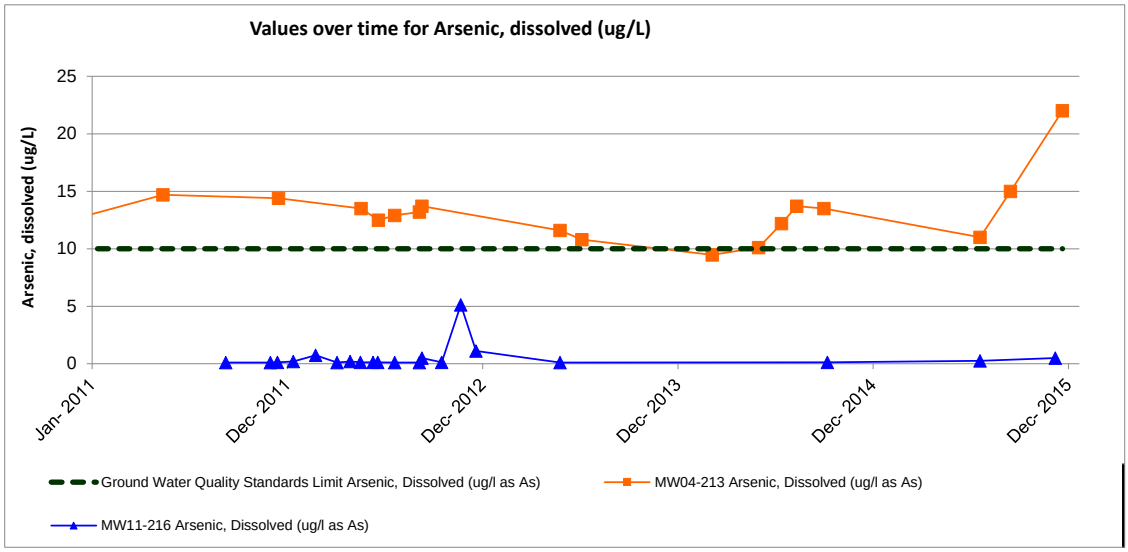
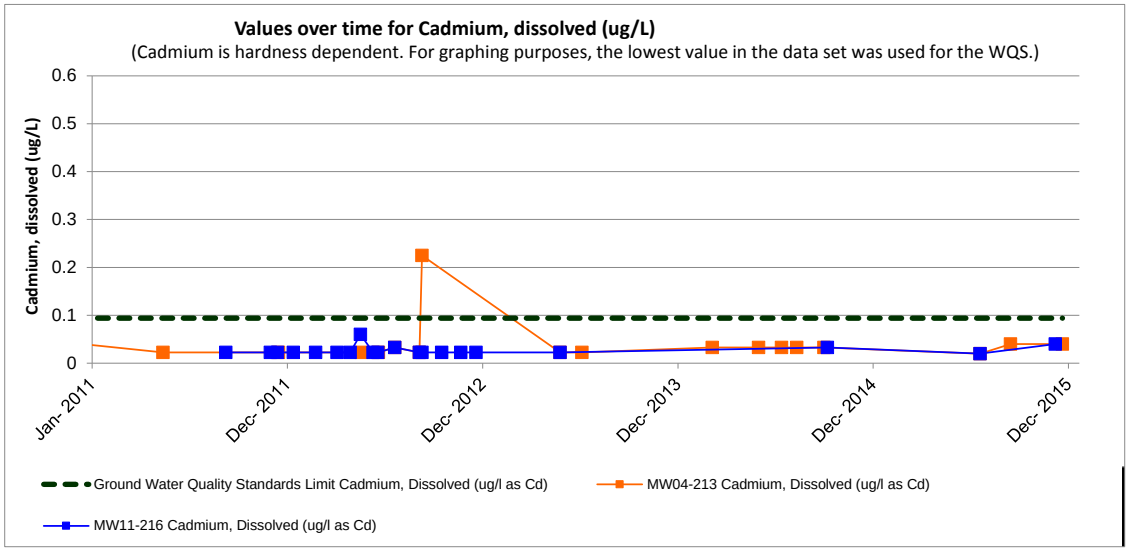
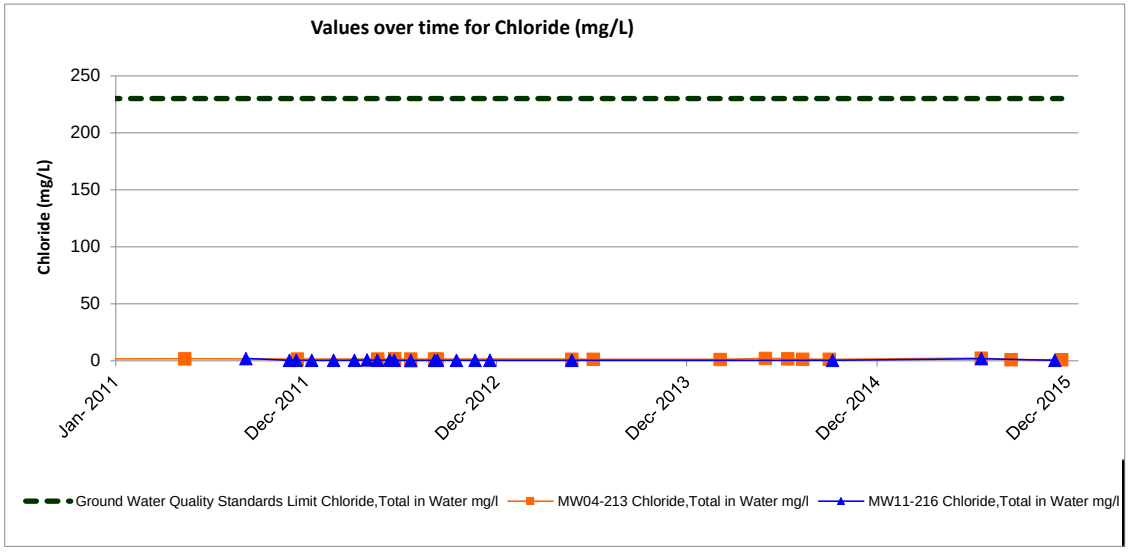
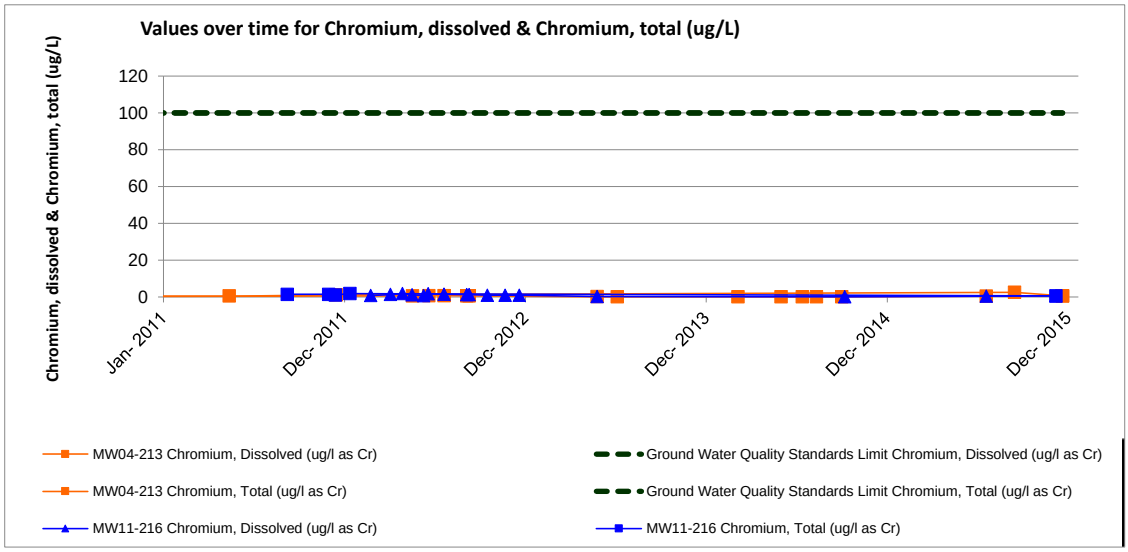
APPENDIX C –

