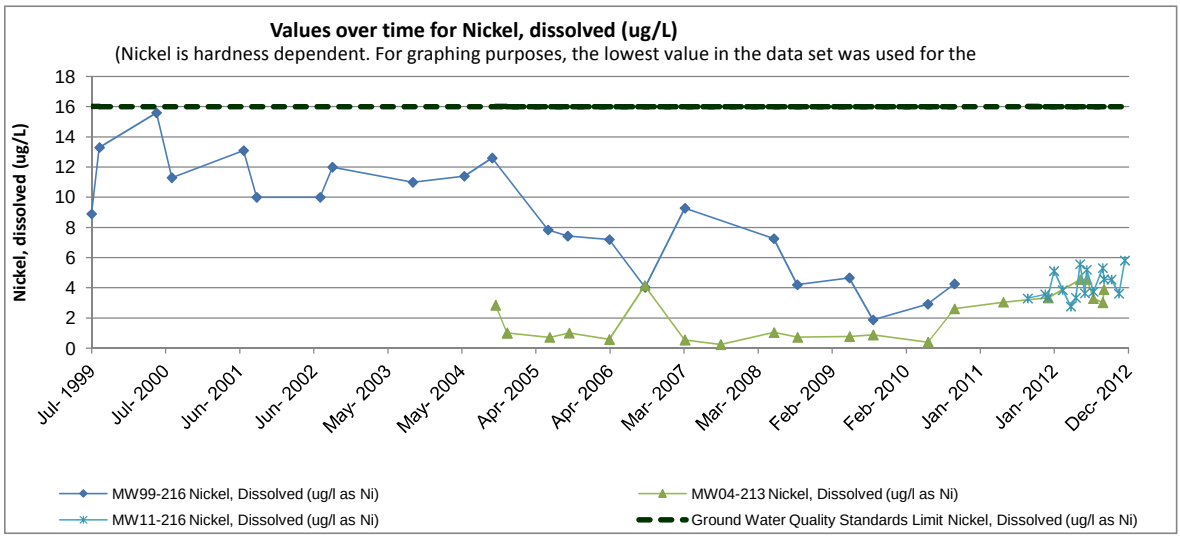

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
800
700
600
500
400
300
200
100
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Hardness, Total (mg/l as CaCO3)
MW04-213 Hardness, Total (mg/l as CaCO3)
MW11-216 Hardness, Total (mg/l as CaCO3)

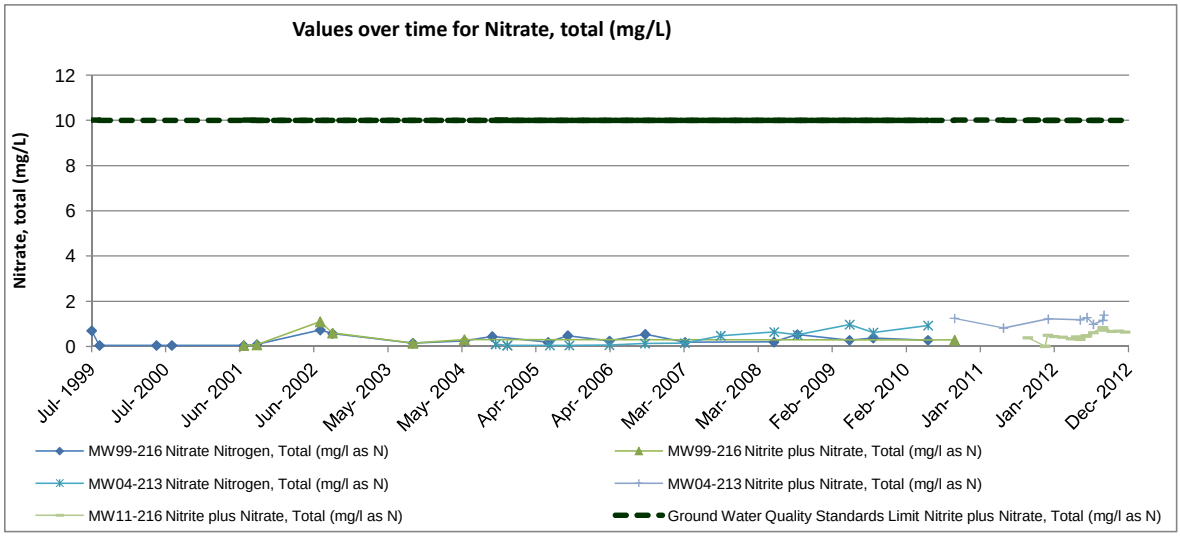

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
6000
5000
4000
3000
2000
1000
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Iron, Dissolved (ug/l as Fe)
MW04-213 Iron, Dissolved (ug/l as Fe)
MW11-216 Iron, Dissolved (ug/l as Fe)
Ground Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)

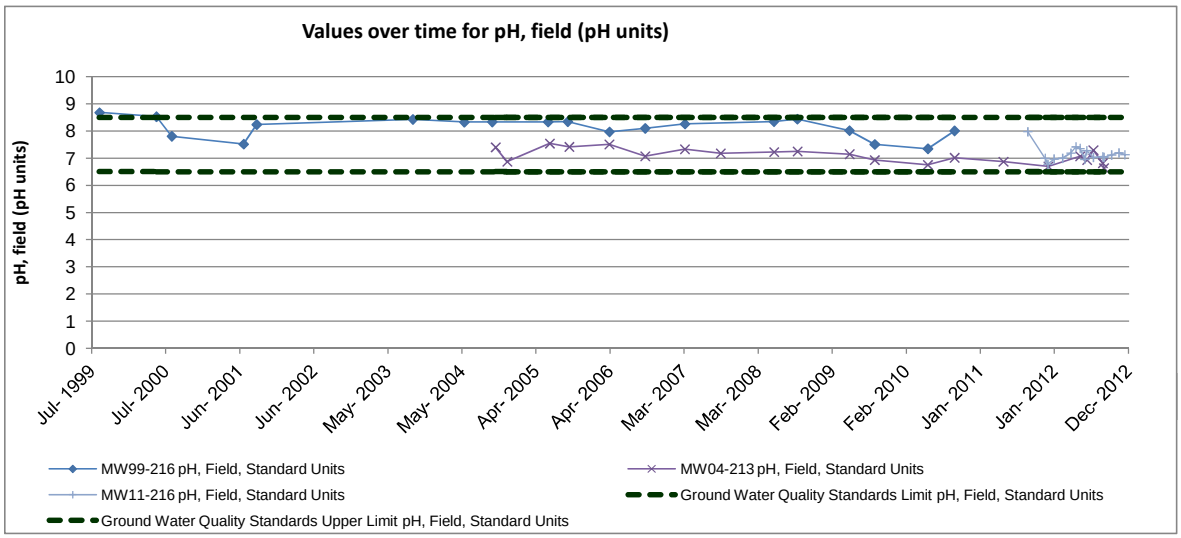

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependent, For graphing purposes, the lowest hardness value in the data set was used for
Lead, dissolved (ug/L)
20
18
16
14
12
10
8
6
4
2
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Lead, Dissolved (ug/l as Pb)
MW04-213 Lead, Dissolved (ug/l as Pb)
MW11-216 Lead, Dissolved (ug/l as Pb)
Ground Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)

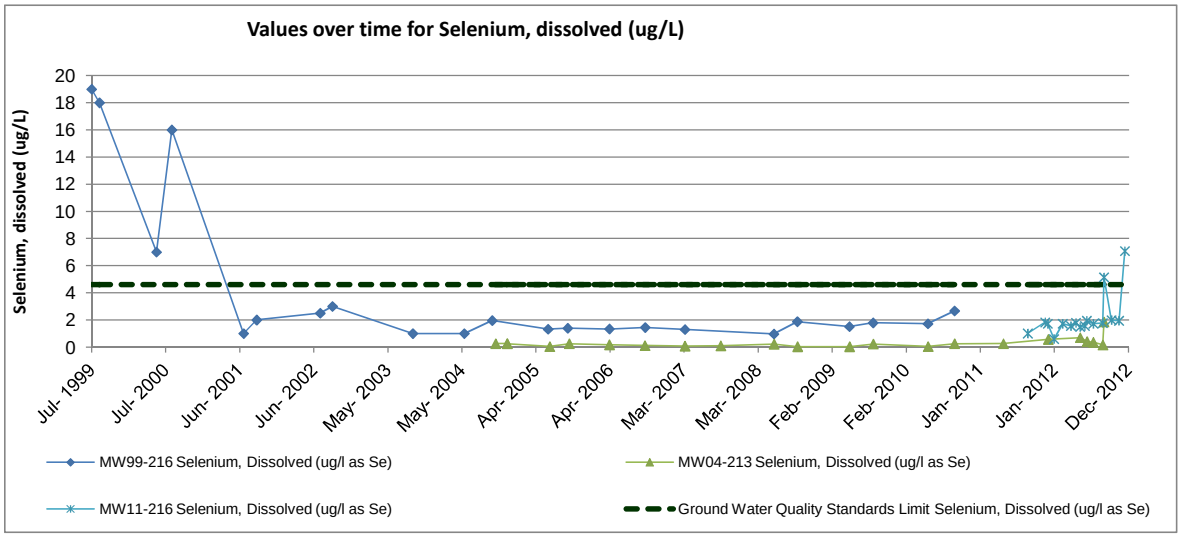

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
1200
1000
800
600
400
200
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Manganese, Dissolved (ug/l as Mn)
MW04-213 Manganese, Dissolved (ug/l as Mn)
MW11-216 Manganese, Dissolved (ug/l as Mn)
Ground Water Quality Standards Limit Manganese, Dissolved (ug/l as Mn)

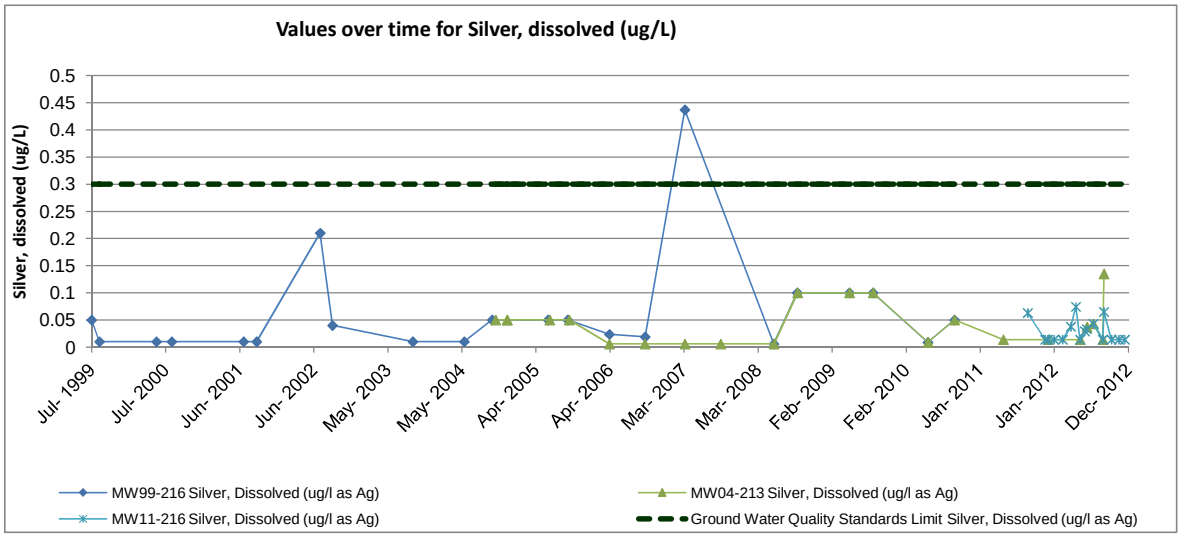

Values over time for Mercury, dissolved & Mercury, total (ug/L)
Mercury, dissolved & Mercury, total (ug/L)
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Mercury, Dissolved (ug/l as Hg)
MW99-216 Mercury, Total (ug/l as Hg)
MW04-213 Mercury, Dissolved (ug/l as Hg)
MW04-213 Mercury, Total (ug/l as Hg)
MW11-216 Mercury, Dissolved (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
MW11-216 Mercury, Total (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Total (ug/l as Hg)

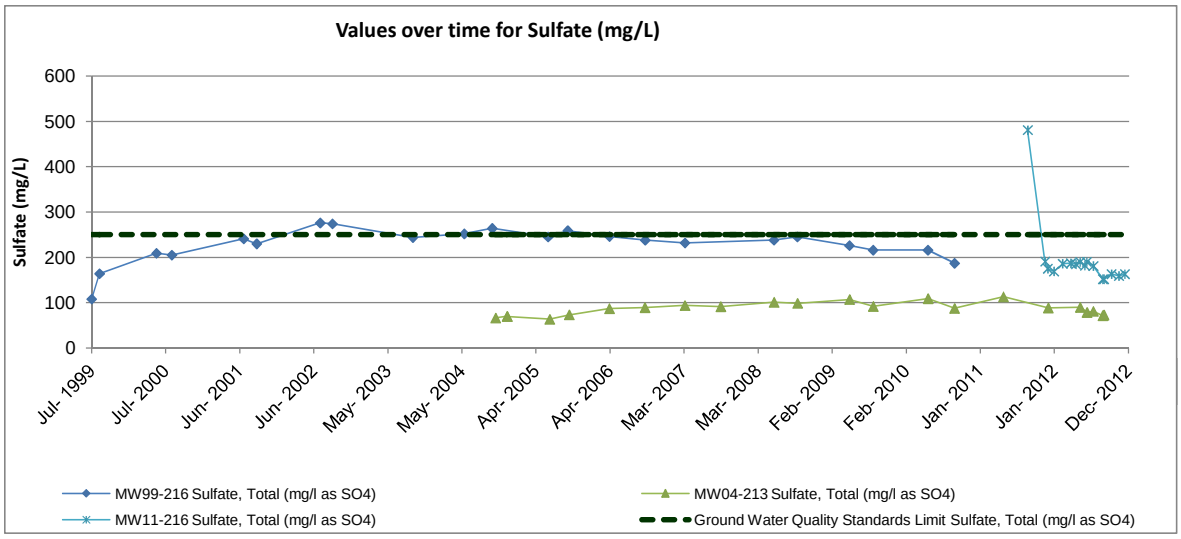

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependent. For graphing purposes, the lowest value in the data set was used for the
Nickel, dissolved (ug/L)
18
16
14
12
10
8
6
4
2
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Nickel, Dissolved (ug/l as Ni)
MW04-213 Nickel, Dissolved (ug/l as Ni)
MW11-216 Nickel, Dissolved (ug/l as Ni)
Ground Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)

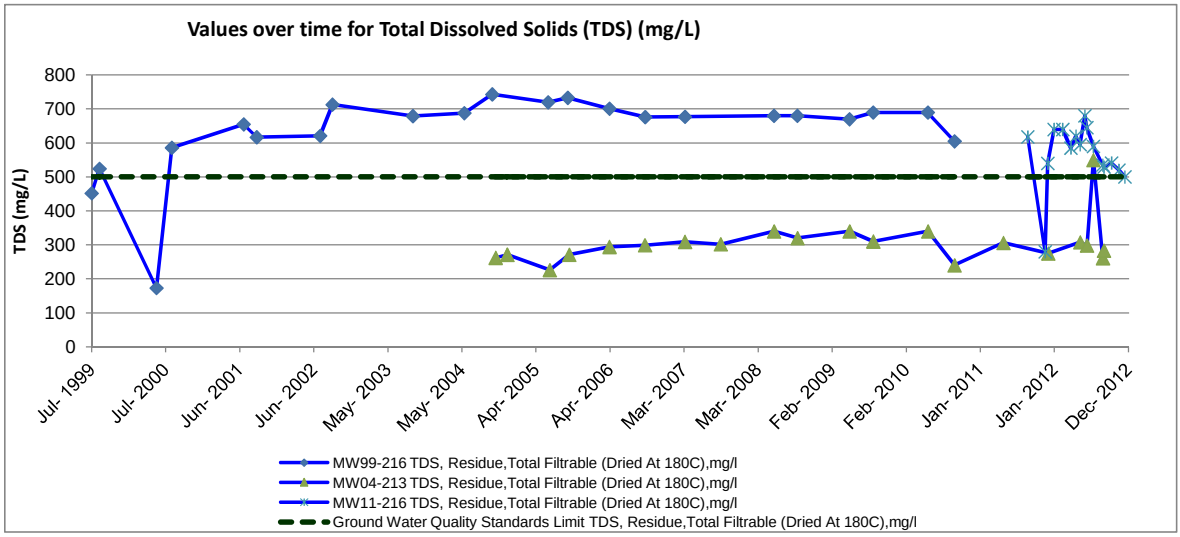

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
12
10
8
6
4
2
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Nitrate Nitrogen, Total (mg/l as N)
MW99-216 Nitrite plus Nitrate, Total (mg/l as N)
MW04-213 Nitrate Nitrogen, Total (mg/l as N)
MW04-213 Nitrite plus Nitrate, Total (mg/l as N)
MW11-216 Nitrite plus Nitrate, Total (mg/l as N)
Ground Water Quality Standards Limit Nitrite plus Nitrate, Total (mg/l as N)

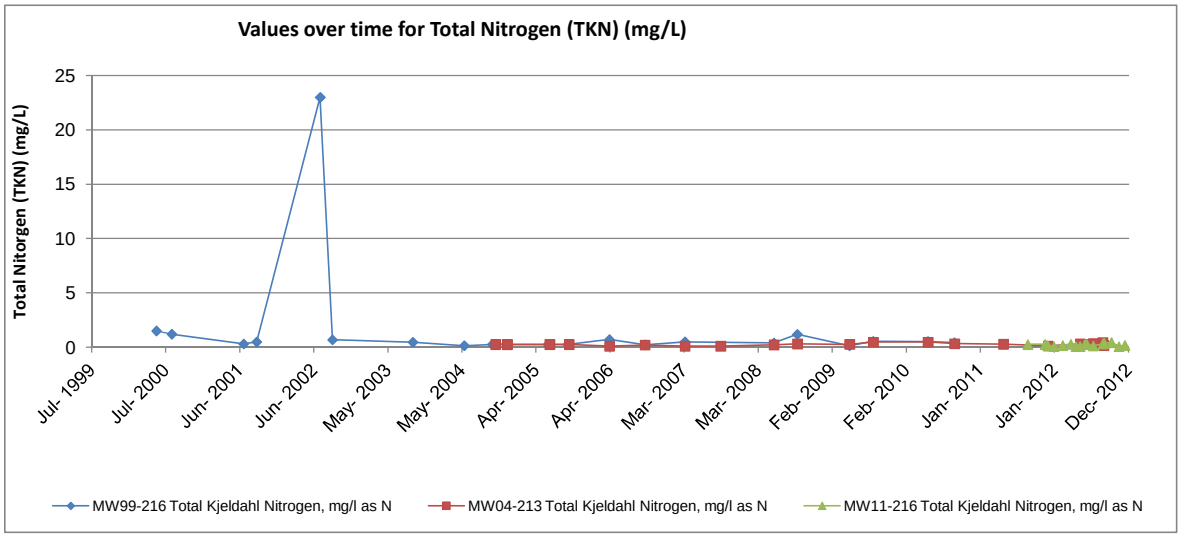

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 pH, Field, Standard Units
MW04-213 pH, Field, Standard Units
MW11-216 pH, Field, Standard Units
Ground Water Quality Standards Limit pH, Field, Standard Units
Ground Water Quality Standards Upper Limit pH, Field, Standard Units

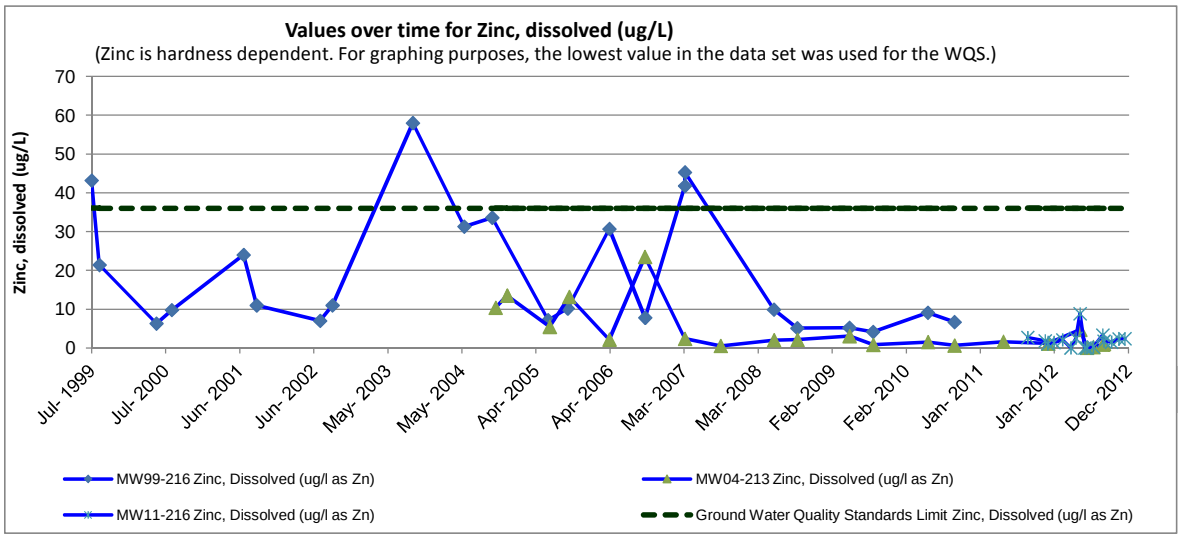

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
20
18
16
14
12
10
8
6
4
2
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Selenium, Dissolved (ug/l as Se)
MW04-213 Selenium, Dissolved (ug/l as Se)
MW11-216 Selenium, Dissolved (ug/l as Se)
Ground Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)

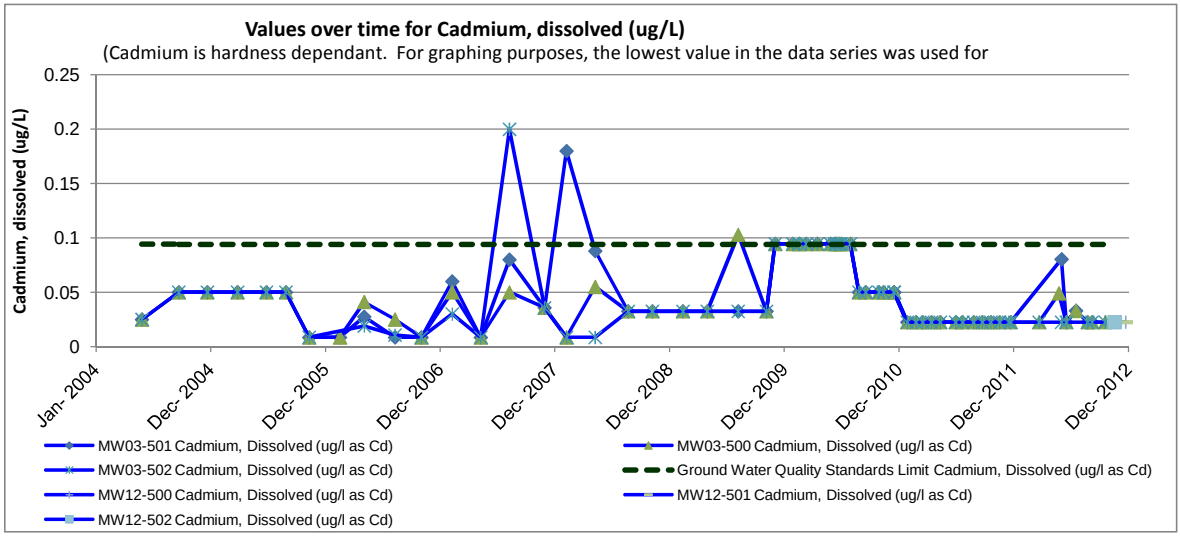

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Silver, Dissolved (ug/l as Ag)
MW04-213 Silver, Dissolved (ug/l as Ag)
MW11-216 Silver, Dissolved (ug/l as Ag)
Ground Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)

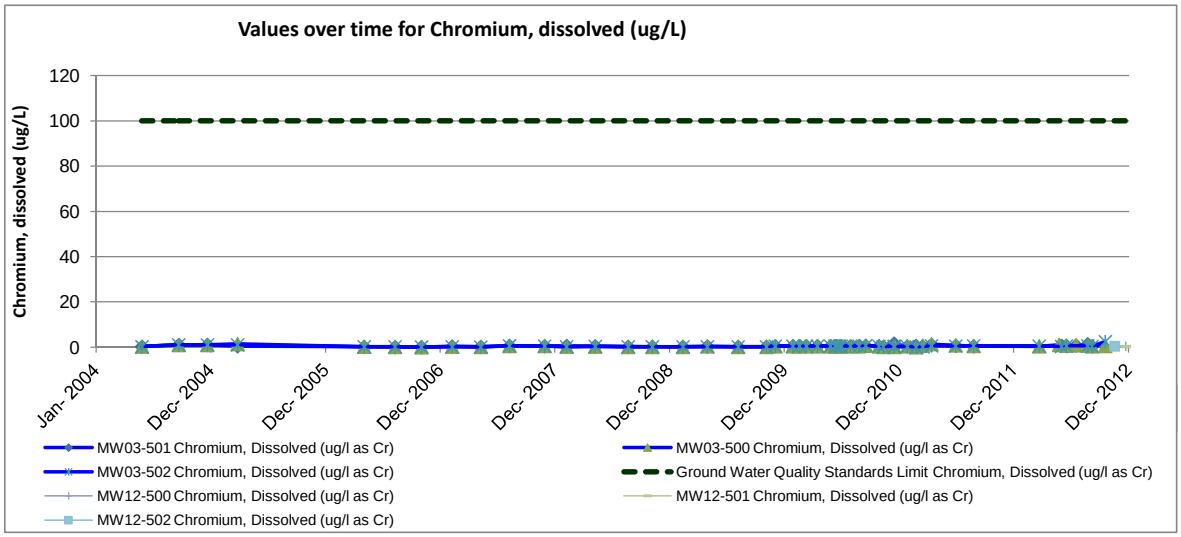

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
600
500
400
300
200
100
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Sulfate, Total (mg/l as SO4)
MW04-213 Sulfate, Total (mg/l as SO4)
MW11-216 Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)

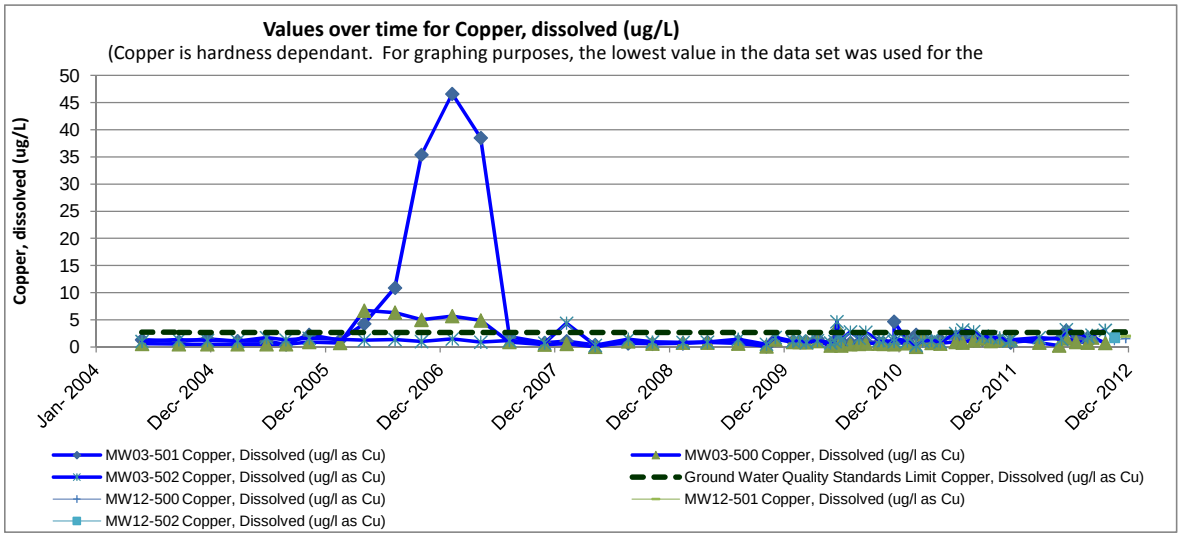

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
800
700
600
500
400
300
200
100
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW04-213 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW11-216 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Ground Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l

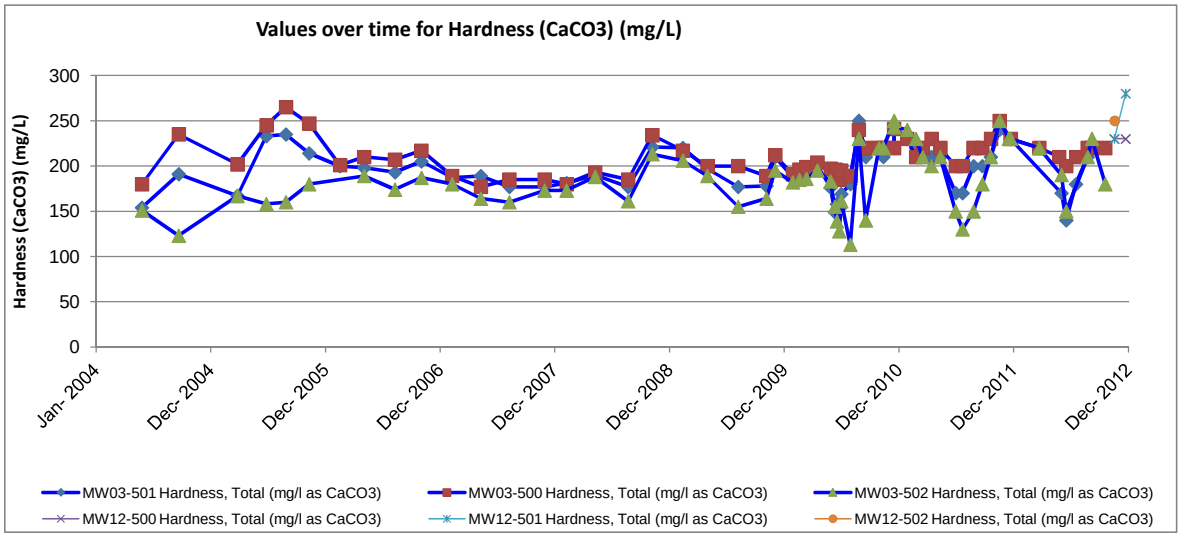

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitorgen (TKN) (mg/L)
25
20
15
10
5
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Total Kjeldahl Nitrogen, mg/l as N
MW04-213 Total Kjeldahl Nitrogen, mg/l as N
MW11-216 Total Kjeldahl Nitrogen, mg/l as N

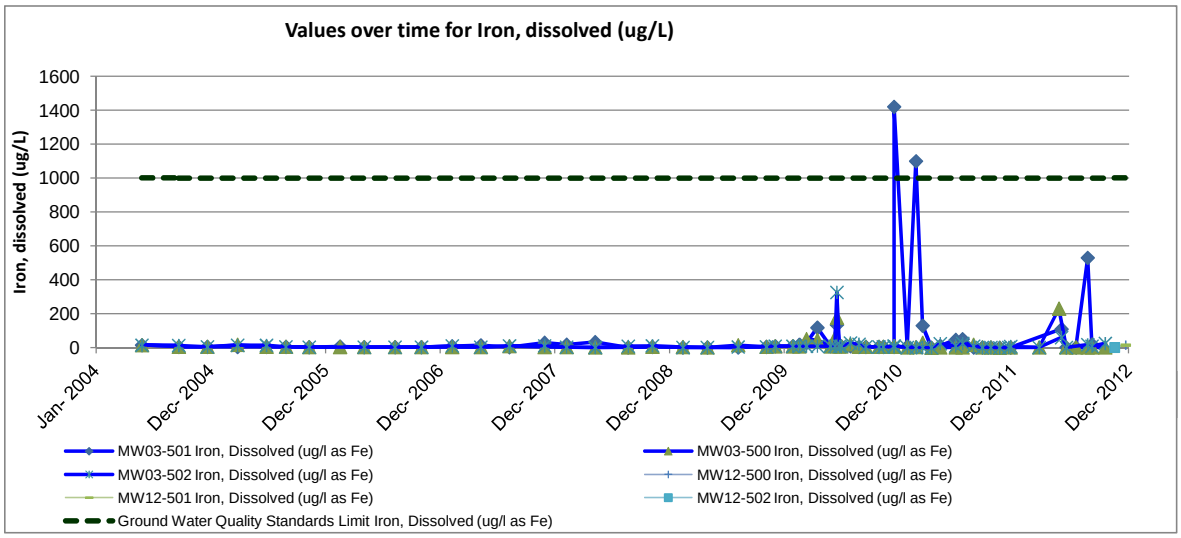

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependent. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
70
60
50
40
30
20
10
0
Jul- 1999
Jul- 2000
Jun- 2001
Jun- 2002
May- 2003
May- 2004
Apr- 2005
Apr- 2006
Mar- 2007
Mar- 2008
Feb- 2009
Feb- 2010
Jan- 2011
Jan- 2012
Dec- 2012
MW99-216 Zinc, Dissolved (ug/l as Zn)
MW04-213 Zinc, Dissolved (ug/l as Zn)
MW11-216 Zinc, Dissolved (ug/l as Zn)
Ground Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)

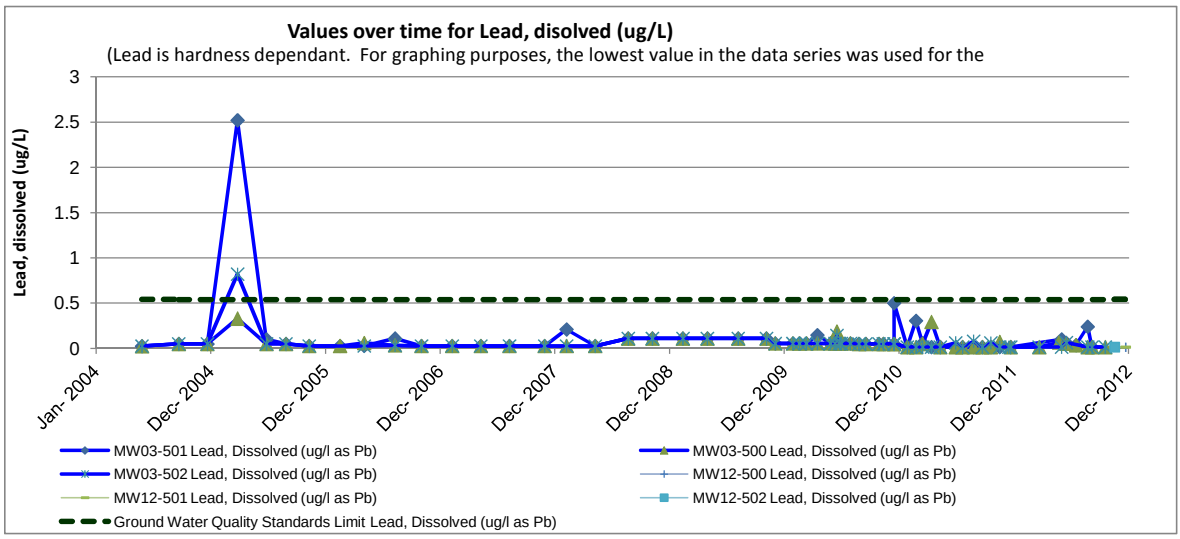

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data series was used for
Cadmium, dissolved (ug/L)
0.25
0.2
0.15
0.1
0.05
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Cadmium, Dissolved (ug/l as Cd)
MW03-500 Cadmium, Dissolved (ug/l as Cd)
MW03-502 Cadmium, Dissolved (ug/l as Cd)
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)
MW12-500 Cadmium, Dissolved (ug/l as Cd)
MW12-501 Cadmium, Dissolved (ug/l as Cd)
MW12-502 Cadmium, Dissolved (ug/l as Cd)

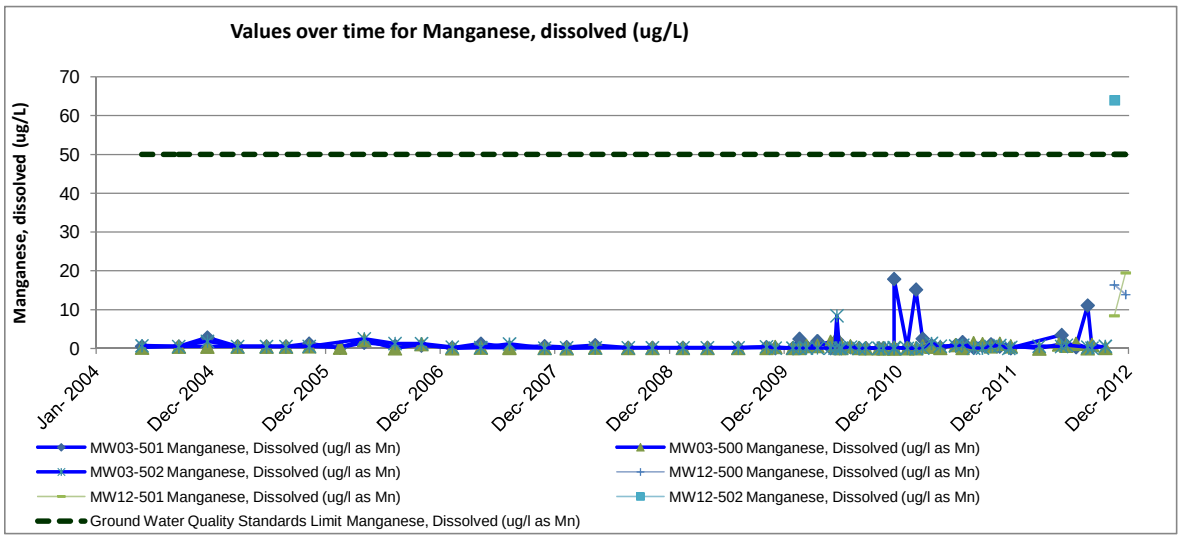

Values over time for Chromium, dissolved (ug/L)
Chromium, dissolved (ug/L)
120
100
80
60
40
20
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Chromium, Dissolved (ug/l as Cr)
MW03-500 Chromium, Dissolved (ug/l as Cr)
MW03-502 Chromium, Dissolved (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)
MW12-500 Chromium, Dissolved (ug/l as Cr)
MW12-501 Chromium, Dissolved (ug/l as Cr)
MW12-502 Chromium, Dissolved (ug/l as Cr)

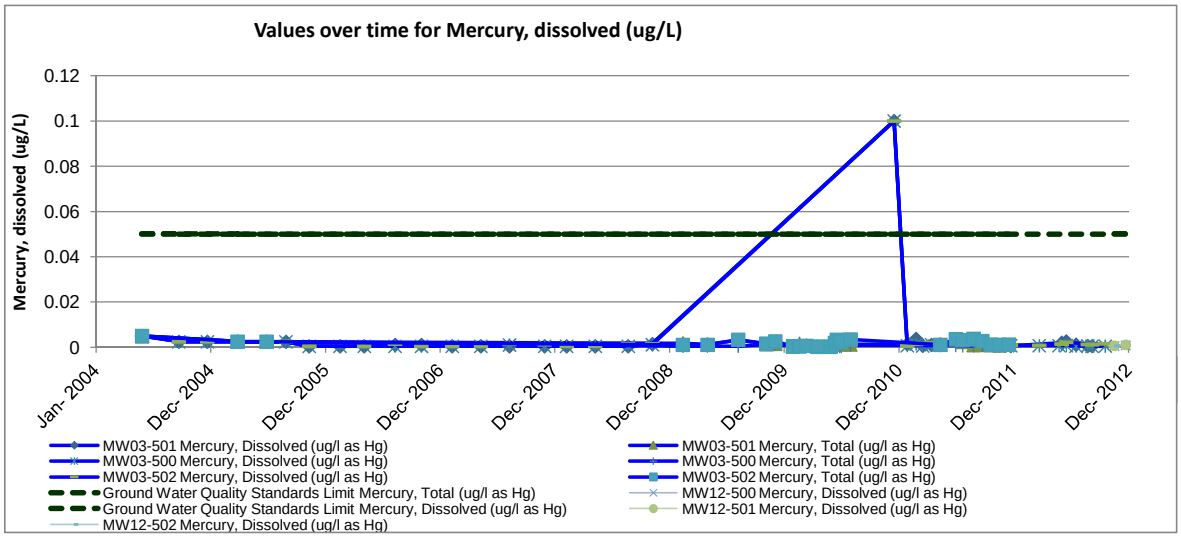

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Copper, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Copper, Dissolved (ug/l as Cu)
MW03-500 Copper, Dissolved (ug/l as Cu)
MW03-502 Copper, Dissolved (ug/l as Cu)
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)
MW12-500 Copper, Dissolved (ug/l as Cu)
MW12-501 Copper, Dissolved (ug/l as Cu)
MW12-502 Copper, Dissolved (ug/l as Cu)

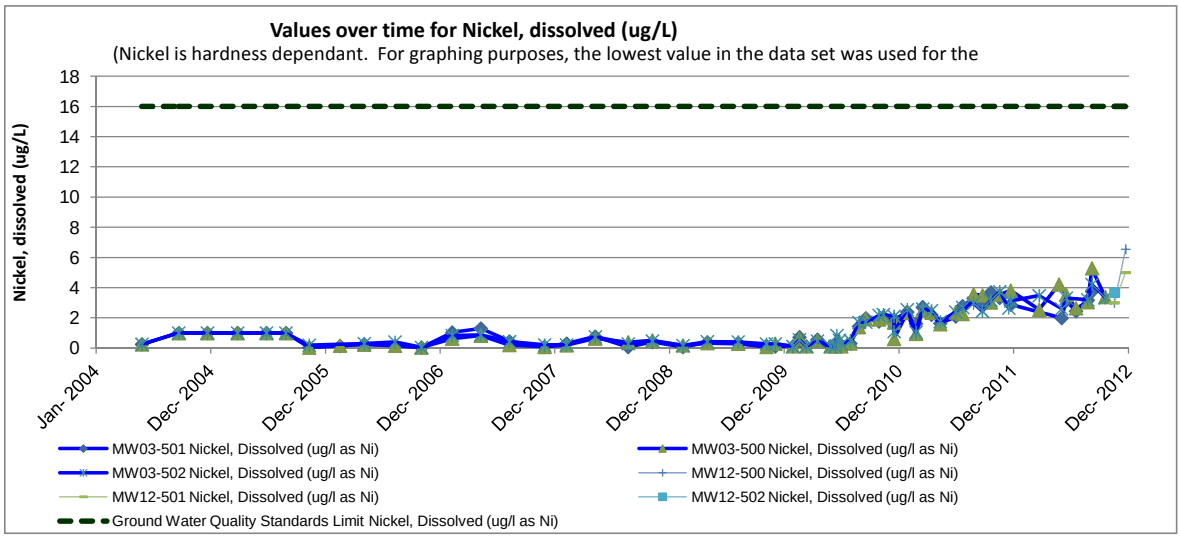

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
300
250
200
150
100
50
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Hardness, Total (mg/l as CaCO3)
MW03-500 Hardness, Total (mg/l as CaCO3)
MW03-502 Hardness, Total (mg/l as CaCO3)
MW12-500 Hardness, Total (mg/l as CaCO3)
MW12-501 Hardness, Total (mg/l as CaCO3)
MW12-502 Hardness, Total (mg/l as CaCO3)

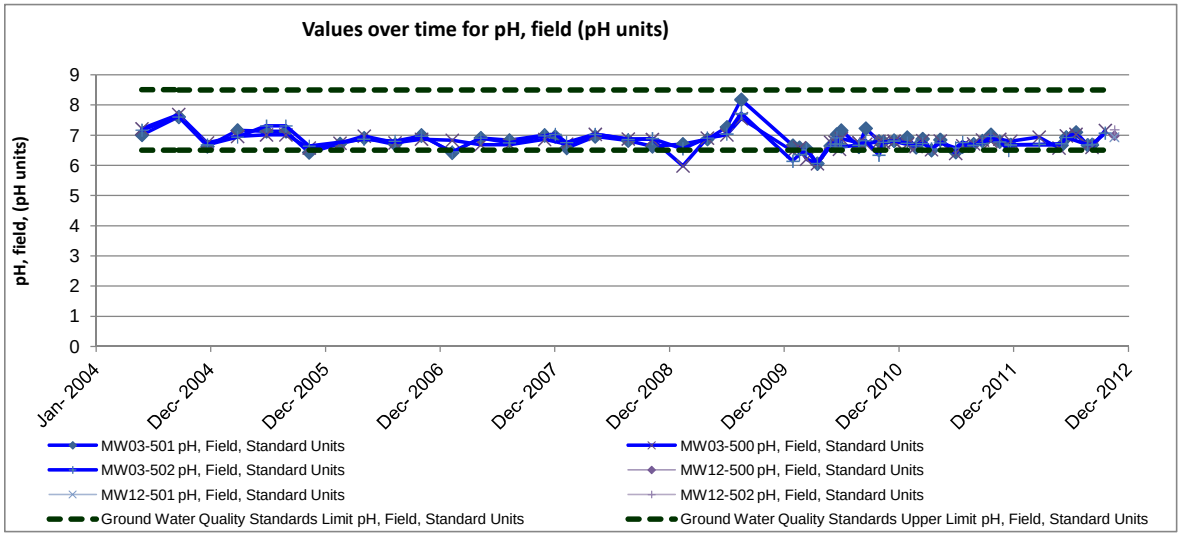

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
1600
1400
1200
1000
800
600
400
200
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Iron, Dissolved (ug/l as Fe)
MW03-500 Iron, Dissolved (ug/l as Fe)
MW03-502 Iron, Dissolved (ug/l as Fe)
MW12-500 Iron, Dissolved (ug/l as Fe)
MW12-501 Iron, Dissolved (ug/l as Fe)
MW12-502 Iron, Dissolved (ug/l as Fe)
Ground Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)

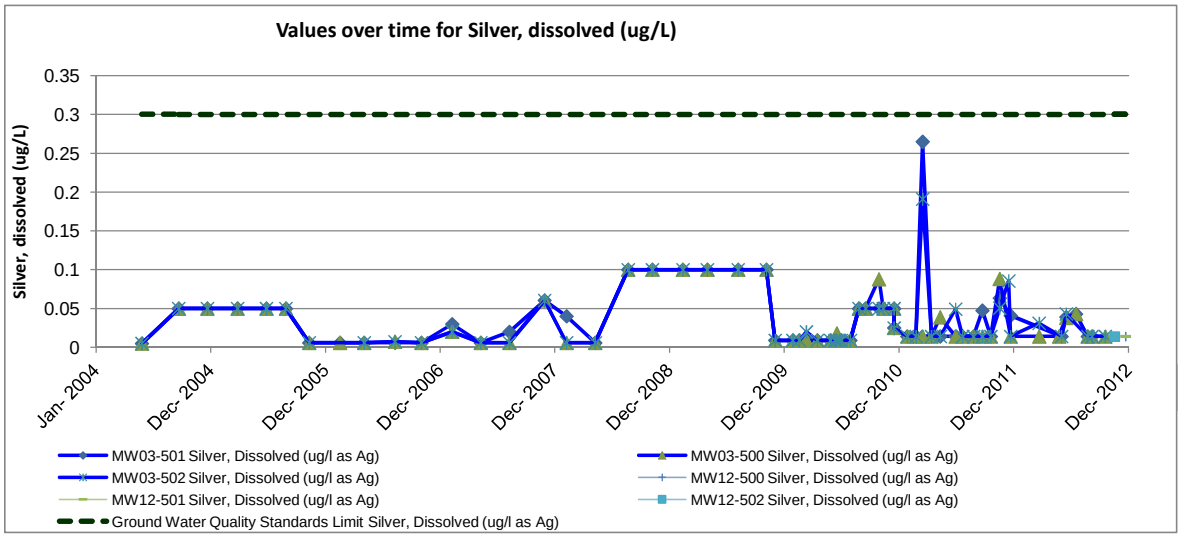

Values over time for Lead, disolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data series was used for the
Lead, dissolved (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Lead, Dissolved (ug/l as Pb)
MW03-500 Lead, Dissolved (ug/l as Pb)
MW03-502 Lead, Dissolved (ug/l as Pb)
MW12-500 Lead, Dissolved (ug/l as Pb)
MW12-501 Lead, Dissolved (ug/l as Pb)
MW12-502 Lead, Dissolved (ug/l as Pb)
Ground Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)

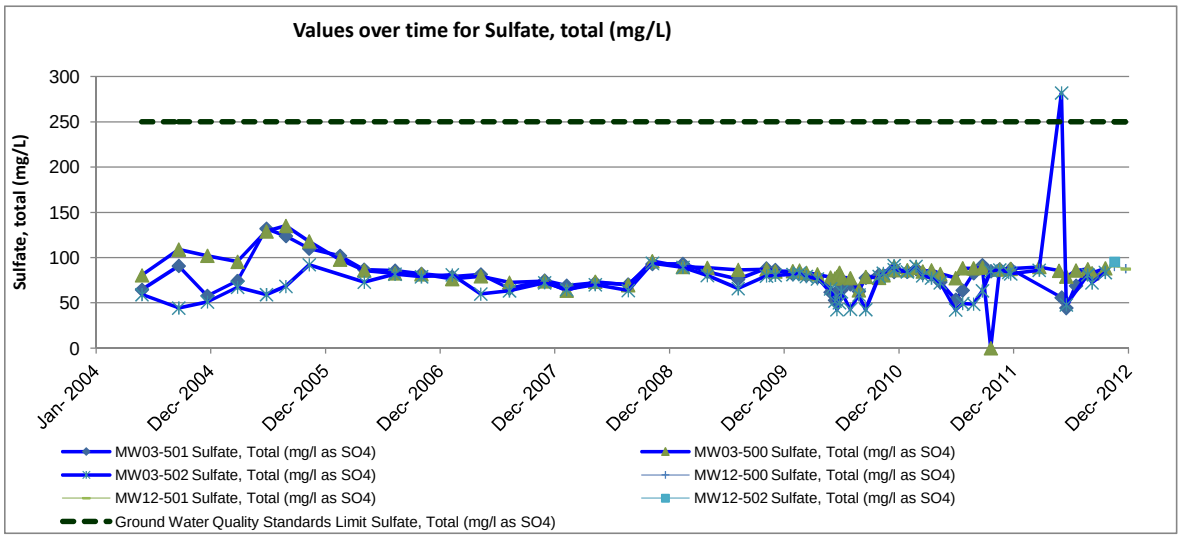

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
70
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Manganese, Dissolved (ug/l as Mn)
MW03-500 Manganese, Dissolved (ug/l as Mn)
MW03-502 Manganese, Dissolved (ug/l as Mn)
MW12-500 Manganese, Dissolved (ug/l as Mn)
MW12-501 Manganese, Dissolved (ug/l as Mn)
MW12-502 Manganese, Dissolved (ug/l as Mn)
Ground Water Quality Standards Limit Manganese, Dissolved (ug/l as Mn)