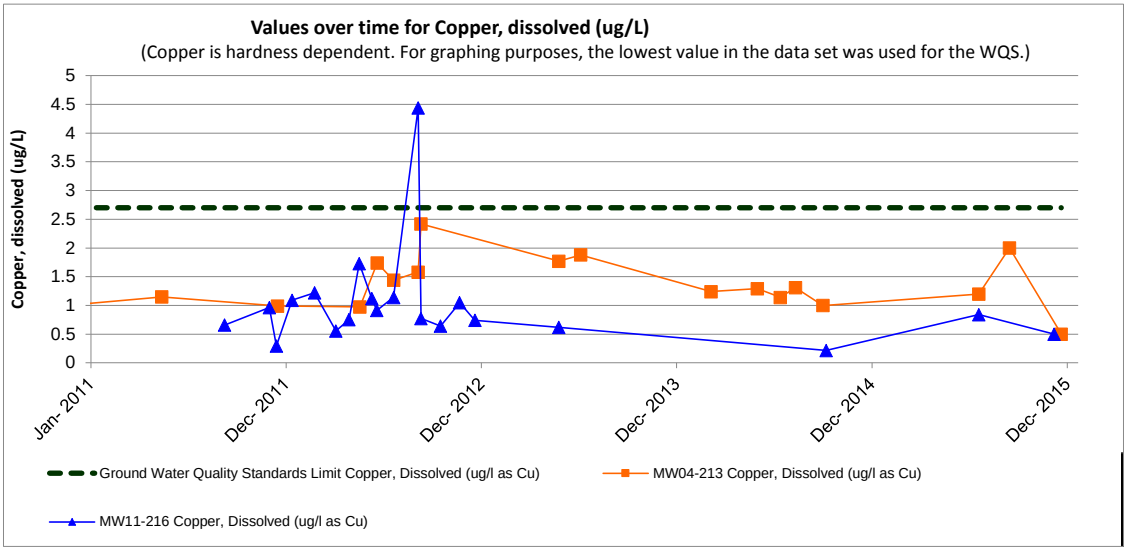
TIME SERIES GRAPHS OF MONITORING DATA

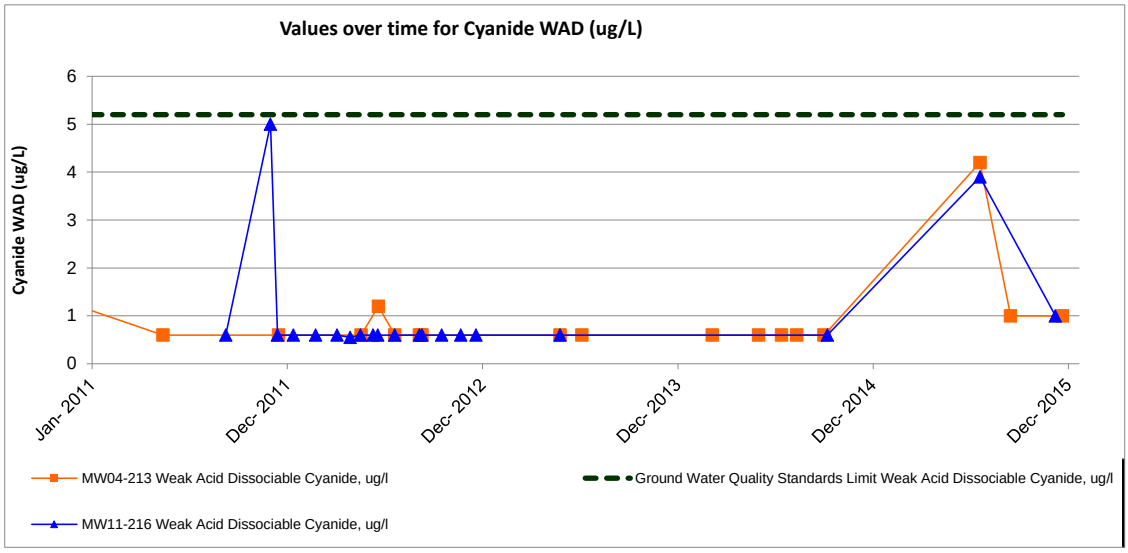

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)
MW04-213 Arsenic, Dissolved (ug/l as As)
MW11-216 Arsenic, Dissolved (ug/l as As)

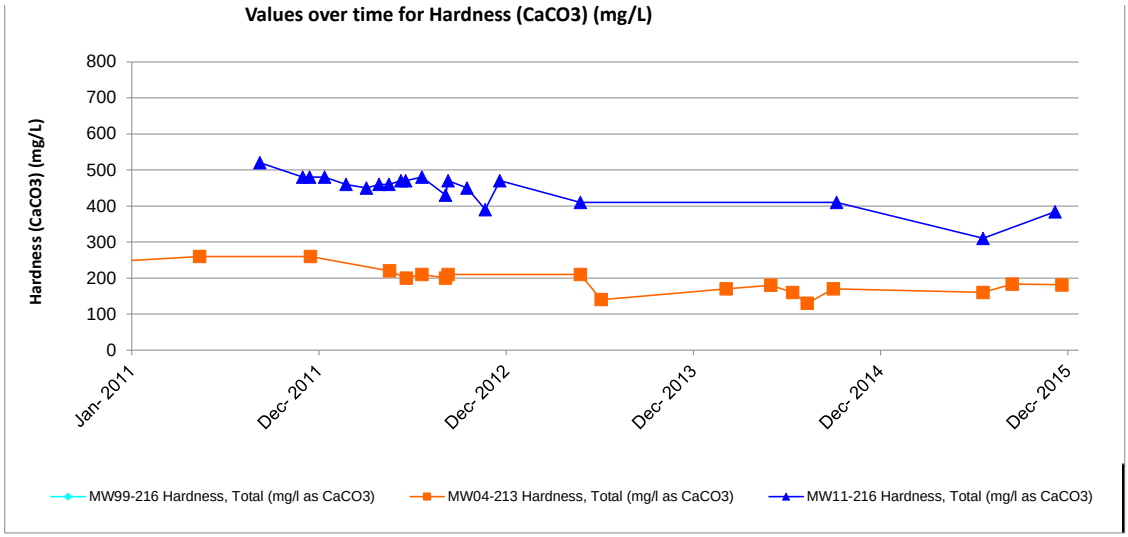

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependent. For graphing purposes, the lowest value in the data set was used for the WQS.)
Cadmium, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)
MW04-213 Cadmium, Dissolved (ug/l as Cd)
MW11-216 Cadmium, Dissolved (ug/l as Cd)

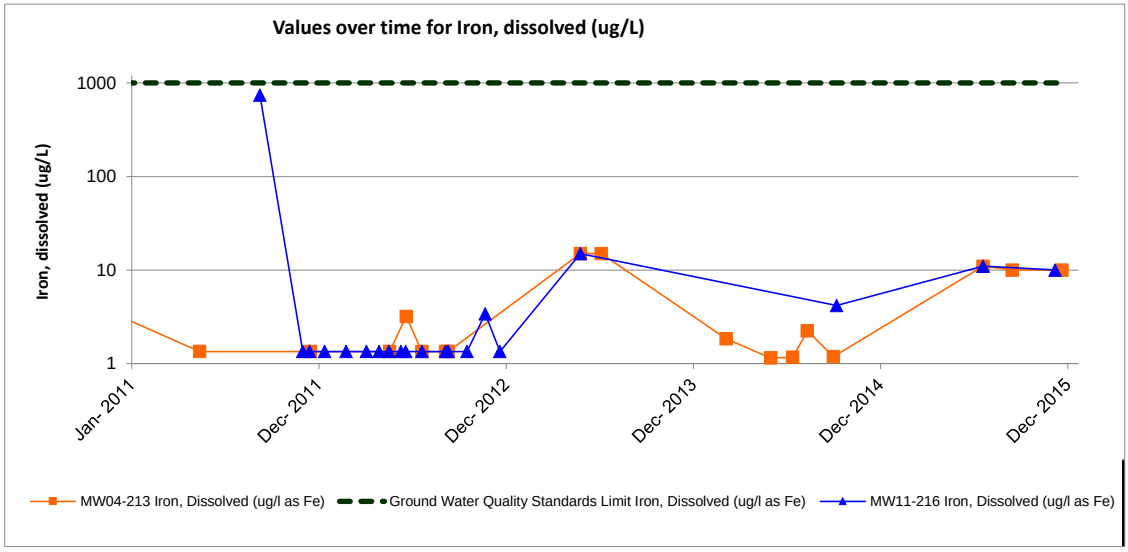

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Chloride,Total in Water mg/l
MW04-213 Chloride,Total in Water mg/l
MW11-216 Chloride,Total in Water mg/l