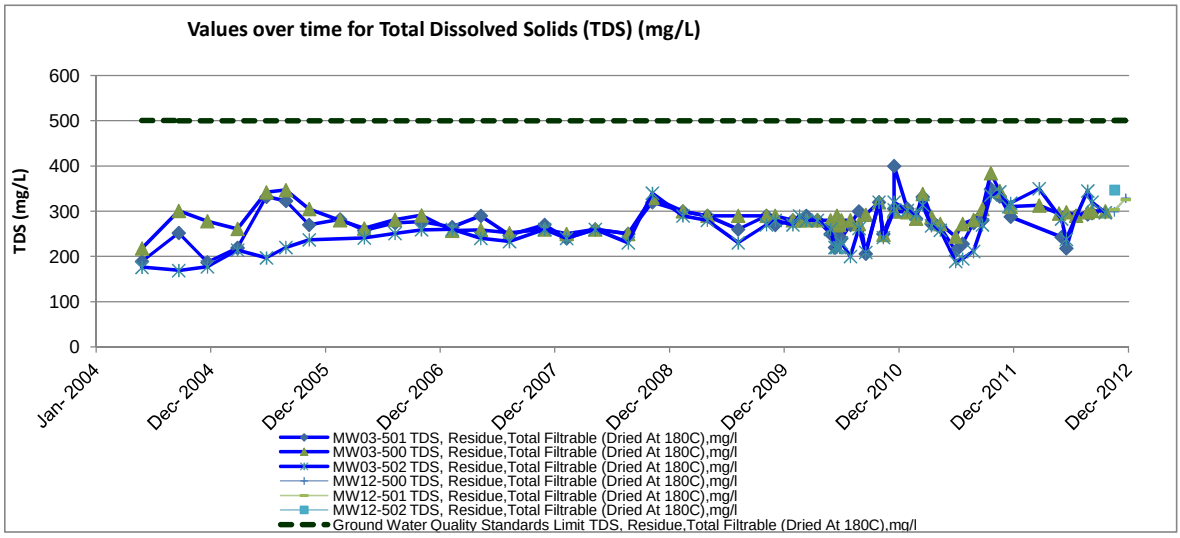

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Mercury, Dissolved (ug/l as Hg)
MW03-501 Mercury, Total (ug/l as Hg)
MW03-500 Mercury, Dissolved (ug/l as Hg)
MW03-500 Mercury, Total (ug/l as Hg)
MW03-502 Mercury, Dissolved (ug/l as Hg)
MW03-502 Mercury, Total (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Total (ug/l as Hg)
MW12-500 Mercury, Dissolved (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
MW12-501 Mercury, Dissolved (ug/l as Hg)
MW12-502 Mercury, Dissolved (ug/l as Hg)

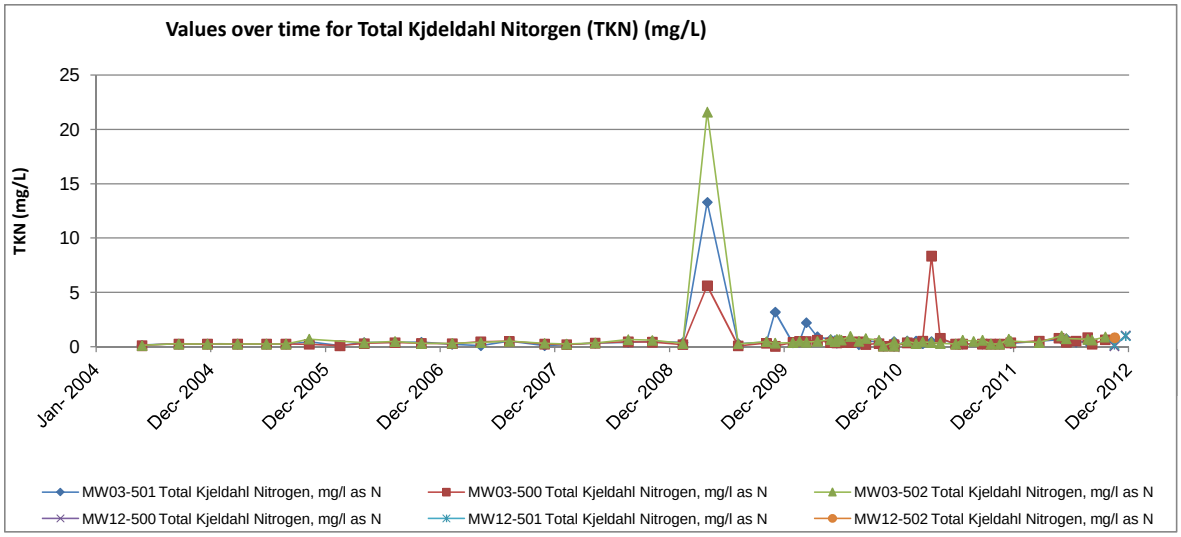

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Nickel, dissolved (ug/L)
18
16
14
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Nickel, Dissolved (ug/l as Ni)
MW03-500 Nickel, Dissolved (ug/l as Ni)
MW03-502 Nickel, Dissolved (ug/l as Ni)
MW12-500 Nickel, Dissolved (ug/l as Ni)
MW12-501 Nickel, Dissolved (ug/l as Ni)
MW12-502 Nickel, Dissolved (ug/l as Ni)
Ground Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)

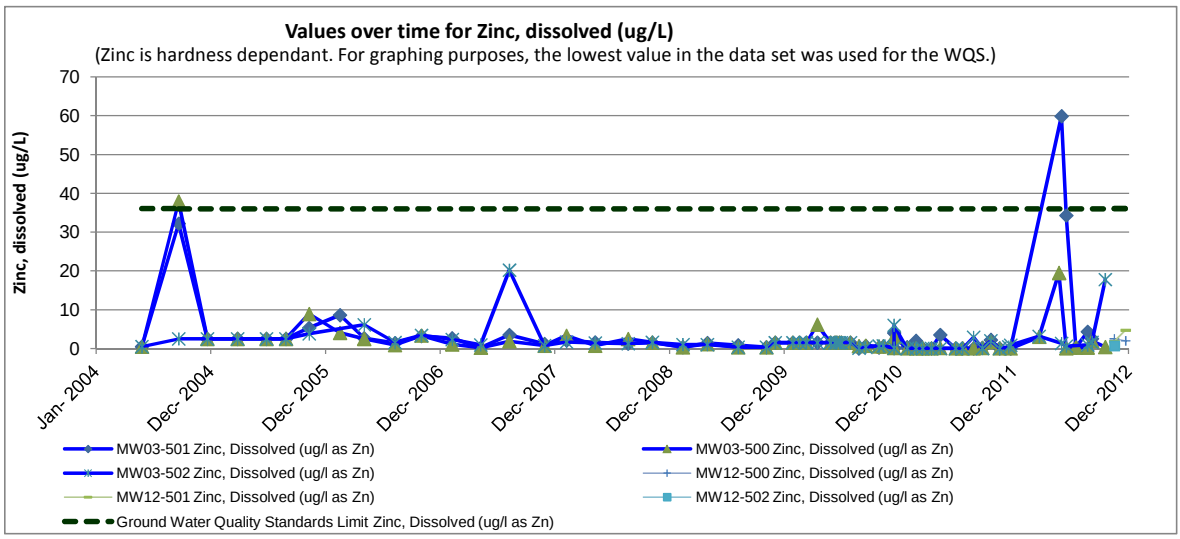

Values over time for pH, field (pH units)
pH, field, (pH units)
9
8
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 pH, Field, Standard Units
MW03-500 pH, Field, Standard Units
MW03-502 pH, Field, Standard Units
MW12-500 pH, Field, Standard Units
MW12-501 pH, Field, Standard Units
MW12-502 pH, Field, Standard Units
Ground Water Quality Standards Limit pH, Field, Standard Units
Ground Water Quality Standards Upper Limit pH, Field, Standard Units

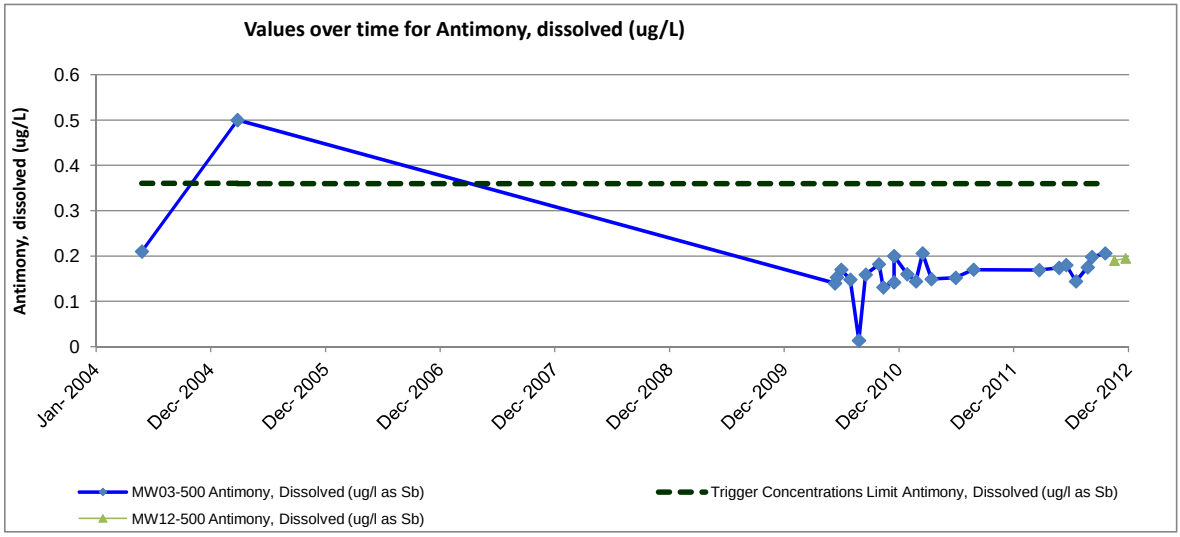

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Silver, Dissolved (ug/l as Ag)
MW03-500 Silver, Dissolved (ug/l as Ag)
MW03-502 Silver, Dissolved (ug/l as Ag)
MW12-500 Silver, Dissolved (ug/l as Ag)
MW12-501 Silver, Dissolved (ug/l as Ag)
MW12-502 Silver, Dissolved (ug/l as Ag)
Ground Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)

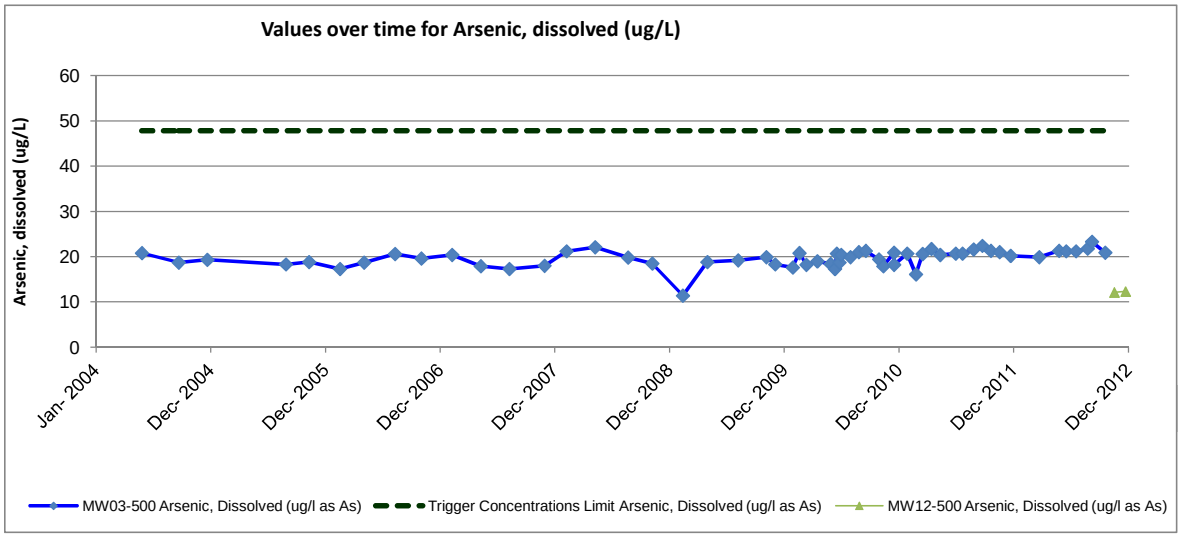

Values over time for Sulfate, total (mg/L)
Sulfate, total (mg/L)
300
250
200
150
100
50
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Sulfate, Total (mg/l as SO4)
MW03-500 Sulfate, Total (mg/l as SO4)
MW03-502 Sulfate, Total (mg/l as SO4)
MW12-500 Sulfate, Total (mg/l as SO4)
MW12-501 Sulfate, Total (mg/l as SO4)
MW12-502 Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)

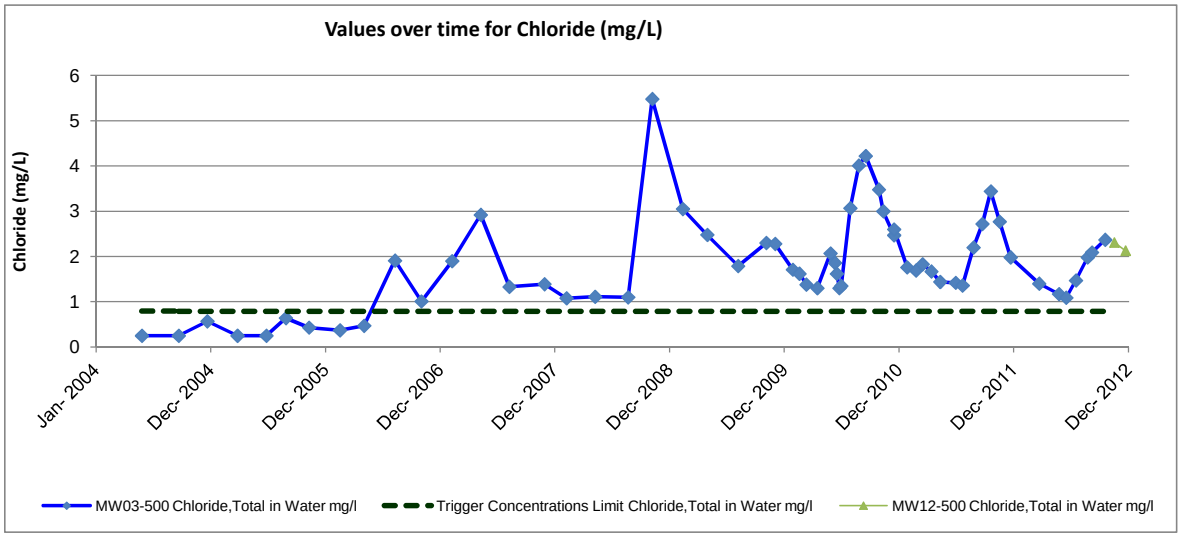

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
600
500
400
300
200
100
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW03-500 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW03-502 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW12-500 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW12-501 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW12-502 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Ground Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l

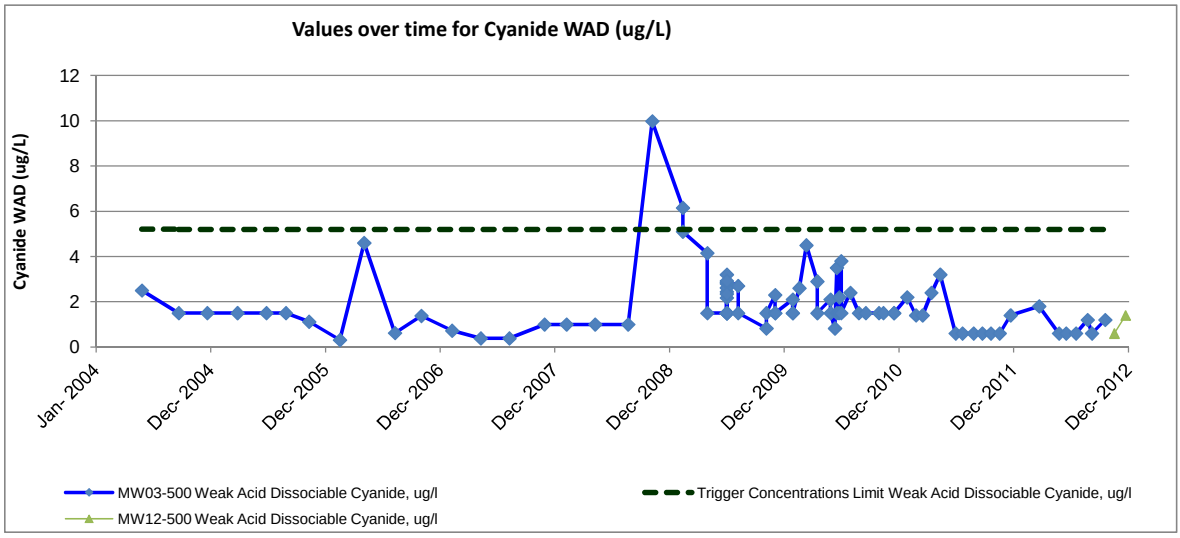

Values over time for Total Kjdeldahl Nitorgen (TKN) (mg/L)
TKN (mg/L)
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Total Kjeldahl Nitrogen, mg/l as N
MW03-500 Total Kjeldahl Nitrogen, mg/l as N
MW03-502 Total Kjeldahl Nitrogen, mg/l as N
MW12-500 Total Kjeldahl Nitrogen, mg/l as N
MW12-501 Total Kjeldahl Nitrogen, mg/l as N
MW12-502 Total Kjeldahl Nitrogen, mg/l as N

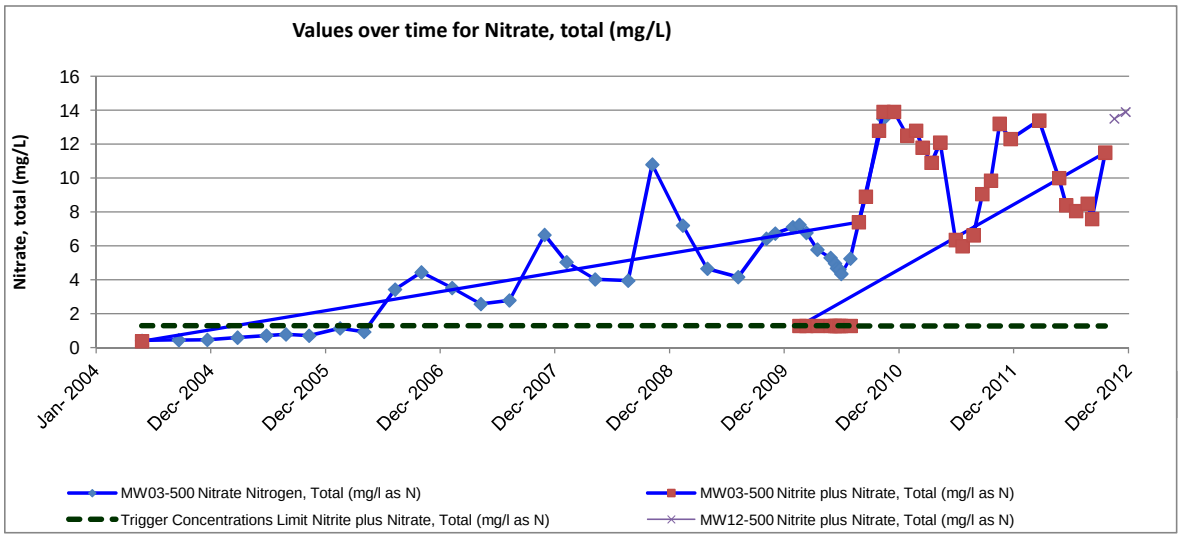

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
70
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Zinc, Dissolved (ug/l as Zn)
MW03-500 Zinc, Dissolved (ug/l as Zn)
MW03-502 Zinc, Dissolved (ug/l as Zn)
MW12-500 Zinc, Dissolved (ug/l as Zn)
MW12-501 Zinc, Dissolved (ug/l as Zn)
MW12-502 Zinc, Dissolved (ug/l as Zn)
Ground Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)

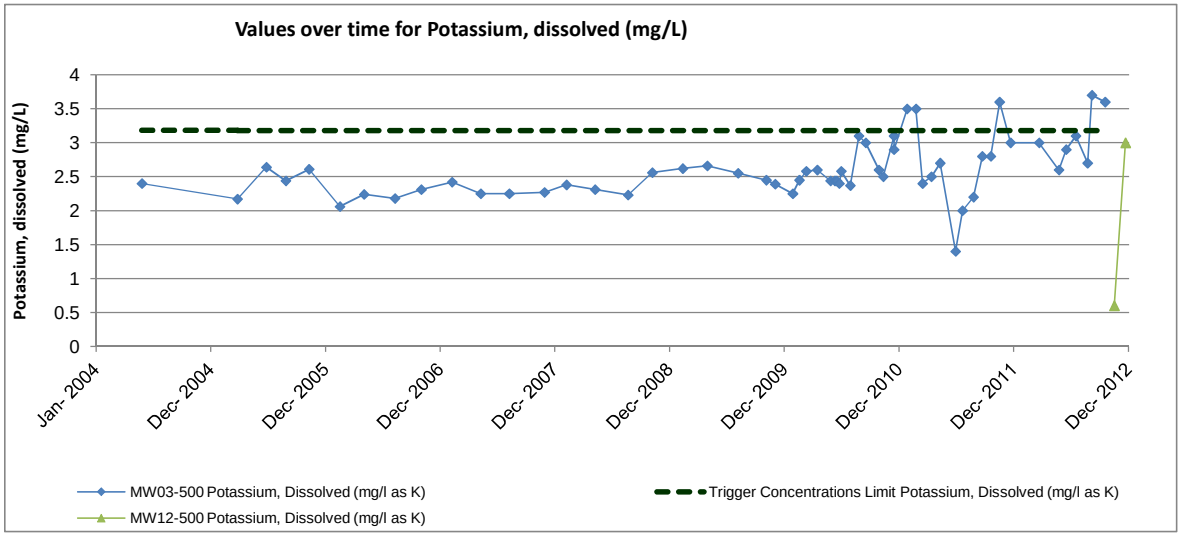

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Antimony, Dissolved (ug/l as Sb)
Trigger Concentrations Limit Antimony, Dissolved (ug/l as Sb)
MW12-500 Antimony, Dissolved (ug/l as Sb)

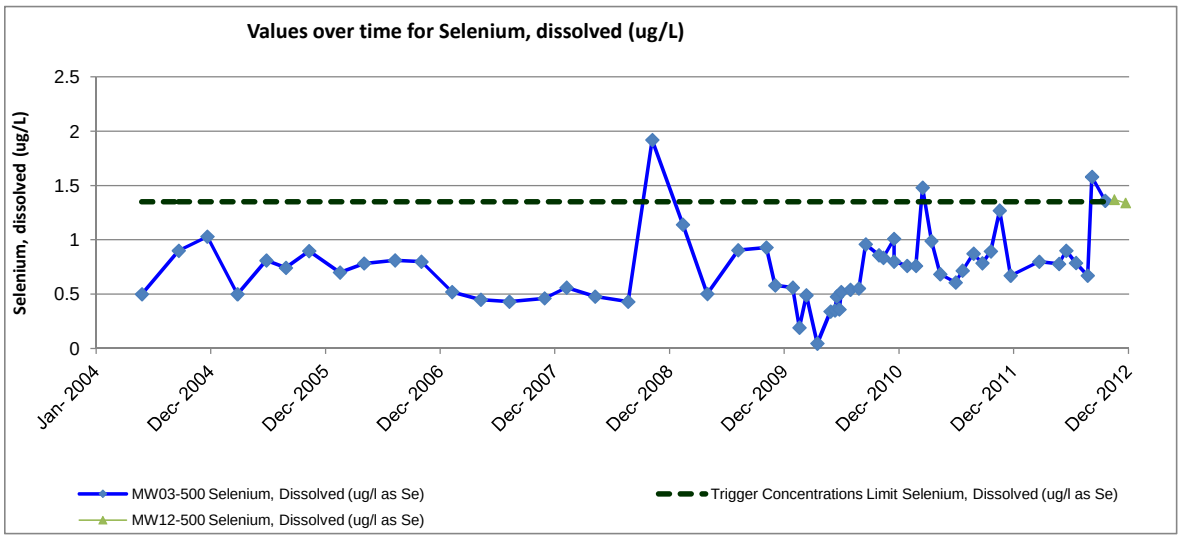

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
60
50
40
30
20
10
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Arsenic, Dissolved (ug/l as As)
Trigger Concentrations Limit Arsenic, Dissolved (ug/l as As)
MW12-500 Arsenic, Dissolved (ug/l as As)

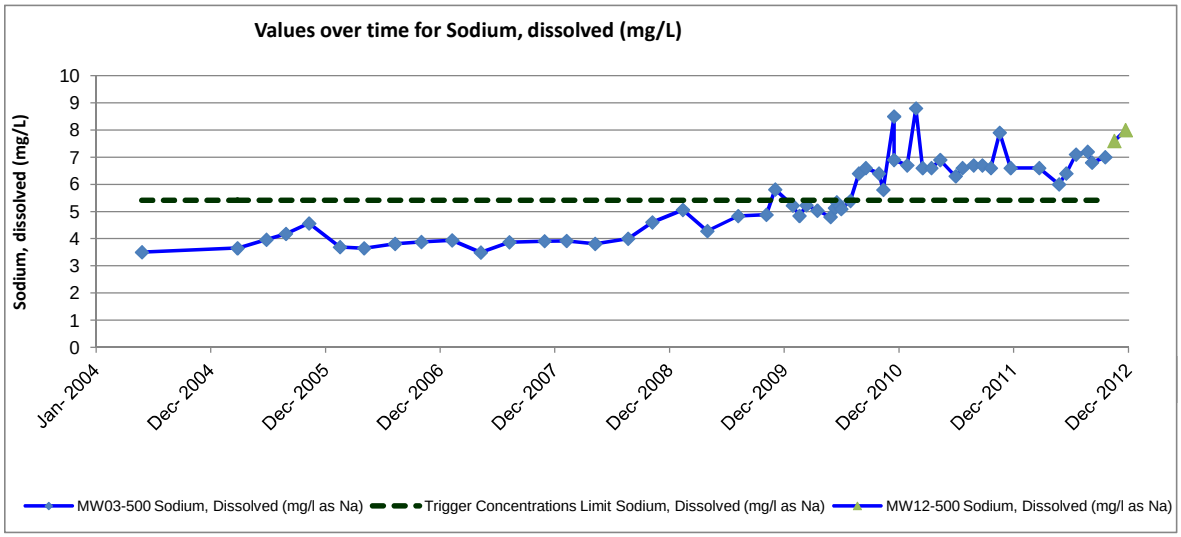

Values over time for Chloride (mg/L)
Chloride (mg/L)
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Chloride,Total in Water mg/l
Trigger Concentrations Limit Chloride,Total in Water mg/l
MW12-500 Chloride,Total in Water mg/l

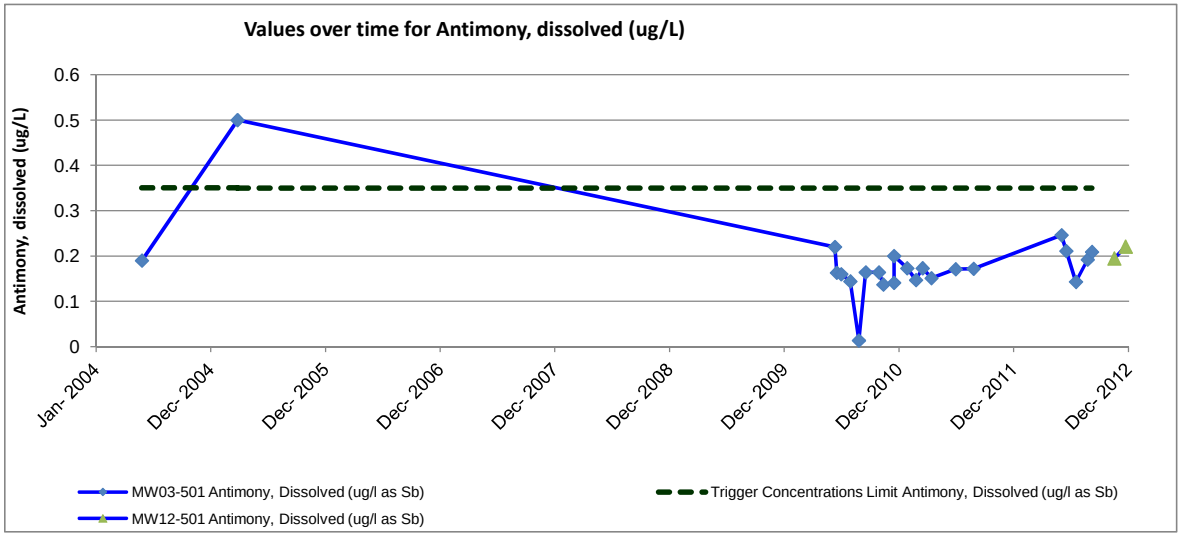

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Weak Acid Dissociable Cyanide, ug/l
Trigger Concentrations Limit Weak Acid Dissociable Cyanide, ug/l
MW12-500 Weak Acid Dissociable Cyanide, ug/l

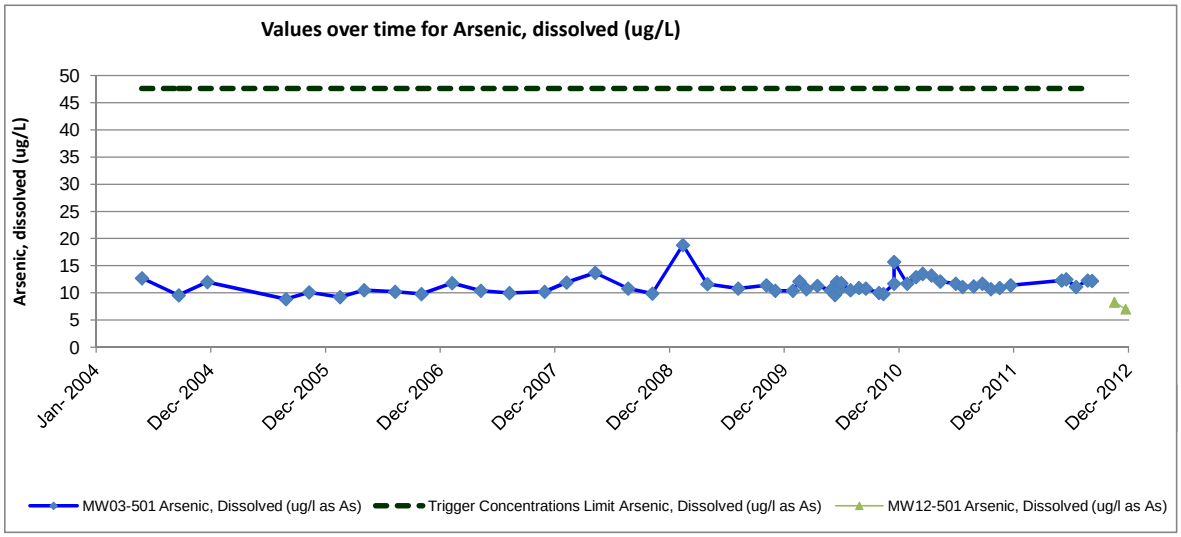

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
16
14
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Nitrate Nitrogen, Total (mg/l as N)
MW03-500 Nitrite plus Nitrate, Total (mg/l as N)
Trigger Concentrations Limit Nitrite plus Nitrate, Total (mg/l as N)
MW12-500 Nitrite plus Nitrate, Total (mg/l as N)

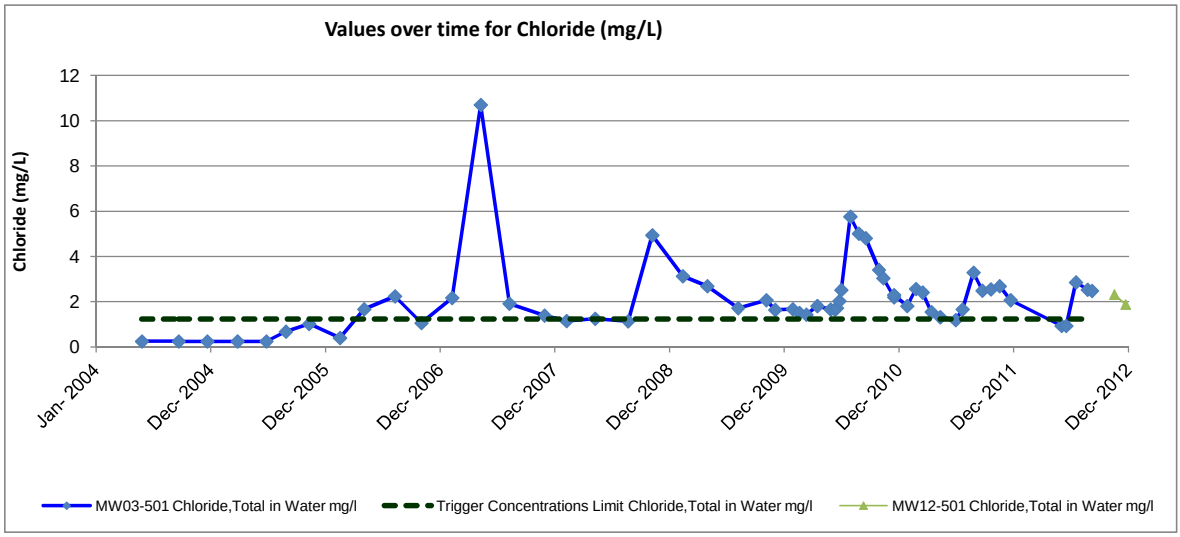

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Potassium, Dissolved (mg/l as K)
Trigger Concentrations Limit Potassium, Dissolved (mg/l as K)
MW12-500 Potassium, Dissolved (mg/l as K)

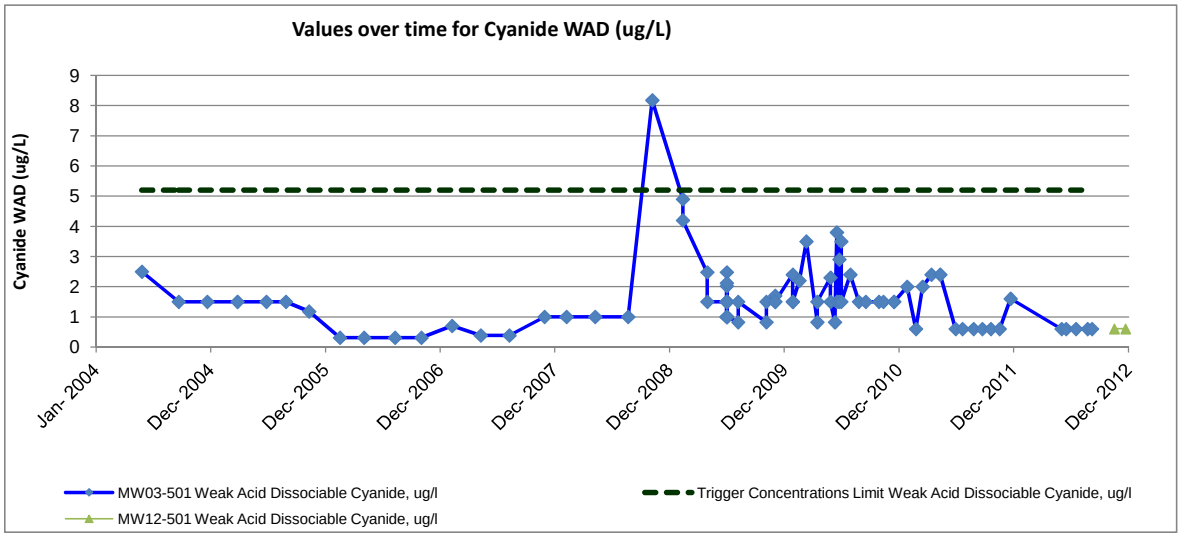

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Selenium, Dissolved (ug/l as Se)
Trigger Concentrations Limit Selenium, Dissolved (ug/l as Se)
MW12-500 Selenium, Dissolved (ug/l as Se)

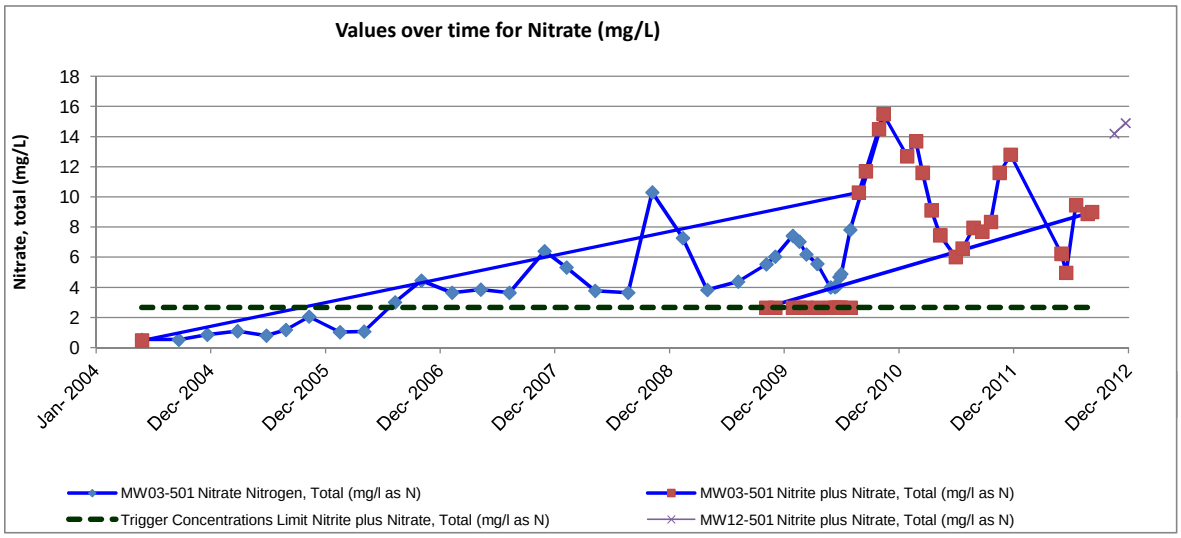

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-500 Sodium, Dissolved (mg/l as Na)
Trigger Concentrations Limit Sodium, Dissolved (mg/l as Na)
MW12-500 Sodium, Dissolved (mg/l as Na)

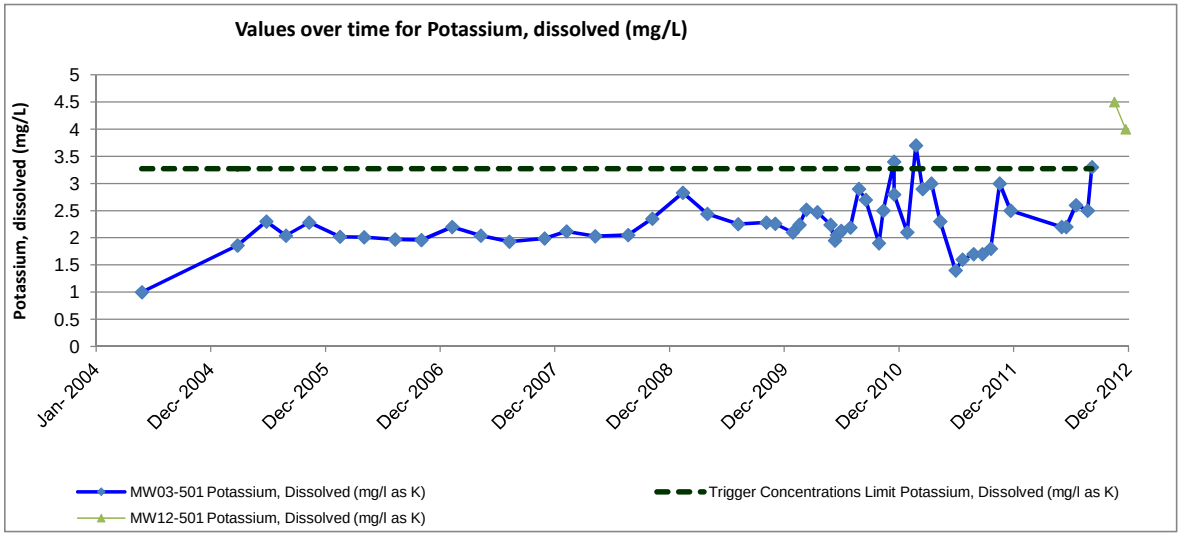

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Antimony, Dissolved (ug/l as Sb)
Trigger Concentrations Limit Antimony, Dissolved (ug/l as Sb)
MW12-501 Antimony, Dissolved (ug/l as Sb)

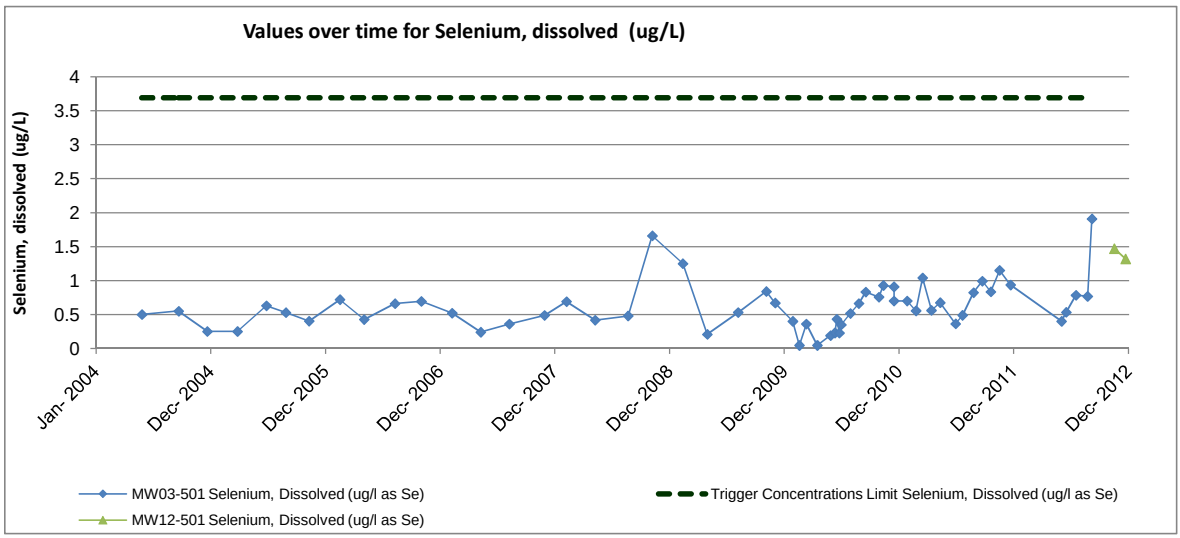

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Arsenic, Dissolved (ug/l as As)
Trigger Concentrations Limit Arsenic, Dissolved (ug/l as As)
MW12-501 Arsenic, Dissolved (ug/l as As)

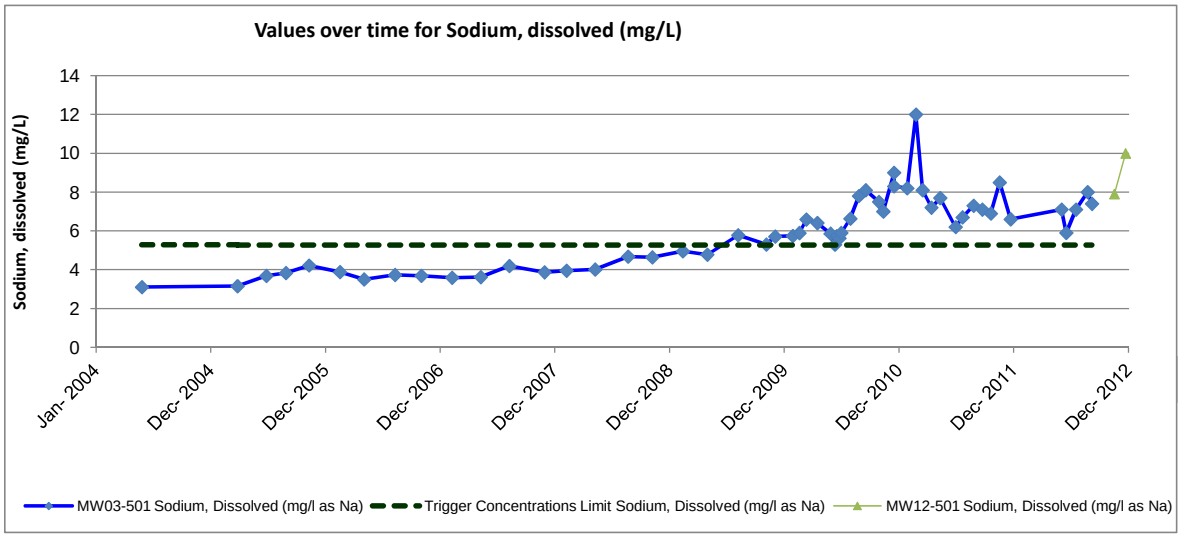

Values over time for Chloride (mg/L)
Chloride (mg/L)
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Chloride,Total in Water mg/l
Trigger Concentrations Limit Chloride,Total in Water mg/l
MW12-501 Chloride,Total in Water mg/l

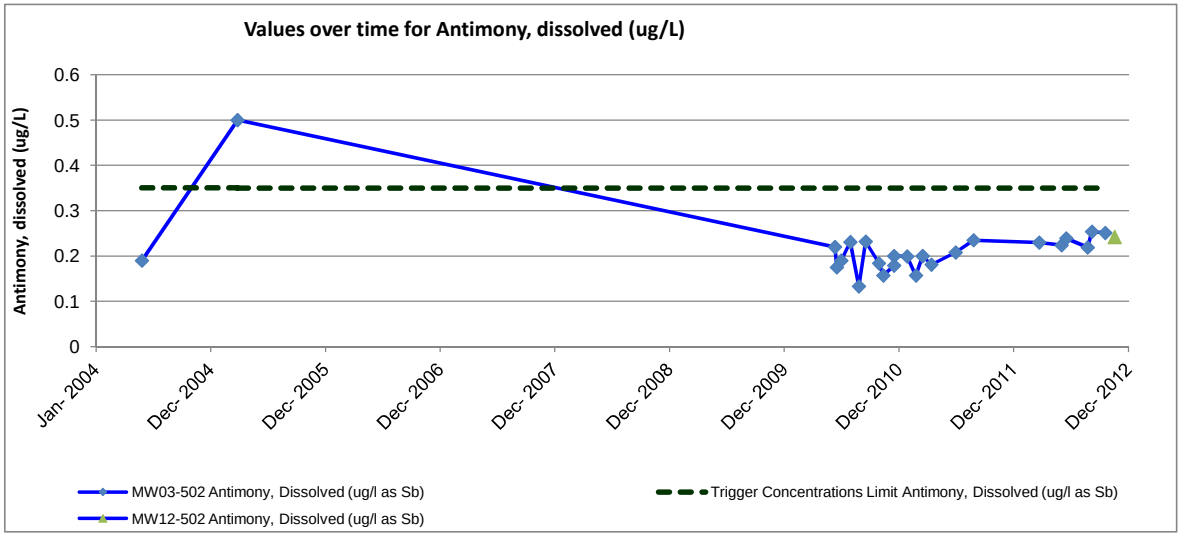

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
0
1
2
3
4
5
6
7
8
9
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Weak Acid Dissociable Cyanide, ug/l
Trigger Concentrations Limit Weak Acid Dissociable Cyanide, ug/l
MW12-501 Weak Acid Dissociable Cyanide, ug/l

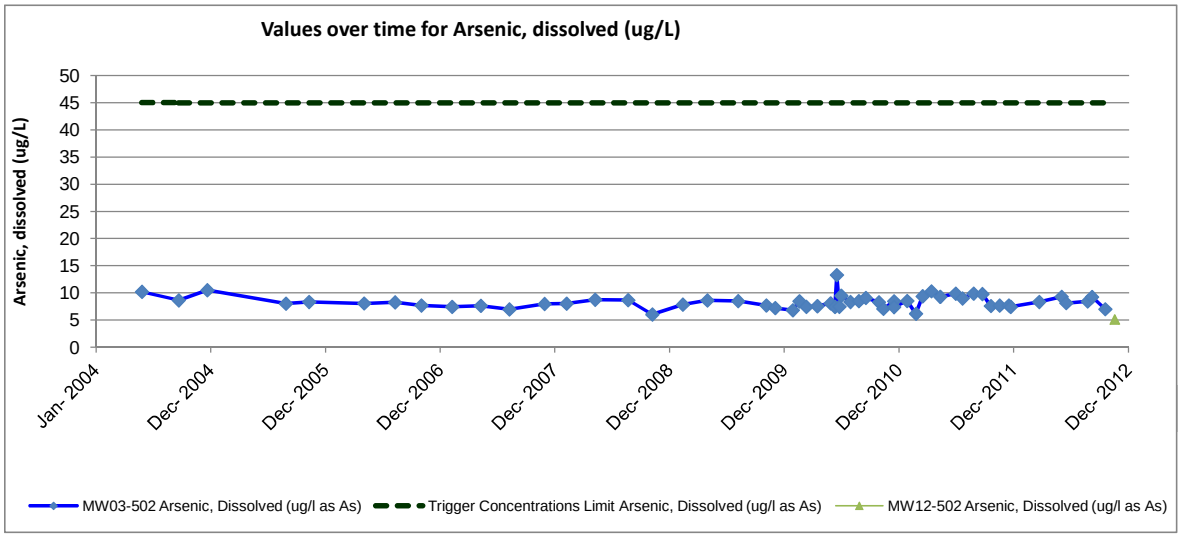

Values over time for Nitrate (mg/L)
Nitrate, total (mg/L)
0
2
4
6
8
10
12
14
16
18
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Nitrate Nitrogen, Total (mg/l as N)
MW03-501 Nitrite plus Nitrate, Total (mg/l as N)
Trigger Concentrations Limit Nitrite plus Nitrate, Total (mg/l as N)
MW12-501 Nitrite plus Nitrate, Total (mg/l as N)

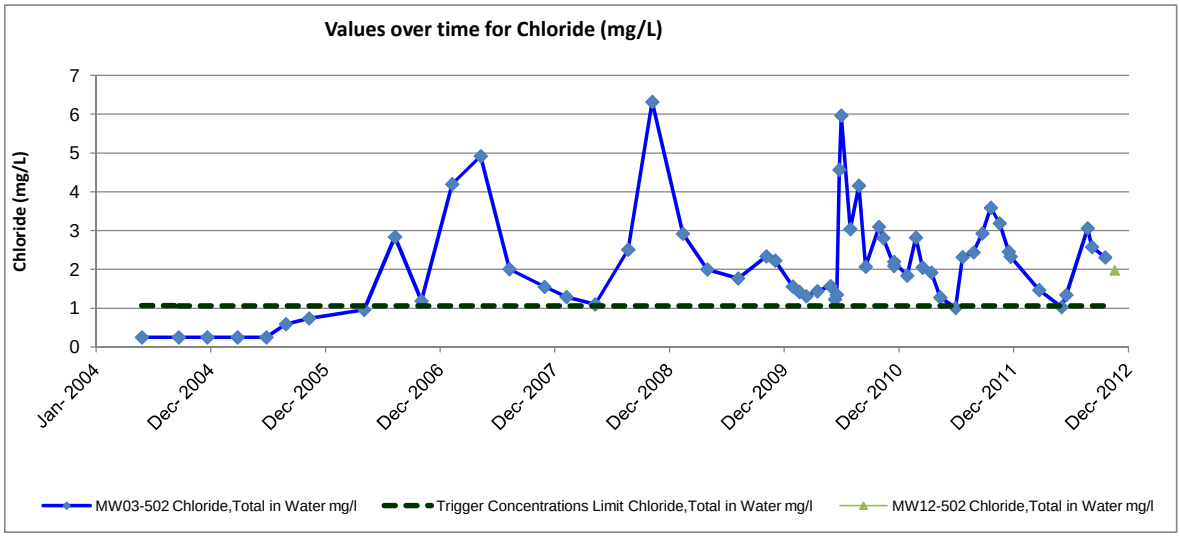

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Potassium, Dissolved (mg/l as K)
Trigger Concentrations Limit Potassium, Dissolved (mg/l as K)
MW12-501 Potassium, Dissolved (mg/l as K)