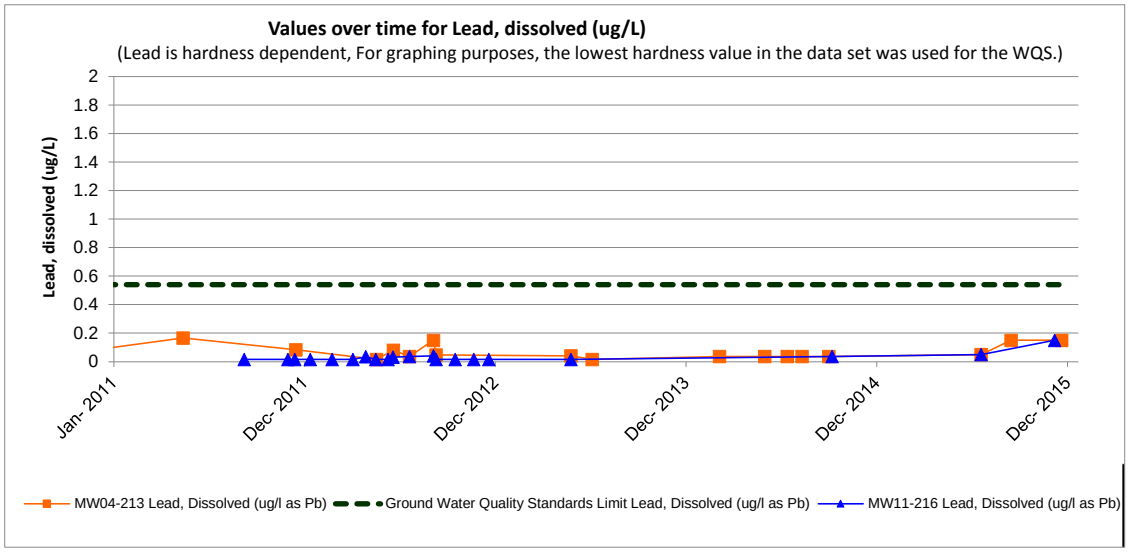

Values over time for Chromium, dissolved & Chromium, total (ug/L)
Chromium, dissolved & Chromium, total (ug/L)
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Chromium, Dissolved (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)
MW04-213 Chromium, Total (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Total (ug/l as Cr)
MW11-216 Chromium, Dissolved (ug/l as Cr)
MW11-216 Chromium, Total (ug/l as Cr)

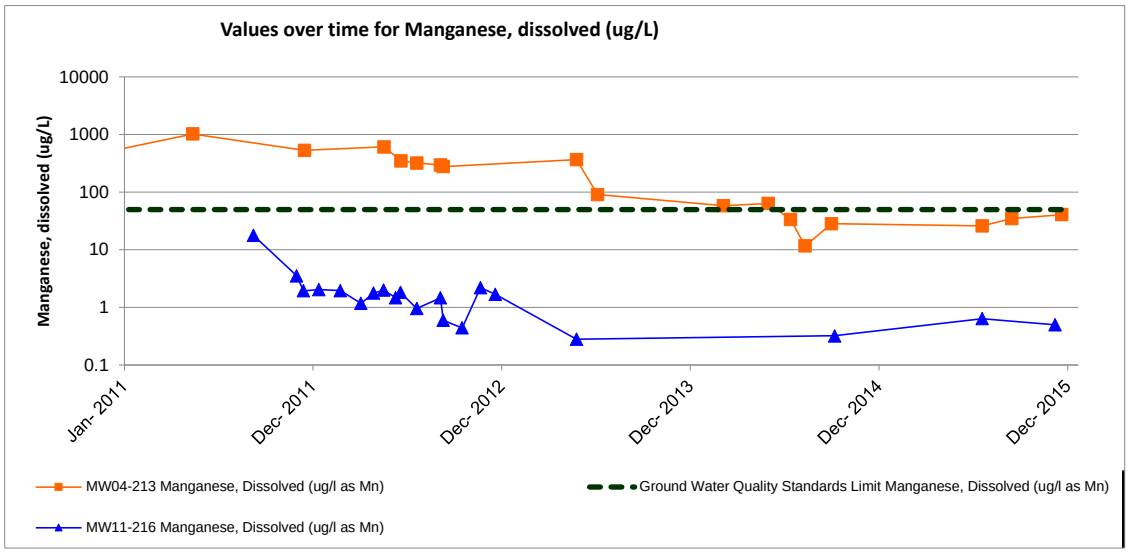

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependent. For graphing purposes, the lowest value in the data set was used for the WQS.)
Copper, dissolved (ug/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)
MW04-213 Copper, Dissolved (ug/l as Cu)
MW11-216 Copper, Dissolved (ug/l as Cu)

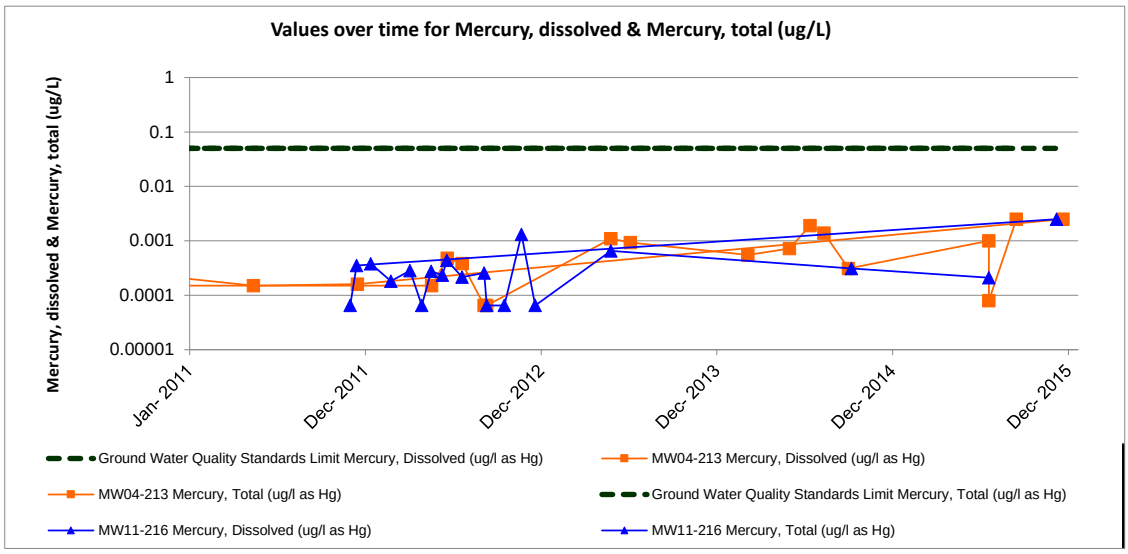

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Weak Acid Dissociable Cyanide, ug/l
Ground Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l
MW11-216 Weak Acid Dissociable Cyanide, ug/l

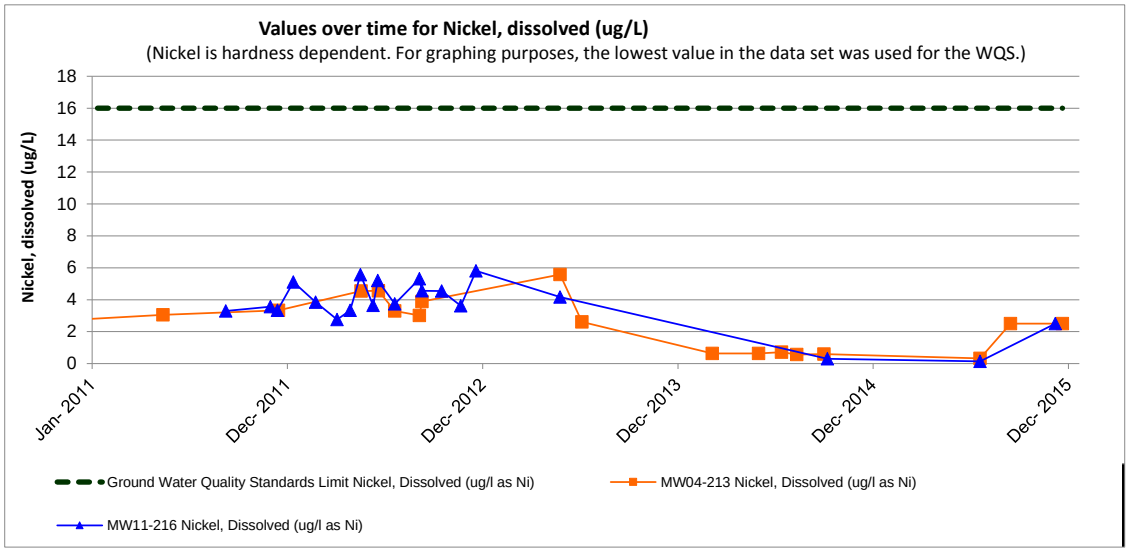

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
800
700
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW99-216 Hardness, Total (mg/l as CaCO3)
MW04-213 Hardness, Total (mg/l as CaCO3)
MW11-216 Hardness, Total (mg/l as CaCO3)

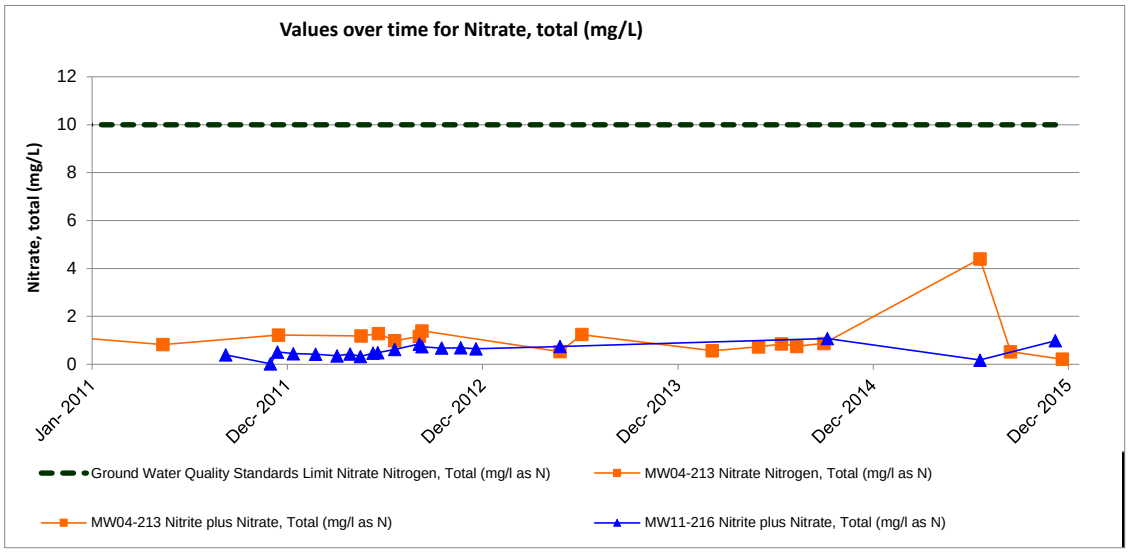

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
1000
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Iron, Dissolved (ug/l as Fe)
Ground Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)
MW11-216 Iron, Dissolved (ug/l as Fe)

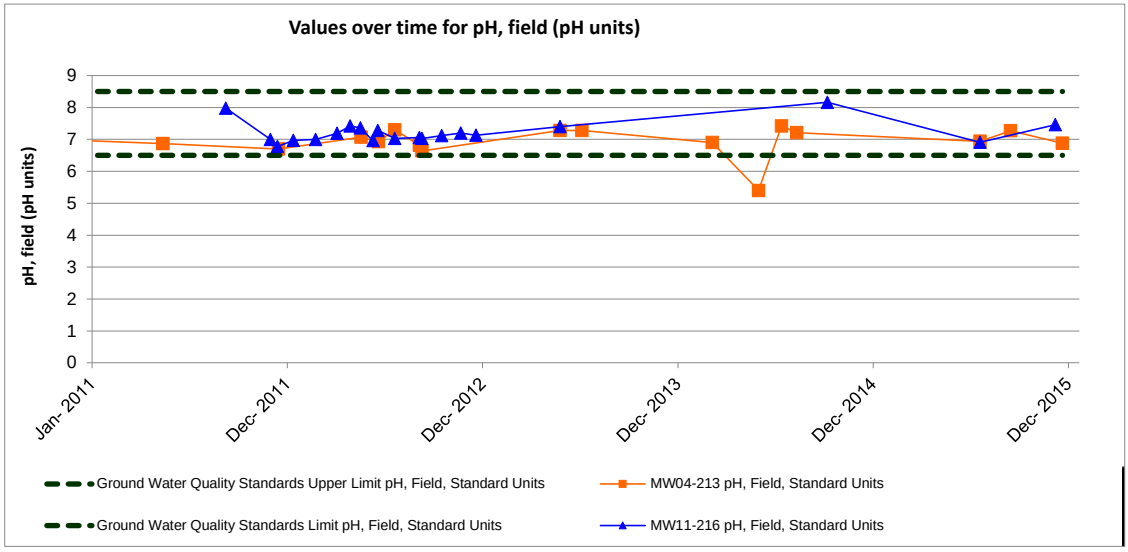

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependent, For graphing purposes, the lowest hardness value in the data set was used for the WQS.)
Lead, dissolved (ug/L)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Lead, Dissolved (ug/l as Pb)
Ground Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)
MW11-216 Lead, Dissolved (ug/l as Pb)