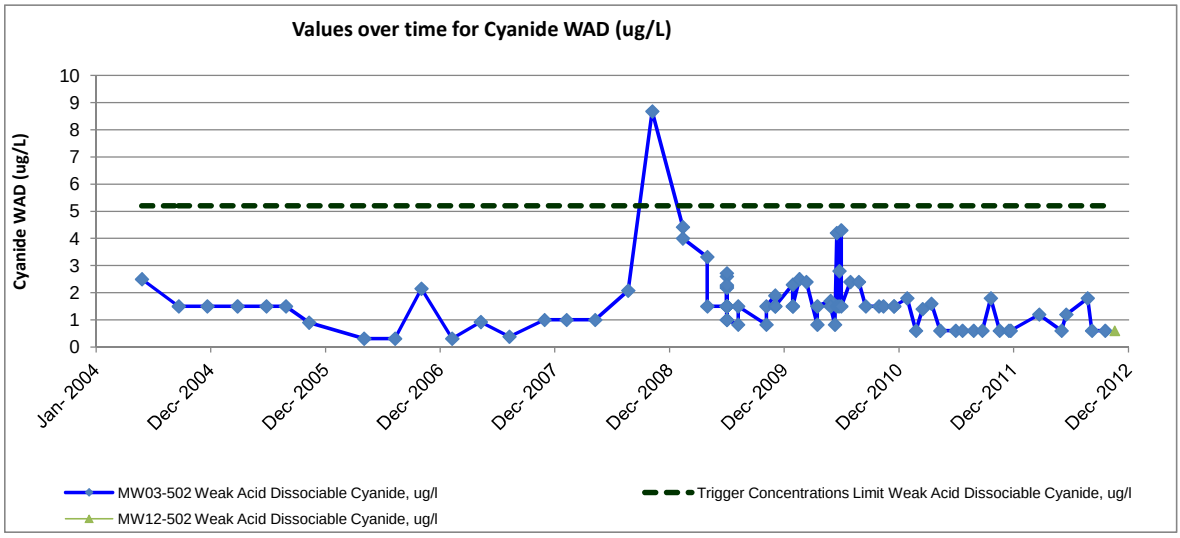

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Selenium, Dissolved (ug/l as Se)
Trigger Concentrations Limit Selenium, Dissolved (ug/l as Se)
MW12-501 Selenium, Dissolved (ug/l as Se)

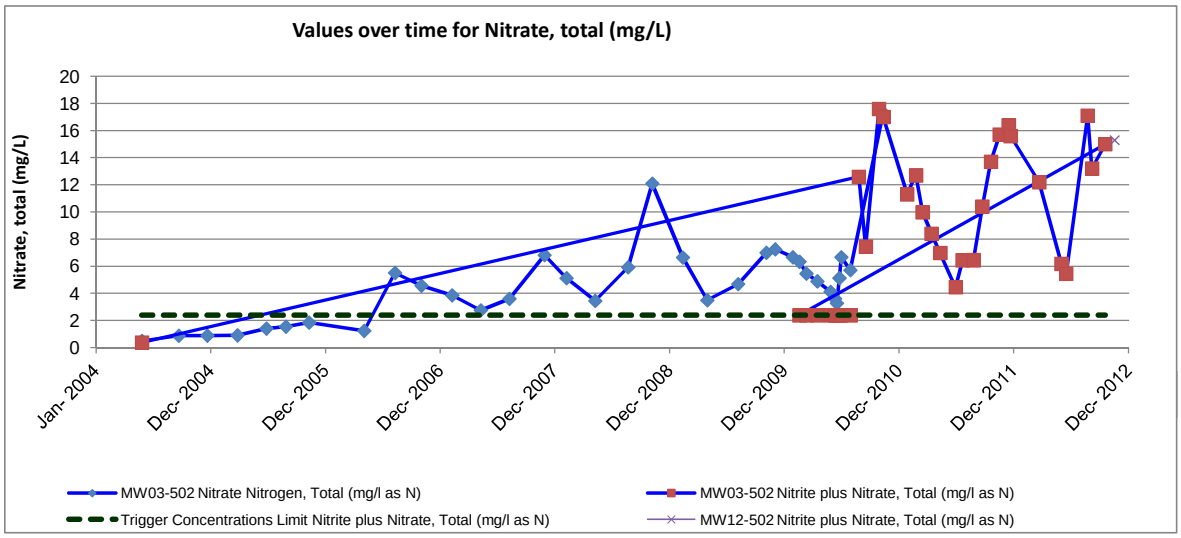

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
14
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-501 Sodium, Dissolved (mg/l as Na)
Trigger Concentrations Limit Sodium, Dissolved (mg/l as Na)
MW12-501 Sodium, Dissolved (mg/l as Na)

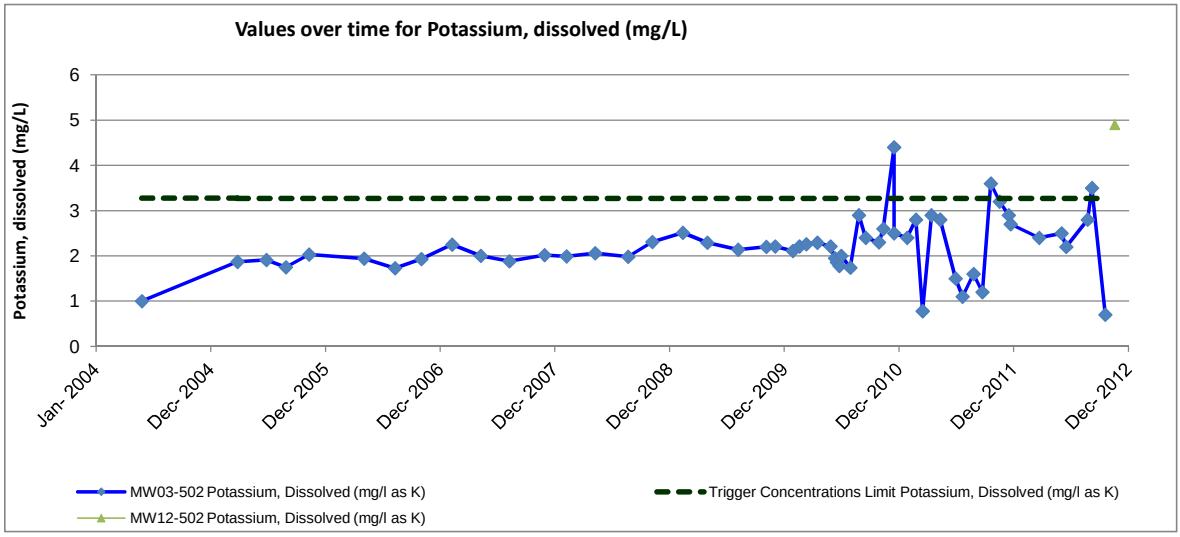

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Antimony, Dissolved (ug/l as Sb)
Trigger Concentrations Limit Antimony, Dissolved (ug/l as Sb)
MW12-502 Antimony, Dissolved (ug/l as Sb)

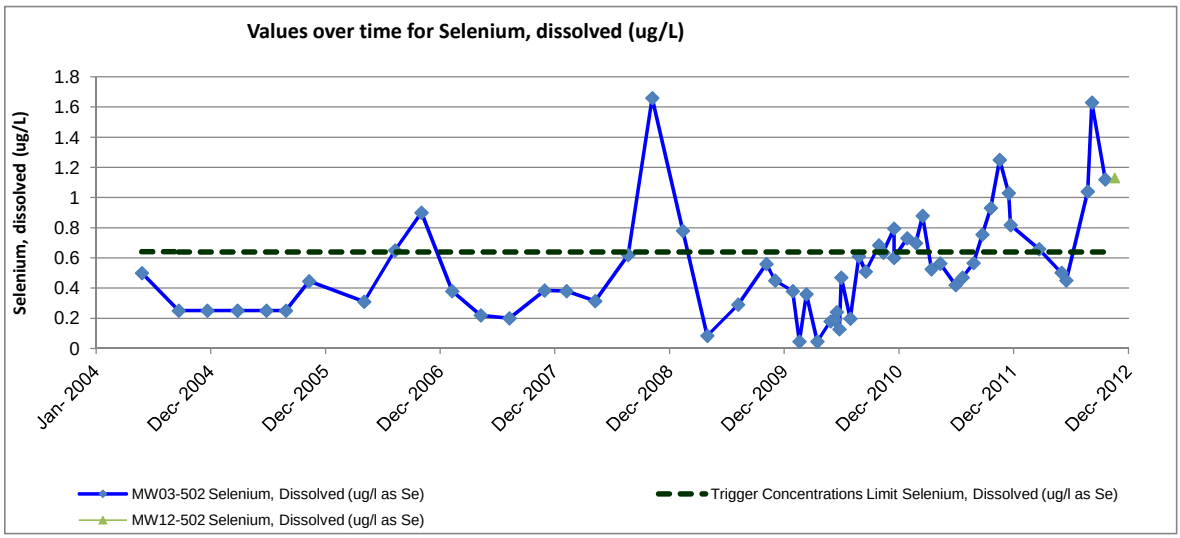

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Arsenic, Dissolved (ug/l as As)
Trigger Concentrations Limit Arsenic, Dissolved (ug/l as As)
MW12-502 Arsenic, Dissolved (ug/l as As)

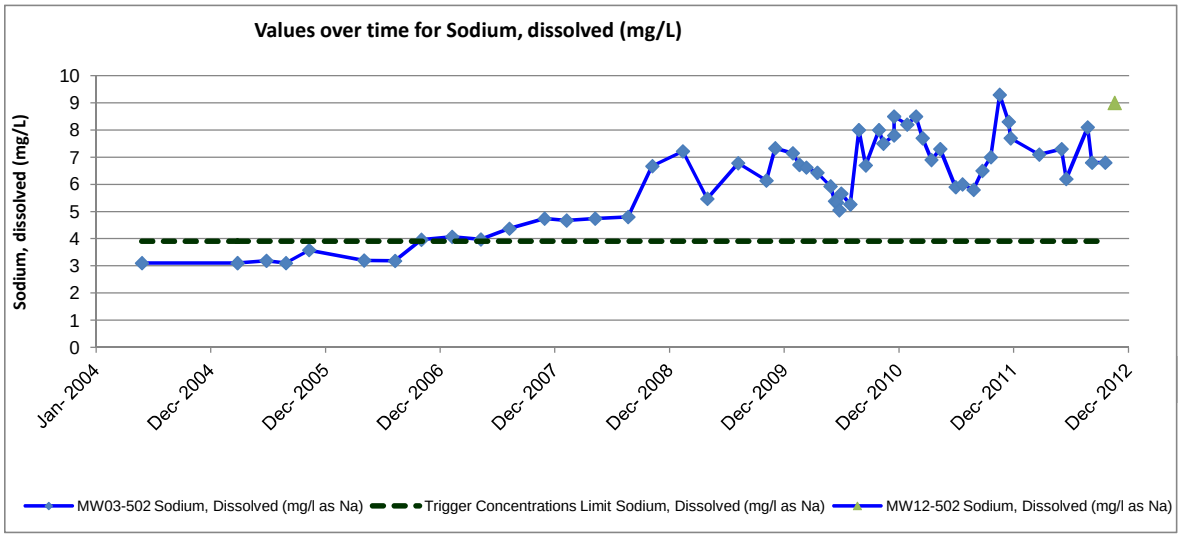

Values over time for Chloride (mg/L)
Chloride (mg/L)
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Chloride,Total in Water mg/l
Trigger Concentrations Limit Chloride,Total in Water mg/l
MW12-502 Chloride,Total in Water mg/l

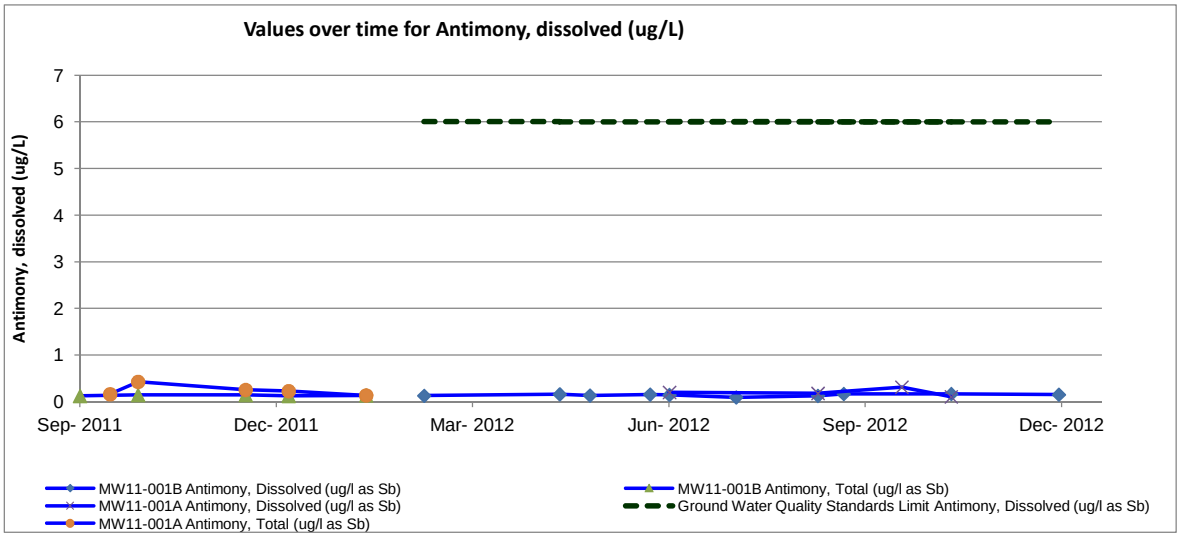

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Weak Acid Dissociable Cyanide, ug/l
Trigger Concentrations Limit Weak Acid Dissociable Cyanide, ug/l
MW12-502 Weak Acid Dissociable Cyanide, ug/l

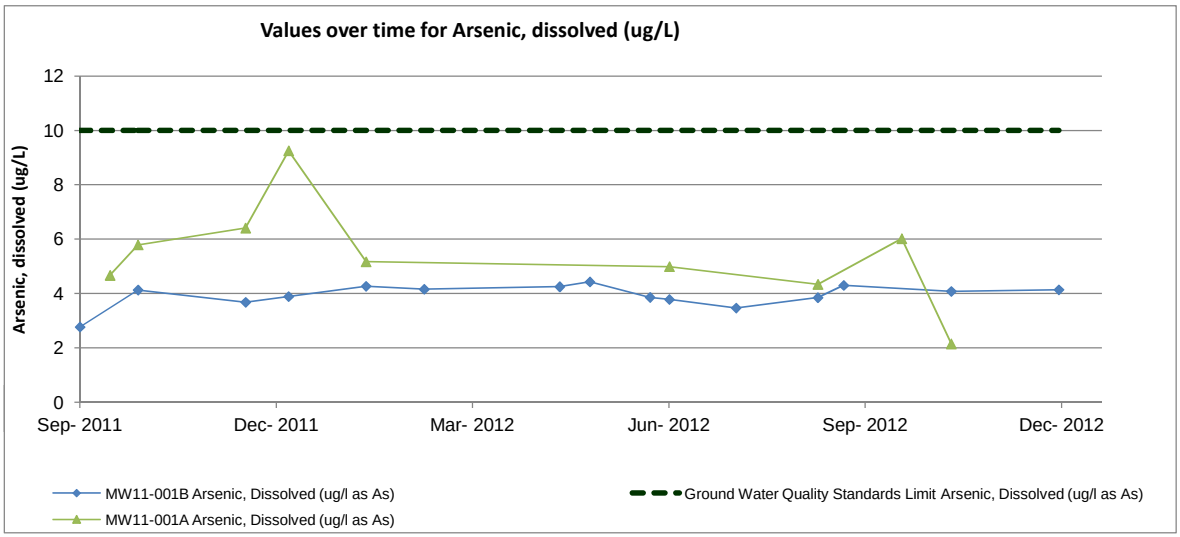

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Nitrate Nitrogen, Total (mg/l as N)
MW03-502 Nitrite plus Nitrate, Total (mg/l as N)
Trigger Concentrations Limit Nitrite plus Nitrate, Total (mg/l as N)
MW12-502 Nitrite plus Nitrate, Total (mg/l as N)

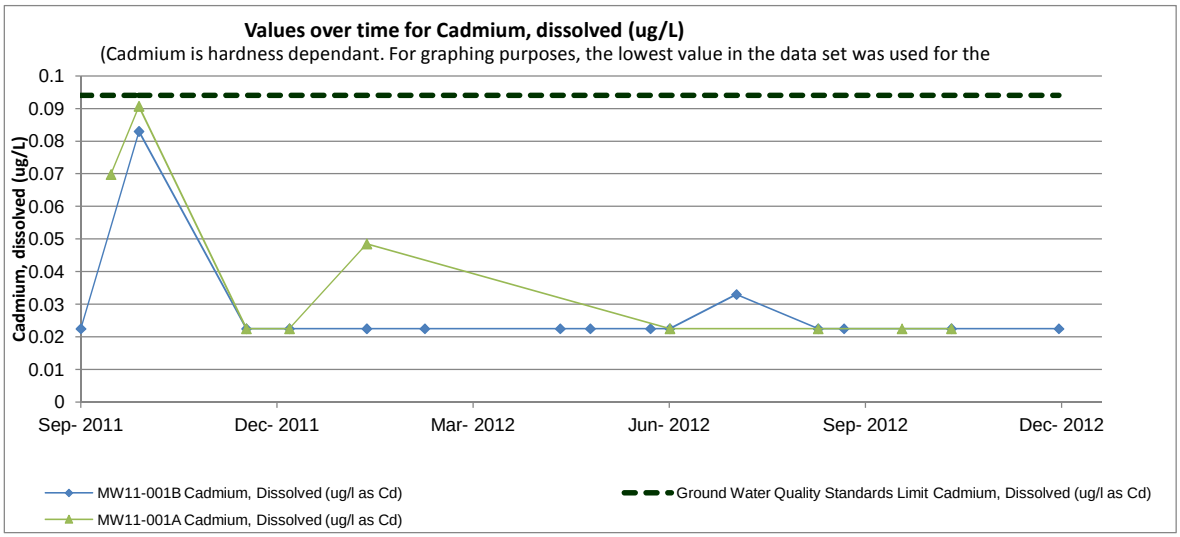

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Potassium, Dissolved (mg/l as K)
Trigger Concentrations Limit Potassium, Dissolved (mg/l as K)
MW12-502 Potassium, Dissolved (mg/l as K)

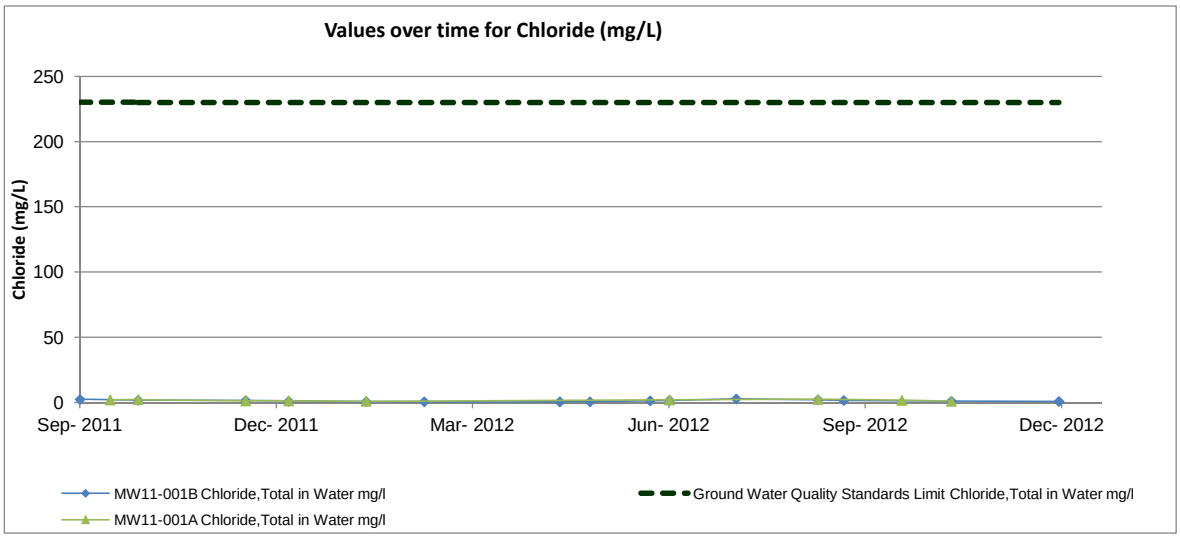

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Selenium, Dissolved (ug/l as Se)
Trigger Concentrations Limit Selenium, Dissolved (ug/l as Se)
MW12-502 Selenium, Dissolved (ug/l as Se)

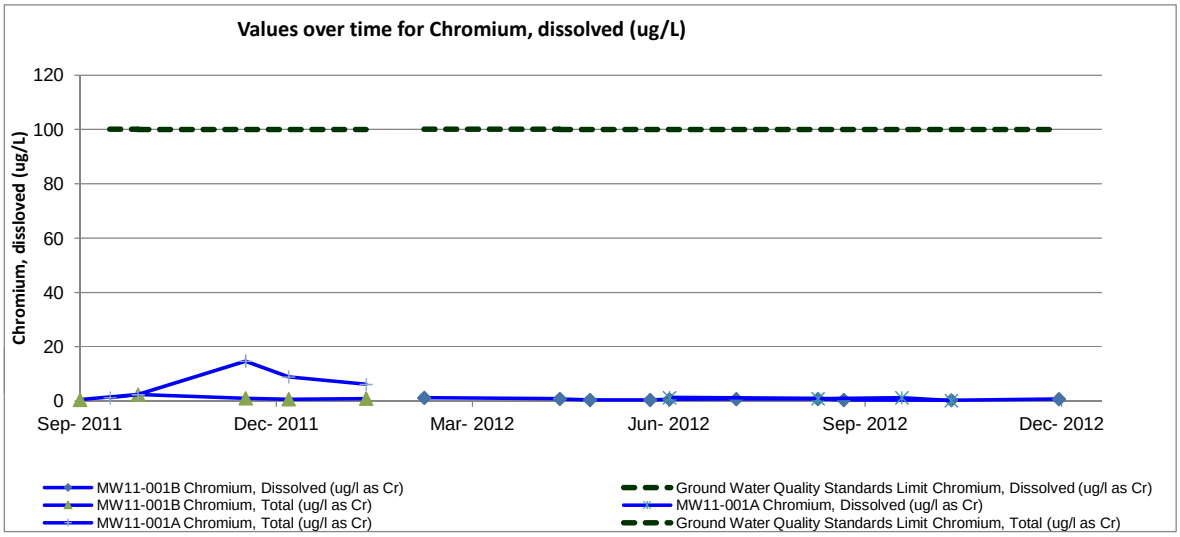

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2004
Dec- 2004
Dec- 2005
Dec- 2006
Dec- 2007
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
MW03-502 Sodium, Dissolved (mg/l as Na)
Trigger Concentrations Limit Sodium, Dissolved (mg/l as Na)
MW12-502 Sodium, Dissolved (mg/l as Na)

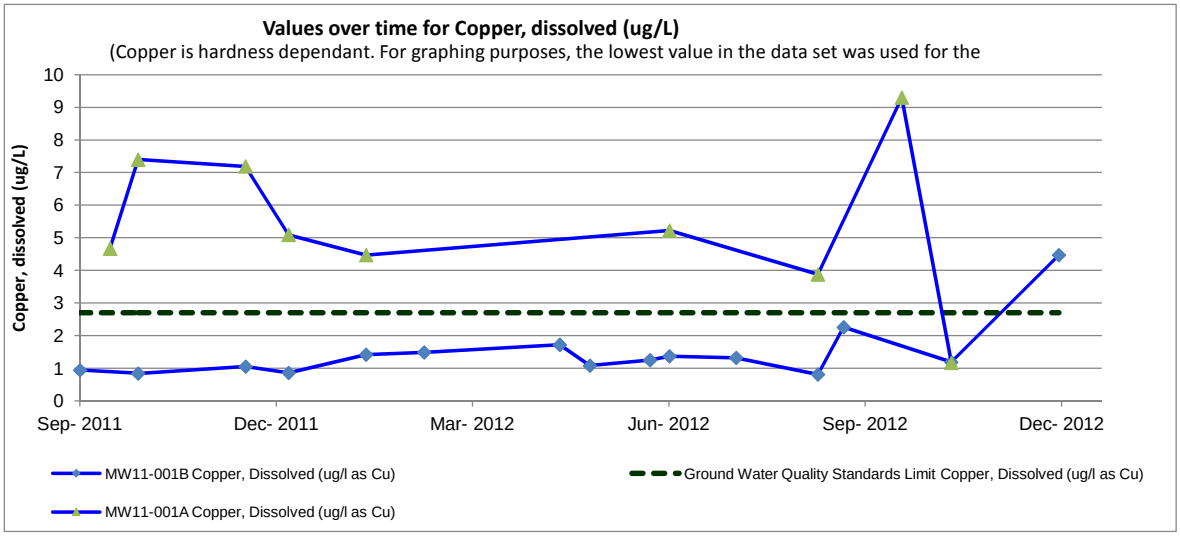

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
7
6
5
4
3
2
1
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Antimony, Dissolved (ug/l as Sb)
MW11-001A Antimony, Dissolved (ug/l as Sb)
MW11-001A Antimony, Total (ug/l as Sb)
MW11-001B Antimony, Total (ug/l as Sb)
Ground Water Quality Standards Limit Antimony, Dissolved (ug/l as Sb)

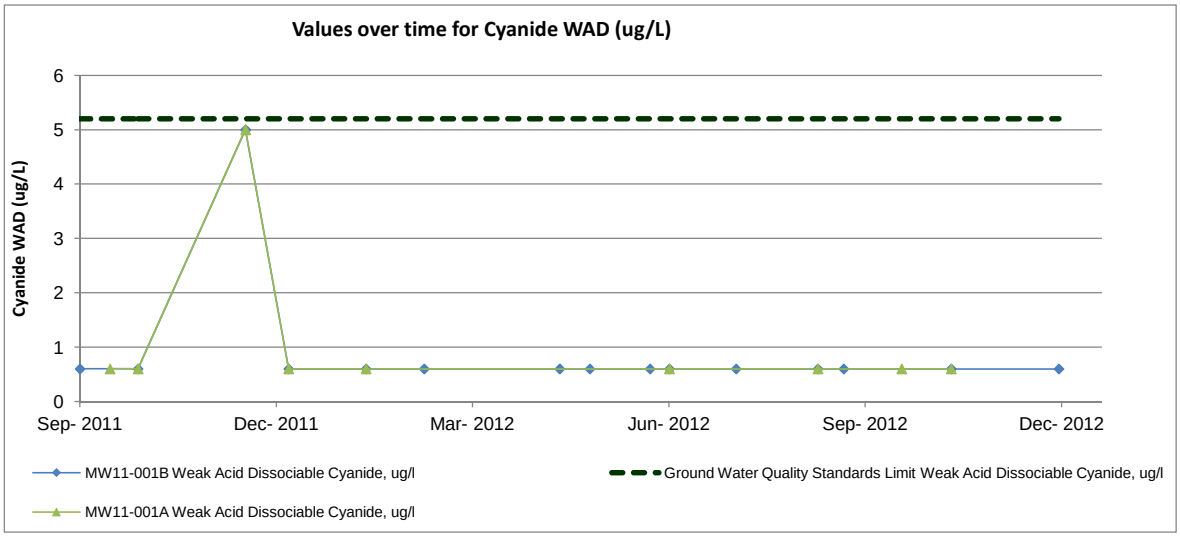

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
12
10
8
6
4
2
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Arsenic, Dissolved (ug/l as As)
MW11-001A Arsenic, Dissolved (ug/l as As)
Ground Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)

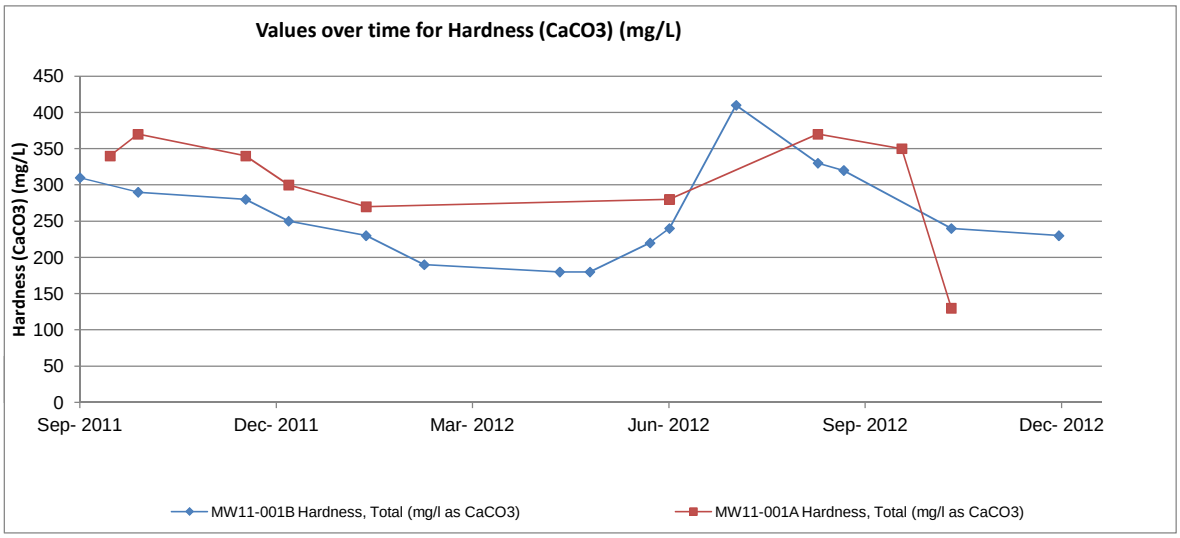

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Cadmium, dissolved (ug/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Cadmium, Dissolved (ug/l as Cd)
MW11-001A Cadmium, Dissolved (ug/l as Cd)
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)

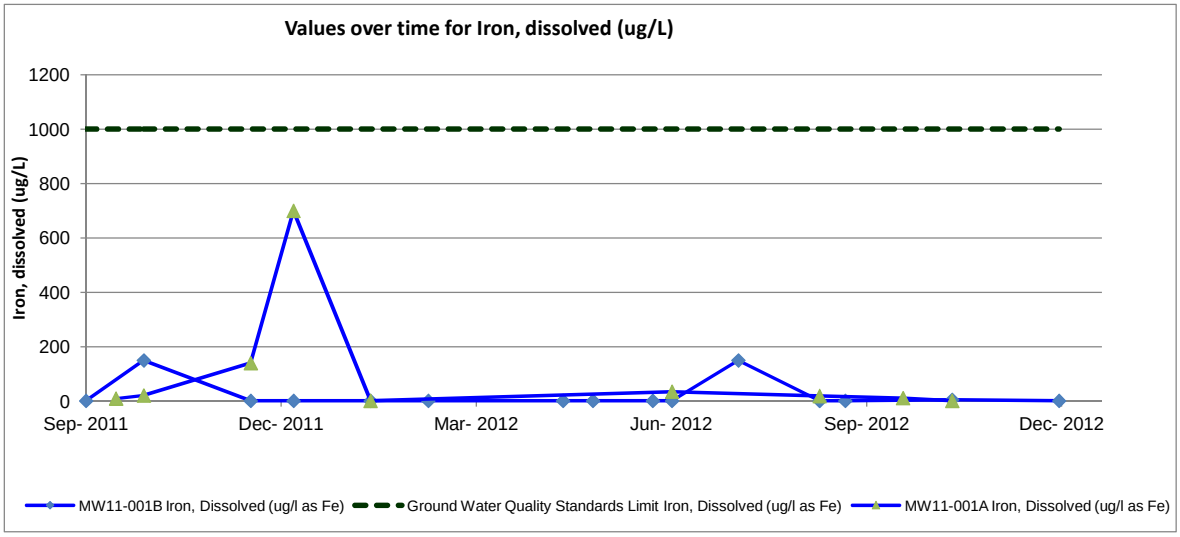

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Chloride,Total in Water mg/l
MW11-001A Chloride,Total in Water mg/l
Ground Water Quality Standards Limit Chloride,Total in Water mg/l

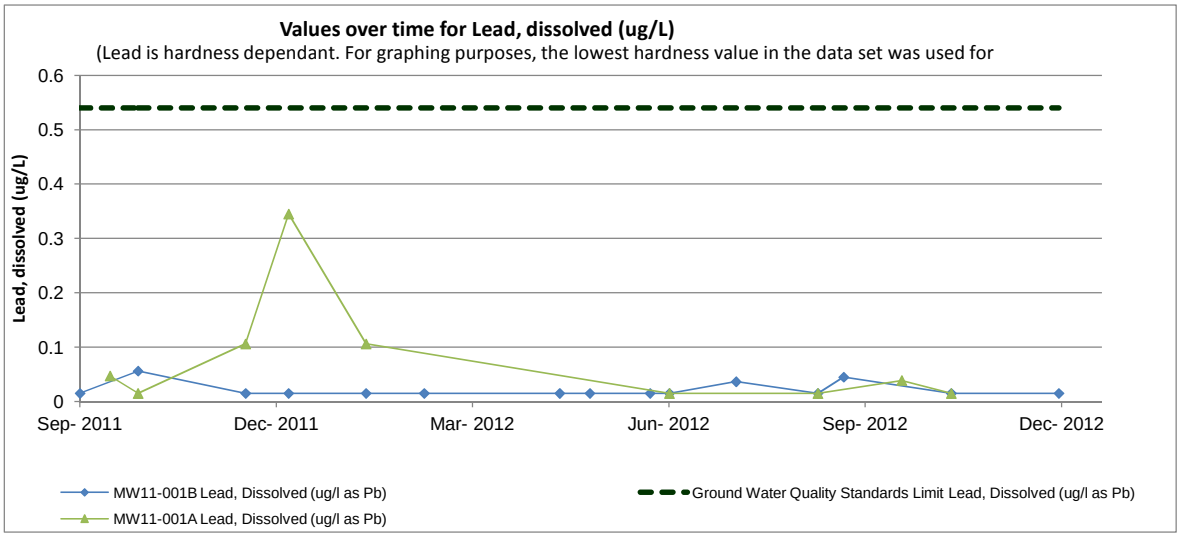

Values over time for Chromium, dissolved (ug/L)
Chromium, dissloved (ug/L)
120
100
80
60
40
20
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Chromium, Dissolved (ug/l as Cr)
MW11-001B Chromium, Total (ug/l as Cr)
MW11-001A Chromium, Total (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)
MW11-001A Chromium, Dissolved (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Total (ug/l as Cr)

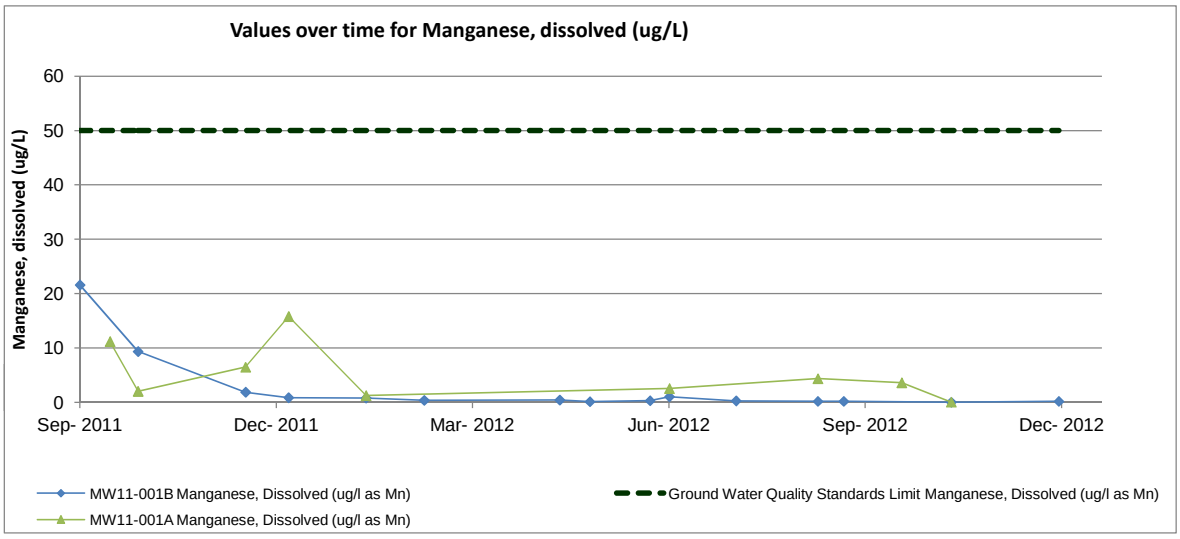

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Copper, dissolved (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Copper, Dissolved (ug/l as Cu)
MW11-001A Copper, Dissolved (ug/l as Cu)
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)

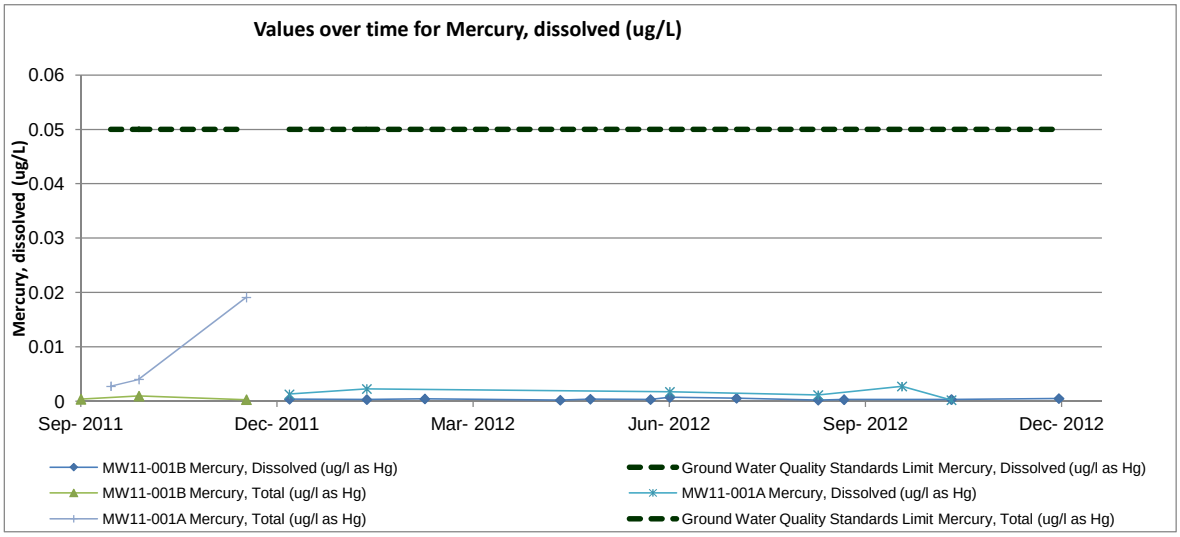

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
0
1
2
3
4
5
6
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Weak Acid Dissociable Cyanide, ug/l
Ground Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l
MW11-001A Weak Acid Dissociable Cyanide, ug/l

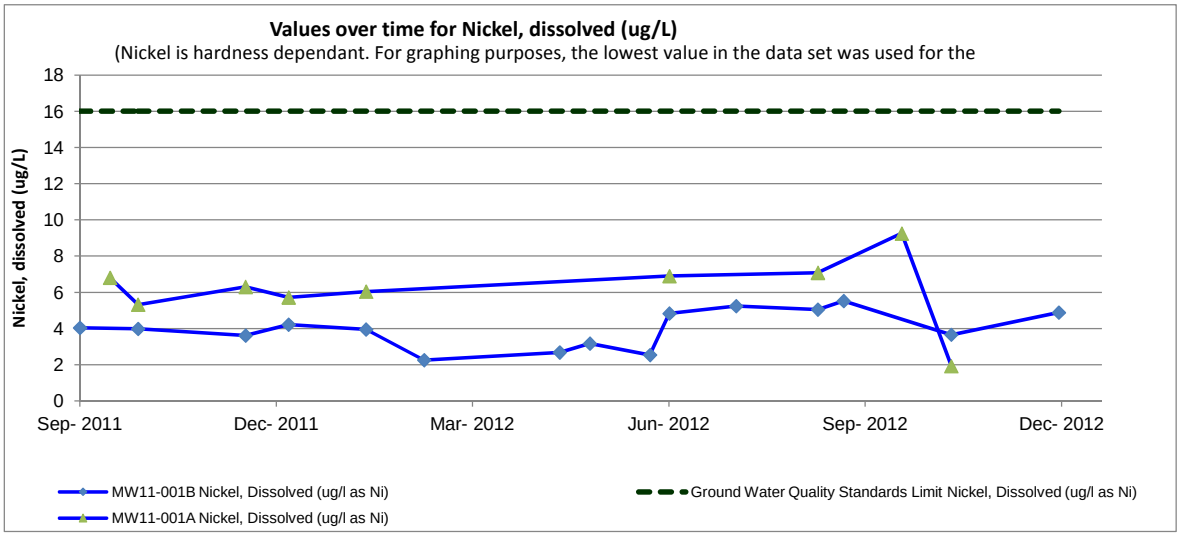

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
0
50
100
150
200
250
300
350
400
450
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Hardness, Total (mg/l as CaCO3)
MW11-001A Hardness, Total (mg/l as CaCO3)

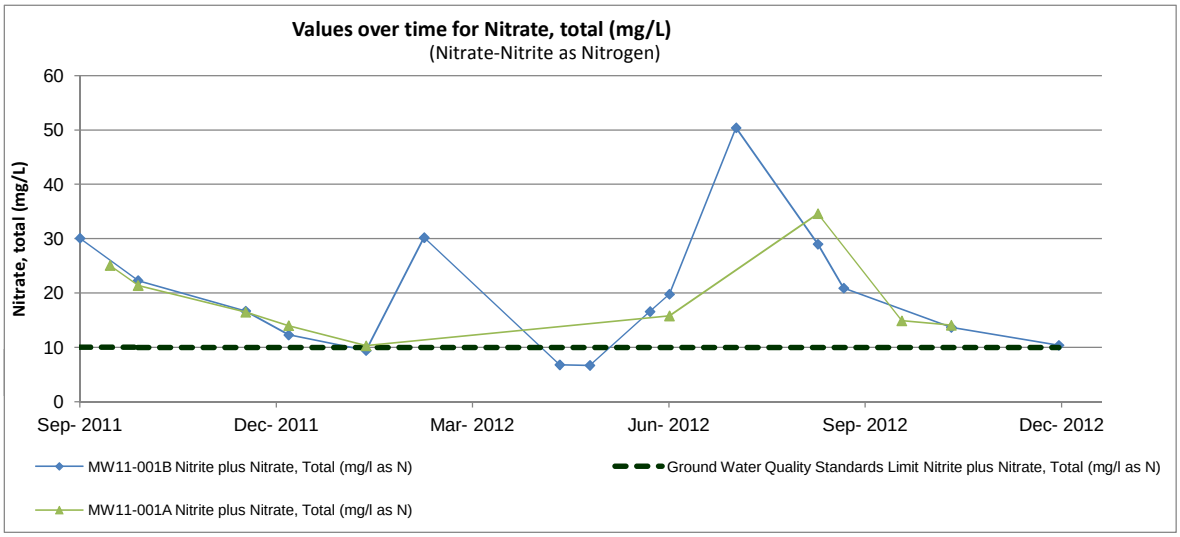

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
0
200
400
600
800
1000
1200
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Iron, Dissolved (ug/l as Fe)
Ground Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)
MW11-001A Iron, Dissolved (ug/l as Fe)

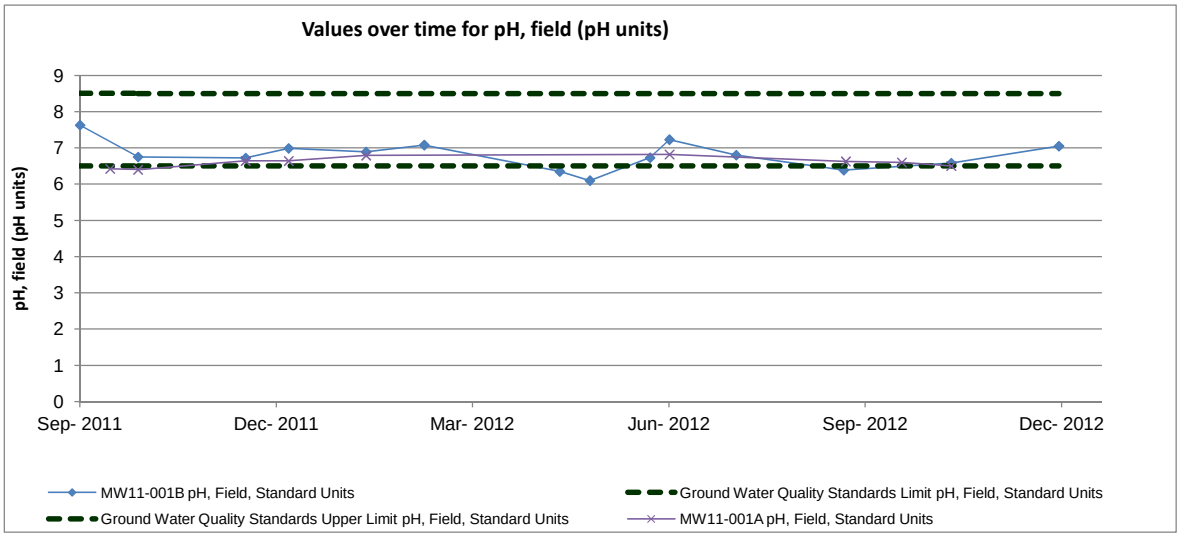

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest hardness value in the data set was used for
Lead, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Lead, Dissolved (ug/l as Pb)
MW11-001A Lead, Dissolved (ug/l as Pb)
Ground Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)

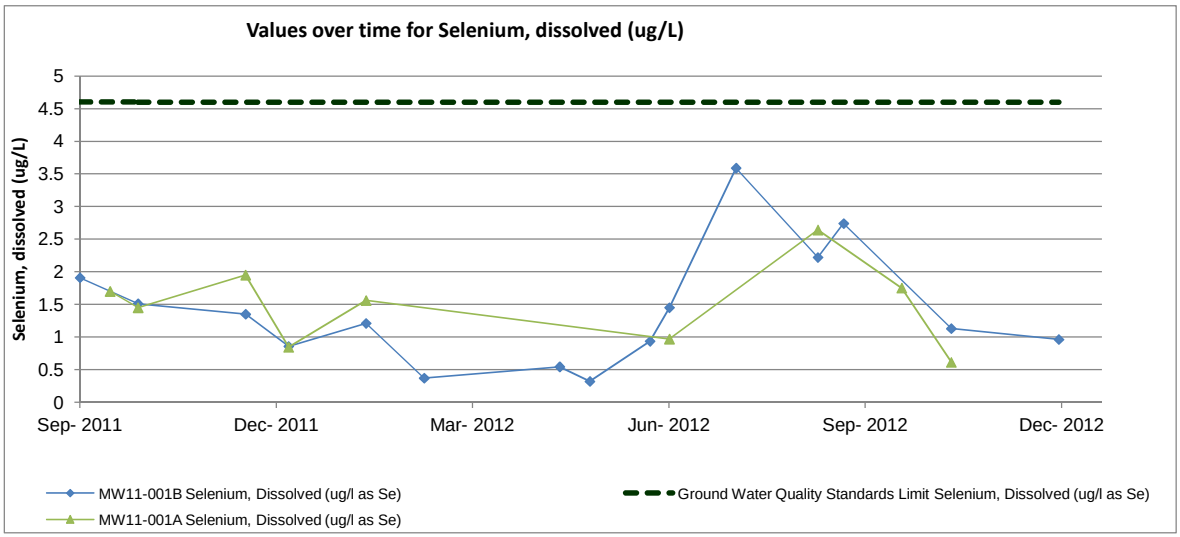

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
60
50
40
30
20
10
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Manganese, Dissolved (ug/l as Mn)
MW11-001A Manganese, Dissolved (ug/l as Mn)
Ground Water Quality Standards Limit Manganese, Dissolved (ug/l as Mn)

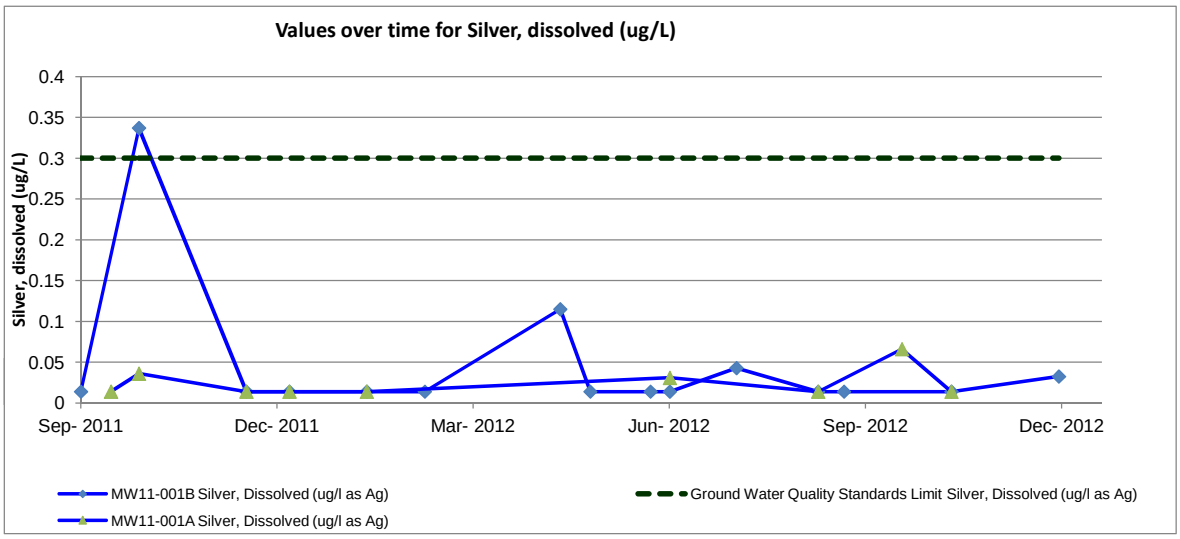

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Mercury, Dissolved (ug/l as Hg)
MW11-001B Mercury, Total (ug/l as Hg)
MW11-001A Mercury, Total (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
MW11-001A Mercury, Dissolved (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Total (ug/l as Hg)