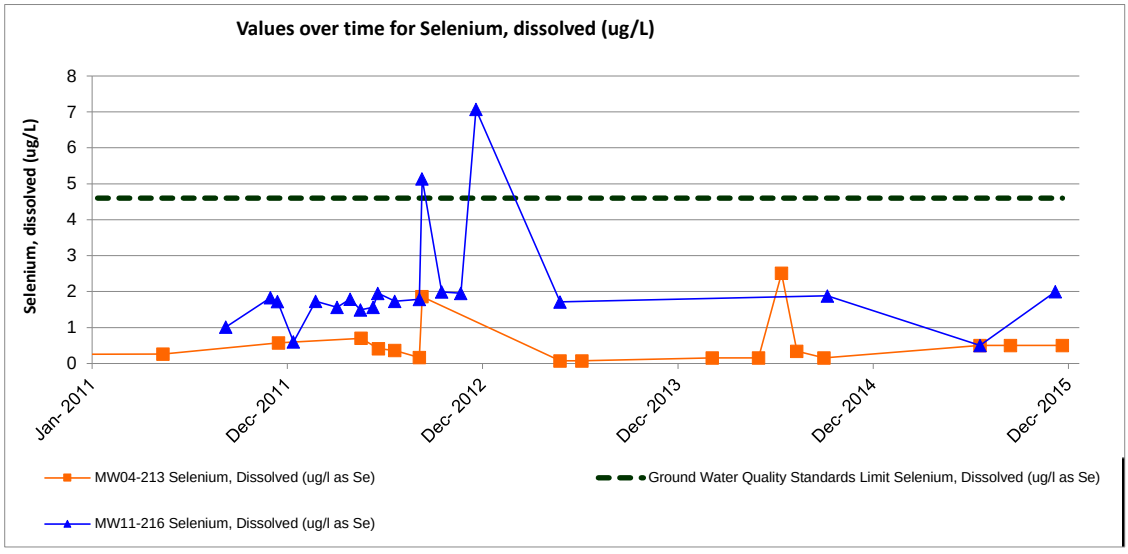

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
10000
1000
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Manganese, Dissolved (ug/l as Mn)
Ground Water Quality Standards Limit Manganese, Dissolved (ug/l as Mn)
MW11-216 Manganese, Dissolved (ug/l as Mn)

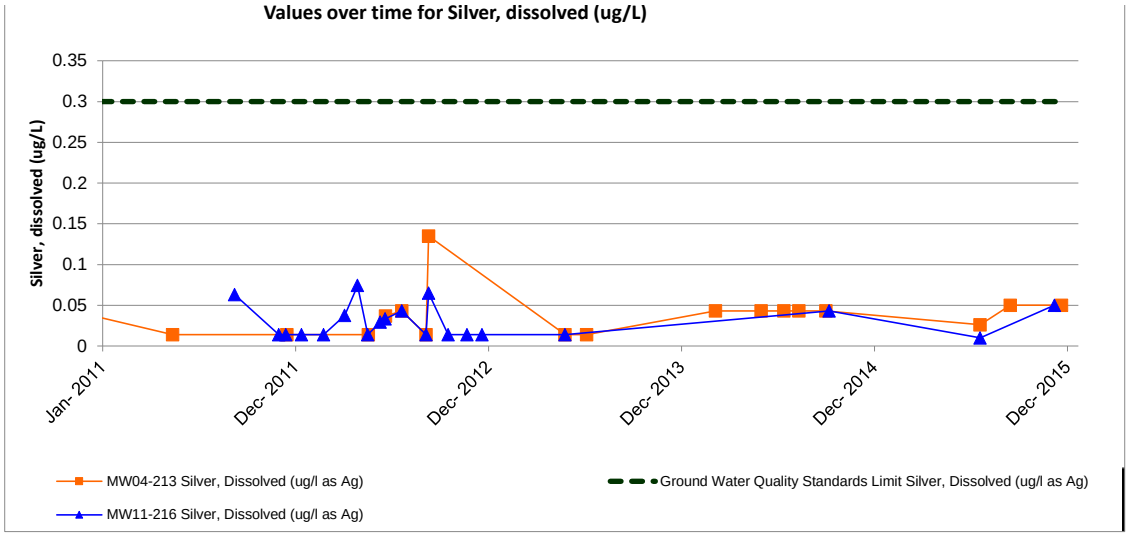

Values over time for Mercury, dissolved & Mercury, total (ug/L)
Mercury, dissolved & Mercury, total (ug/L)
1
0.1
0.01
0.001
0.0001
0.00001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
MW04-213 Mercury, Dissolved (ug/l as Hg)
MW04-213 Mercury, Total (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Total (ug/l as Hg)
MW11-216 Mercury, Dissolved (ug/l as Hg)
MW11-216 Mercury, Total (ug/l as Hg)