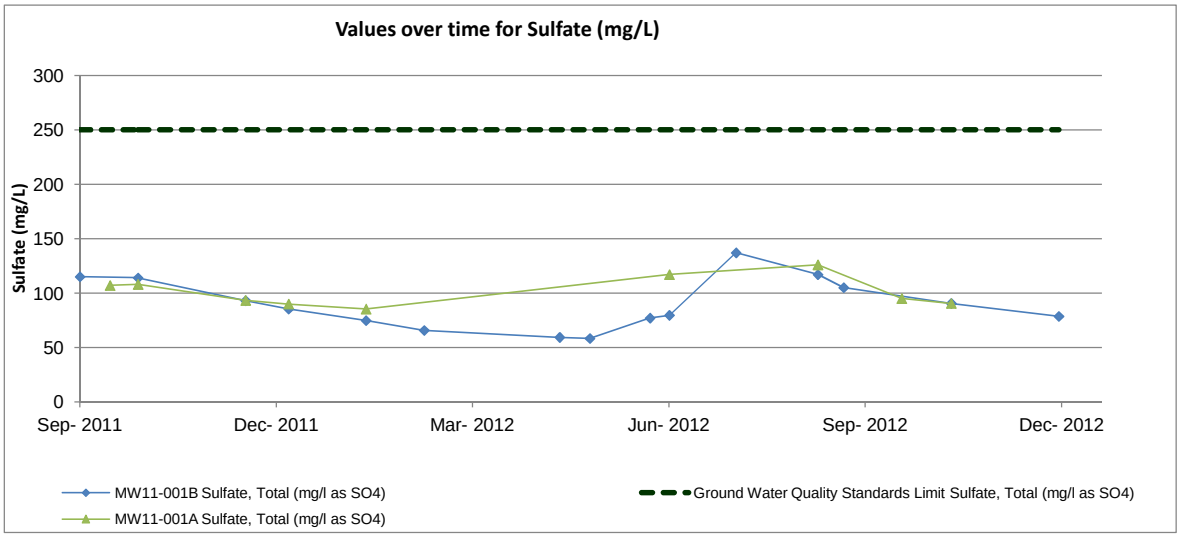

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Nickel, dissolved (ug/L)
18
16
14
12
10
8
6
4
2
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Nickel, Dissolved (ug/l as Ni)
Ground Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)
MW11-001A Nickel, Dissolved (ug/l as Ni)

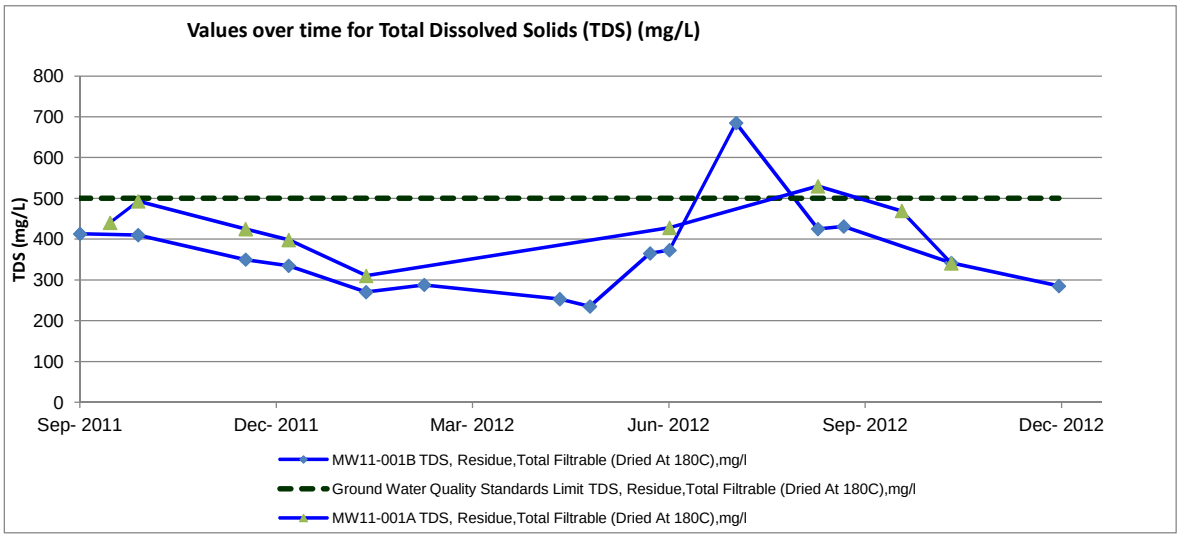

Values over time for Nitrate, total (mg/L)
(Nitrate-Nitrite as Nitrogen)
Nitrate, total (mg/L)
60
50
40
30
20
10
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Nitrite plus Nitrate, Total (mg/l as N)
Ground Water Quality Standards Limit Nitrite plus Nitrate, Total (mg/l as N)
MW11-001A Nitrite plus Nitrate, Total (mg/l as N)

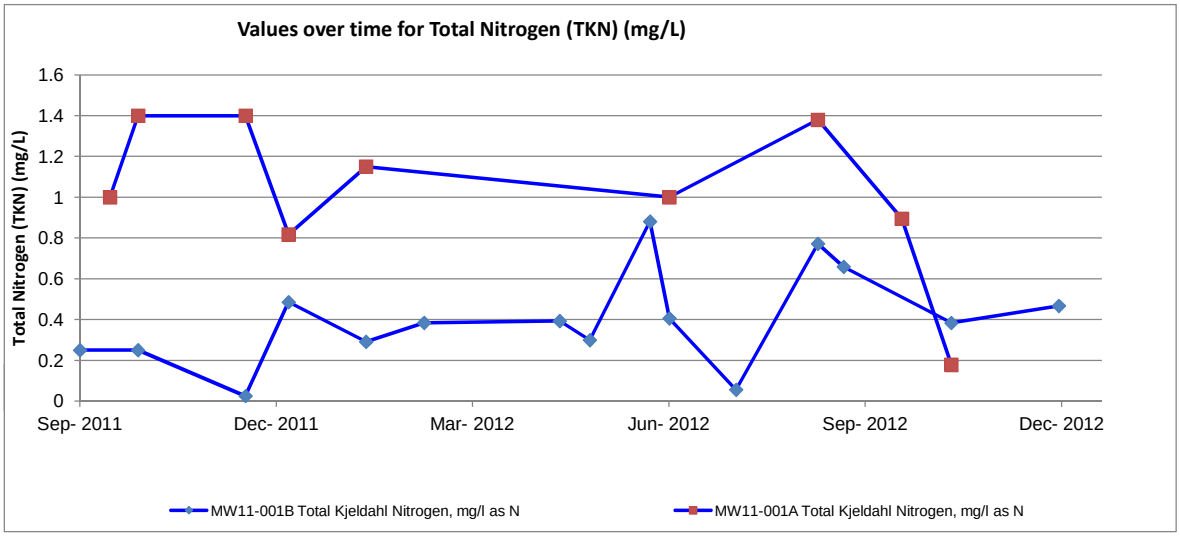

Values over time for pH, field (pH units)
pH, field (pH units)
9
8
7
6
5
4
3
2
1
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B pH, Field, Standard Units
Ground Water Quality Standards Limit pH, Field, Standard Units
Ground Water Quality Standards Upper Limit pH, Field, Standard Units
MW11-001A pH, Field, Standard Units

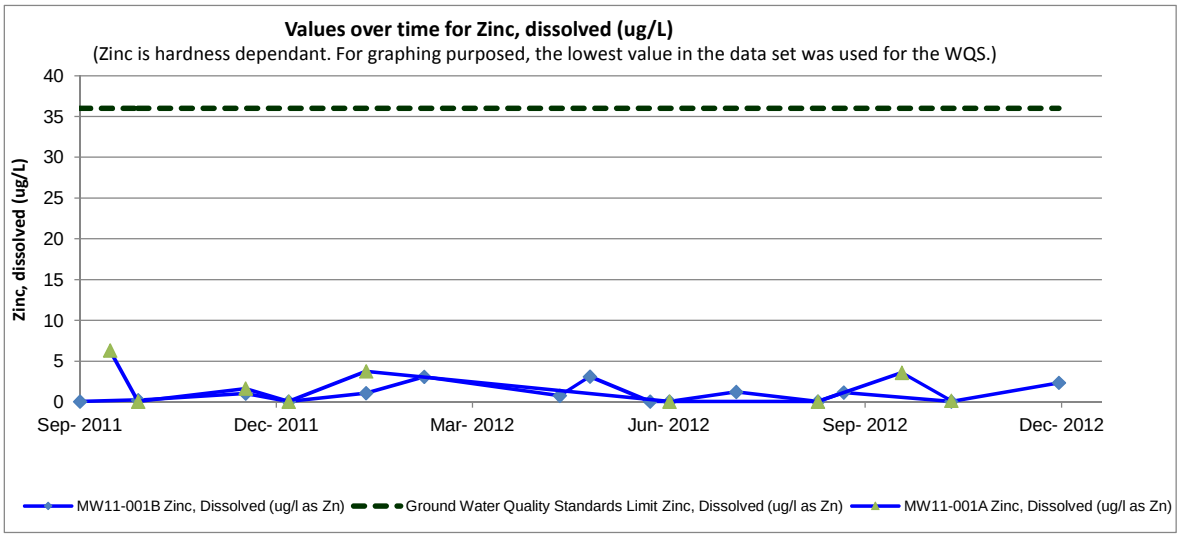

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Selenium, Dissolved (ug/l as Se)
MW11-001A Selenium, Dissolved (ug/l as Se)
Ground Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)

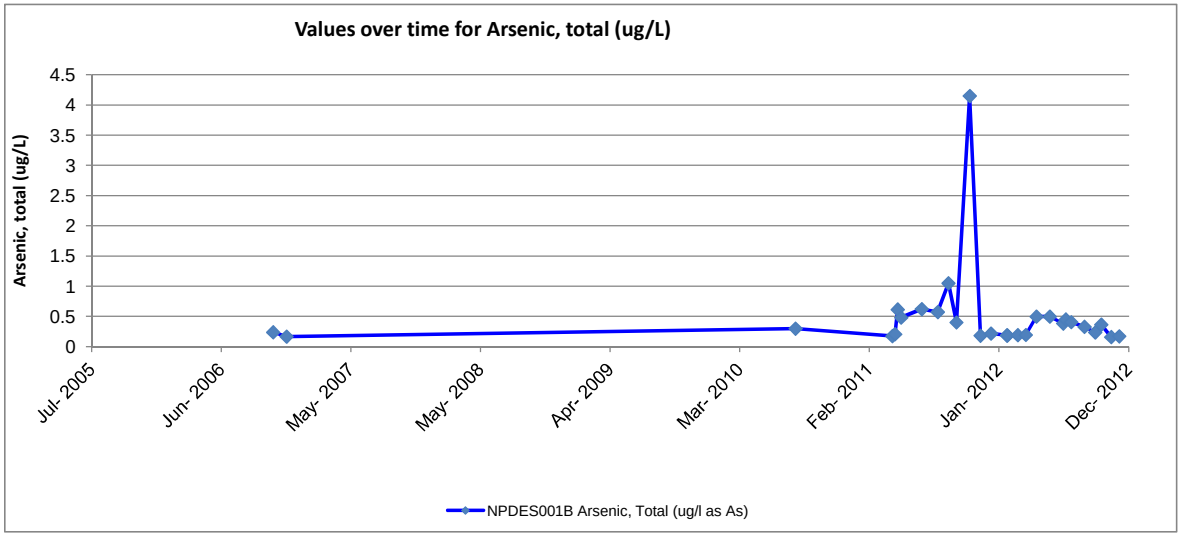

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Silver, Dissolved (ug/l as Ag)
MW11-001A Silver, Dissolved (ug/l as Ag)
Ground Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)

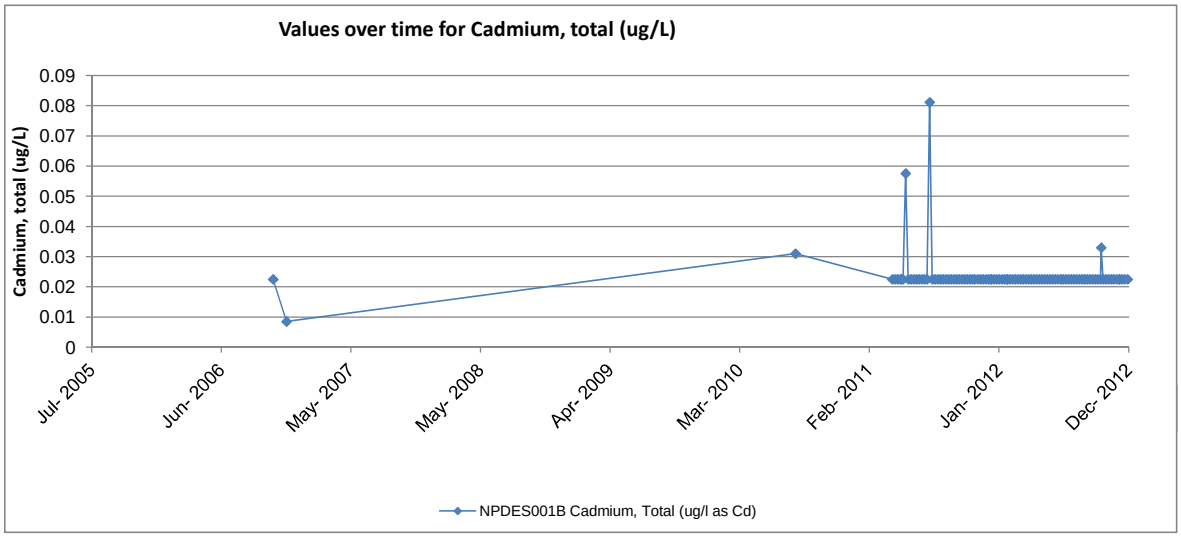

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
300
250
200
150
100
50
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Sulfate, Total (mg/l as SO4)
MW11-001A Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)

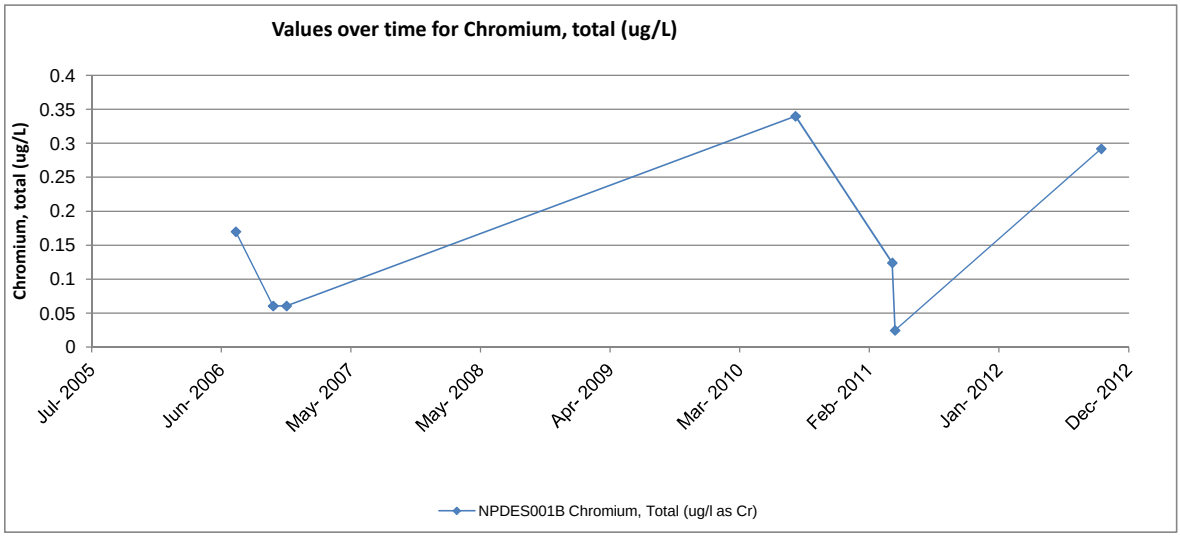

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
800
700
600
500
400
300
200
100
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Ground Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW11-001A TDS, Residue,Total Filtrable (Dried At 180C),mg/l

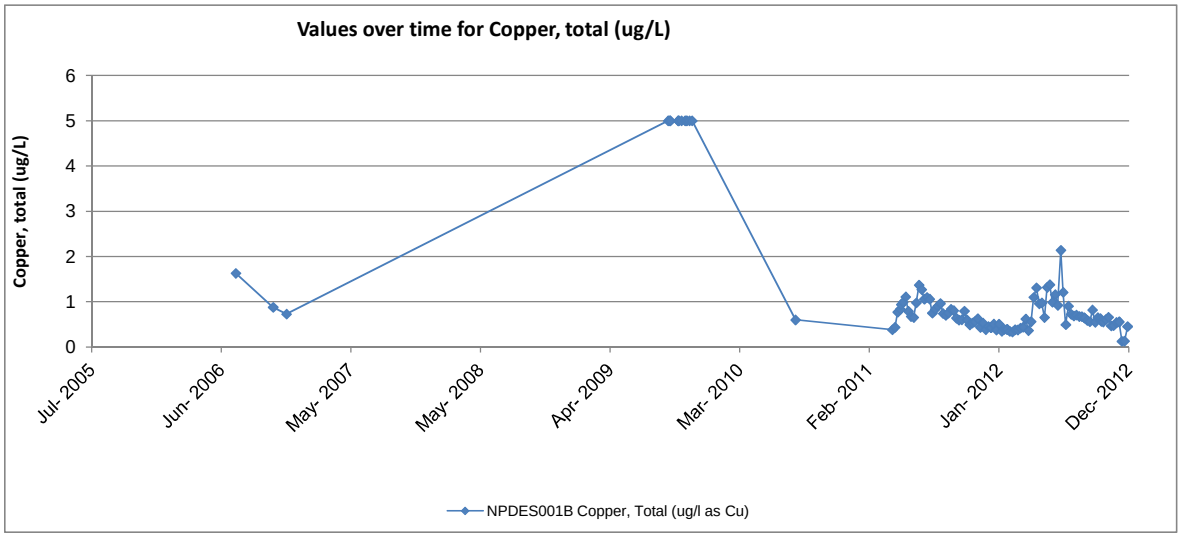

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Total Kjeldahl Nitrogen, mg/l as N
MW11-001A Total Kjeldahl Nitrogen, mg/l as N

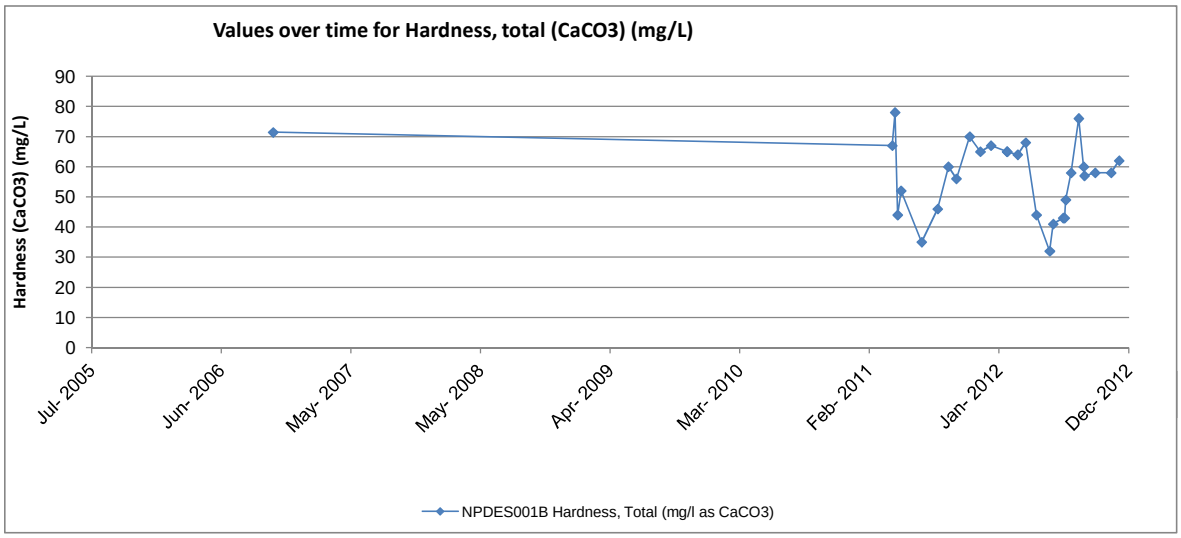

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
40
35
30
25
20
15
10
5
0
Sep- 2011
Dec- 2011
Mar- 2012
Jun- 2012
Sep- 2012
Dec- 2012
MW11-001B Zinc, Dissolved (ug/l as Zn)
Ground Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)
MW11-001A Zinc, Dissolved (ug/l as Zn)

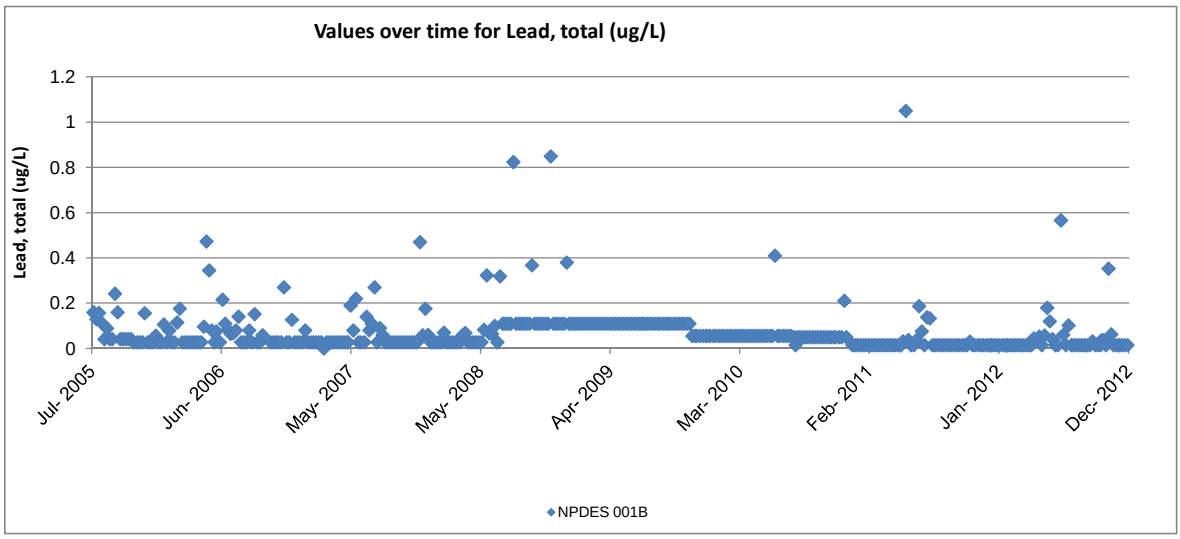

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Arsenic, Total (ug/l as As)

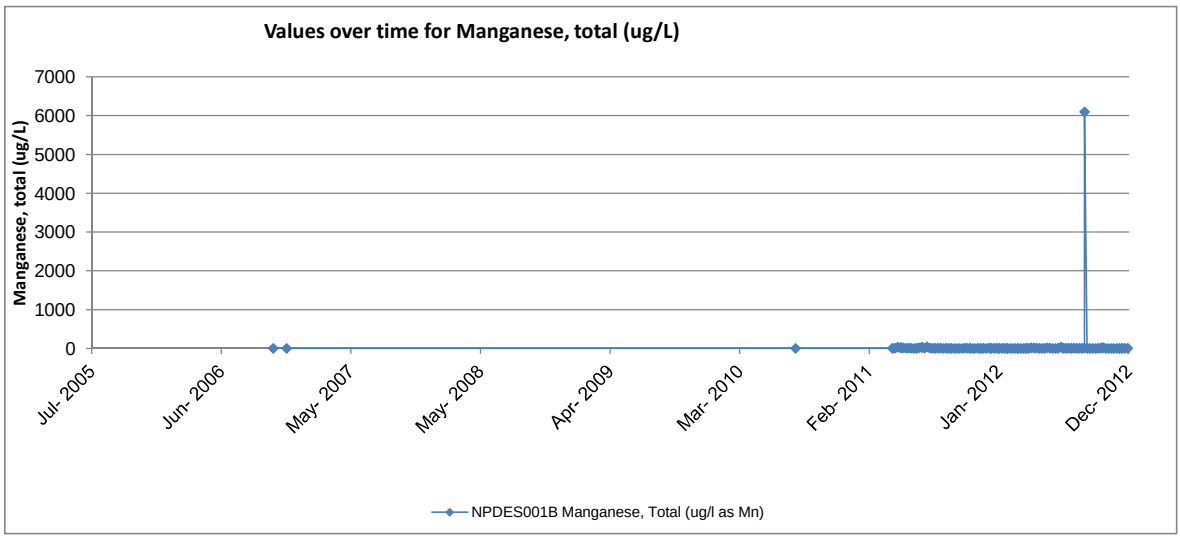

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Cadmium, Total (ug/l as Cd)

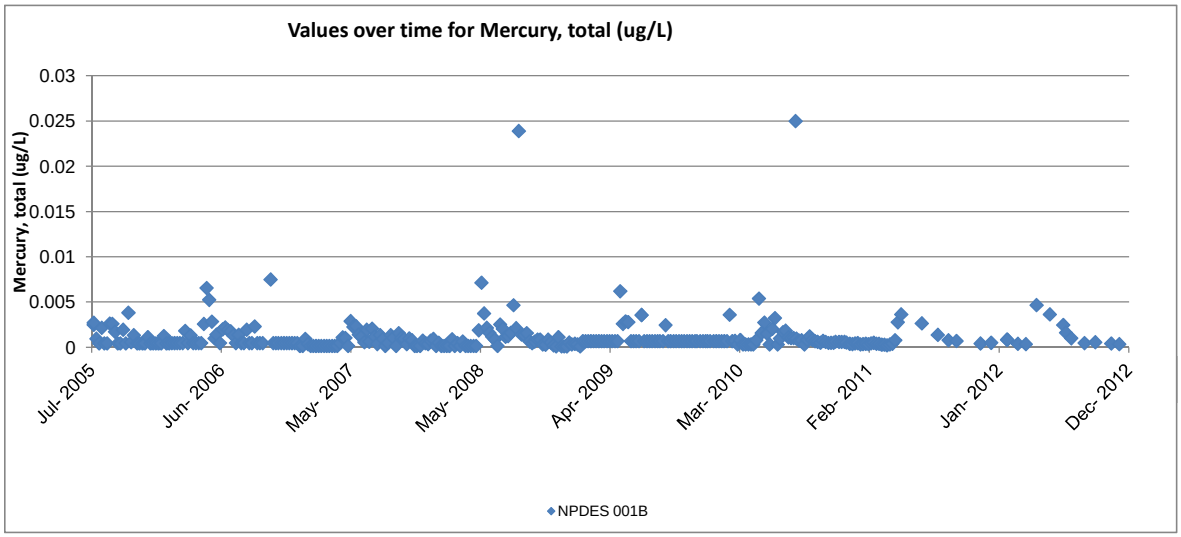

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Chromium, Total (ug/l as Cr)

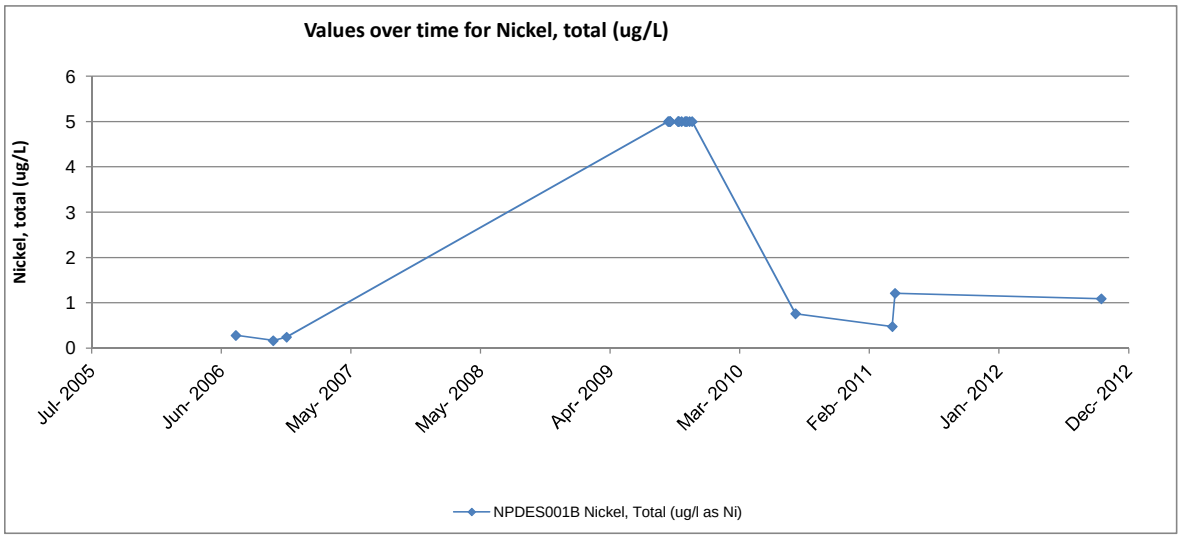

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
6
5
4
3
2
1
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Copper, Total (ug/l as Cu)

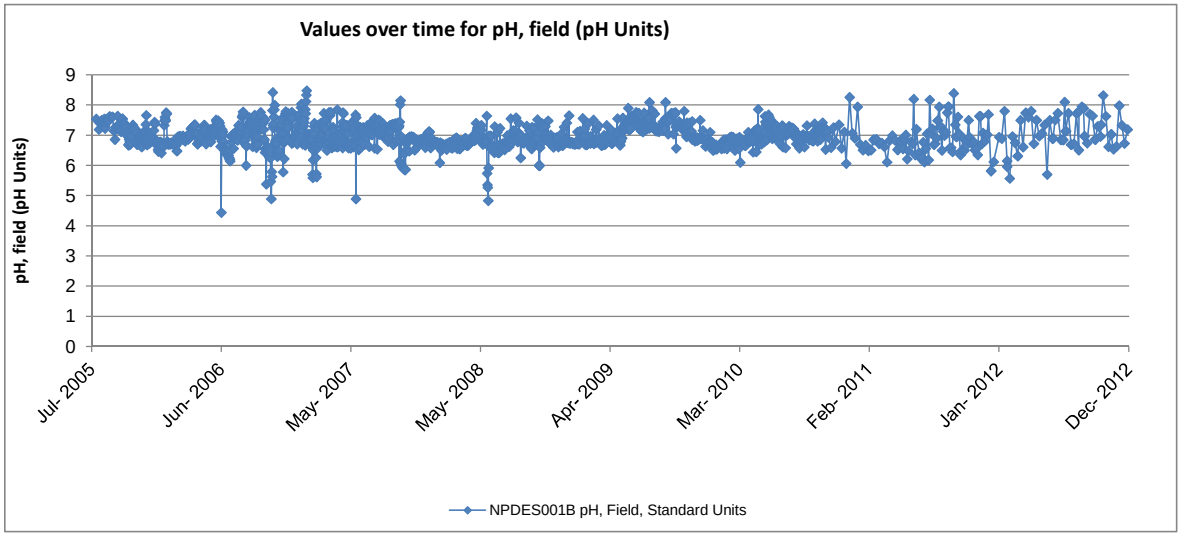

Values over time for Hardness, total (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
90
80
70
60
50
40
30
20
10
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Hardness, Total (mg/l as CaCO3)

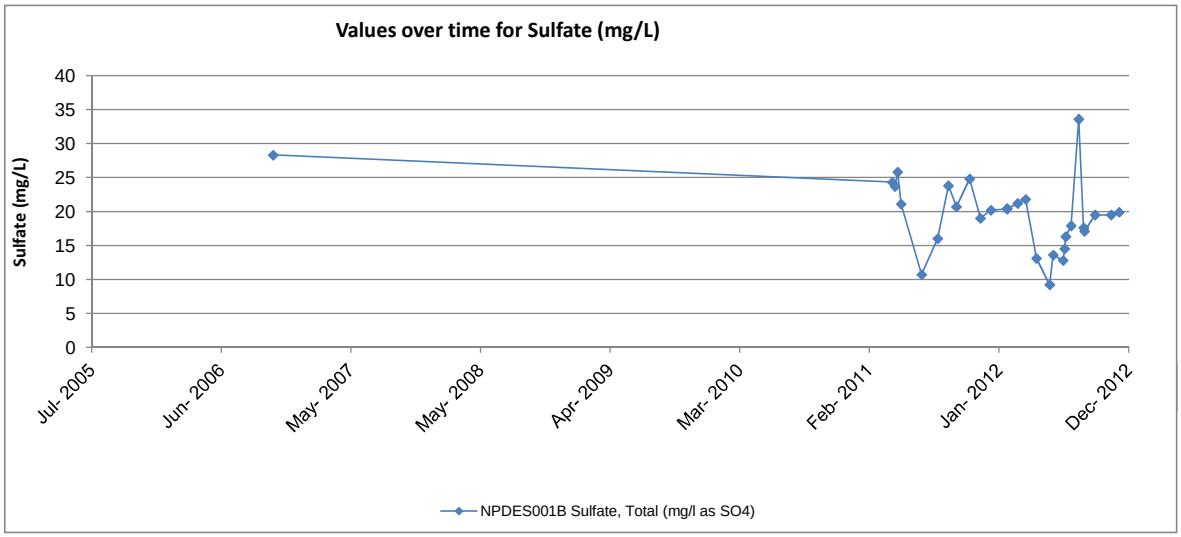

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
1.2
1
0.8
0.6
0.4
0.2
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES 001B

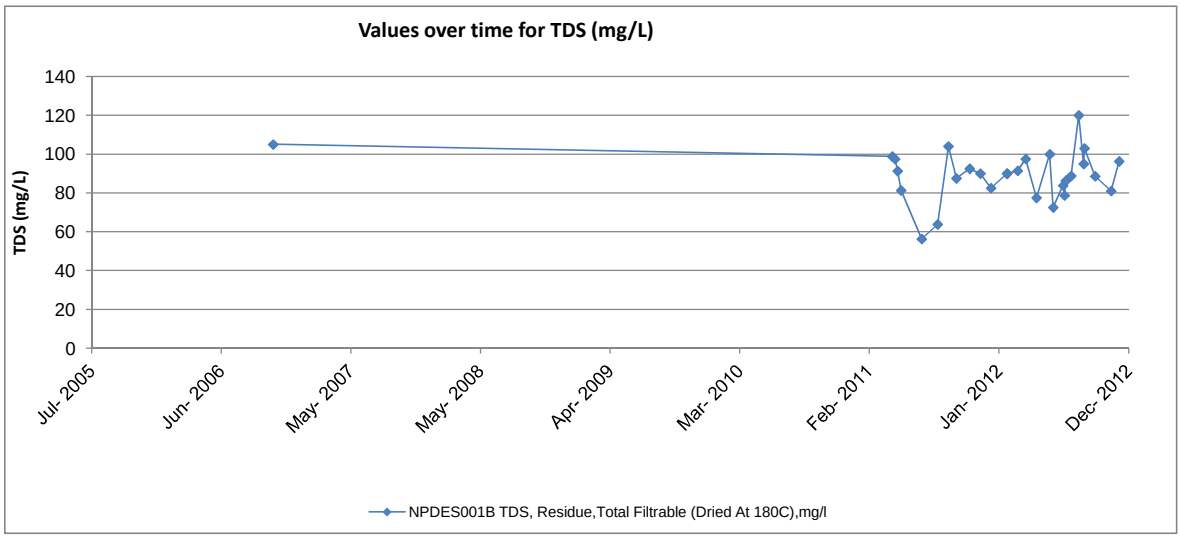

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
7000
6000
5000
4000
3000
2000
1000
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Manganese, Total (ug/l as Mn)

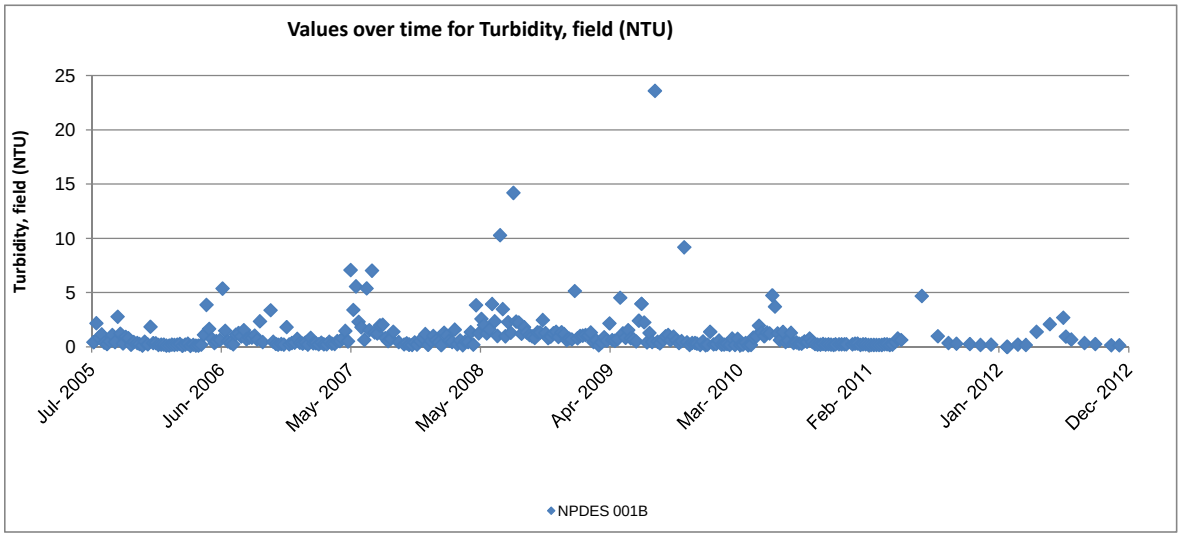

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.03
0.025
0.02
0.015
0.01
0.005
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES 001B

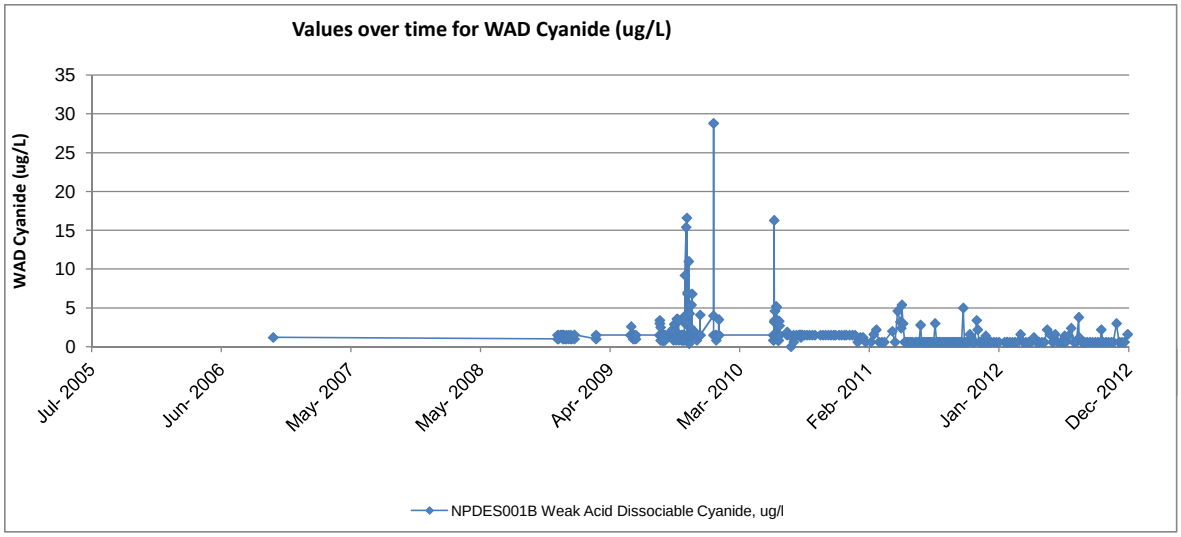

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
6
5
4
3
2
1
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Nickel, Total (ug/l as Ni)

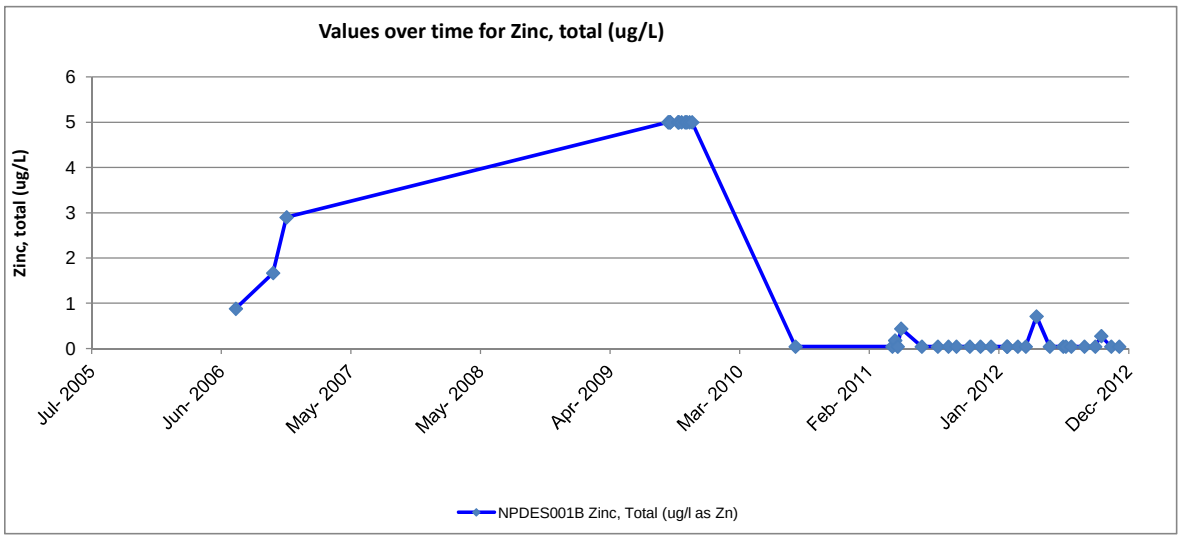

Values over time for pH, field (pH Units)
pH, field (pH Units)
9
8
7
6
5
4
3
2
1
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B pH, Field, Standard Units

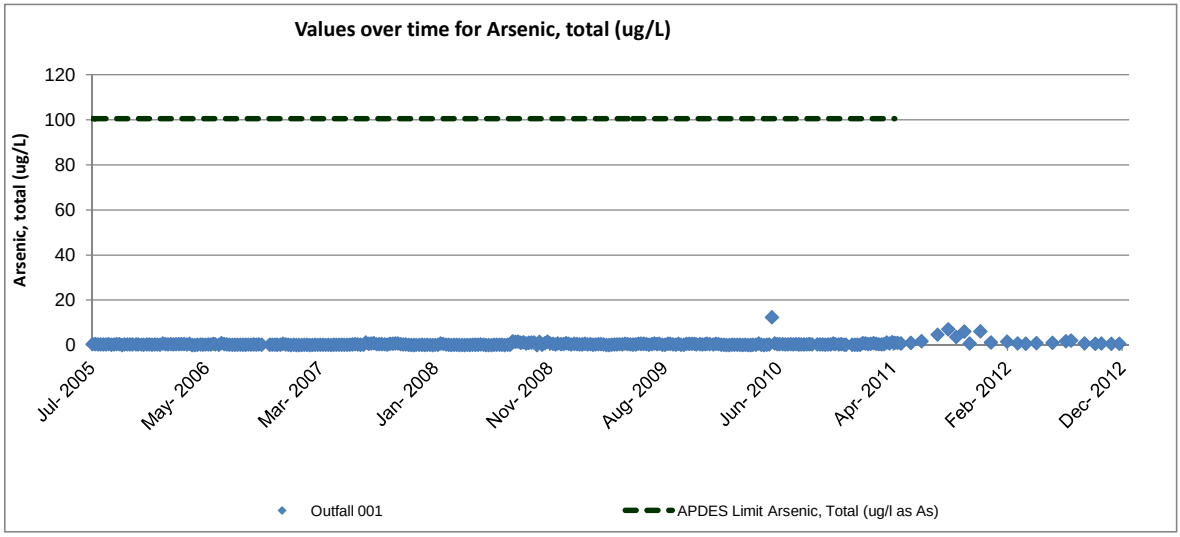

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
40
35
30
25
20
15
10
5
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Sulfate, Total (mg/l as SO4)

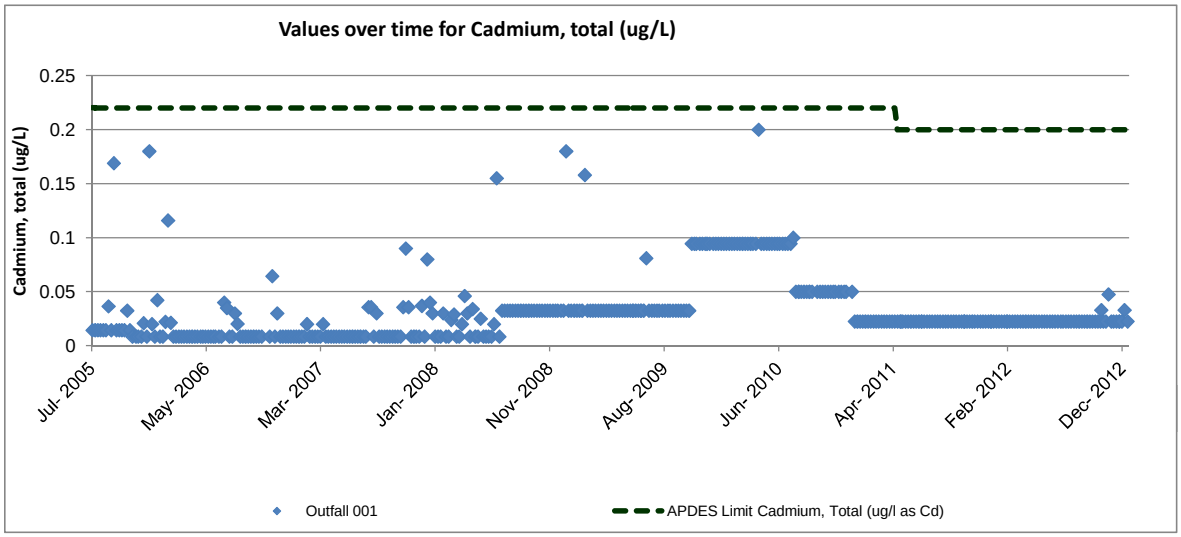

Values over time for TDS (mg/L)
TDS (mg/L)
140
120
100
80
60
40
20
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B TDS, Residue,Total Filtrable (Dried At 180C),mg/l

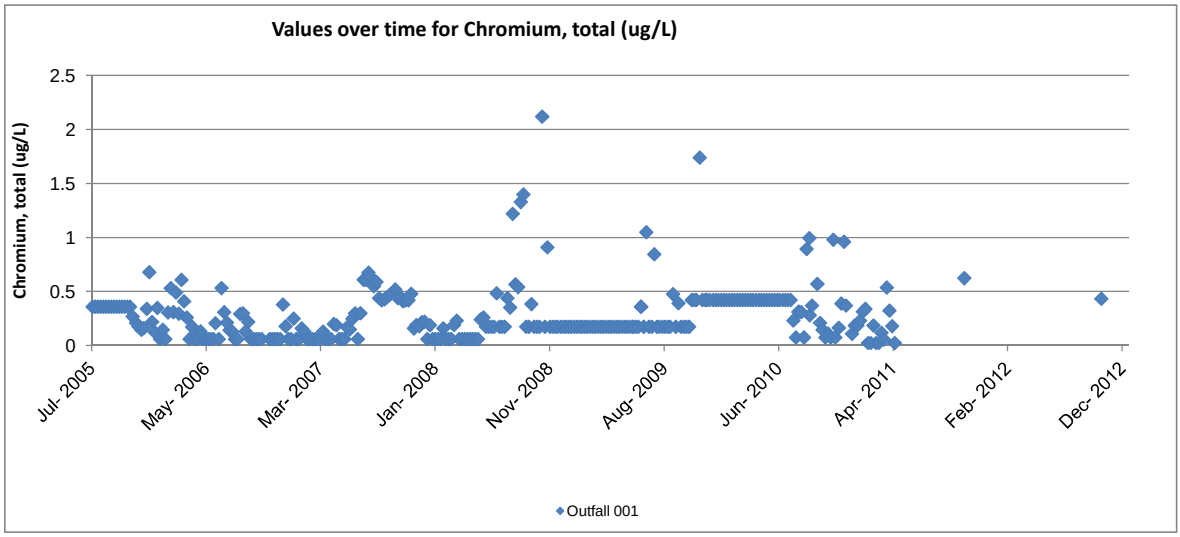

Values over time for Turbidity, field (NTU)
Turbidity, field (NTU)
25
20
15
10
5
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES 001B

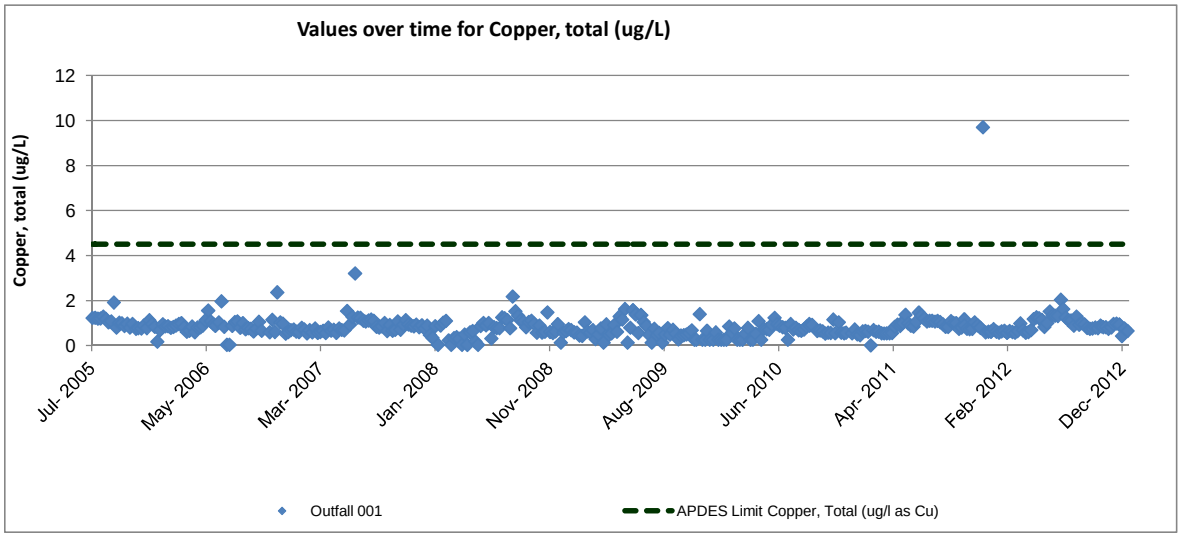

Values over time for WAD Cyanide (ug/L)
WAD Cyanide (ug/L)
35
30
25
20
15
10
5
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Weak Acid Dissociable Cyanide, ug/l

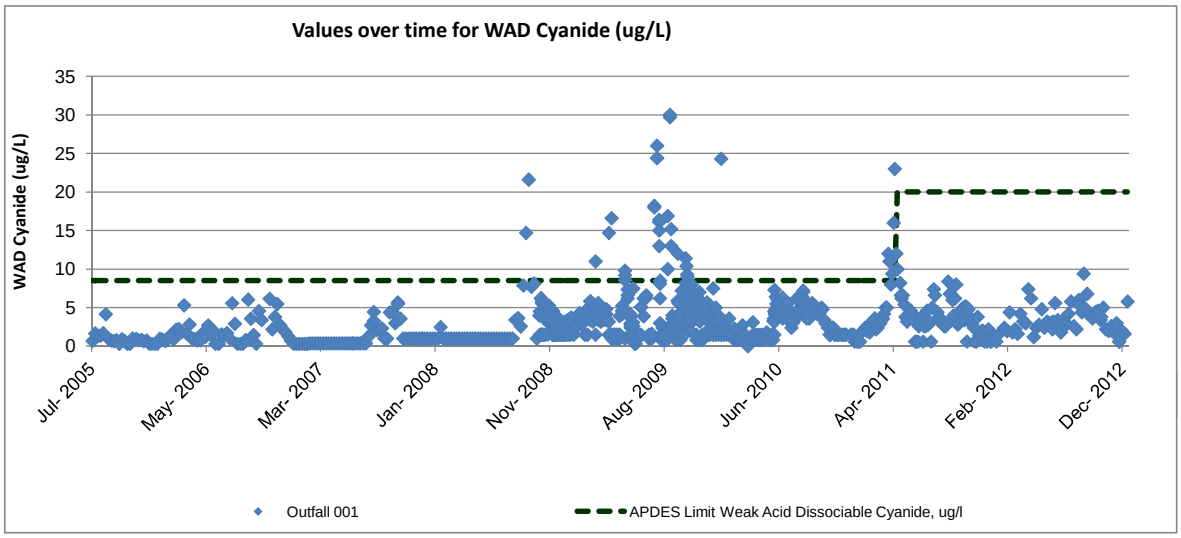

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
6
5
4
3
2
1
0
Jul- 2005
Jun- 2006
May- 2007
May- 2008
Apr- 2009
Mar- 2010
Feb- 2011
Jan- 2012
Dec- 2012
NPDES001B Zinc, Total (ug/l as Zn)

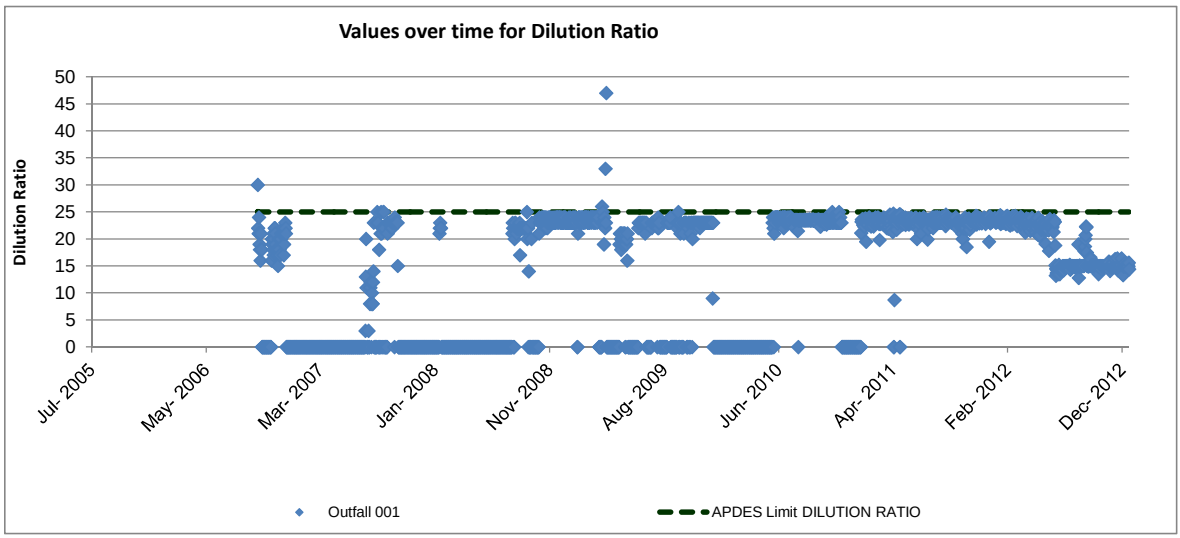

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
120
100
80
60
40
20
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Arsenic, Total (ug/l as As)

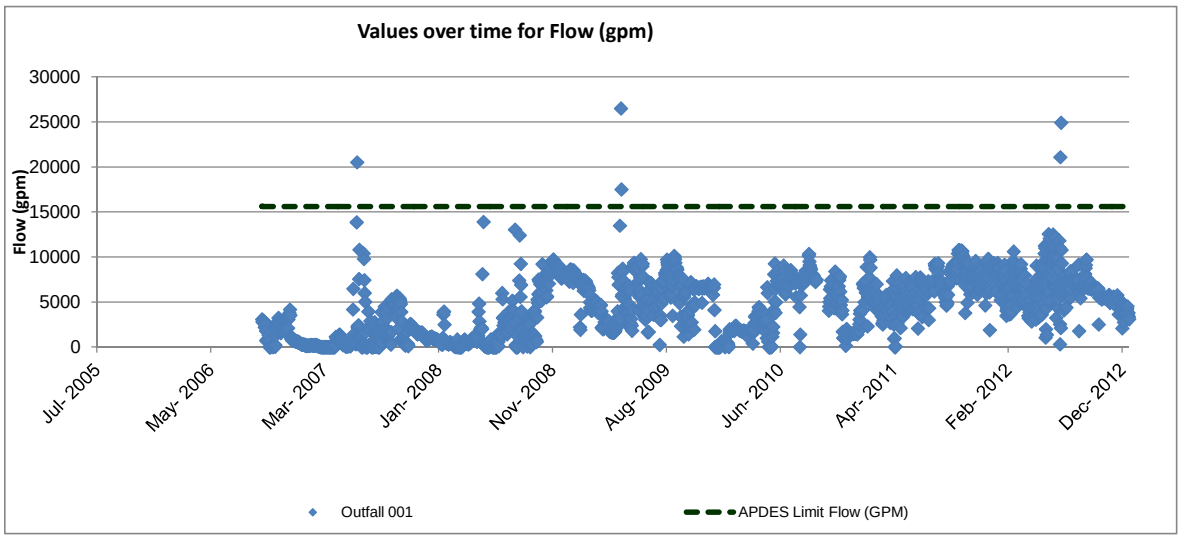

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
0.25
0.2
0.15
0.1
0.05
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Cadmium, Total (ug/l as Cd)

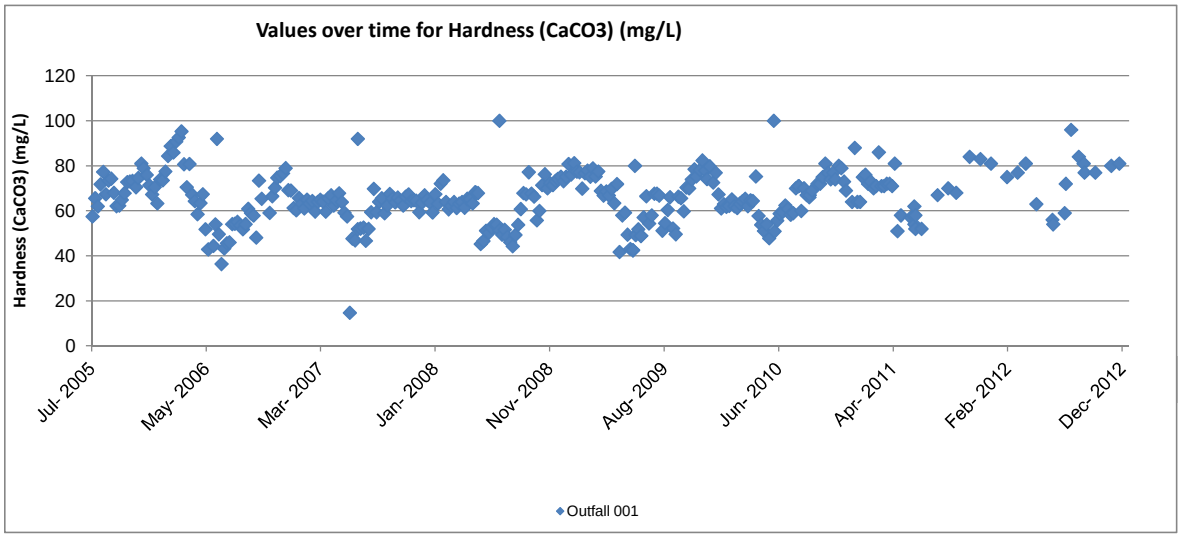

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
2.5
2
1.5
1
0.5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001

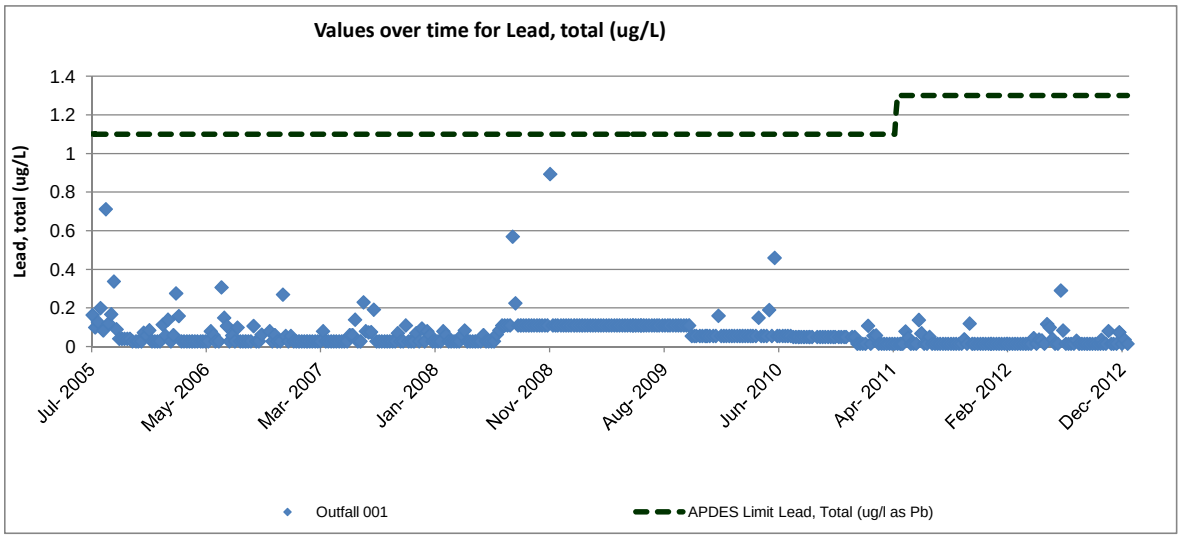

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
12
10
8
6
4
2
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Copper, Total (ug/l as Cu)

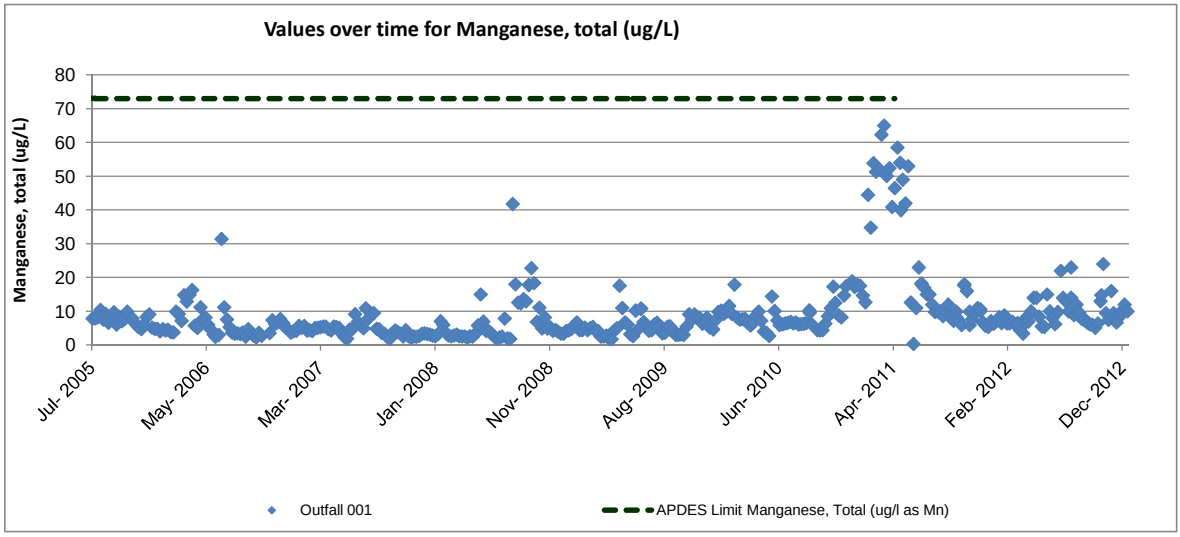

Values over time for WAD Cyanide (ug/L)
WAD Cyanide (ug/L)
35
30
25
20
15
10
5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Weak Acid Dissociable Cyanide, ug/l

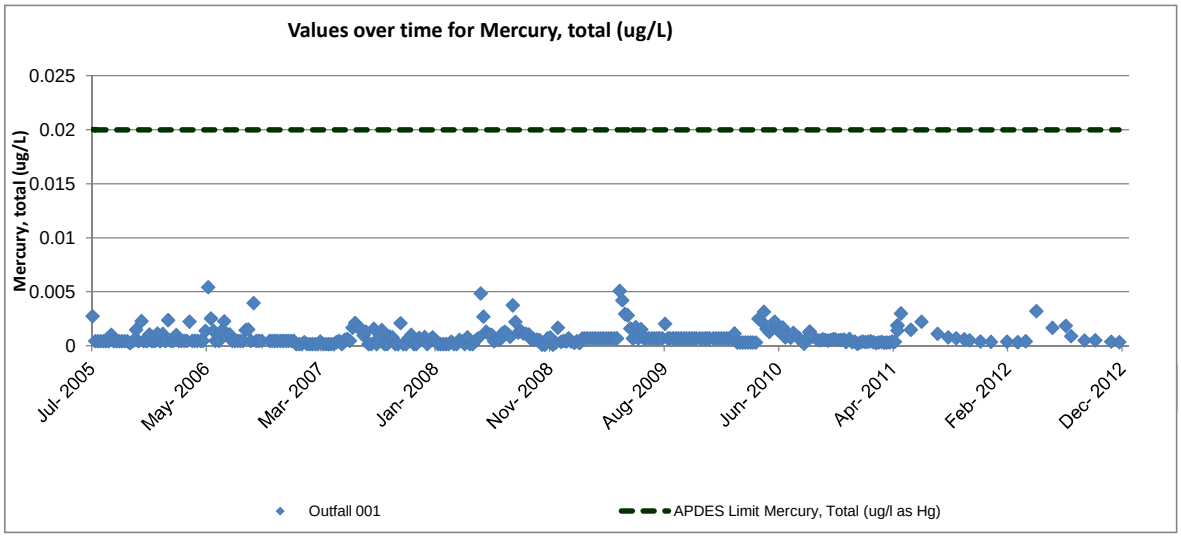

Values over time for Dilution Ratio
Dilution Ratio
50
45
40
35
30
25
20
15
10
5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit DILUTION RATIO

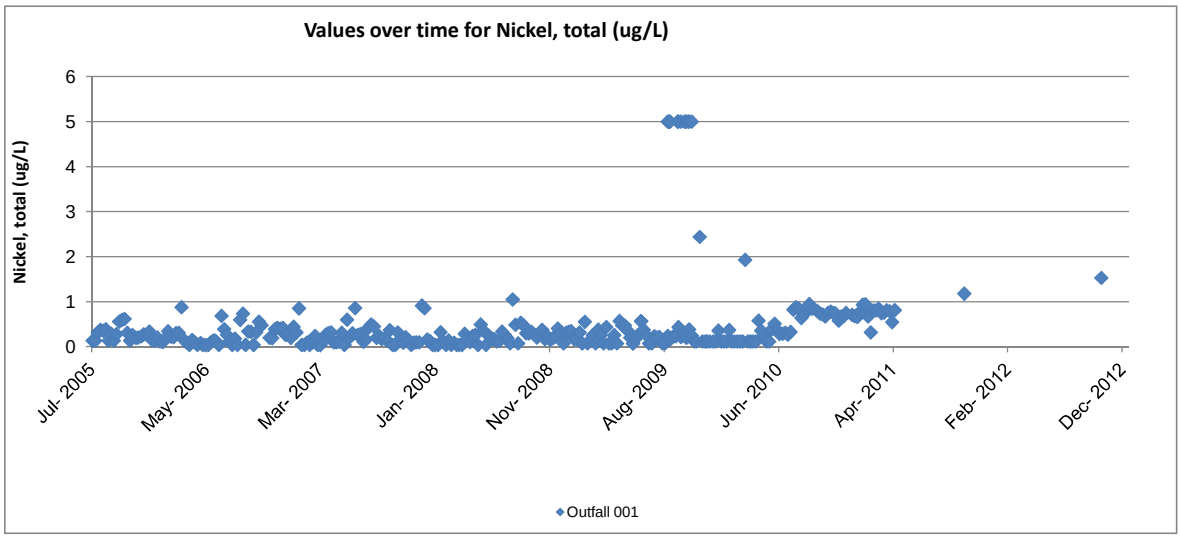

Values over time for Flow (gpm)
Flow (gpm)
30000
25000
20000
15000
10000
5000
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Flow (GPM)

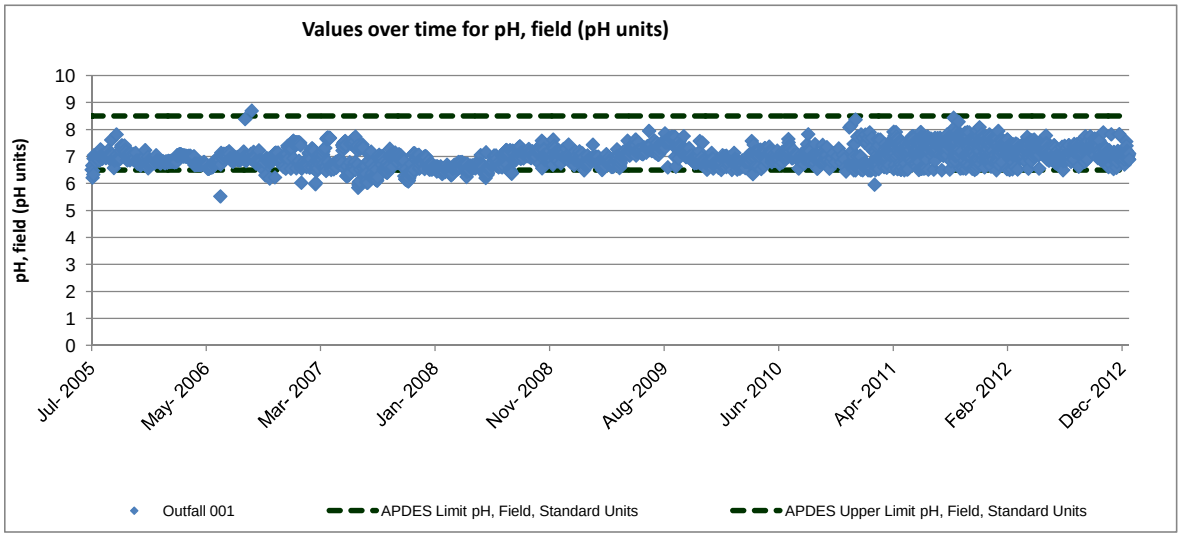

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
120
100
80
60
40
20
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001

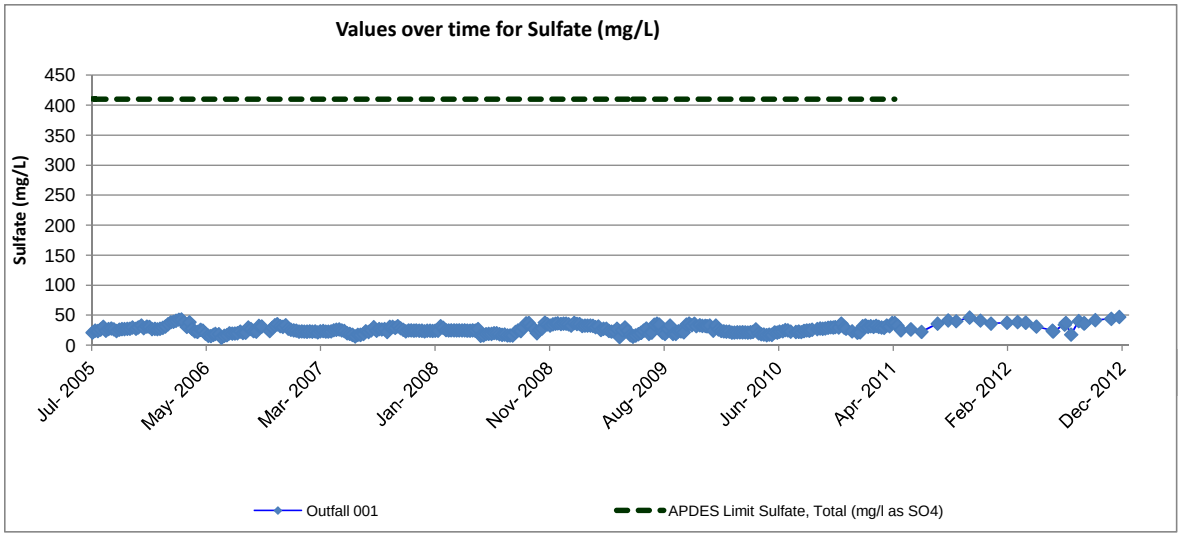

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Lead, Total (ug/l as Pb)

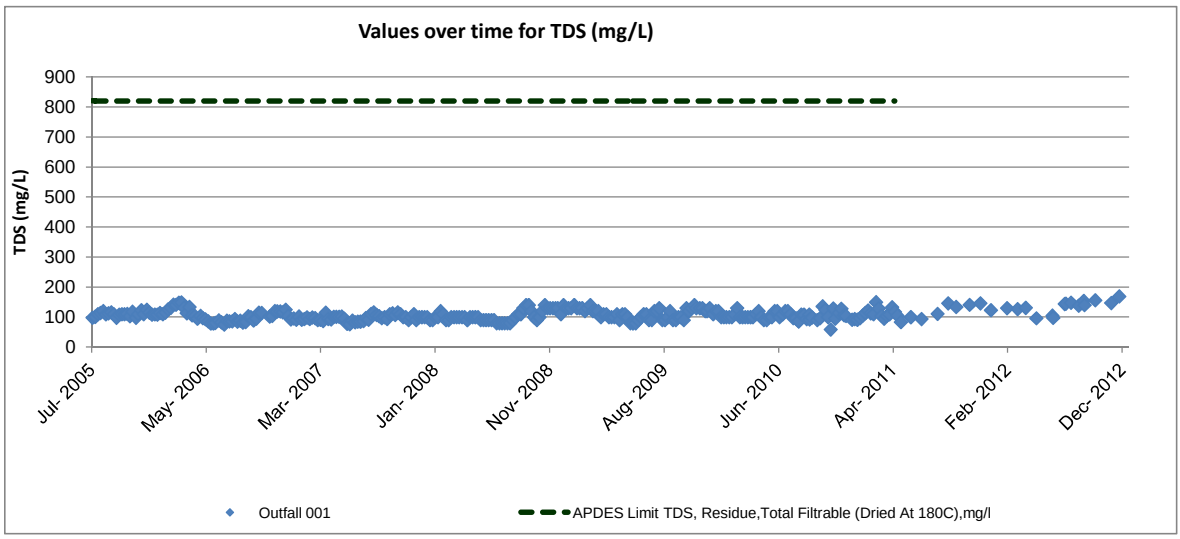

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
80
70
60
50
40
30
20
10
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Manganese, Total (ug/l as Mn)

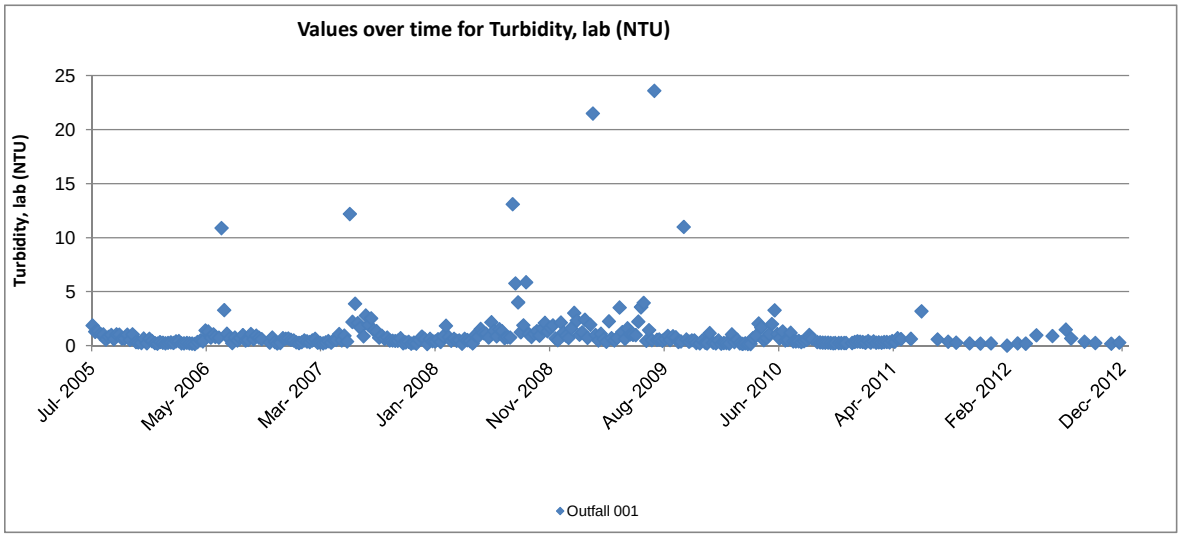

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.025
0.02
0.015
0.01
0.005
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Mercury, Total (ug/l as Hg)

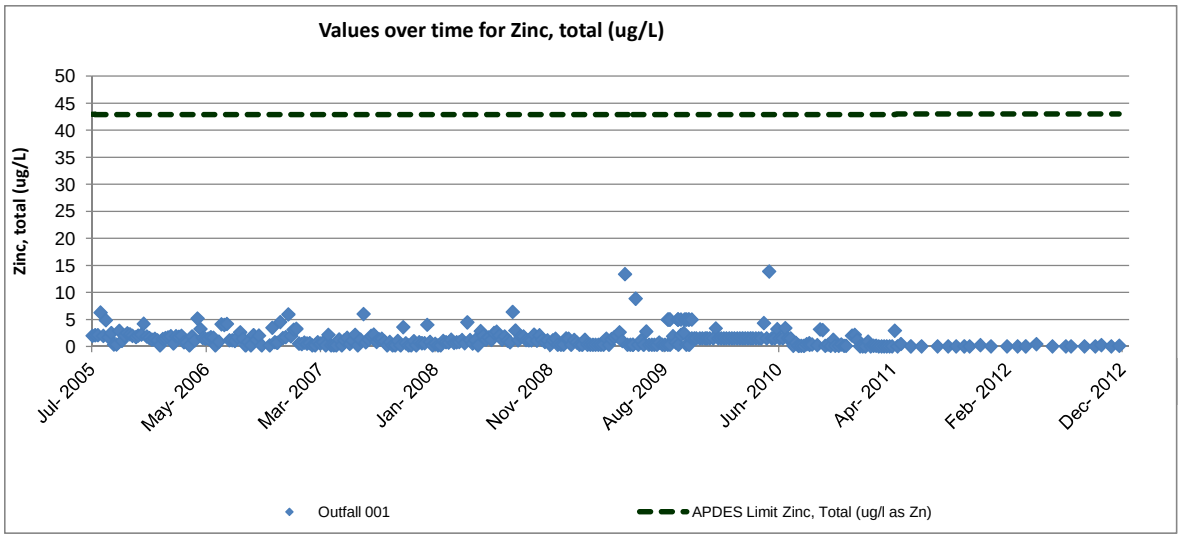

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
6
5
4
3
2
1
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001

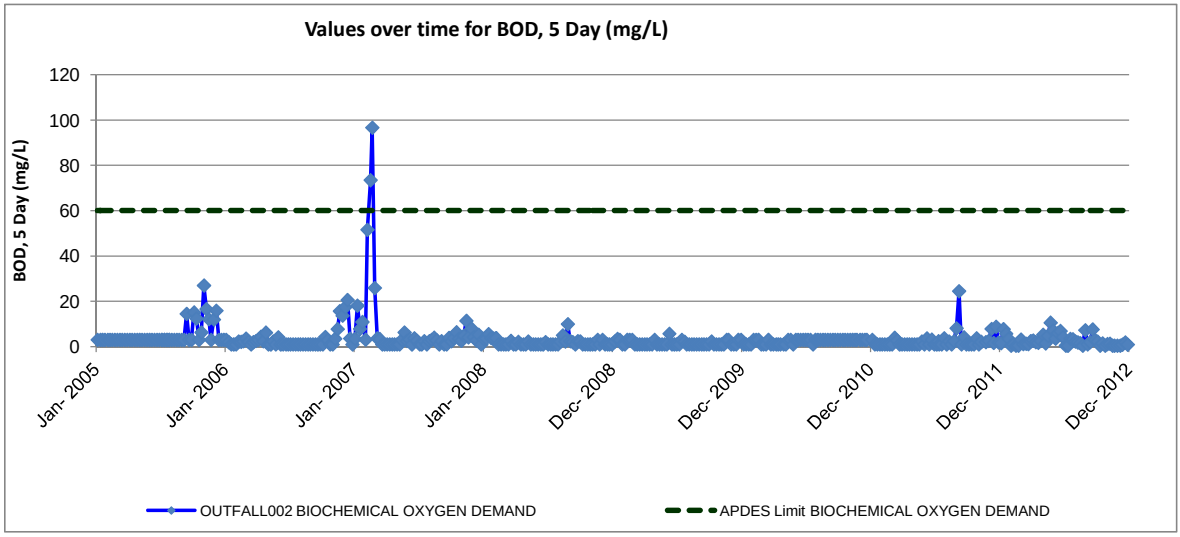

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

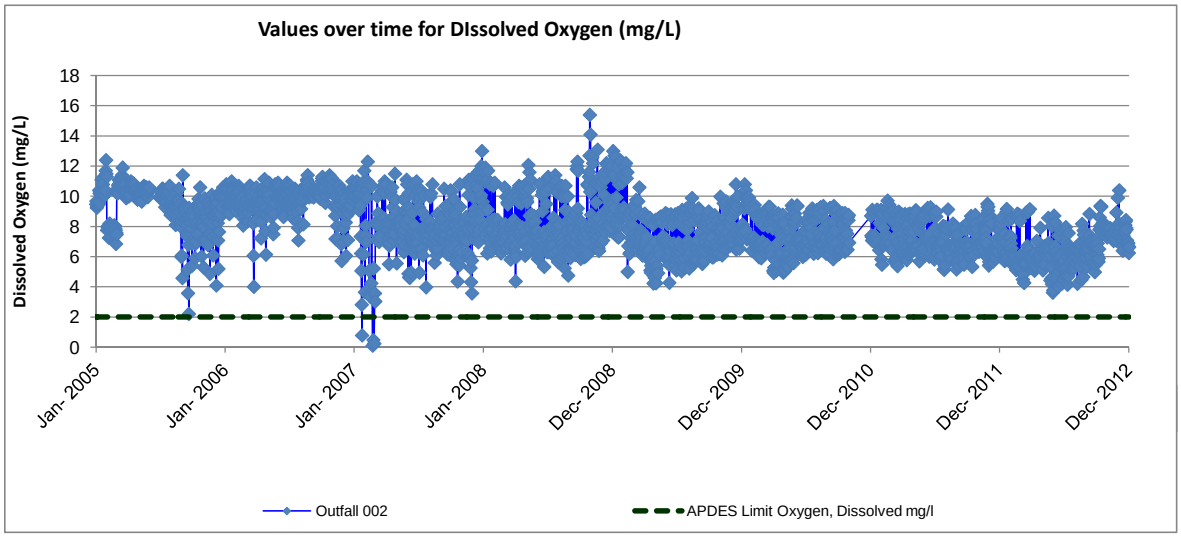

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
450
400
350
300
250
200
150
100
50
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Sulfate, Total (mg/l as SO4)

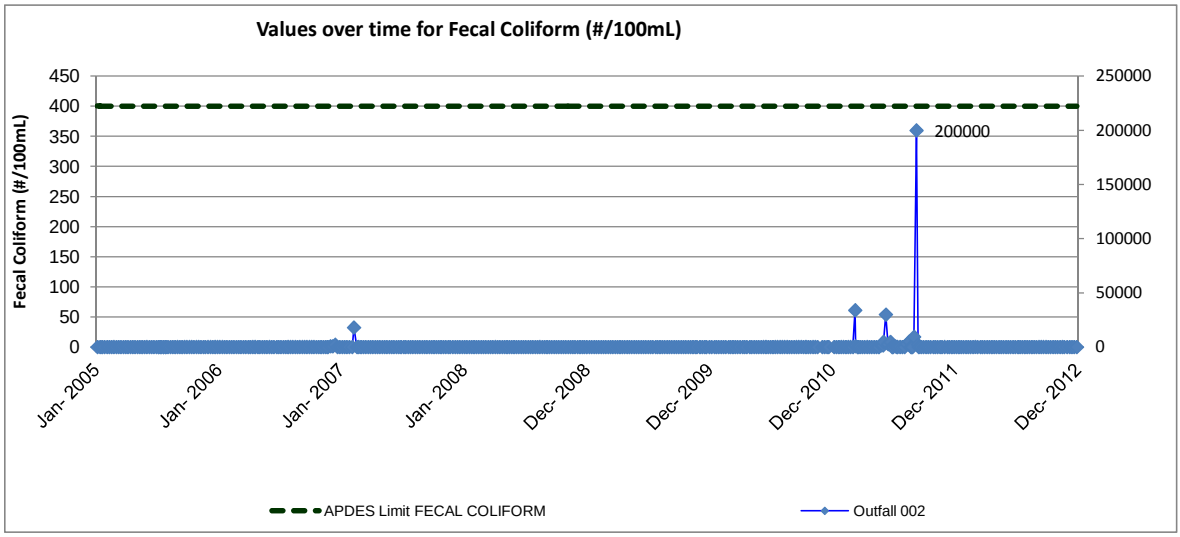

Values over time for TDS (mg/L)
TDS (mg/L)
900
800
700
600
500
400
300
200
100
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l

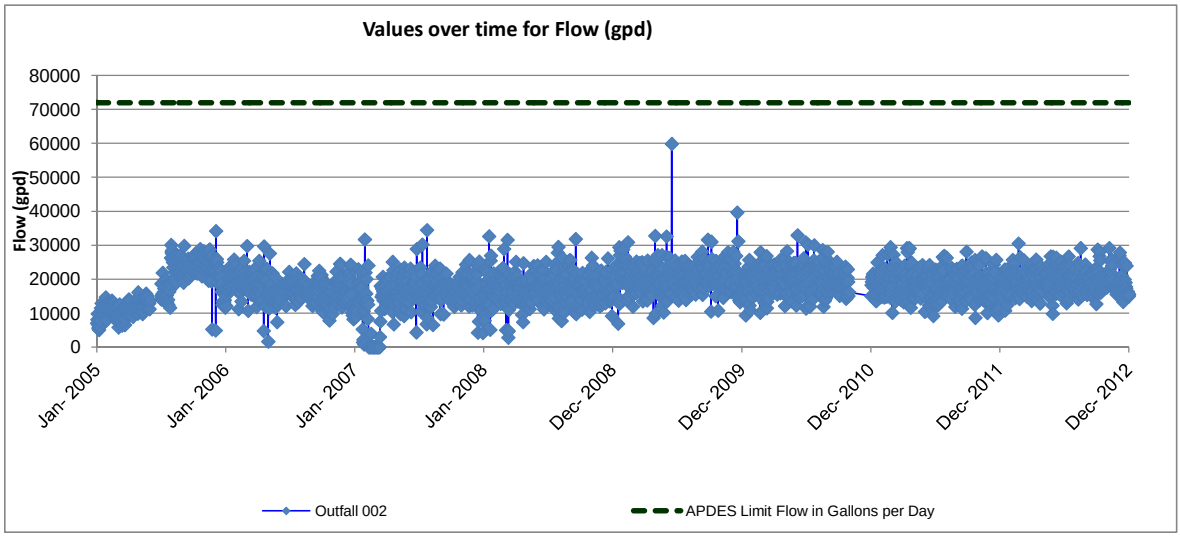

Values over time for Turbidity, lab (NTU)
Turbidity, lab (NTU)
25
20
15
10
5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001

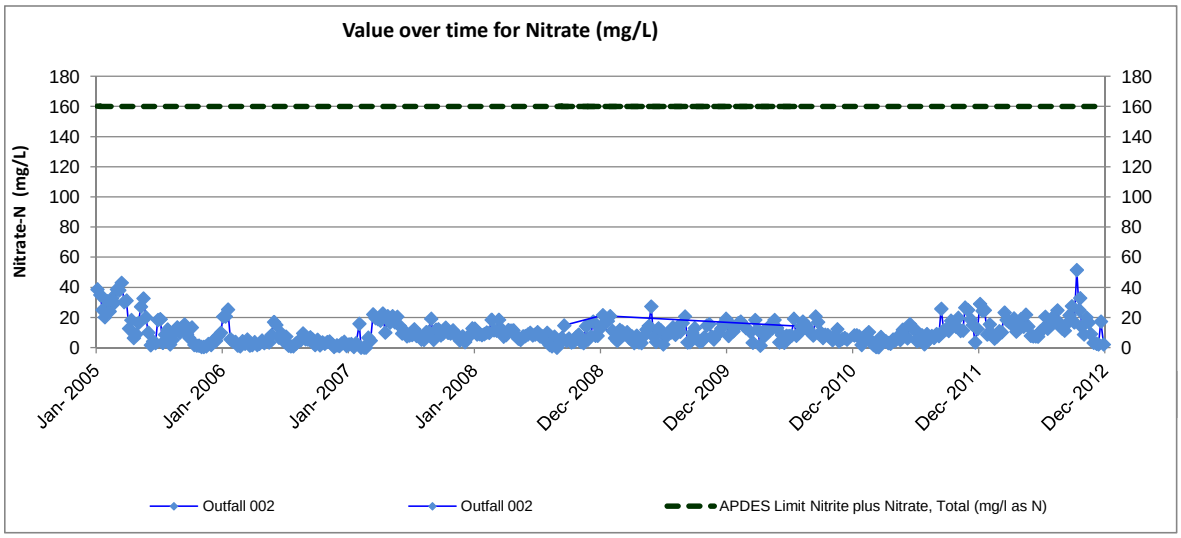

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 001
APDES Limit Zinc, Total (ug/l as Zn)

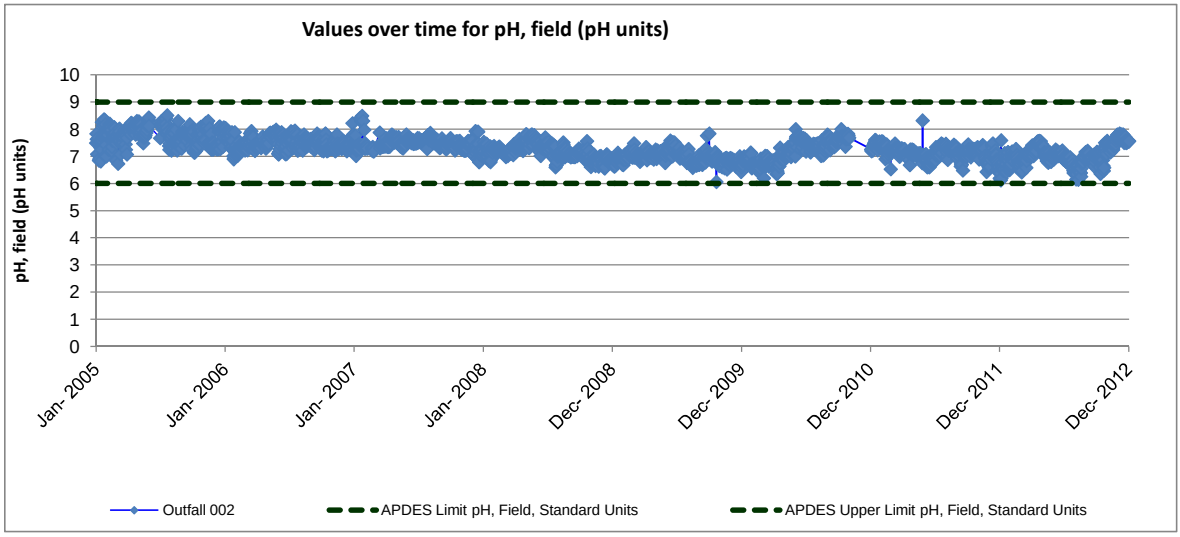

Values over time for BOD, 5 Day (mg/L)
BOD, 5 Day (mg/L)
120
100
80
60
40
20
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
OUTFALL002 BIOCHEMICAL OXYGEN DEMAND
APDES Limit BIOCHEMICAL OXYGEN DEMAND

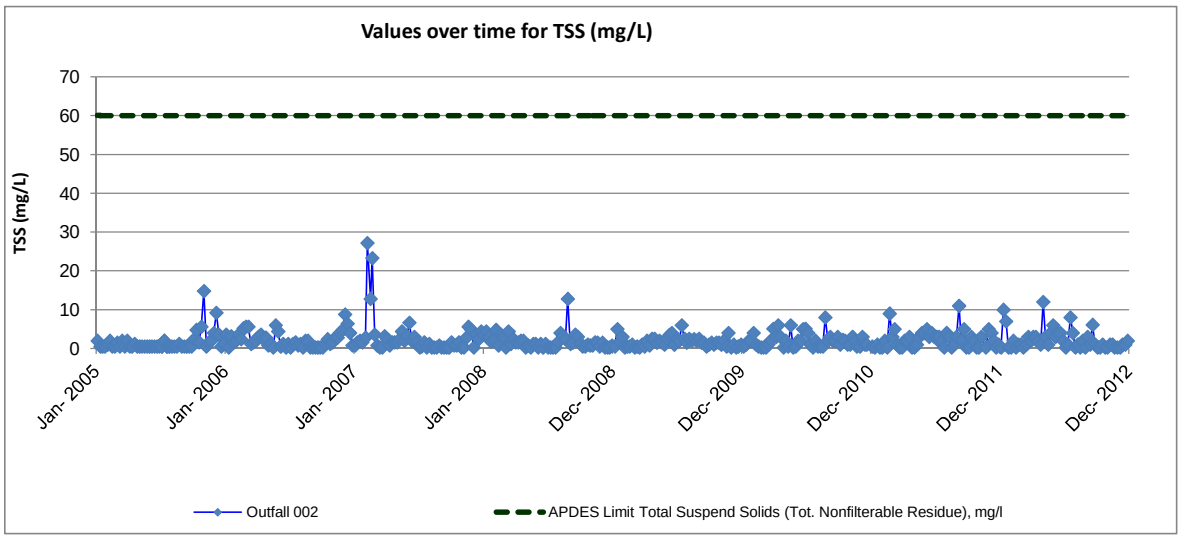

Values over time for DIssolved Oxygen (mg/L)
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
Outfall 002
APDES Limit Oxygen, Dissolved mg/l

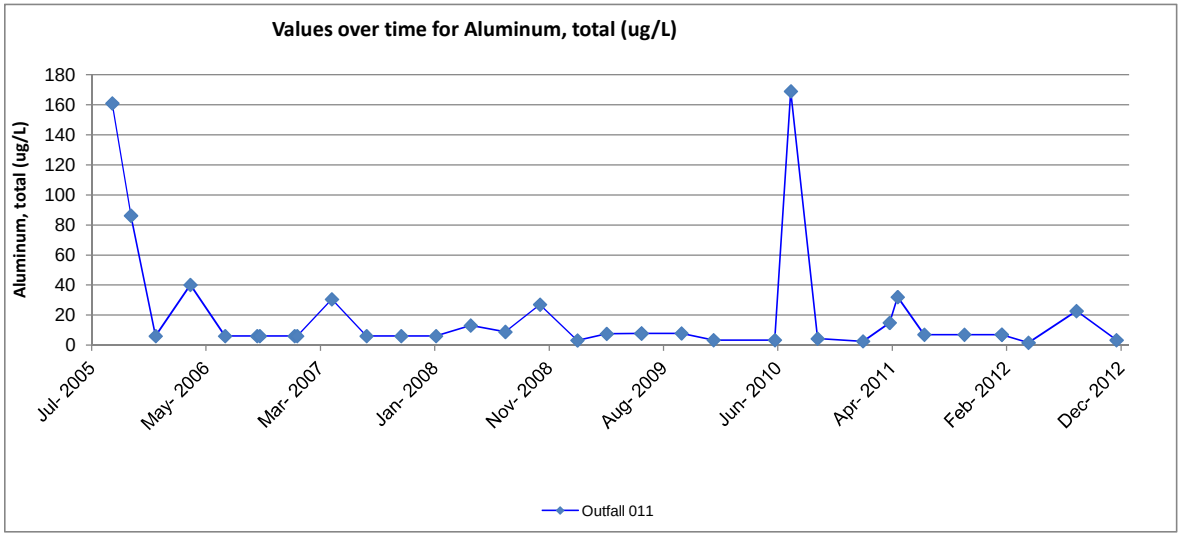

Values over time for Fecal Coliform (#/100mL)
Fecal Coliform (#/100mL)
450
400
350
300
250
200
150
100
50
0
250000
200000
150000
100000
50000
0
200000
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
APDES Limit FECAL COLIFORM
Outfall 002

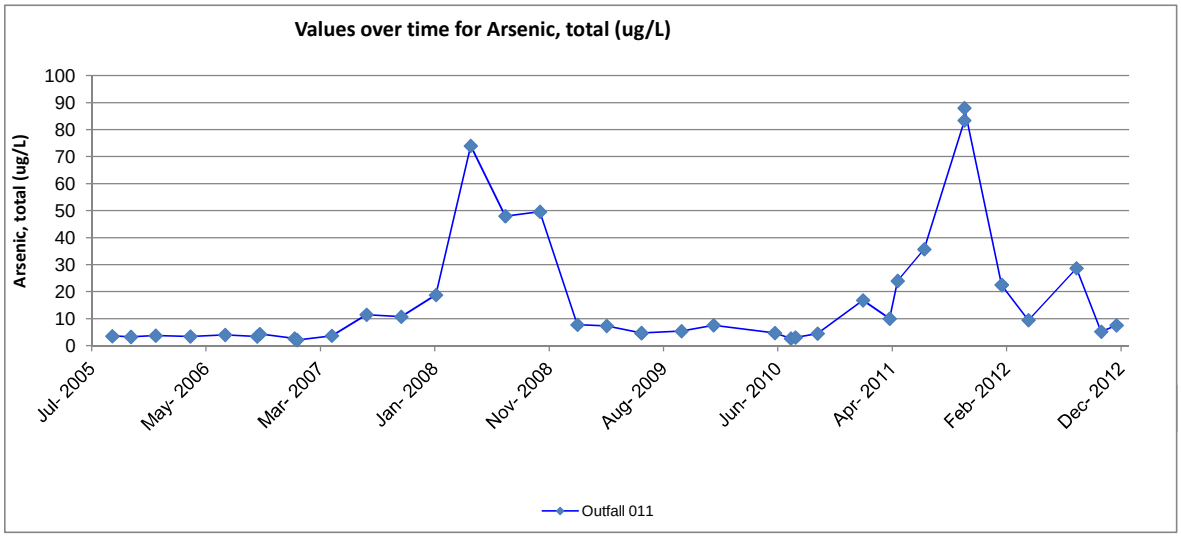

Values over time for Flow (gpd)
Flow (gpd)
80000
70000
60000
50000
40000
30000
20000
10000
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
Outfall 002
APDES Limit Flow in Gallons per Day

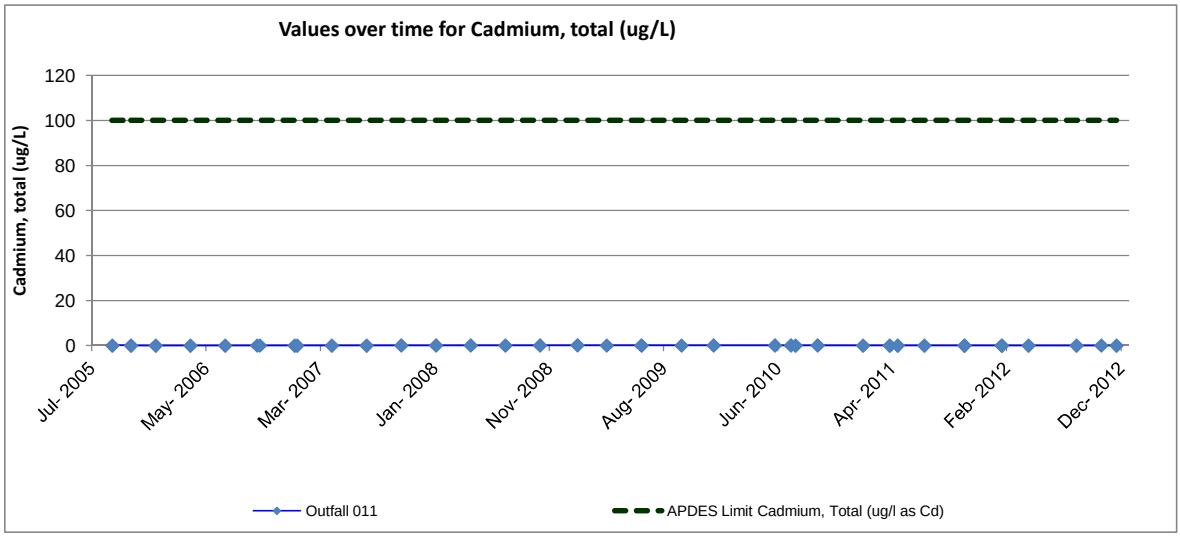

Value over time for Nitrate (mg/L)
Nitrate-N (mg/L)
180
160
140
120
100
80
60
40
20
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
Outfall 002
Outfall 002
APDES Limit Nitrite plus Nitrate, Total (mg/l as N)