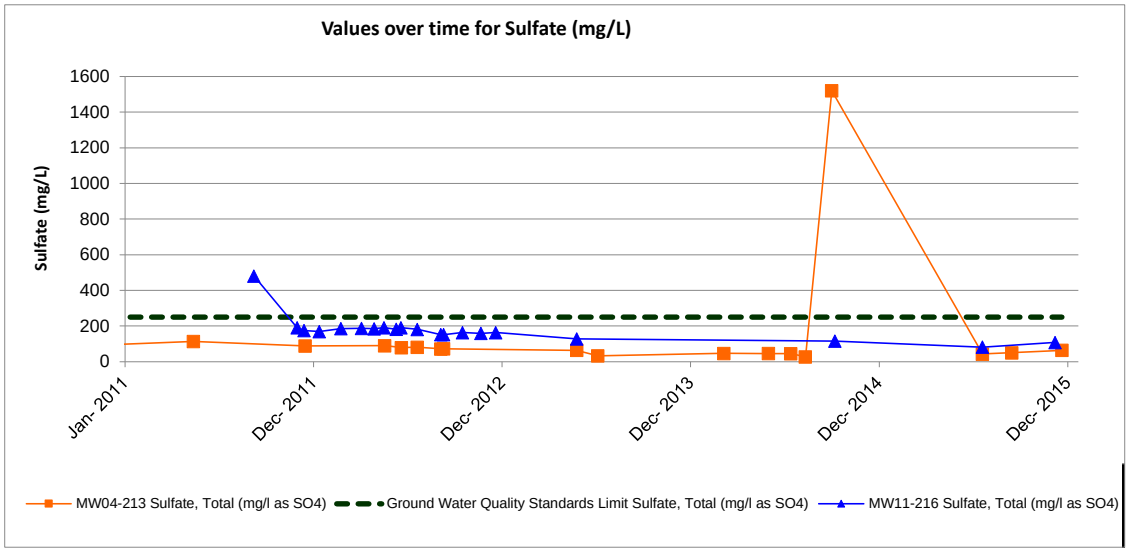

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependent. For graphing purposes, the lowest value in the data set was used for the WQS.)
Nickel, dissolved (ug/L)
18
16
14
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)
MW04-213 Nickel, Dissolved (ug/l as Ni)
MW11-216 Nickel, Dissolved (ug/l as Ni)

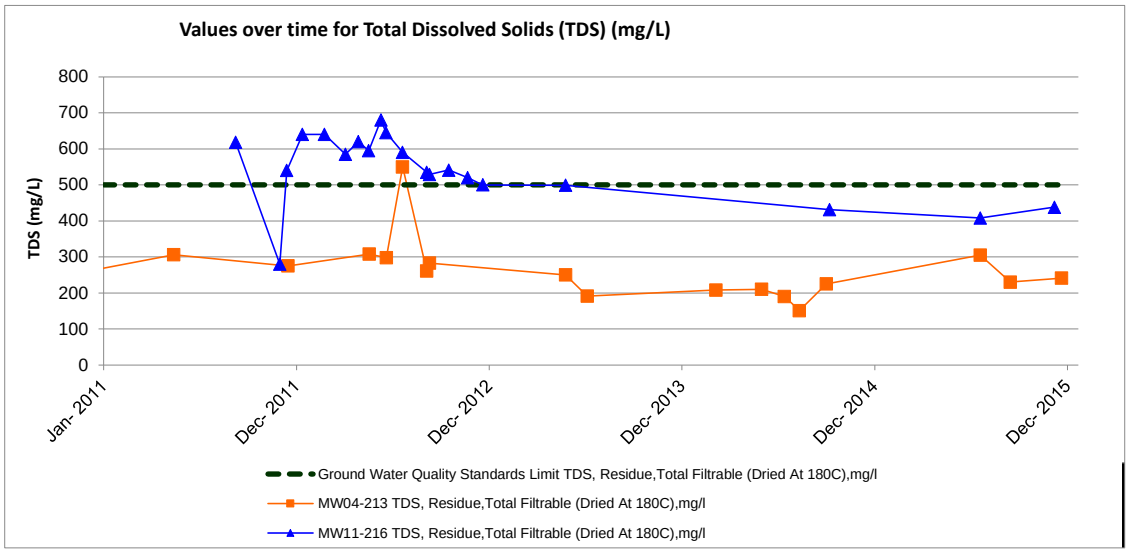

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit Nitrate Nitrogen, Total (mg/l as N)
MW04-213 Nitrate Nitrogen, Total (mg/l as N)
MW04-213 Nitrite plus Nitrate, Total (mg/l as N)
MW11-216 Nitrite plus Nitrate, Total (mg/l as N)

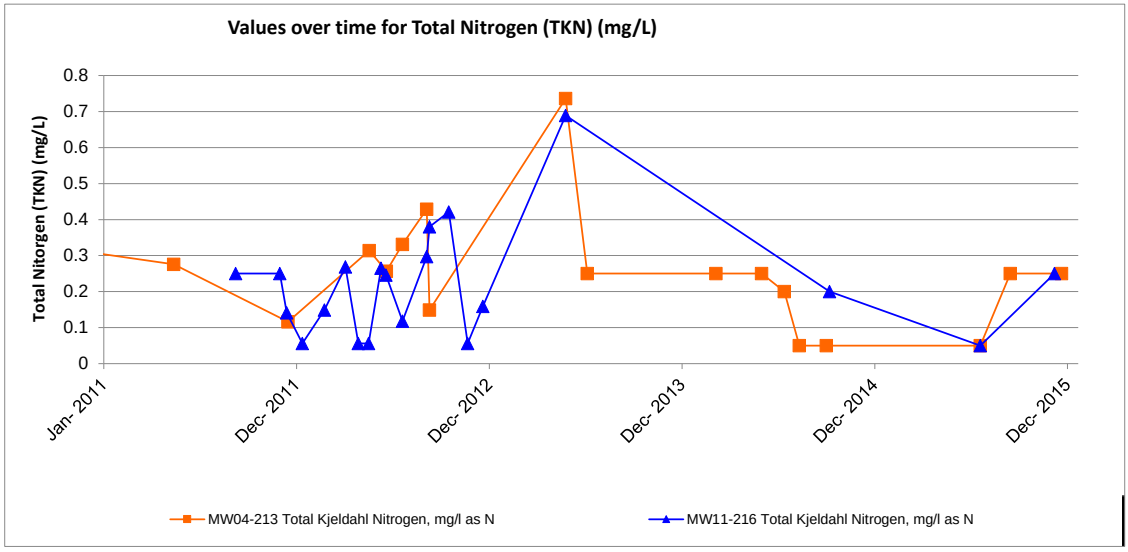

Values over time for pH, field (pH units)
pH, field (pH units)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Upper Limit pH, Field, Standard Units
MW04-213 pH, Field, Standard Units
Ground Water Quality Standards Limit pH, Field, Standard Units
MW11-216 pH, Field, Standard Units