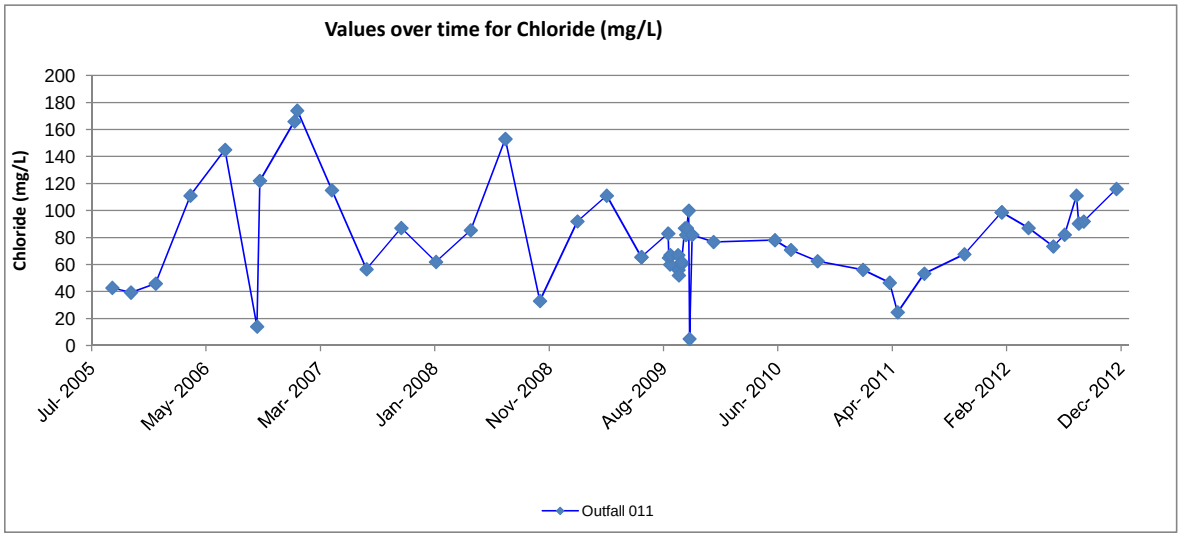

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
Outfall 002
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

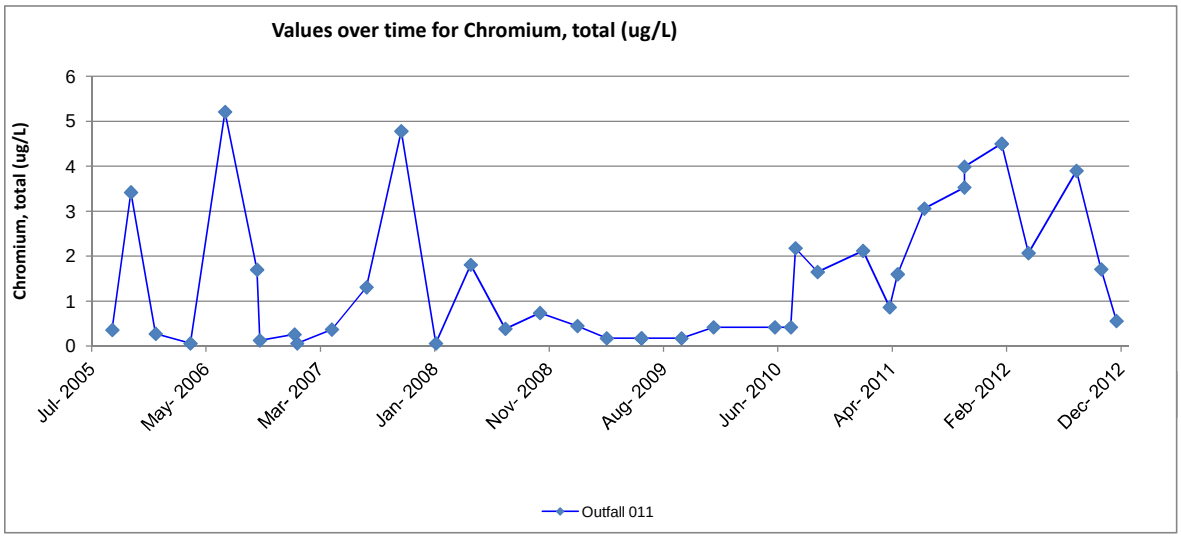

Values over time for TSS (mg/L)
TSS (mg/L)
70
60
50
40
30
20
10
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
Outfall 002
APDES Limit Total Suspend Solids (Tot. Nonfilterable Residue), mg/l

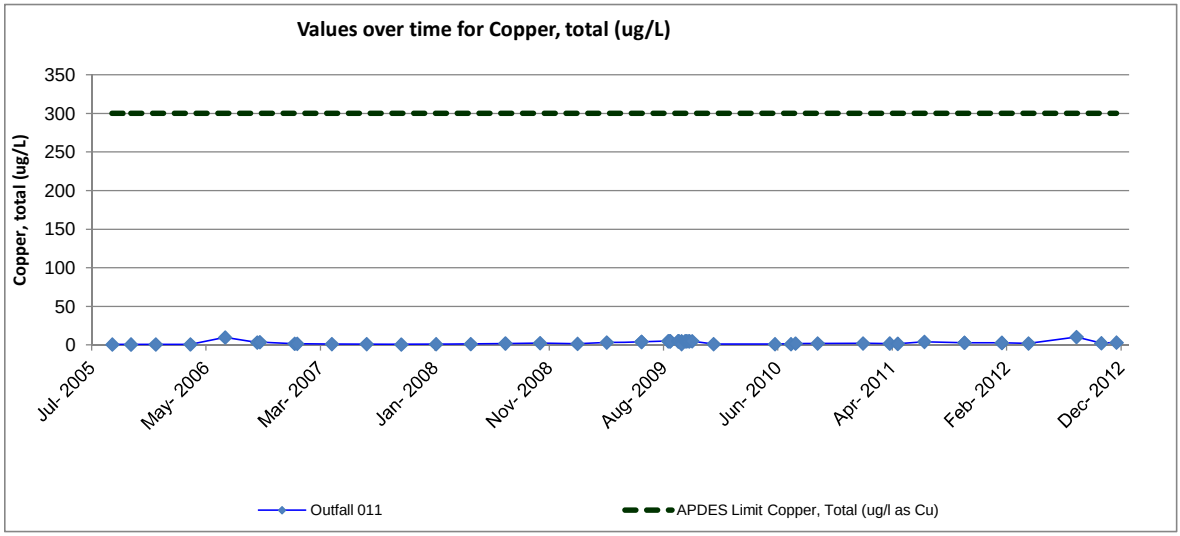

Values over time for Aluminum, total (ug/L)
Aluminum, total (ug/L)
180
160
140
120
100
80
60
40
20
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

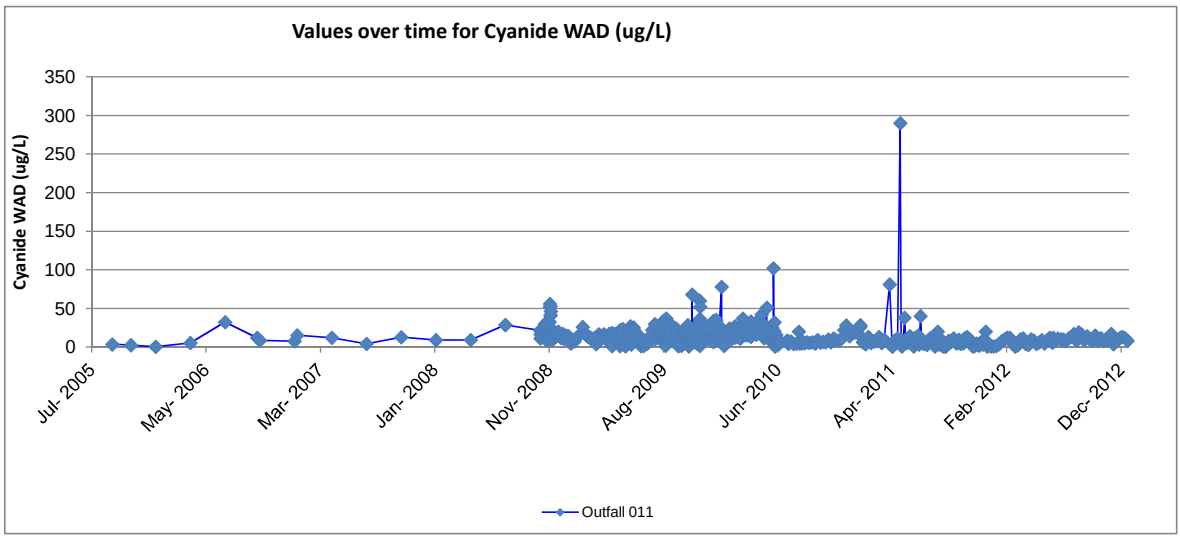

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

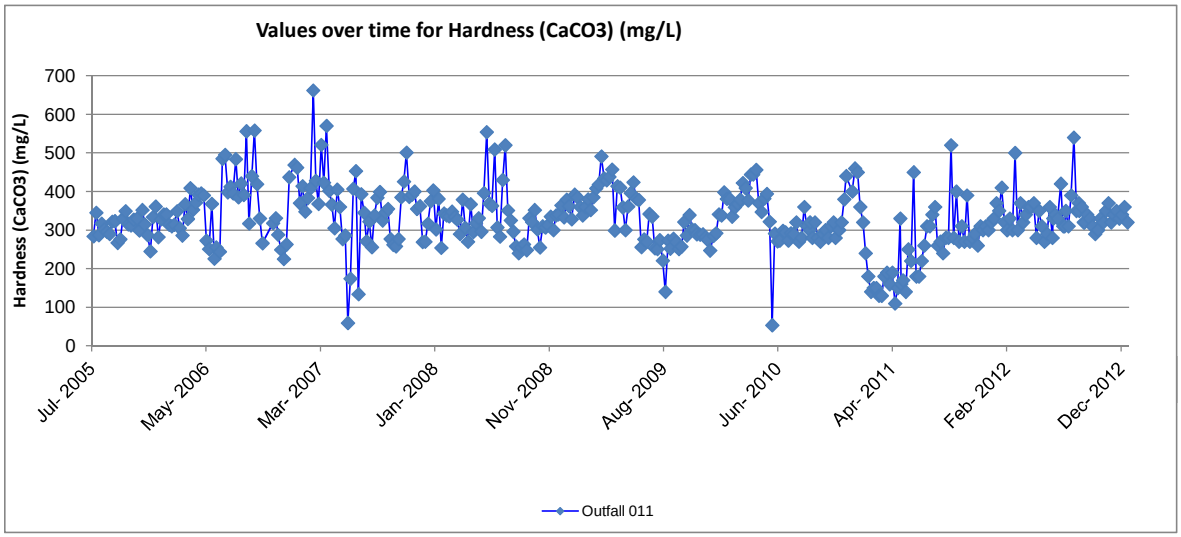

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
120
100
80
60
40
20
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Cadmium, Total (ug/l as Cd)

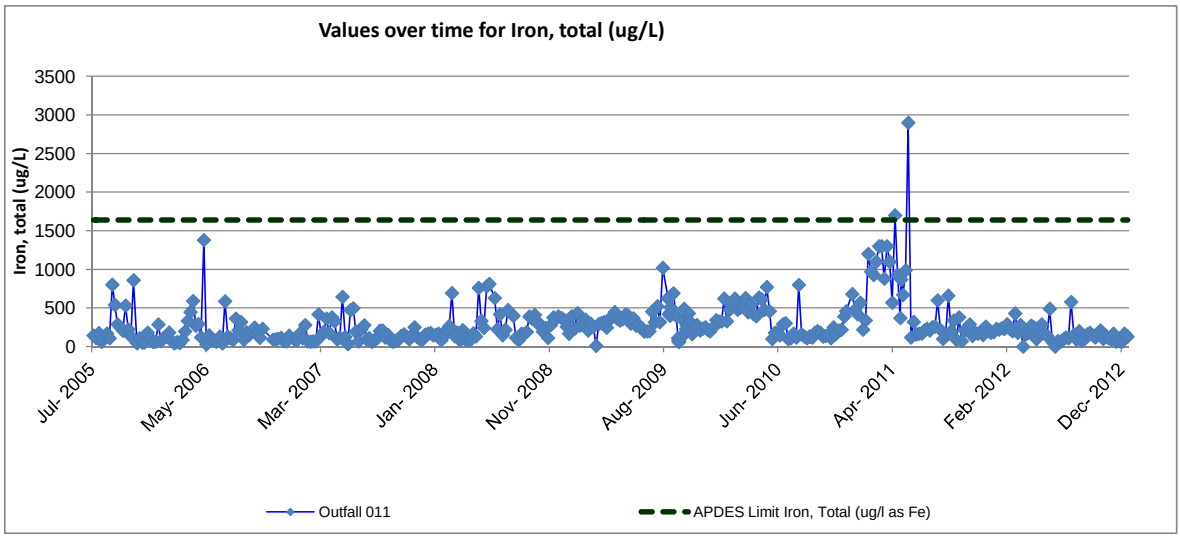

Values over time for Chloride (mg/L)
Chloride (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

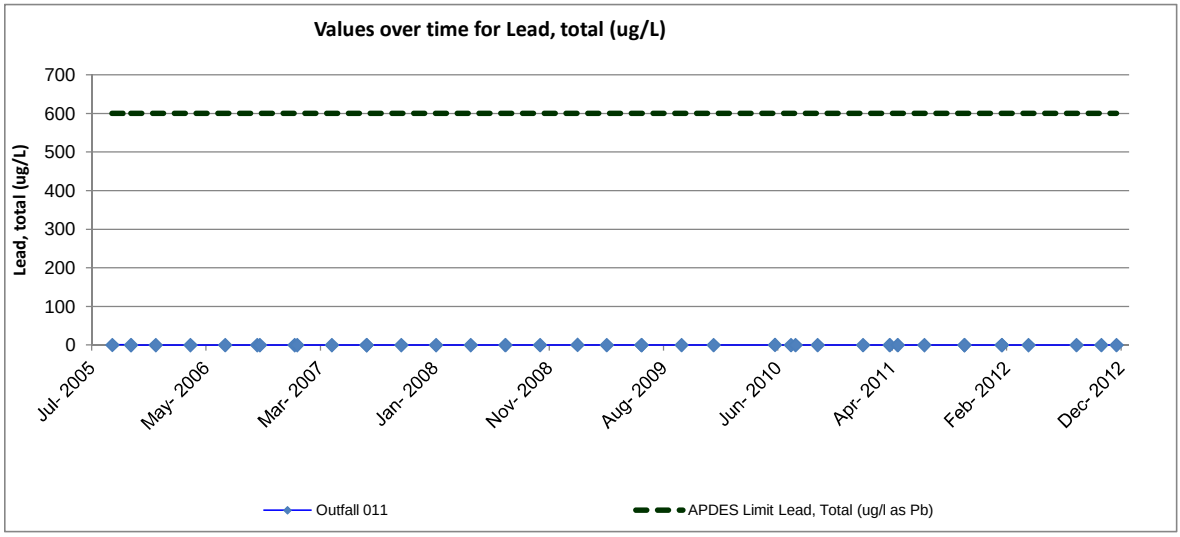

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
6
5
4
3
2
1
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

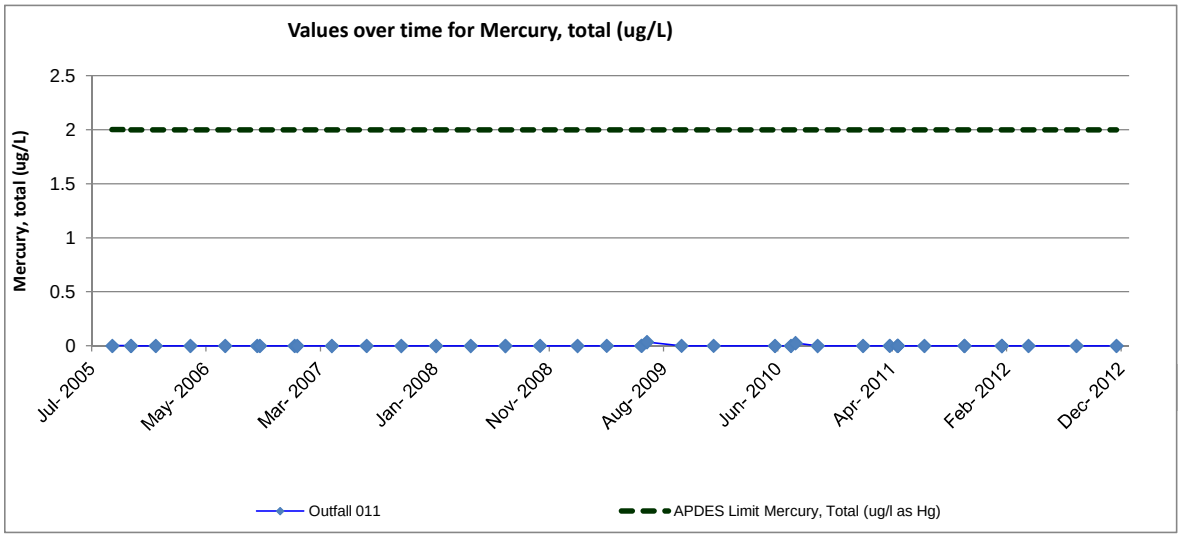

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
350
300
250
200
150
100
50
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Copper, Total (ug/l as Cu)

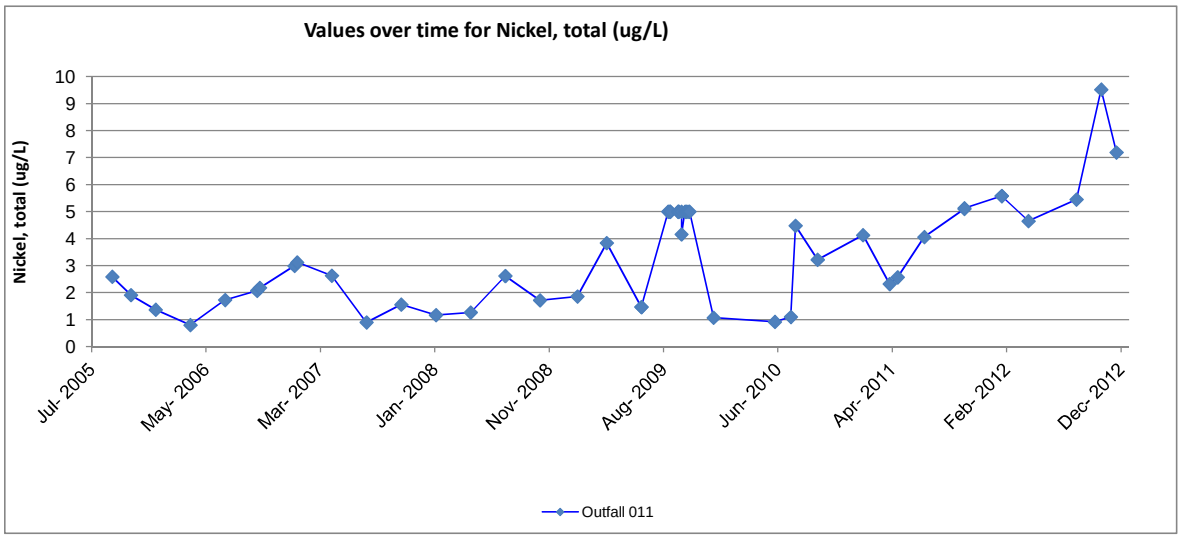

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
350
300
250
200
150
100
50
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

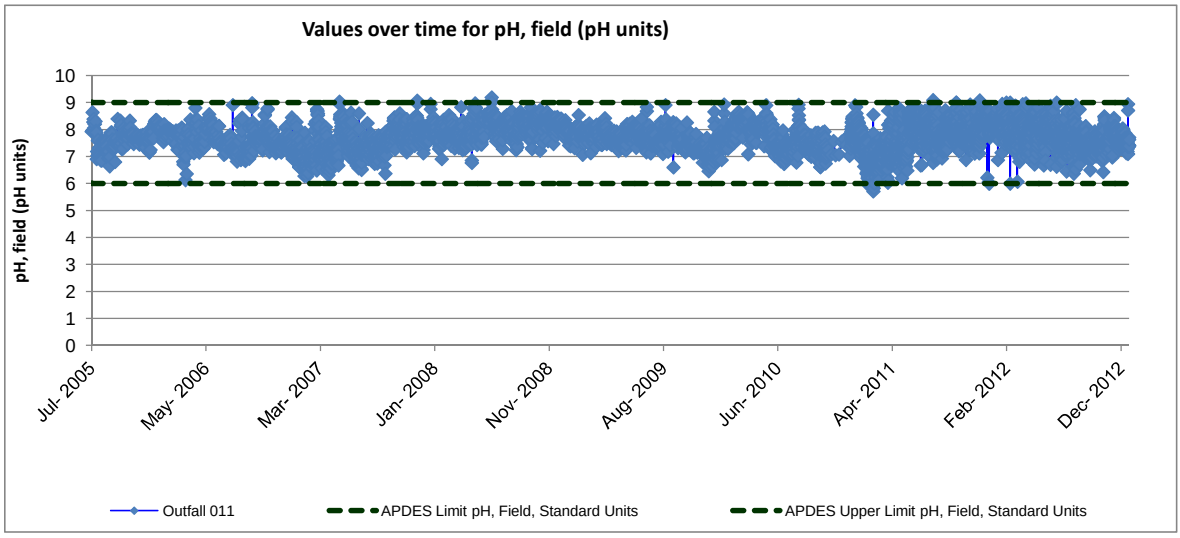

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
700
600
500
400
300
200
100
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

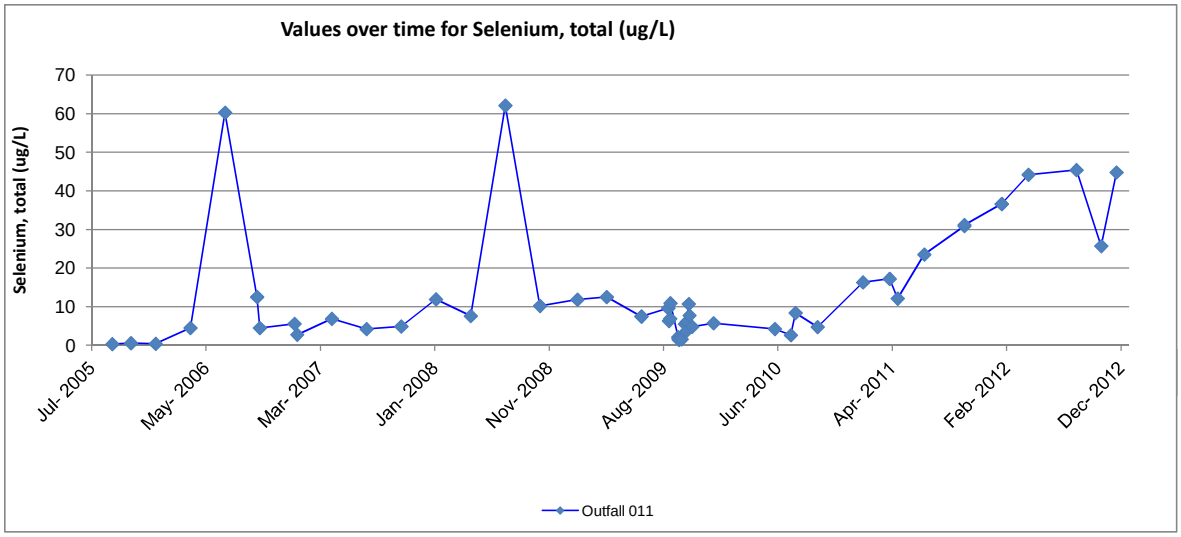

Values over time for Iron, total (ug/L)
Iron, total (ug/L)
3500
3000
2500
2000
1500
1000
500
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Iron, Total (ug/l as Fe)

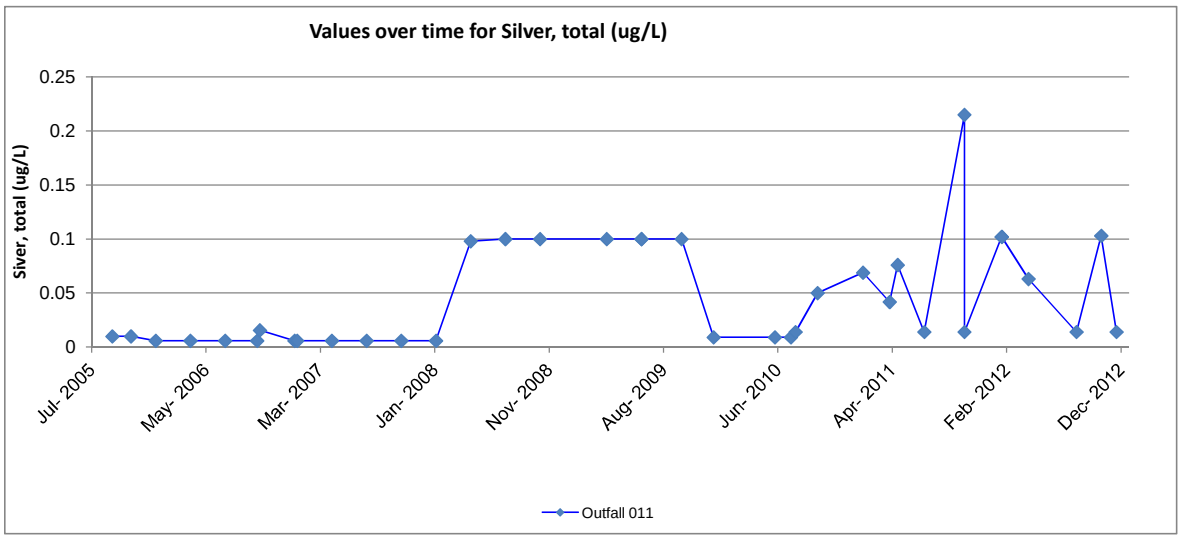

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
700
600
500
400
300
200
100
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Lead, Total (ug/l as Pb)

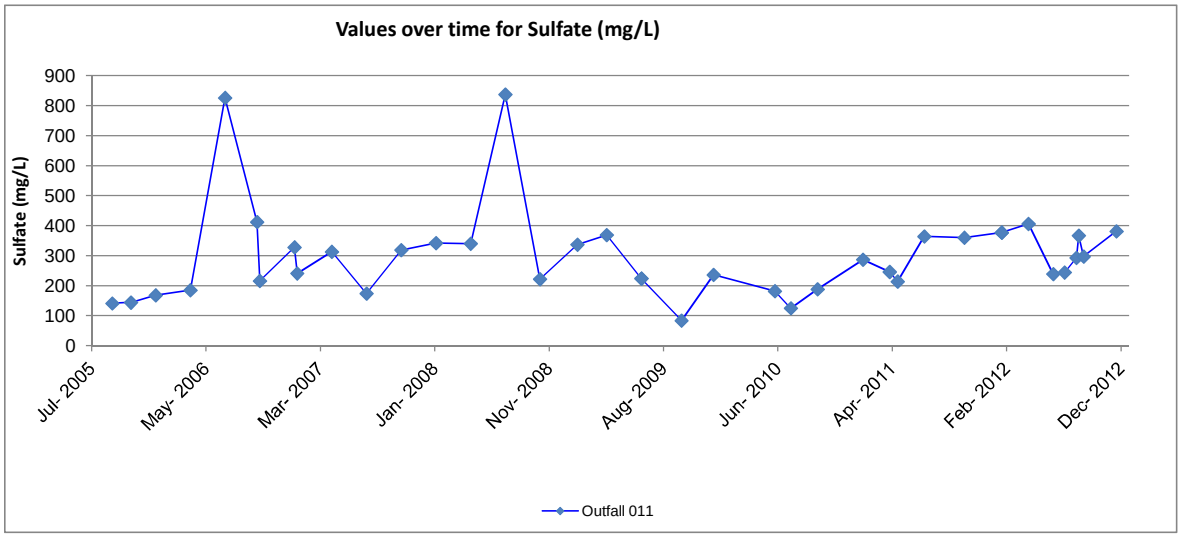

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
2.5
2
1.5
1
0.5
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Mercury, Total (ug/l as Hg)

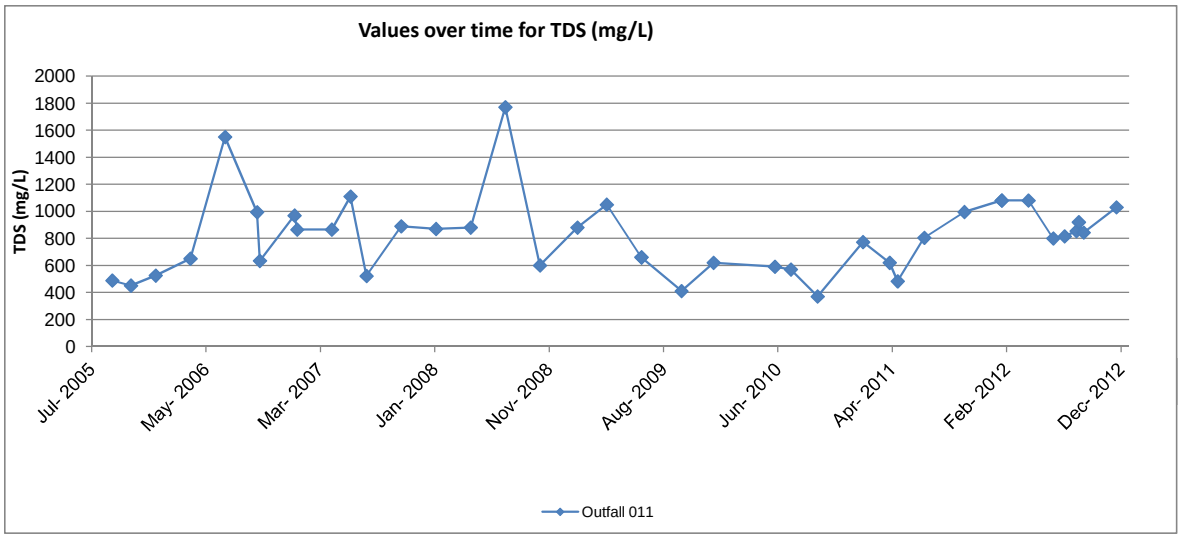

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

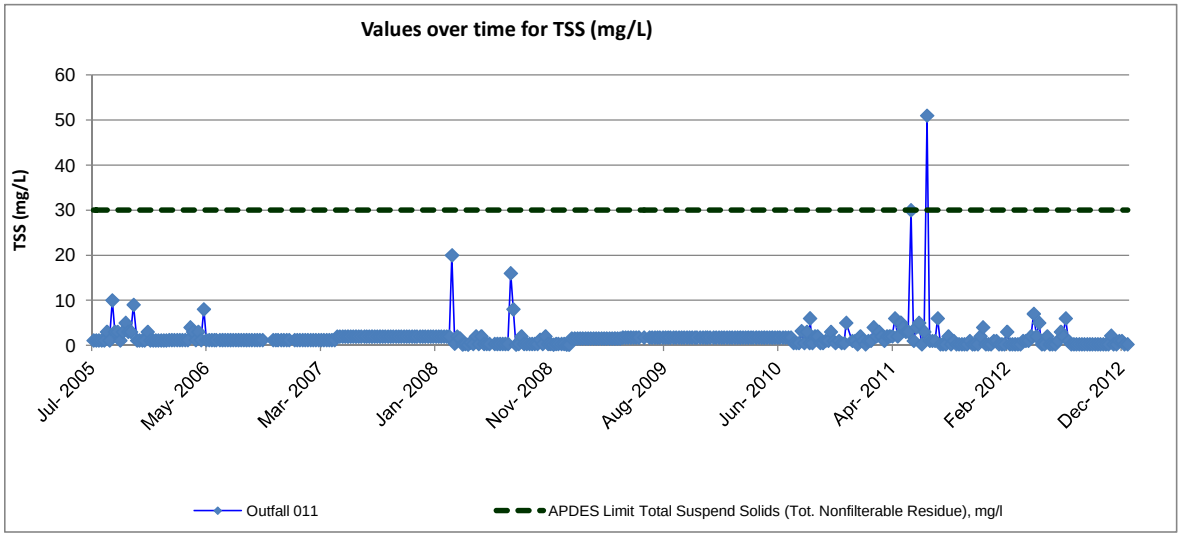

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

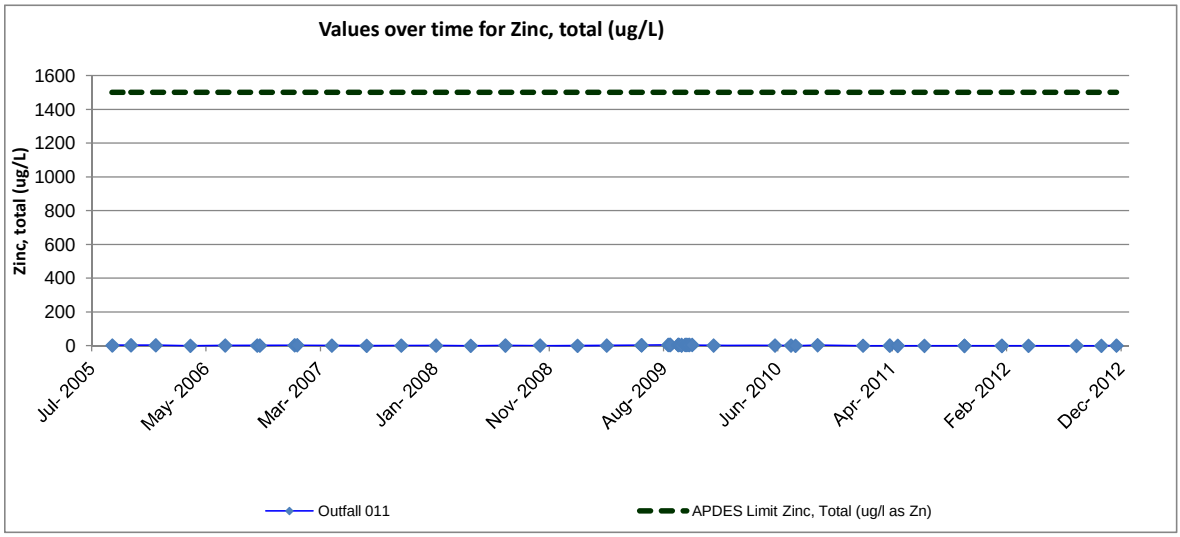

Values over time for Selenium, total (ug/L)
Selenium, total (ug/L)
70
60
50
40
30
20
10
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

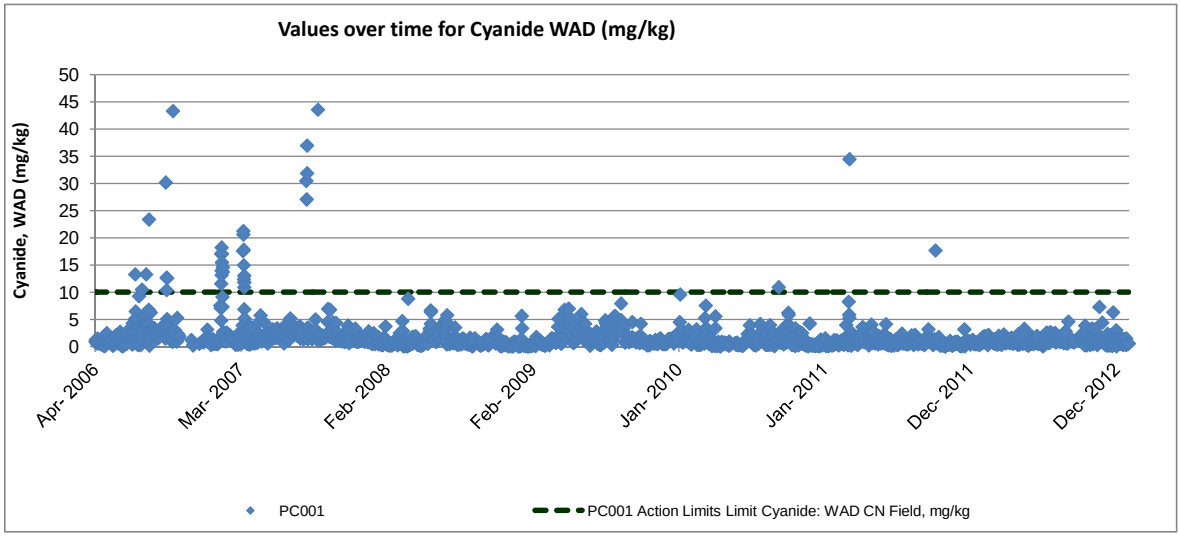

Values over time for Silver, total (ug/L)
Siver, total (ug/L)
0.25
0.2
0.15
0.1
0.05
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

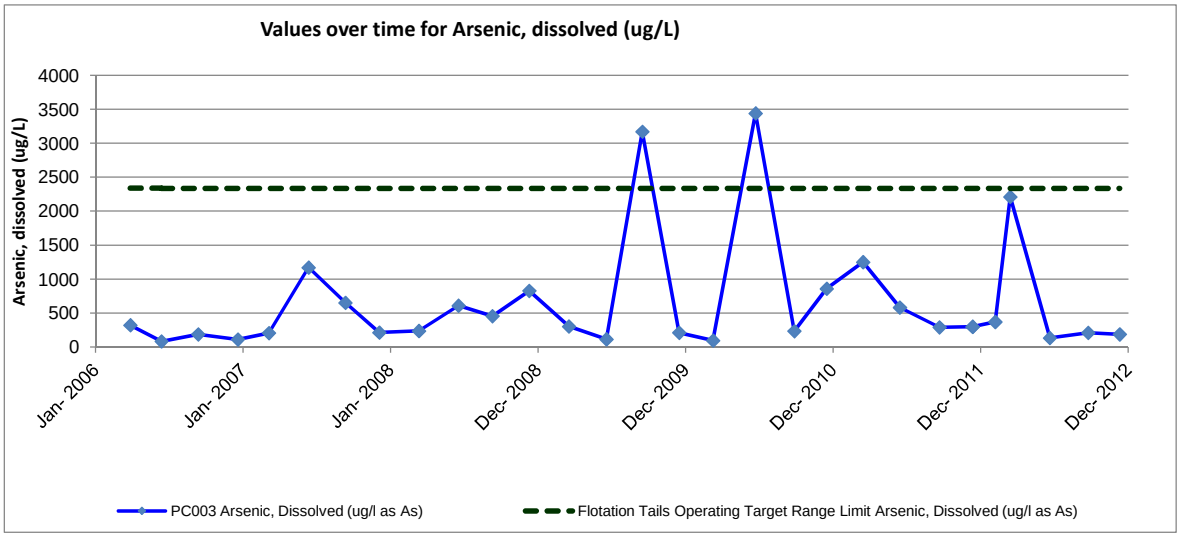

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
900
800
700
600
500
400
300
200
100
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

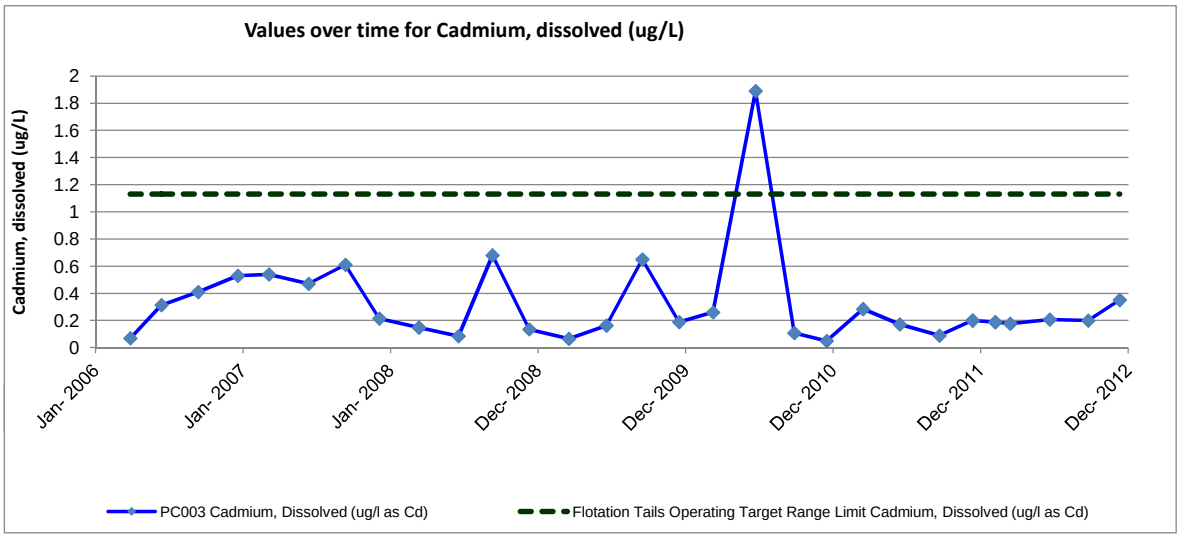

Values over time for TDS (mg/L)
TDS (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011

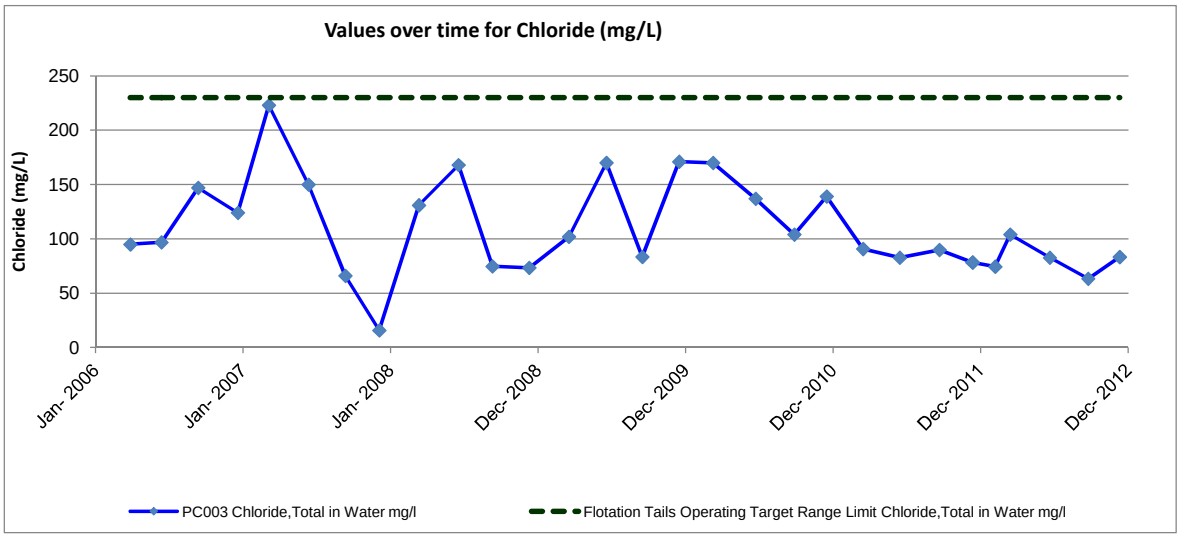

Values over time for TSS (mg/L)
TSS (mg/L)
60
50
40
30
20
10
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Total Suspend Solids (Tot. Nonfilterable Residue), mg/l

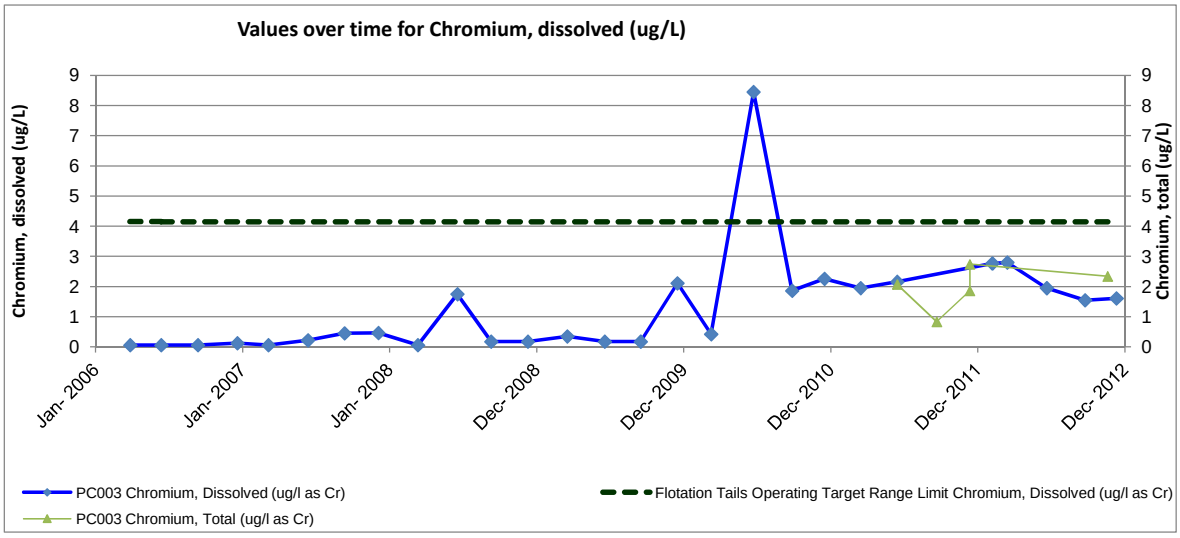

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
1600
1400
1200
1000
800
600
400
200
0
Jul- 2005
May- 2006
Mar- 2007
Jan- 2008
Nov- 2008
Aug- 2009
Jun- 2010
Apr- 2011
Feb- 2012
Dec- 2012
Outfall 011
APDES Limit Zinc, Total (ug/l as Zn)

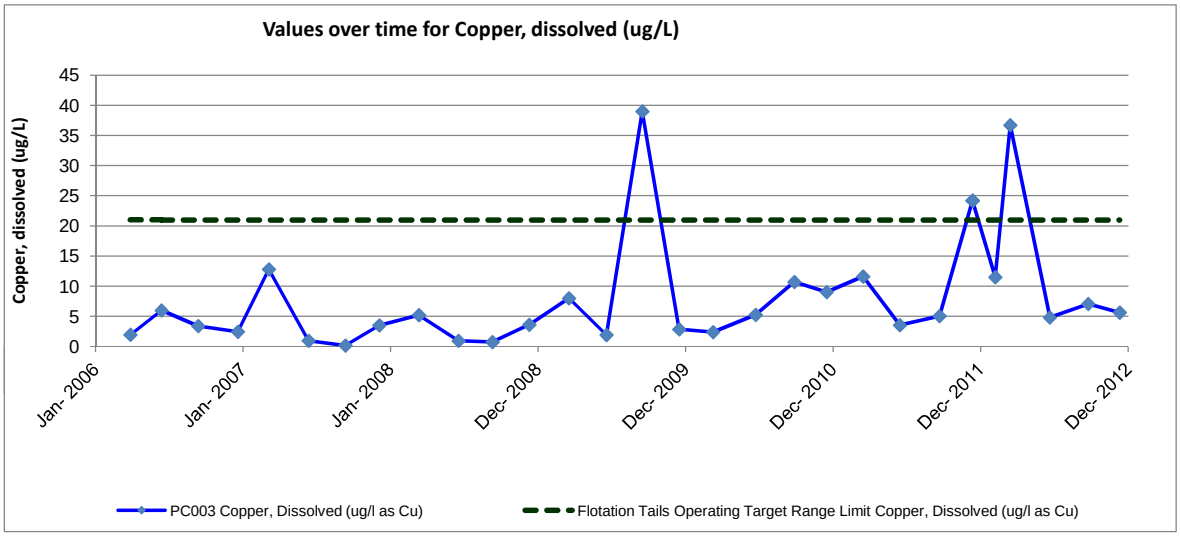

Values over time for Cyanide WAD (mg/kg)
Cyanide, WAD (mg/kg)
50
45
40
35
30
25
20
15
10
5
0
Apr- 2006
Mar- 2007
Feb- 2008
Feb- 2009
Jan- 2010
Jan- 2011
Dec- 2011
Dec- 2012
PC001
PC001 Action Limits Limit Cyanide: WAD CN Field, mg/kg

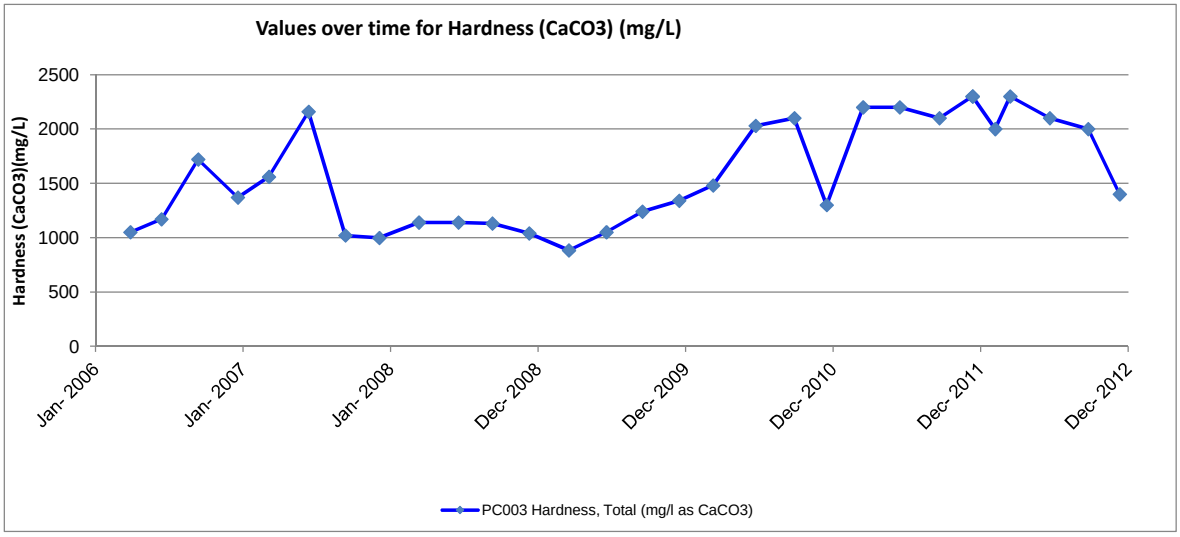

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
4000
3500
3000
2500
2000
1500
1000
500
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Arsenic, Dissolved (ug/l as As)
Flotation Tails Operating Target Range Limit Arsenic, Dissolved (ug/l as As)

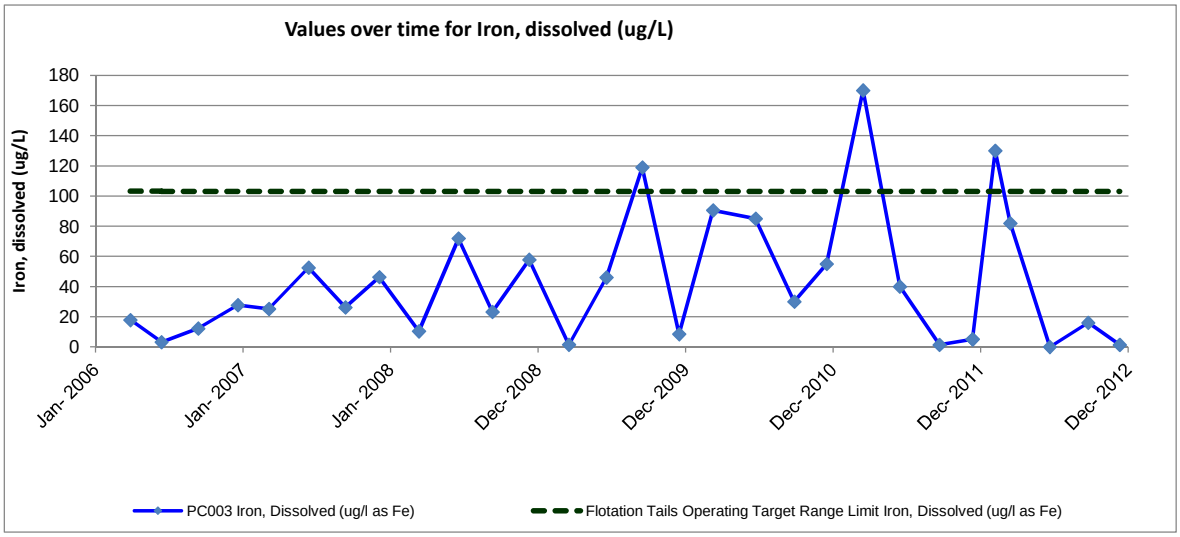

Values over time for Cadmium, dissolved (ug/L)
Cadmium, dissolved (ug/L)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Cadmium, Dissolved (ug/l as Cd)
Flotation Tails Operating Target Range Limit Cadmium, Dissolved (ug/l as Cd)

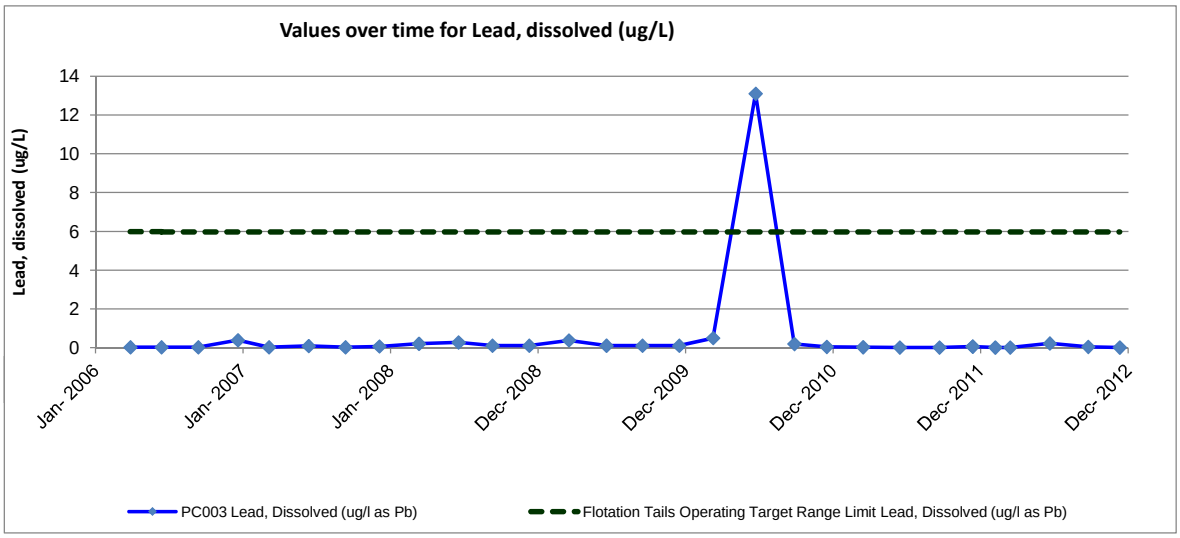

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Chloride,Total in Water mg/l
Flotation Tails Operating Target Range Limit Chloride,Total in Water mg/l

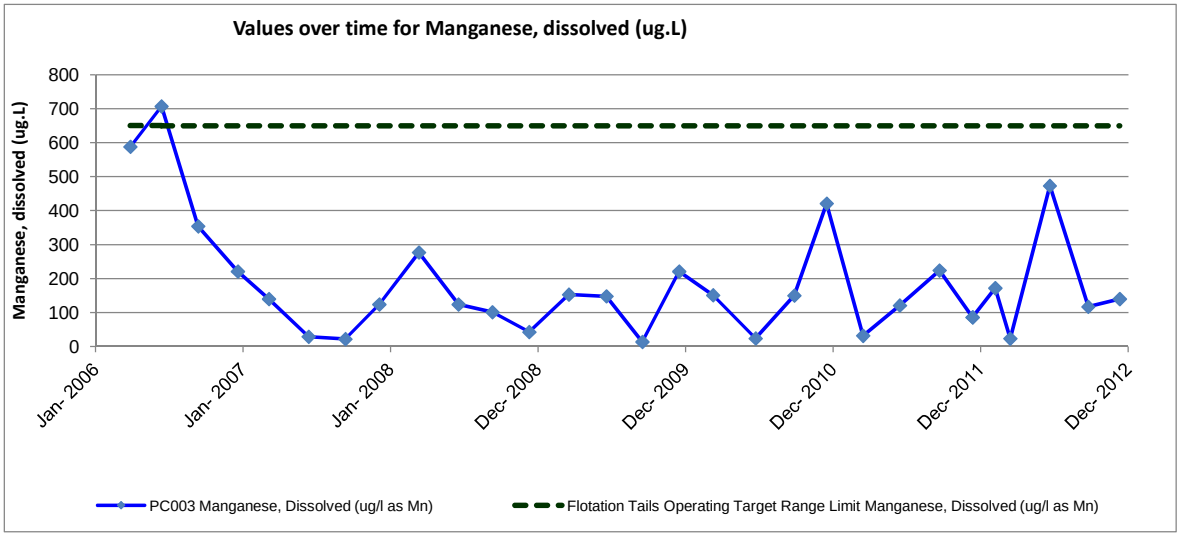

Values over time for Chromium, dissolved (ug/L)
Chromium, dissolved (ug/L)
Chromium, total (ug/L)
0
1
2
3
4
5
6
7
8
9
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Chromium, Dissolved (ug/l as Cr)
Flotation Tails Operating Target Range Limit Chromium, Dissolved (ug/l as Cr)
PC003 Chromium, Total (ug/l as Cr)

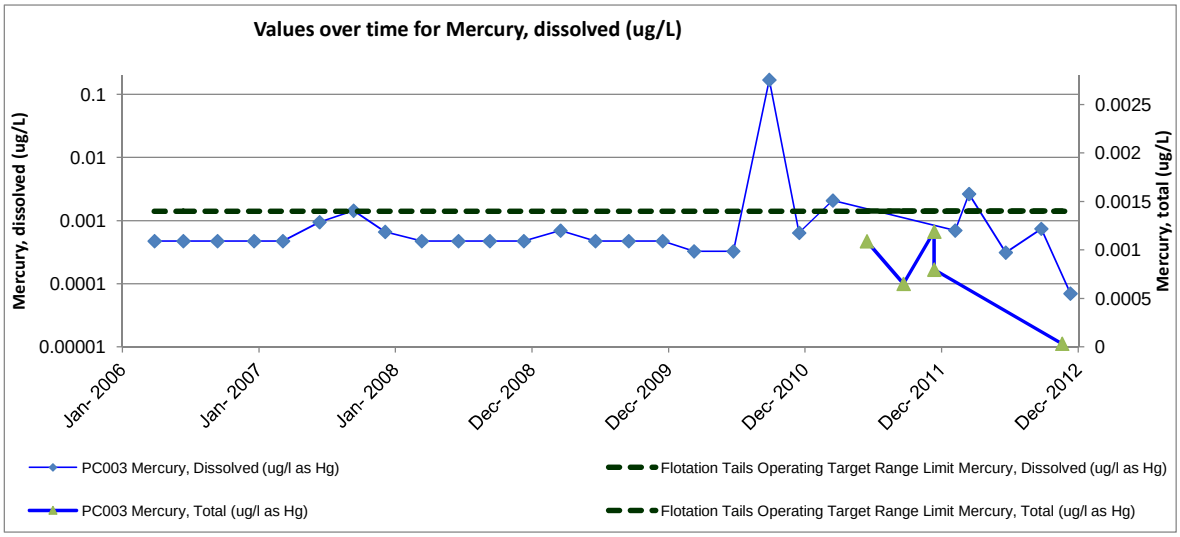

Values over time for Copper, dissolved (ug/L)
Copper, dissolved (ug/L)
0
5
10
15
20
25
30
35
40
45
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Copper, Dissolved (ug/l as Cu)
Flotation Tails Operating Target Range Limit Copper, Dissolved (ug/l as Cu)

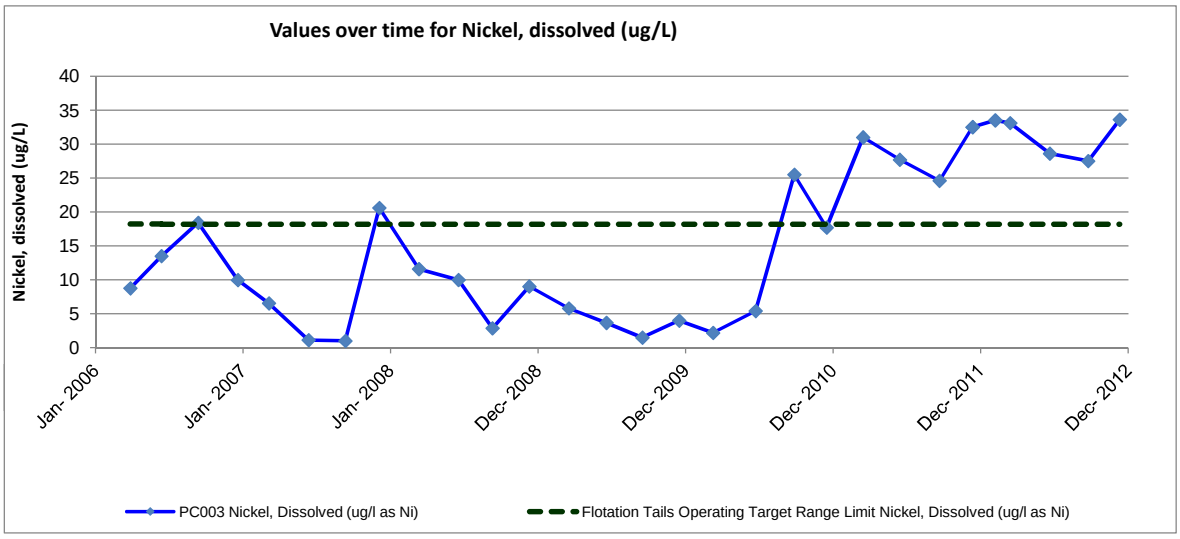

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3)(mg/L)
0
500
1000
1500
2000
2500
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Hardness, Total (mg/l as CaCO3)

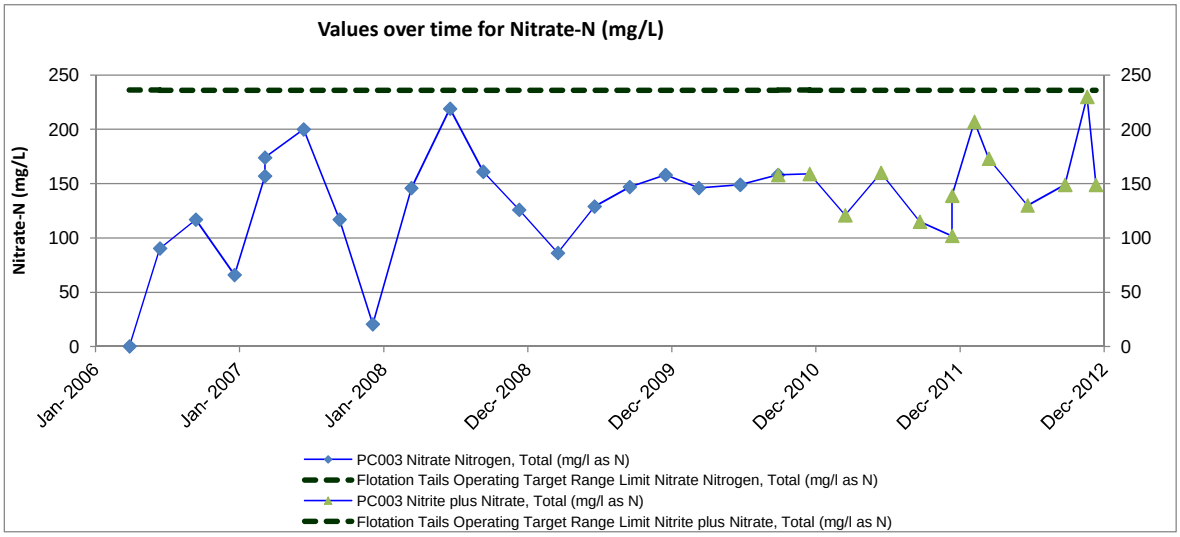

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
180
160
140
120
100
80
60
40
20
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Iron, Dissolved (ug/l as Fe)
Flotation Tails Operating Target Range Limit Iron, Dissolved (ug/l as Fe)

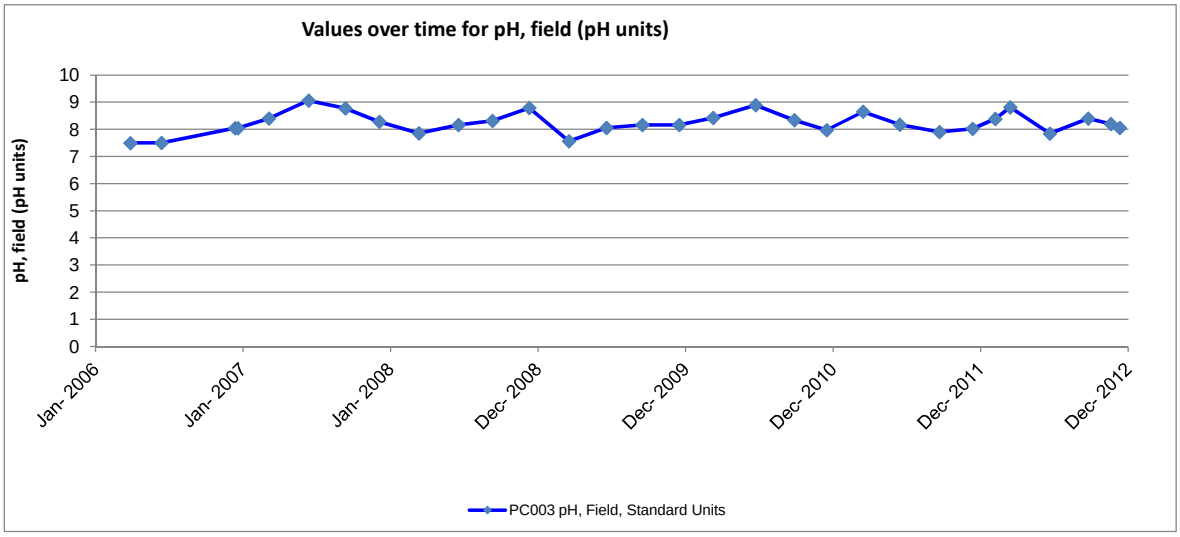

Values over time for Lead, dissolved (ug/L)
Lead, dissolved (ug/L)
14
12
10
8
6
4
2
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Lead, Dissolved (ug/l as Pb)
Flotation Tails Operating Target Range Limit Lead, Dissolved (ug/l as Pb)

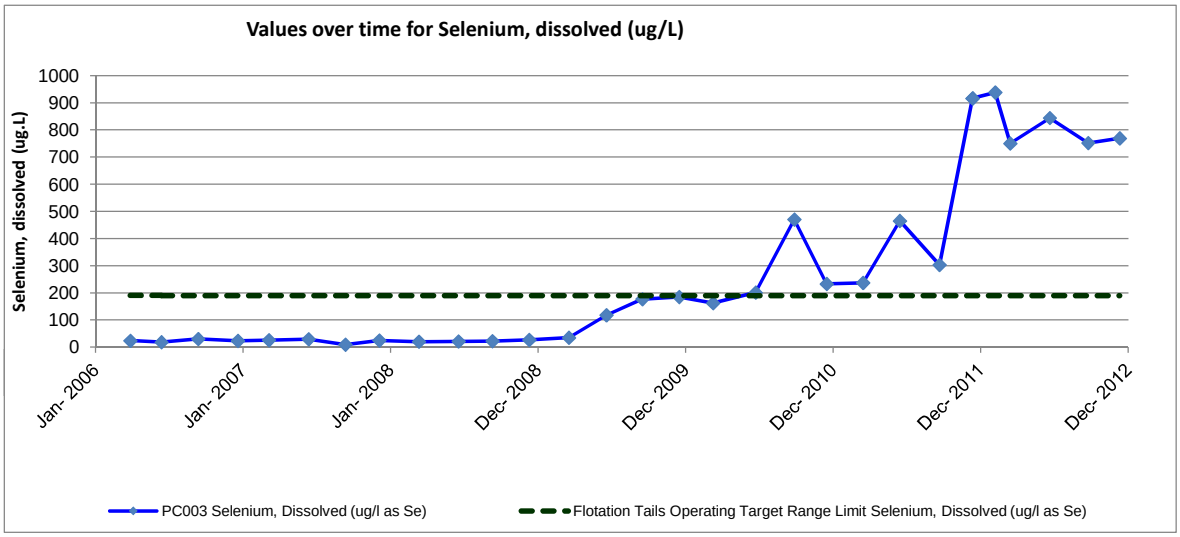

Values over time for Manganese, dissolved (ug.L)
Manganese, dissolved (ug.L)
800
700
600
500
400
300
200
100
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Manganese, Dissolved (ug/l as Mn)
Flotation Tails Operating Target Range Limit Manganese, Dissolved (ug/l as Mn)

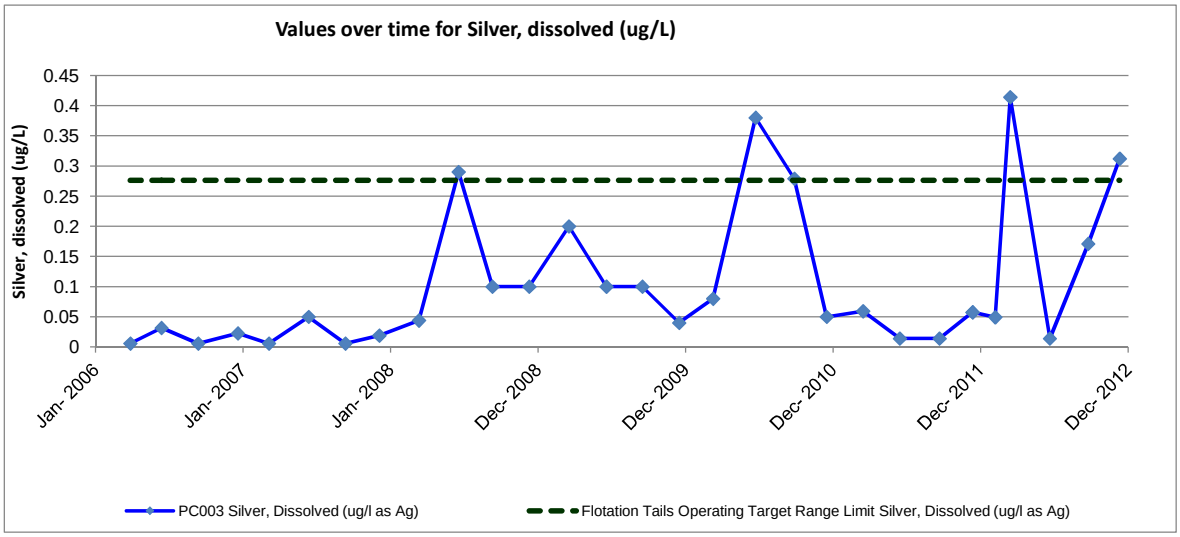

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
Mercury, total (ug/L)
0.1
0.01
0.001
0.0001
0.00001
0.0025
0.002
0.0015
0.001
0.0005
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Mercury, Dissolved (ug/l as Hg)
Flotation Tails Operating Target Range Limit Mercury, Dissolved (ug/l as Hg)
PC003 Mercury, Total (ug/l as Hg)
Flotation Tails Operating Target Range Limit Mercury, Total (ug/l as Hg)

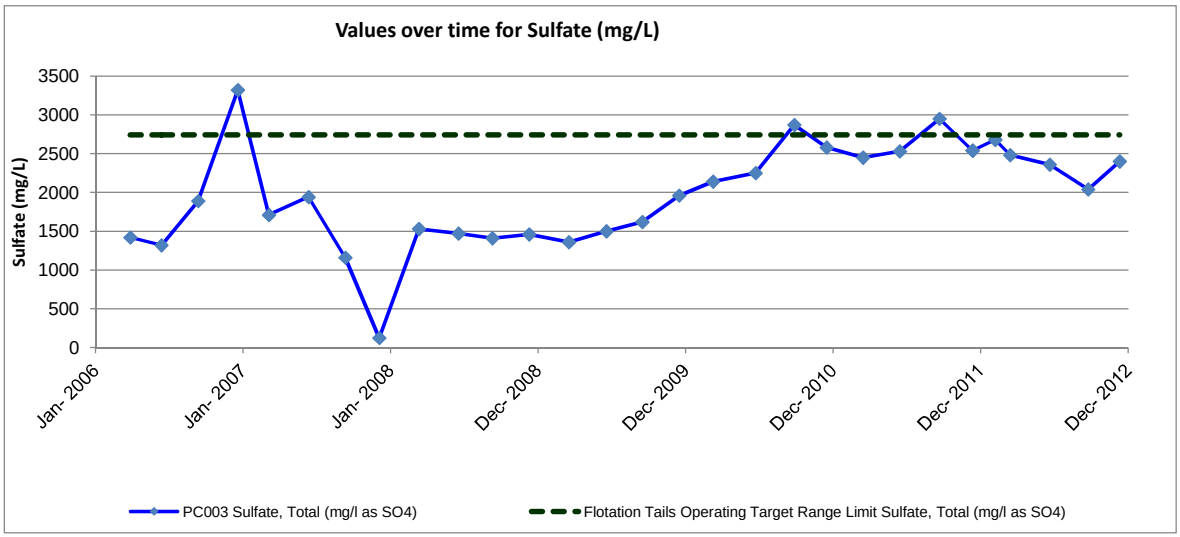

Values over time for Nickel, dissolved (ug/L)
Nickel, dissolved (ug/L)
40
35
30
25
20
15
10
5
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Nickel, Dissolved (ug/l as Ni)
Flotation Tails Operating Target Range Limit Nickel, Dissolved (ug/l as Ni)

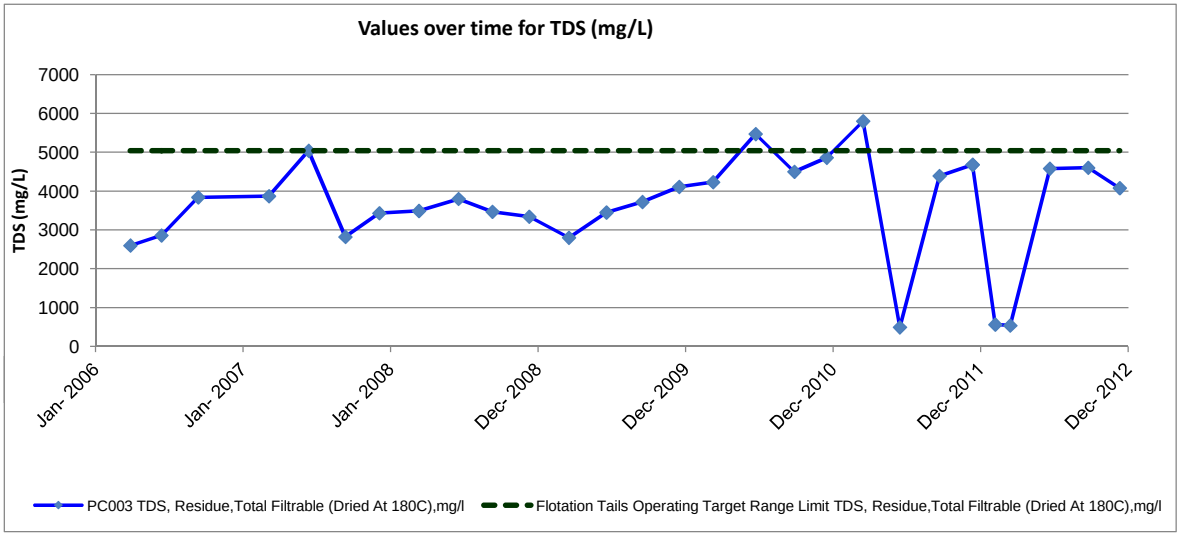

Values over time for Nitrate-N (mg/L)
Nitrate-N (mg/L)
250
200
150
100
50
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Nitrate Nitrogen, Total (mg/l as N)
Flotation Tails Operating Target Range Limit Nitrate Nitrogen, Total (mg/l as N)
PC003 Nitrite plus Nitrate, Total (mg/l as N)
Flotation Tails Operating Target Range Limit Nitrite plus Nitrate, Total (mg/l as N)

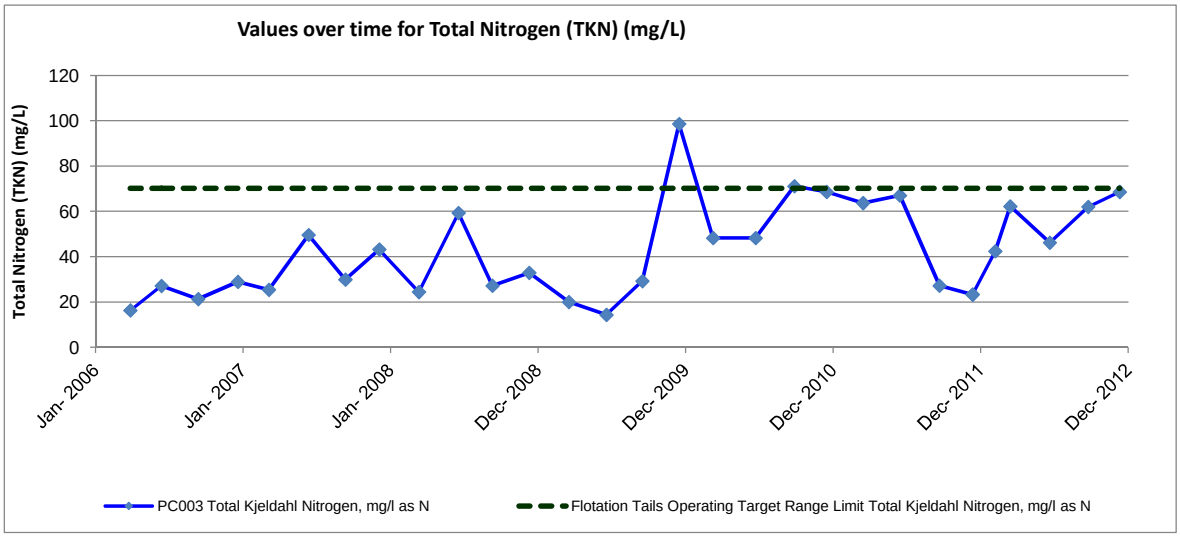

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 pH, Field, Standard Units

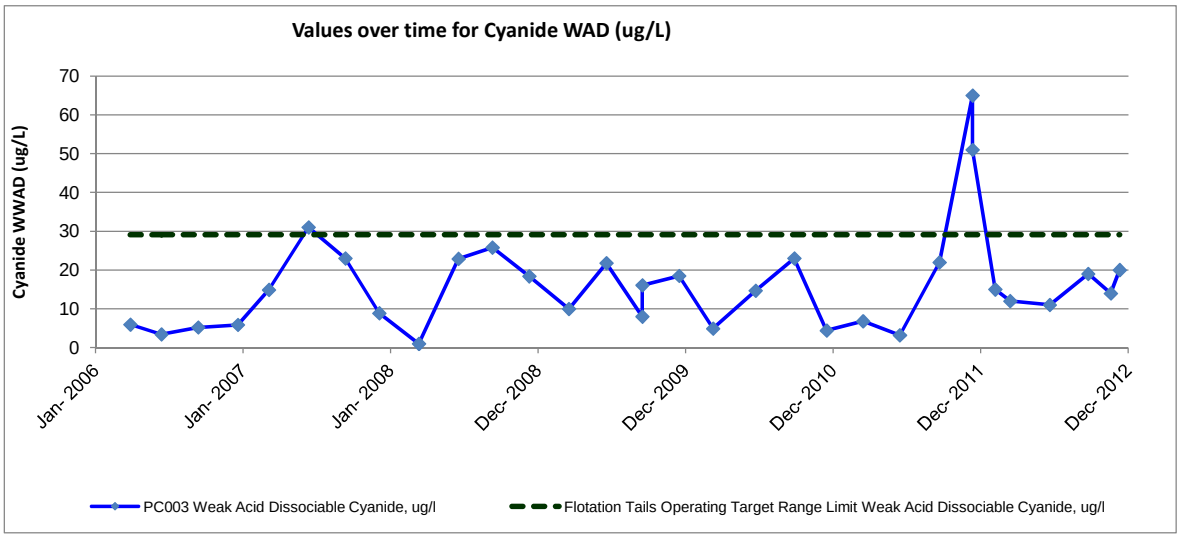

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug.L)
1000
900
800
700
600
500
400
300
200
100
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Selenium, Dissolved (ug/l as Se)
Flotation Tails Operating Target Range Limit Selenium, Dissolved (ug/l as Se)

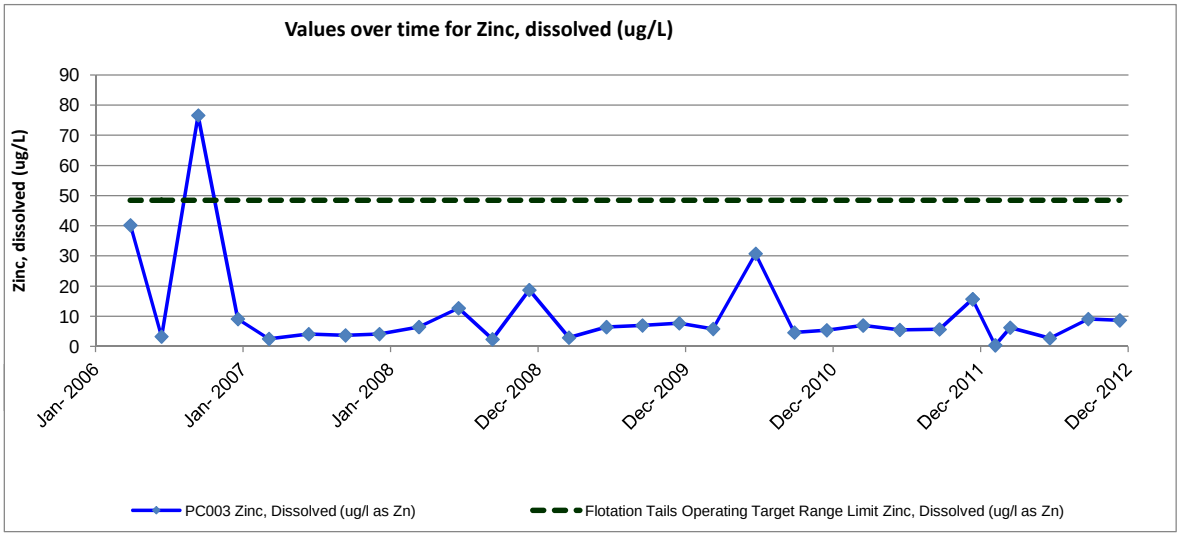

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Silver, Dissolved (ug/l as Ag)
Flotation Tails Operating Target Range Limit Silver, Dissolved (ug/l as Ag)

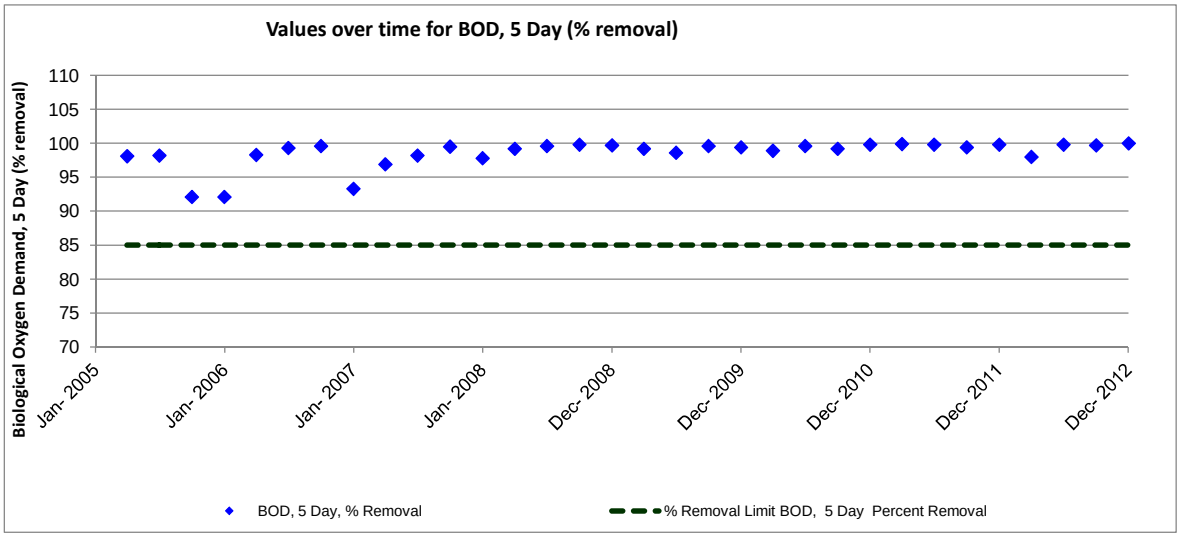

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
3500
3000
2500
2000
1500
1000
500
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Sulfate, Total (mg/l as SO4)
Flotation Tails Operating Target Range Limit Sulfate, Total (mg/l as SO4)

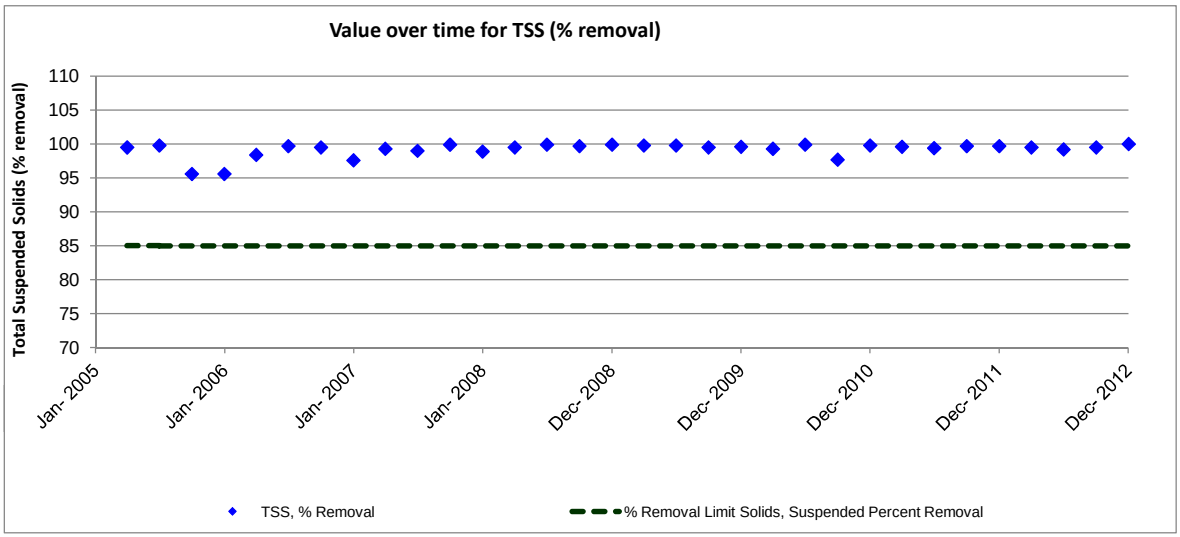

Values over time for TDS (mg/L)
TDS (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Flotation Tails Operating Target Range Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l

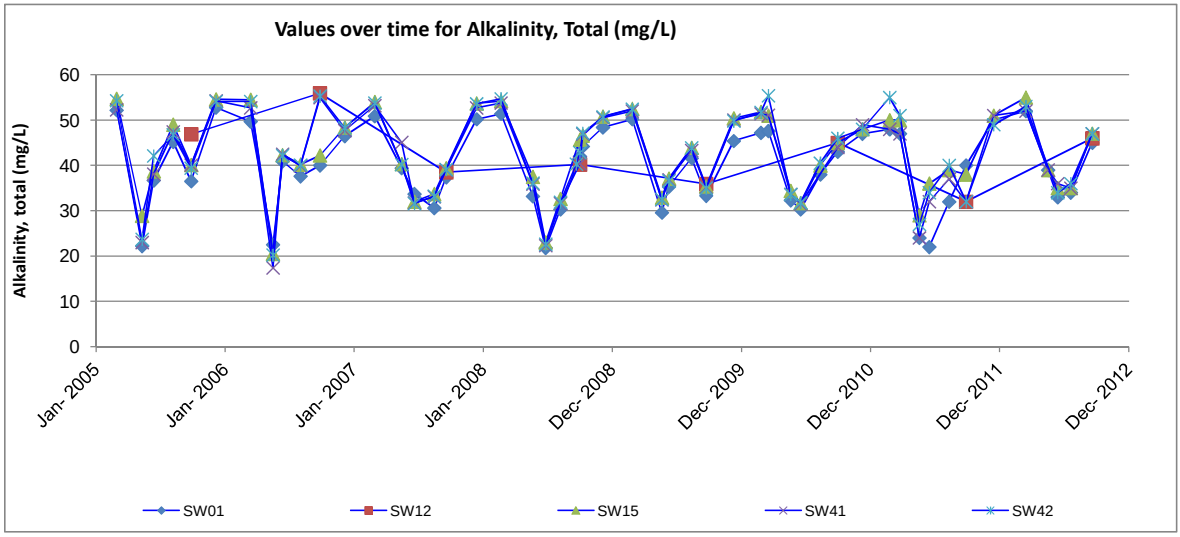

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
120
100
80
60
40
20
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Total Kjeldahl Nitrogen, mg/l as N
Flotation Tails Operating Target Range Limit Total Kjeldahl Nitrogen, mg/l as N

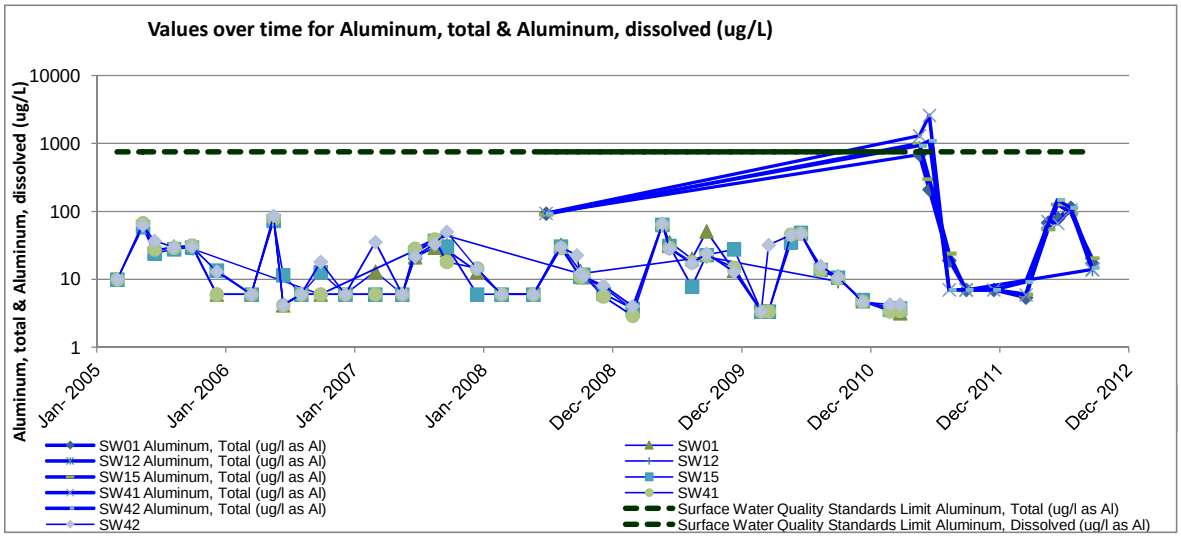

Values over time for Cyanide WAD (ug/L)
Cyanide WWAD (ug/L)
70
60
50
40
30
20
10
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Weak Acid Dissociable Cyanide, ug/l
Flotation Tails Operating Target Range Limit Weak Acid Dissociable Cyanide, ug/l

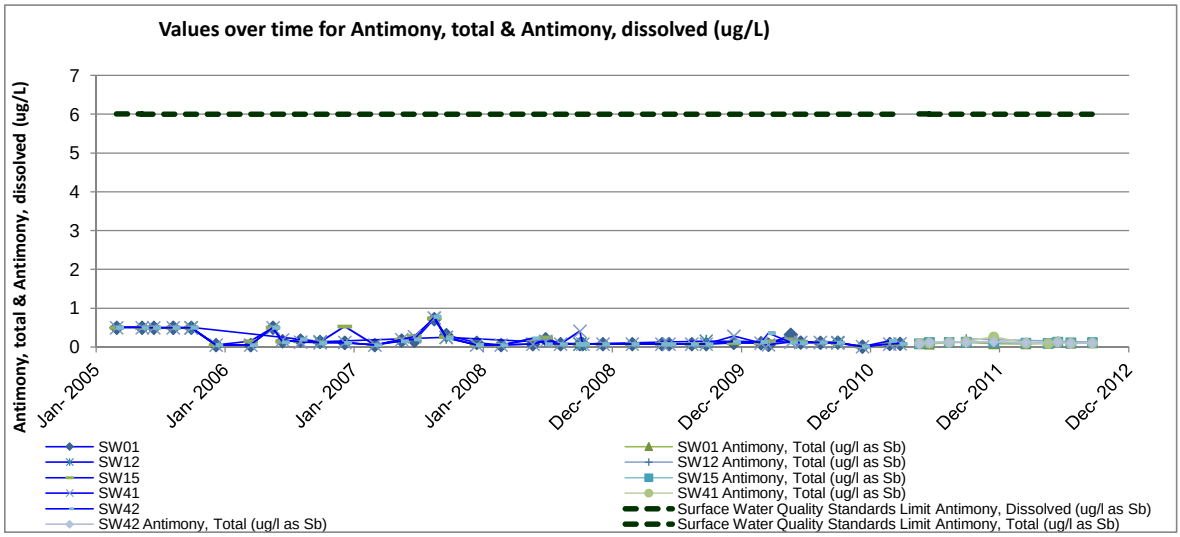

Values over time for Zinc, dissolved (ug/L)
Zinc, dissolved (ug/L)
90
80
70
60
50
40
30
20
10
0
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
PC003 Zinc, Dissolved (ug/l as Zn)
Flotation Tails Operating Target Range Limit Zinc, Dissolved (ug/l as Zn)

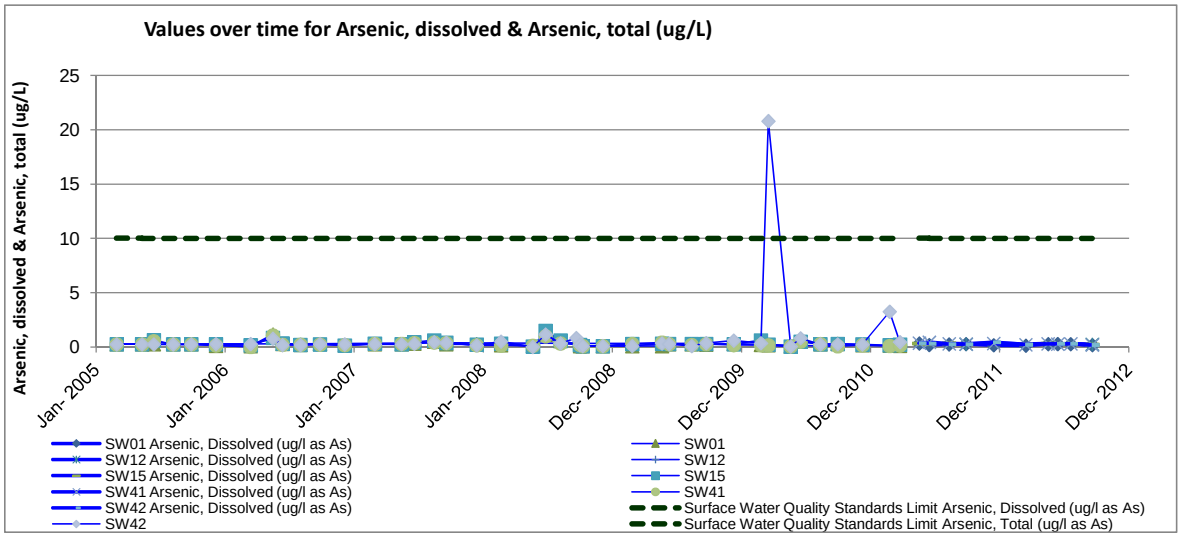

Values over time for BOD, 5 Day (% removal)
Biological Oxygen Demand, 5 Day (% removal)
110
105
100
95
90
85
80
75
70
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
BOD, 5 Day, % Removal
% Removal Limit BOD, 5 Day Percent Removal

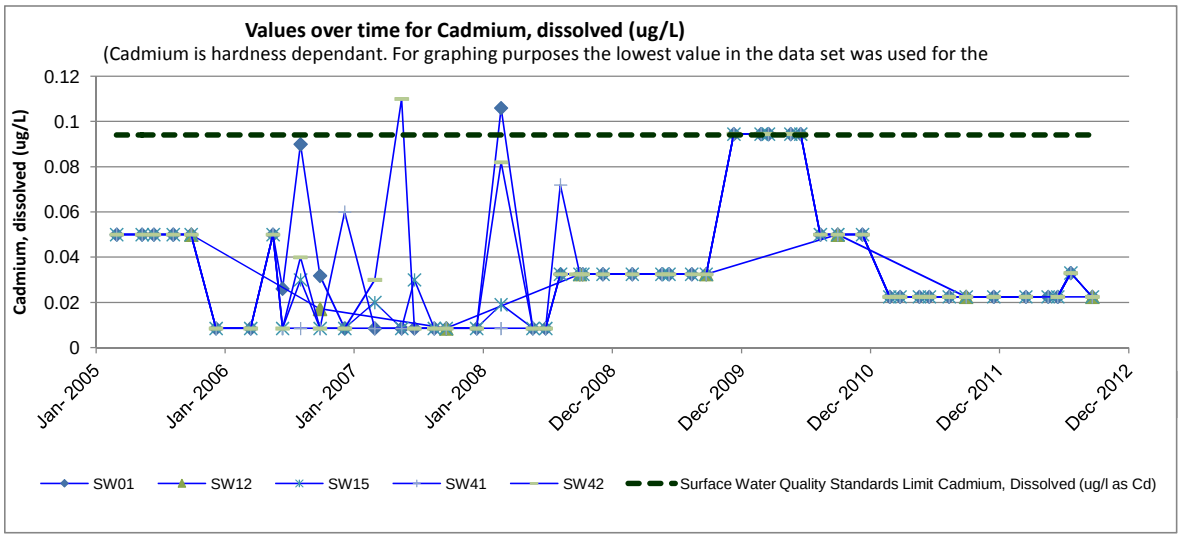

Value over time for TSS (% removal)
Total Suspended Solids (% removal)
110
105
100
95
90
85
80
75
70
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
TSS, % Removal
% Removal Limit Solids, Suspended Percent Removal

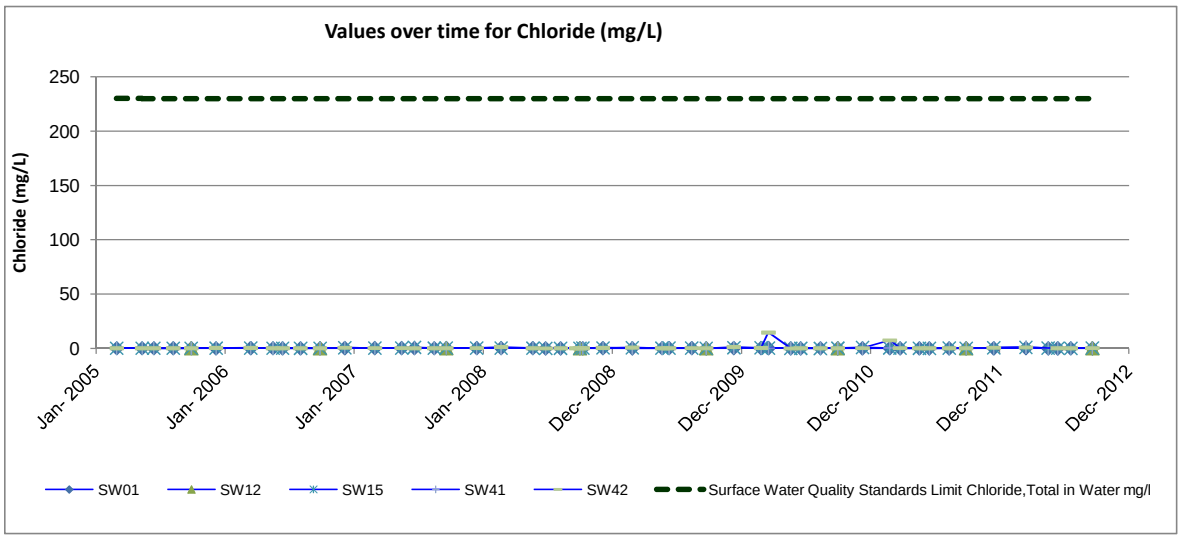

Values over time for Alkalinity, Total (mg/L)
Alkalinity, total (mg/L)
60
50
40
30
20
10
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42

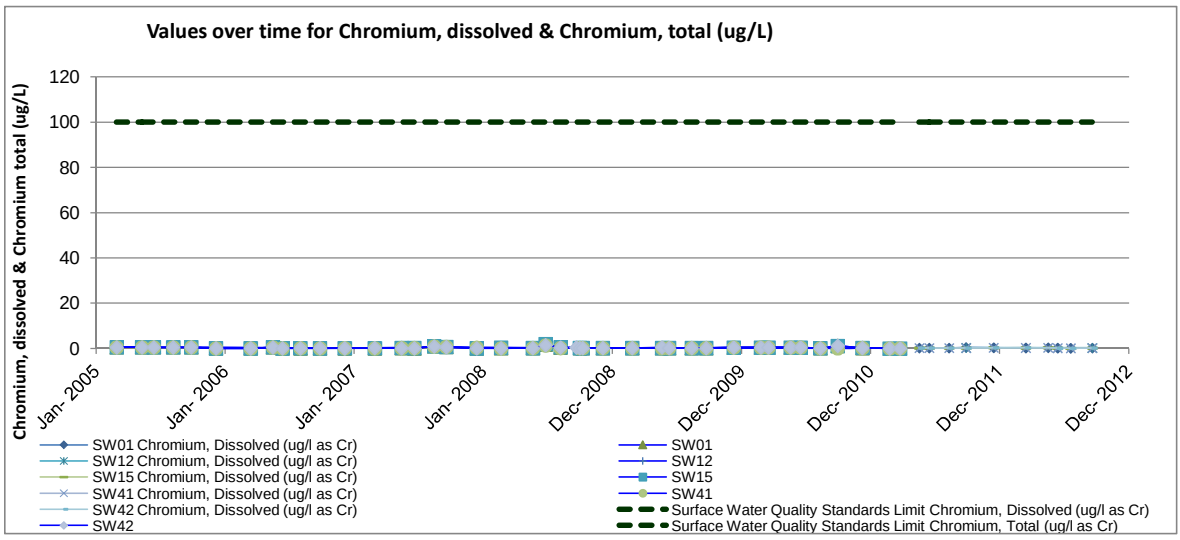

Values over time for Aluminum, total & Aluminum, dissolved (ug/L)
Aluminum, total & Aluminum, dissolved (ug/L)
10000
1000
100
10
1
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Aluminum, Total (ug/l as Al)
SW12 Aluminum, Total (ug/l as Al)
SW15 Aluminum, Total (ug/l as Al)
SW41 Aluminum, Total (ug/l as Al)
SW42 Aluminum, Total (ug/l as Al)
SW42
SW01
SW12
SW15
SW41
Surface Water Quality Standards Limit Aluminum, Total (ug/l as Al)
Surface Water Quality Standards Limit Aluminum, Dissolved (ug/l as Al)

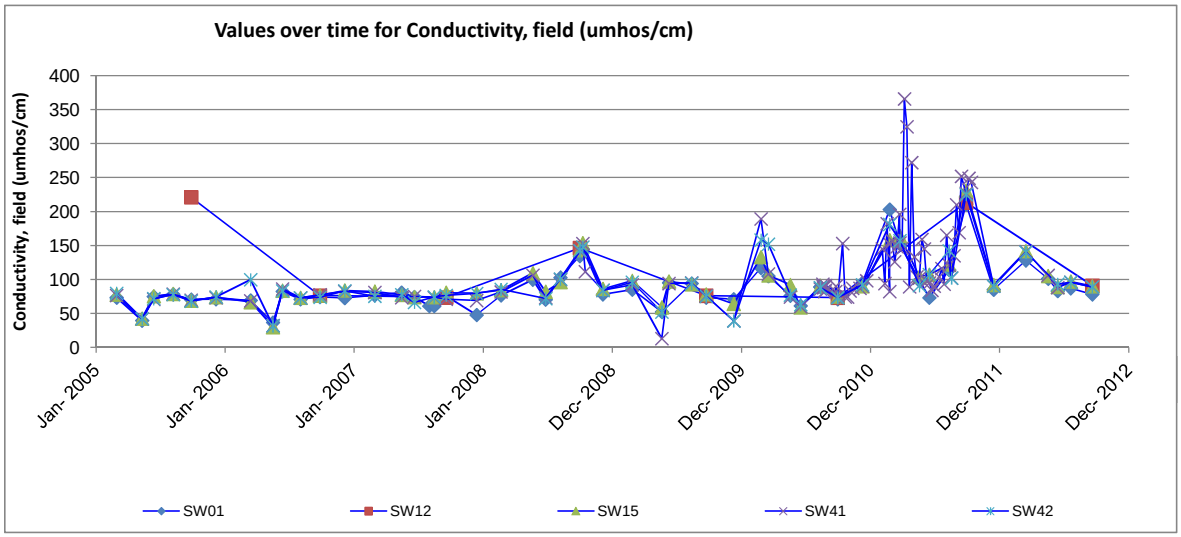

Values over time for Antimony, total & Antimony, dissolved (ug/L)
Antimony, total & Antimony, dissolved (ug/L)
7
6
5
4
3
2
1
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
SW42 Antimony, Total (ug/l as Sb)
SW01 Antimony, Total (ug/l as Sb)
SW12 Antimony, Total (ug/l as Sb)
SW15 Antimony, Total (ug/l as Sb)
SW41 Antimony, Total (ug/l as Sb)
Surface Water Quality Standards Limit Antimony, Dissolved (ug/l as Sb)
Surface Water Quality Standards Limit Antimony, Total (ug/l as Sb)

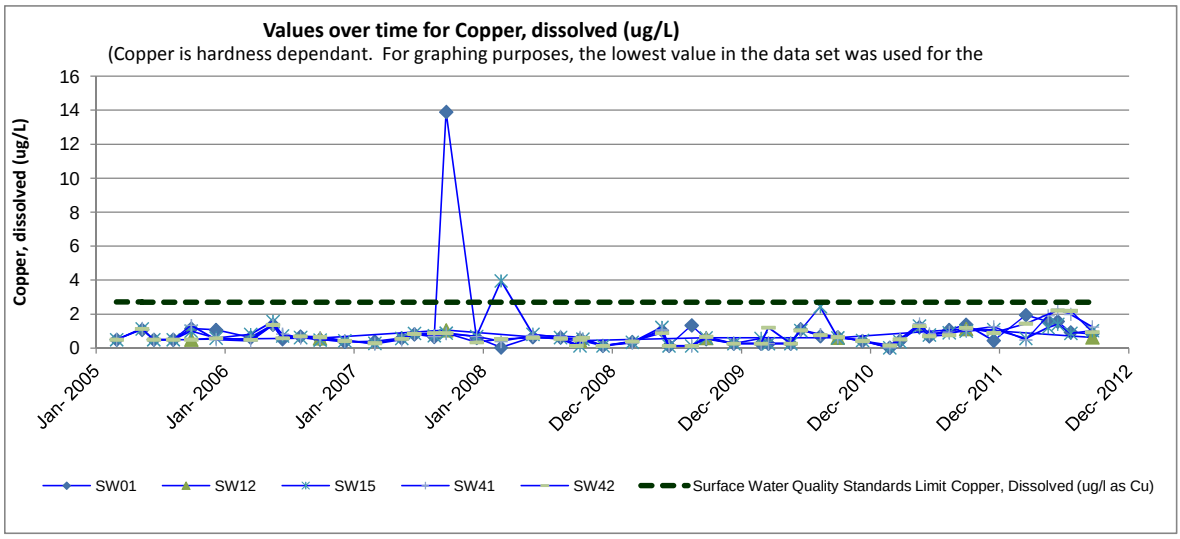

Values over time for Arsenic, dissolved & Arsenic, total (ug/L)
Arsenic, dissolved & Arsenic, total (ug/L)
25
20
15
10
5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Arsenic, Dissolved (ug/l as As)
SW12 Arsenic, Dissolved (ug/l as As)
SW15 Arsenic, Dissolved (ug/l as As)
SW41 Arsenic, Dissolved (ug/l as As)
SW42 Arsenic, Dissolved (ug/l as As)
SW42
SW01
SW12
SW15
SW41
Surface Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)
Surface Water Quality Standards Limit Arsenic, Total (ug/l as As)

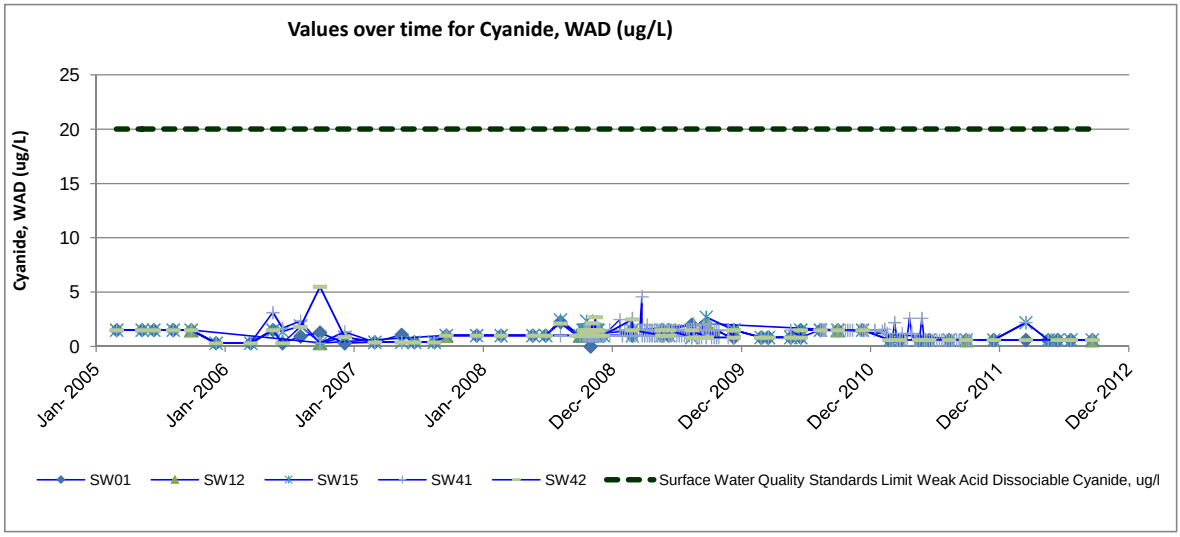

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes the lowest value in the data set was used for the
Cadmium, dissolved (ug/L)
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)

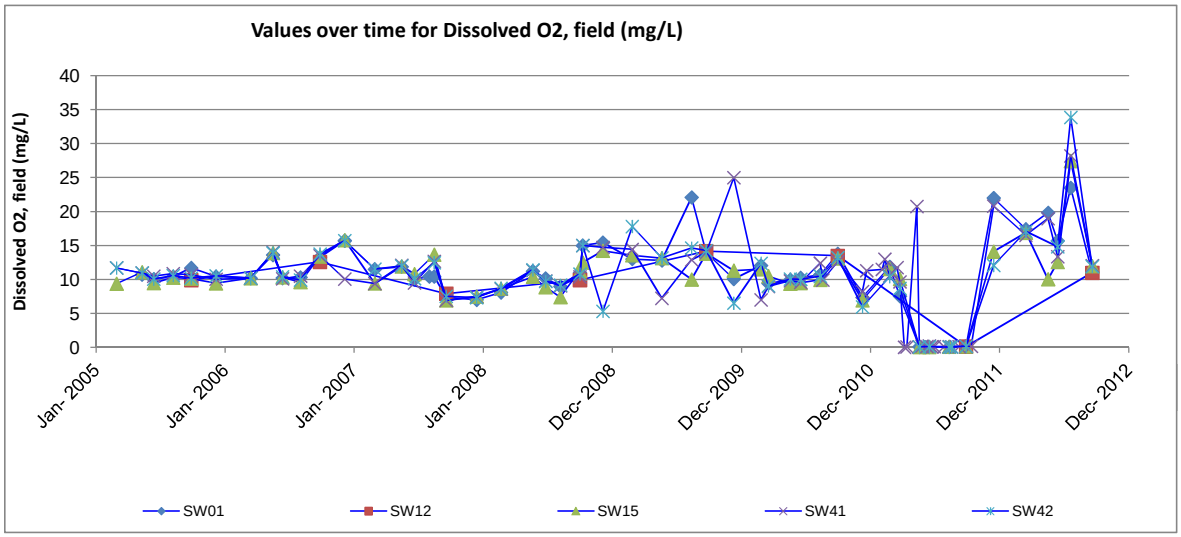

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Chloride,Total in Water mg/l

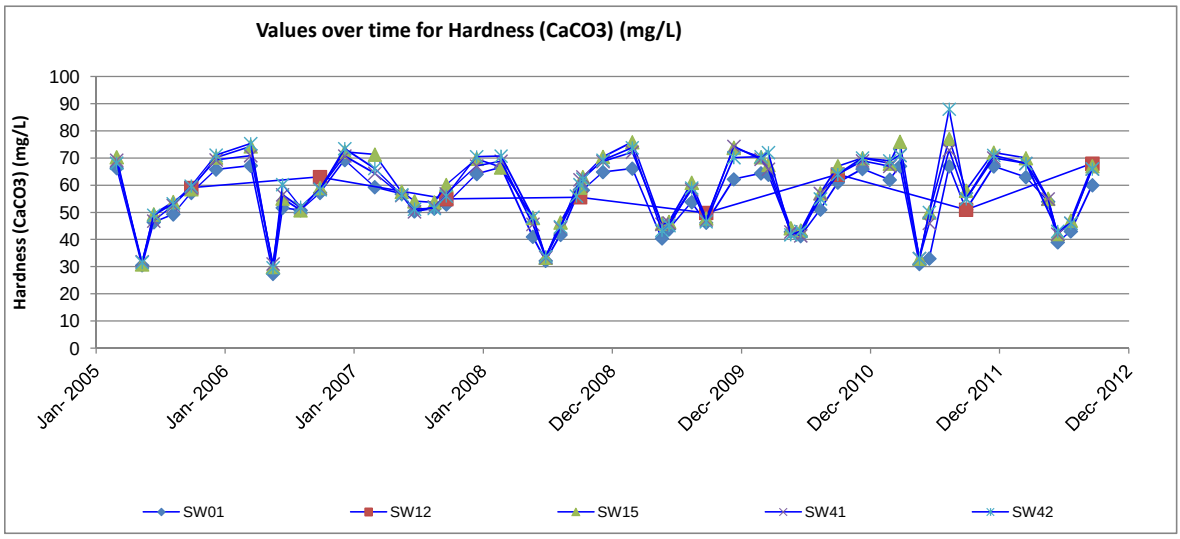

Values over time for Chromium, dissolved & Chromium, total (ug/L)
Chromium, dissolved & Chromium total (ug/L)
120
100
80
60
40
20
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Chromium, Dissolved (ug/l as Cr)
SW12 Chromium, Dissolved (ug/l as Cr)
SW15 Chromium, Dissolved (ug/l as Cr)
SW41 Chromium, Dissolved (ug/l as Cr)
SW42 Chromium, Dissolved (ug/l as Cr)
SW42
SW01
SW12
SW15
SW41
Surface Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)
Surface Water Quality Standards Limit Chromium, Total (ug/l as Cr)

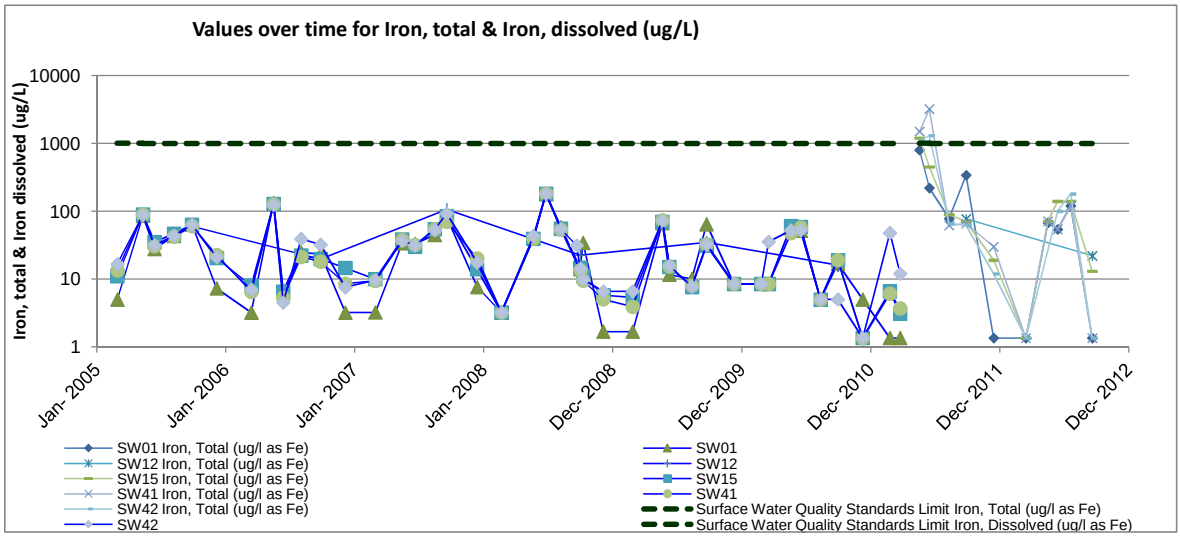

Values over time for Conductivity, field (umhos/cm)
Conductivity, field (umhos/cm)
400
350
300
250
200
150
100
50
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42

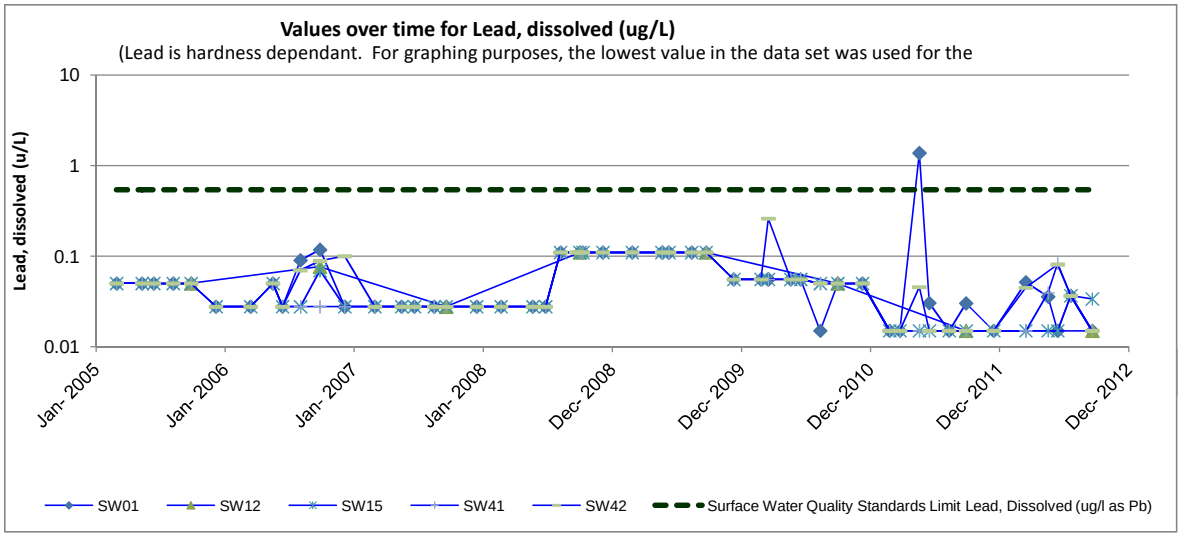

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Copper, dissolved (ug/L)
16
14
12
10
8
6
4
2
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)

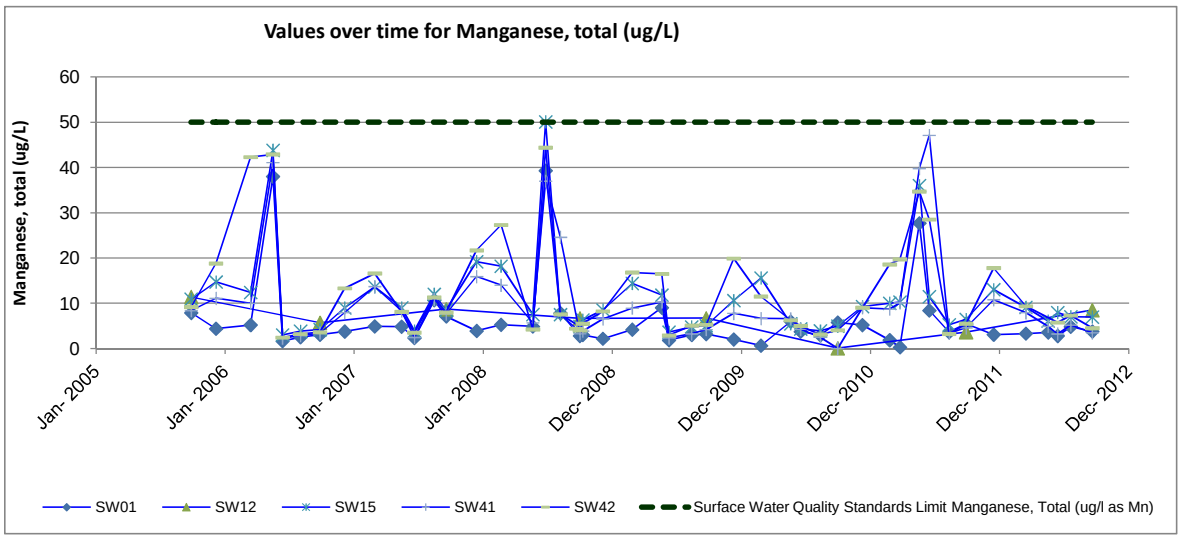

Values over time for Cyanide, WAD (ug/L)
Cyanide, WAD (ug/L)
25
20
15
10
5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l

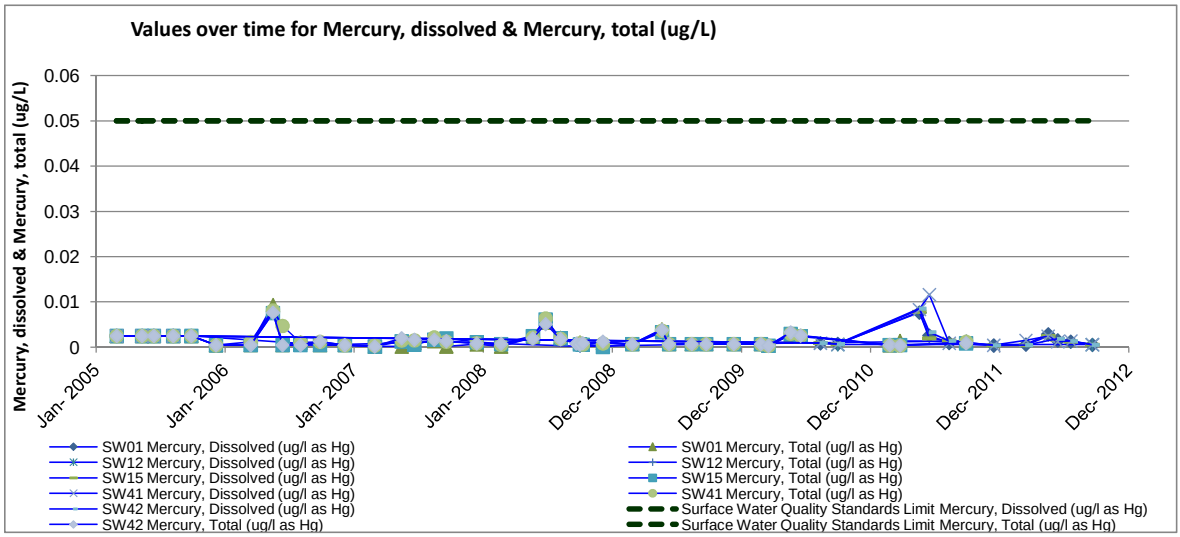

Values over time for Dissolved O2, field (mg/L)
Dissolved O2, field (mg/L)
40
35
30
25
20
15
10
5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42

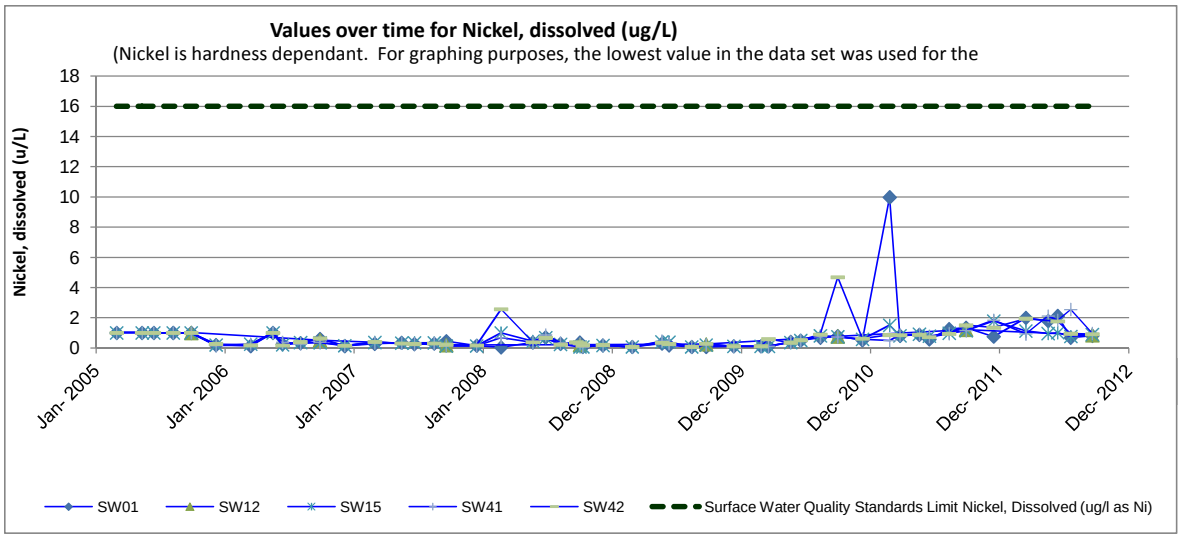

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42

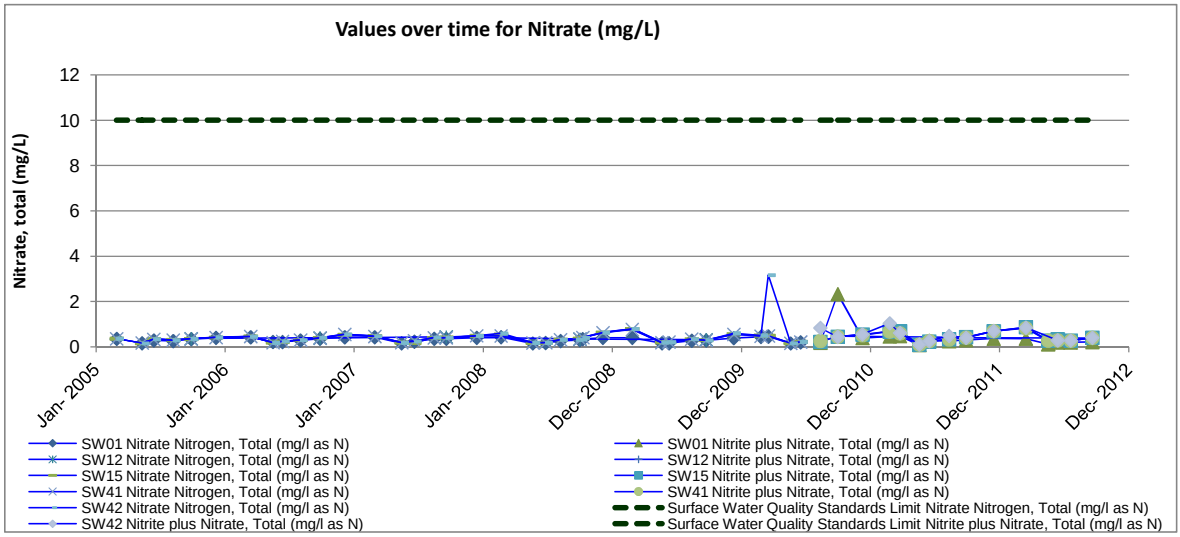

Values over time for Iron, total & Iron, dissolved (ug/L)
Iron, total & Iron dissolved (ug/L)
10000
1000
100
10
1
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Iron, Total (ug/l as Fe)
SW12 Iron, Total (ug/l as Fe)
SW15 Iron, Total (ug/l as Fe)
SW41 Iron, Total (ug/l as Fe)
SW42 Iron, Total (ug/l as Fe)
SW42
SW01
SW12
SW15
SW41
Surface Water Quality Standards Limit Iron, Total (ug/l as Fe)
Surface Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)

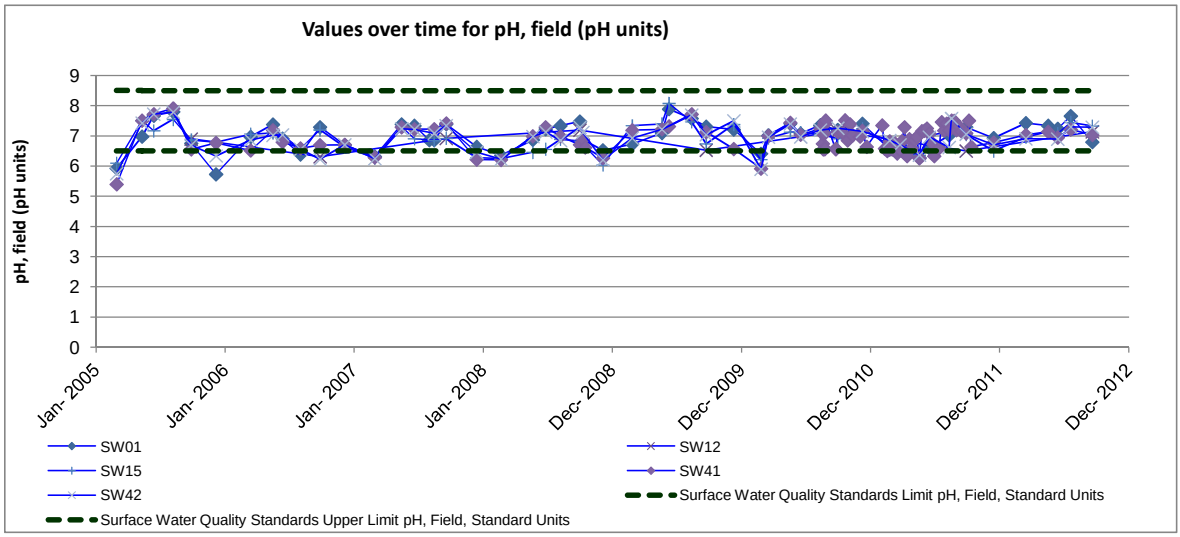

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Lead, dissolved (u/L)
10
1
0.1
0.01
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)

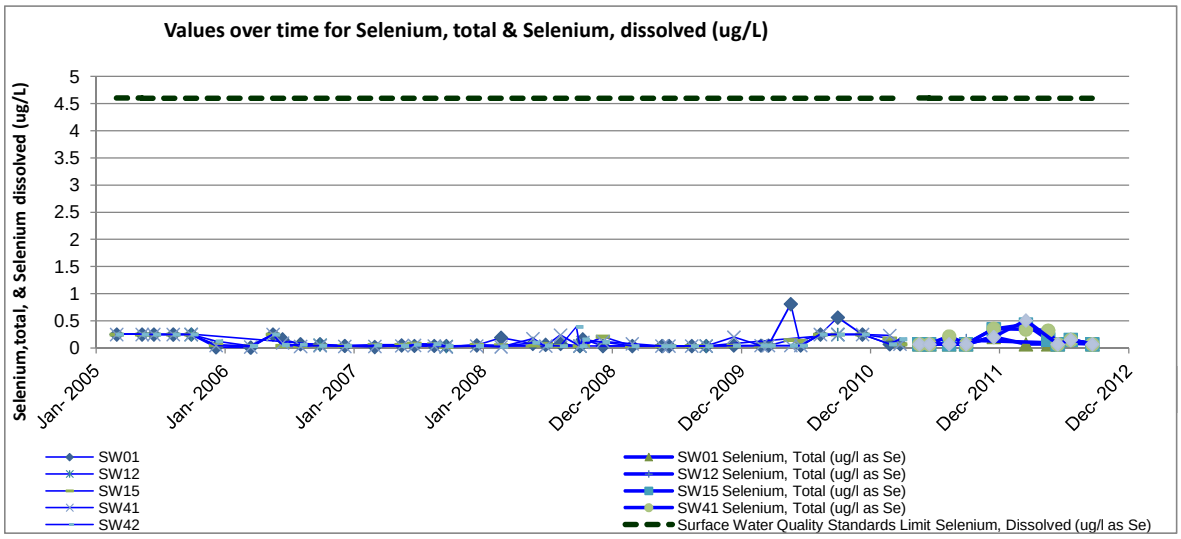

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
60
50
40
30
20
10
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Manganese, Total (ug/l as Mn)

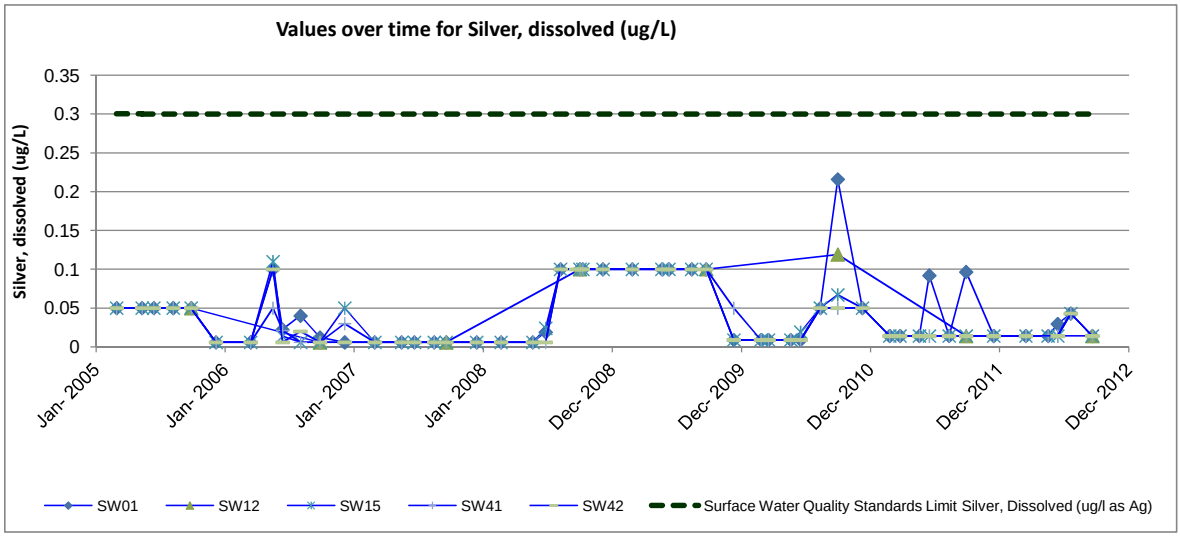

Values over time for Mercury, dissolved & Mercury, total (ug/L)
Mercury, dissolved & Mercury, total (ug/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Mercury, Dissolved (ug/l as Hg)
SW12 Mercury, Dissolved (ug/l as Hg)
SW15 Mercury, Dissolved (ug/l as Hg)
SW41 Mercury, Dissolved (ug/l as Hg)
SW42 Mercury, Dissolved (ug/l as Hg)
SW42 Mercury, Total (ug/l as Hg)
SW01 Mercury, Total (ug/l as Hg)
SW12 Mercury, Total (ug/l as Hg)
SW15 Mercury, Total (ug/l as Hg)
SW41 Mercury, Total (ug/l as Hg)
Surface Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
Surface Water Quality Standards Limit Mercury, Total (ug/l as Hg)

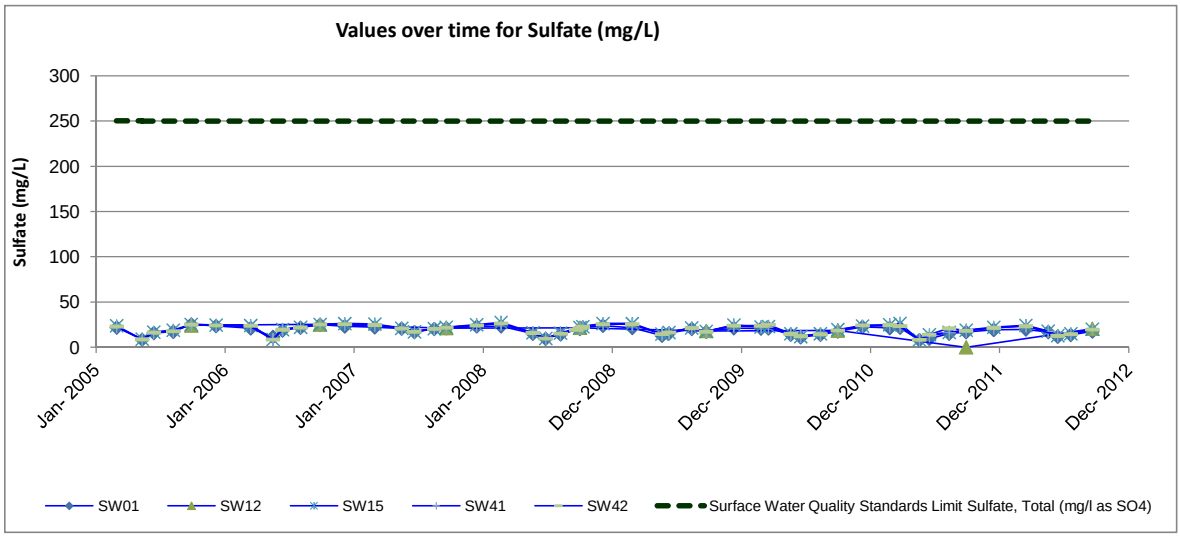

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the
Nickel, dissolved (u/L)
18
16
14
12
10
8
6
4
2
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)

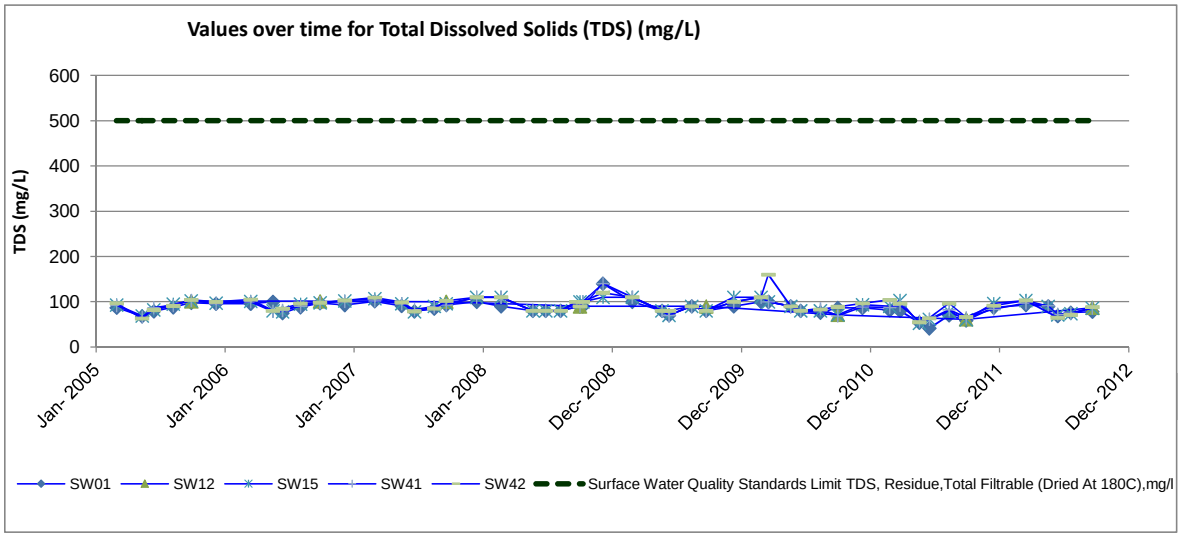

Values over time for Nitrate (mg/L)
Nitrate, total (mg/L)
12
10
8
6
4
2
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01 Nitrate Nitrogen, Total (mg/l as N)
SW12 Nitrate Nitrogen, Total (mg/l as N)
SW15 Nitrate Nitrogen, Total (mg/l as N)
SW41 Nitrate Nitrogen, Total (mg/l as N)
SW42 Nitrate Nitrogen, Total (mg/l as N)
SW42 Nitrite plus Nitrate, Total (mg/l as N)
SW01 Nitrite plus Nitrate, Total (mg/l as N)
SW12 Nitrite plus Nitrate, Total (mg/l as N)
SW15 Nitrite plus Nitrate, Total (mg/l as N)
SW41 Nitrite plus Nitrate, Total (mg/l as N)
Surface Water Quality Standards Limit Nitrate Nitrogen, Total (mg/l as N)
Surface Water Quality Standards Limit Nitrite plus Nitrate, Total (mg/l as N)

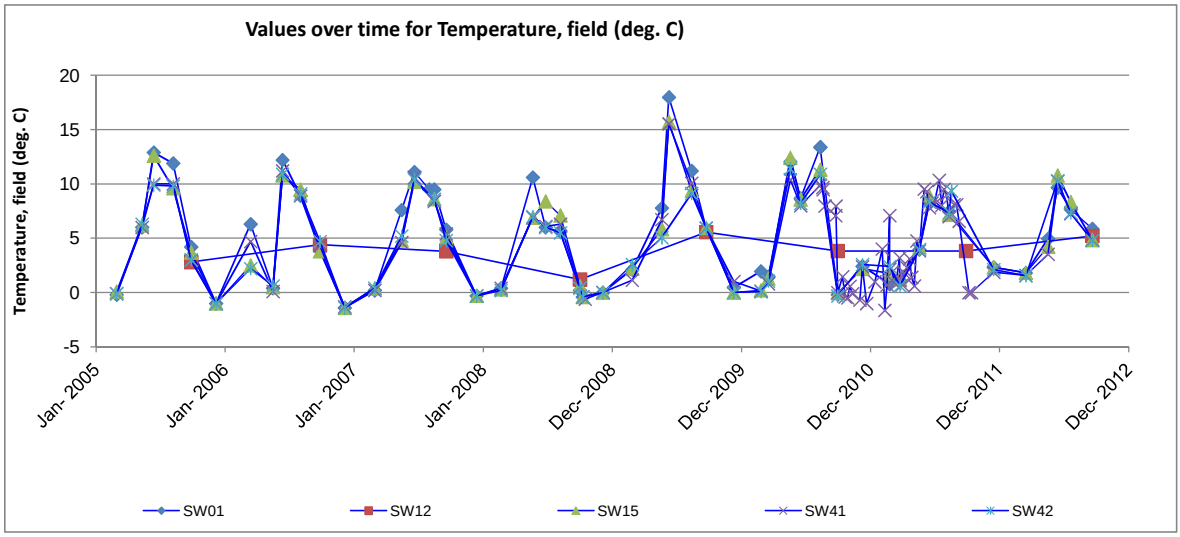

Values over time for pH, field (pH units)
pH, field (pH units)
9
8
7
6
5
4
3
2
1
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit pH, Field, Standard Units
Surface Water Quality Standards Upper Limit pH, Field, Standard Units

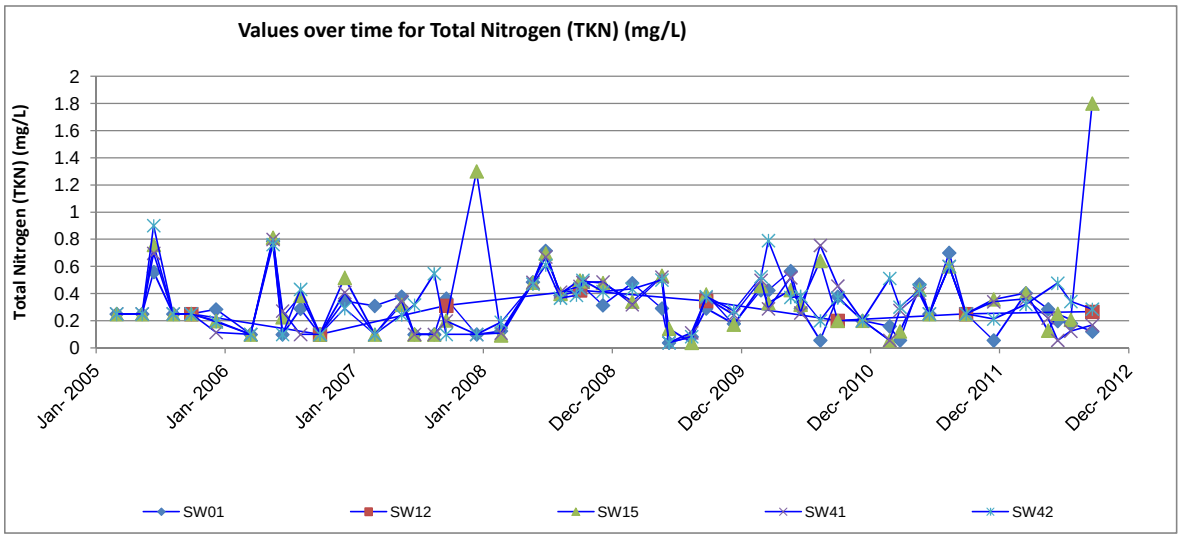

Values over time for Selenium, total & Selenium, dissolved (ug/L)
Selenium,total, & Selenium dissolved (ug/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
SW01 Selenium, Total (ug/l as Se)
SW12 Selenium, Total (ug/l as Se)
SW15 Selenium, Total (ug/l as Se)
SW41 Selenium, Total (ug/l as Se)
Surface Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)

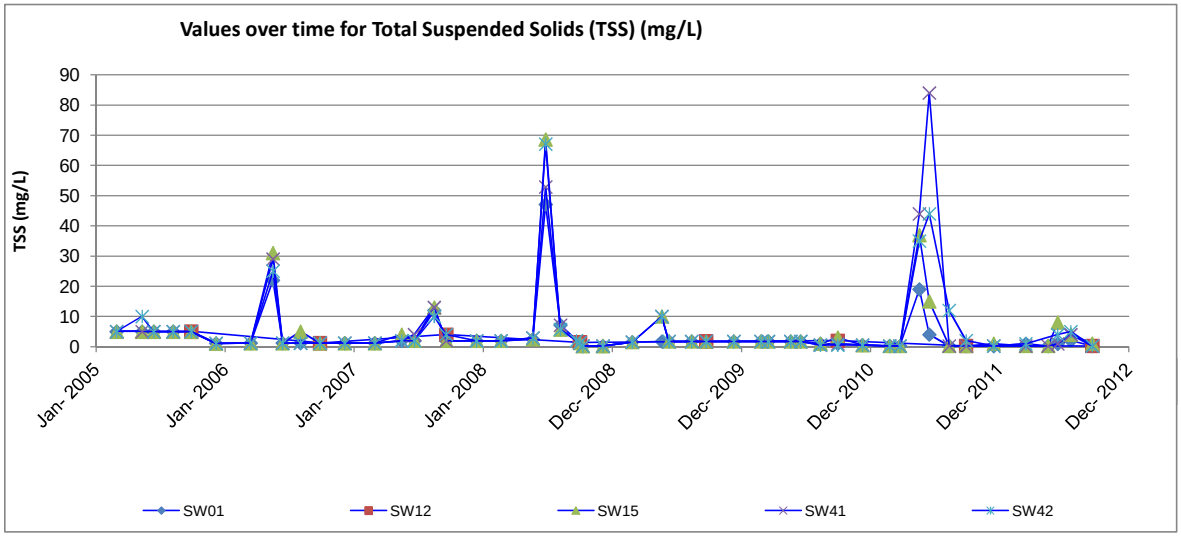

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)

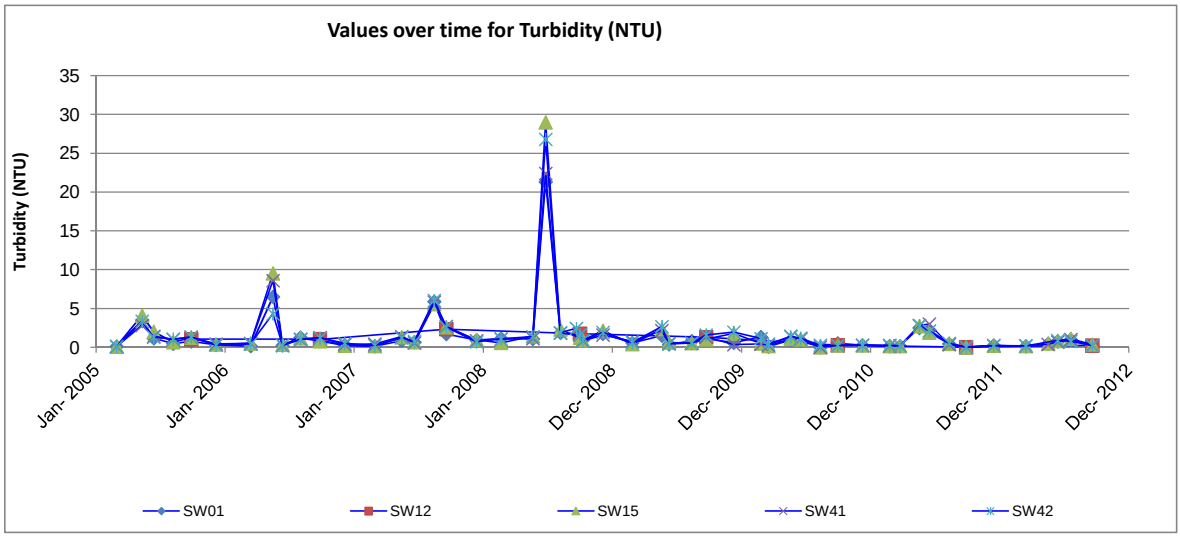

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
300
250
200
150
100
50
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Sulfate, Total (mg/l as SO4)

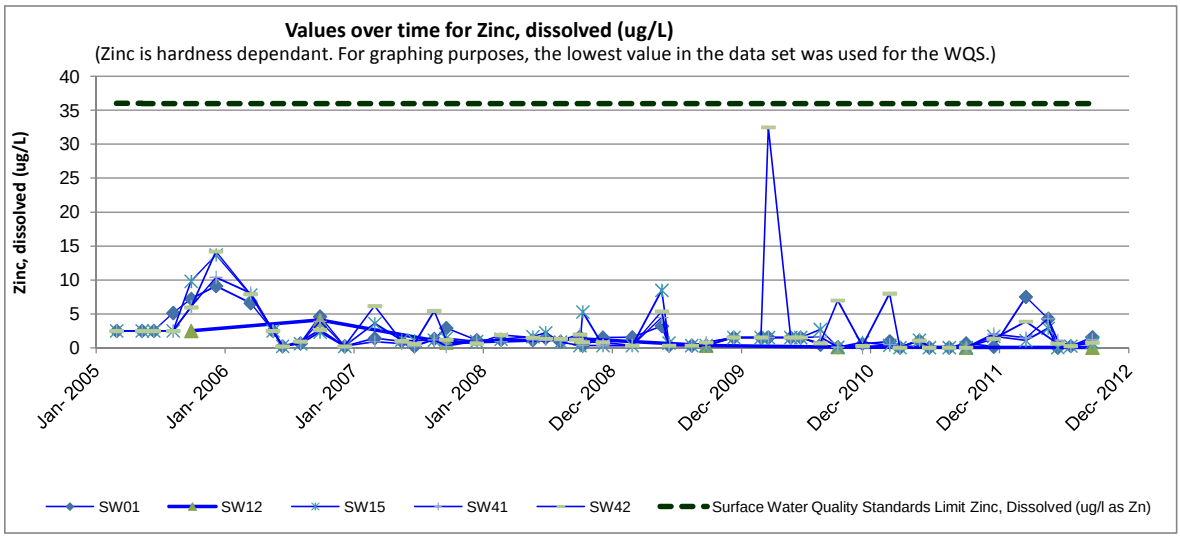

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
600
500
400
300
200
100
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l


Values over time for Temperature, field (deg. C)
Temperature, field (deg. C)
20
15
10
5
0
-5
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42


Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42


Values over time for Total Suspended Solids (TSS) (mg/L)
TSS (mg/L)
90
80
70
60
50
40
30
20
10
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42


Values over time for Turbidity (NTU)
Turbidity (NTU)
35
30
25
20
15
10
5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42


Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
40
35
30
25
20
15
10
5
0
Jan- 2005
Jan- 2006
Jan- 2007
Jan- 2008
Dec- 2008
Dec- 2009
Dec- 2010
Dec- 2011
Dec- 2012
SW01
SW12
SW15
SW41
SW42
Surface Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)