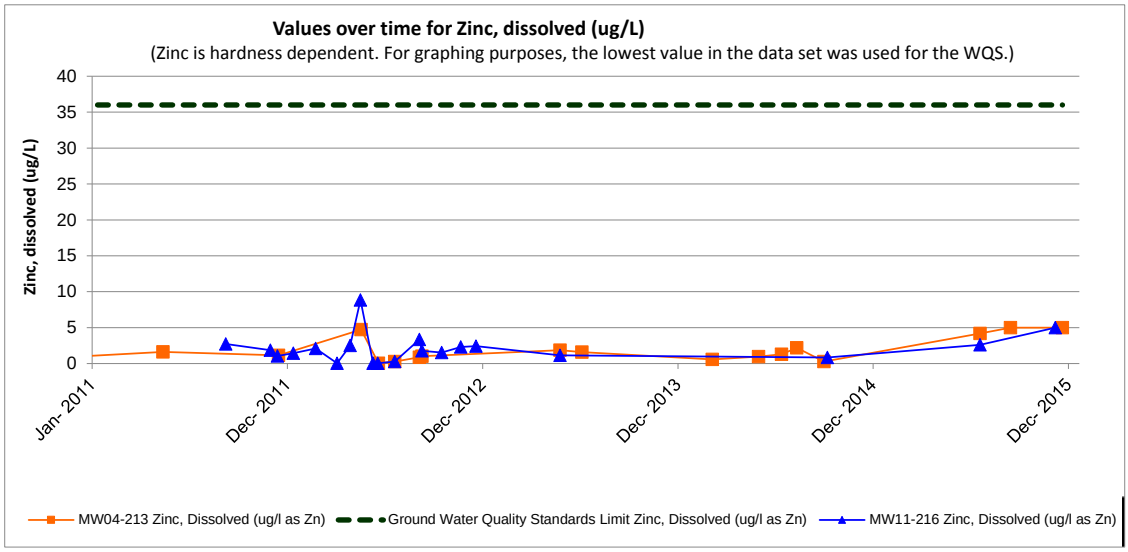

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Selenium, Dissolved (ug/l as Se)
Ground Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)
MW11-216 Selenium, Dissolved (ug/l as Se)

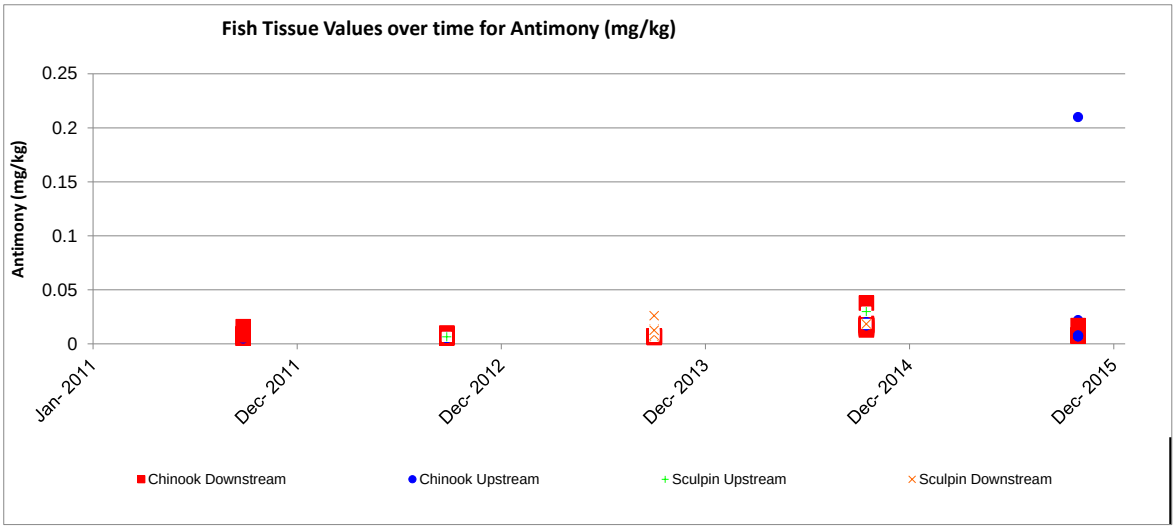

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Silver, Dissolved (ug/l as Ag)
Ground Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)
MW11-216 Silver, Dissolved (ug/l as Ag)

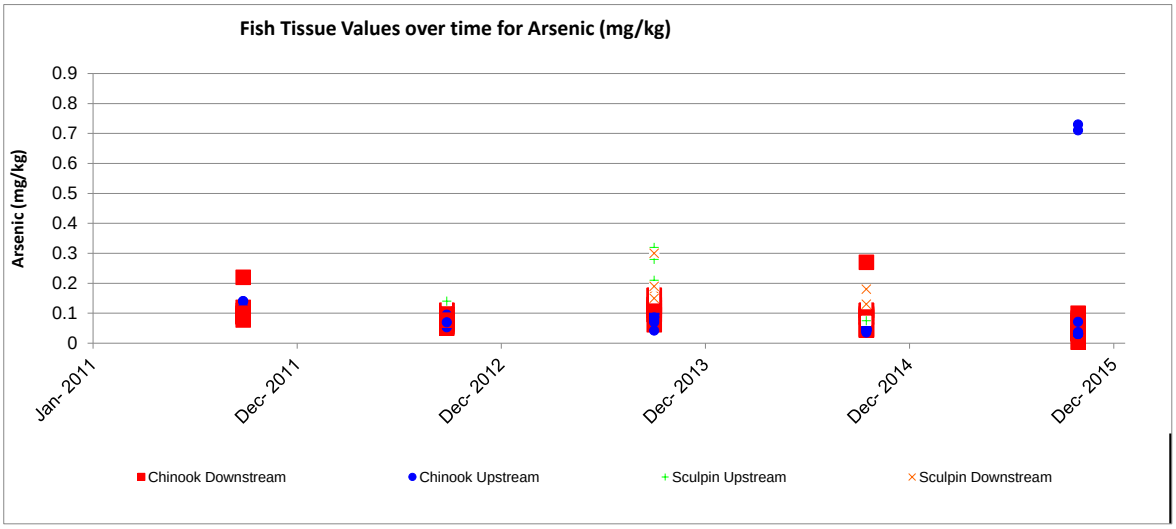

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
1600
1400
1200
1000
800
600
400
200
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)
MW11-216 Sulfate, Total (mg/l as SO4)

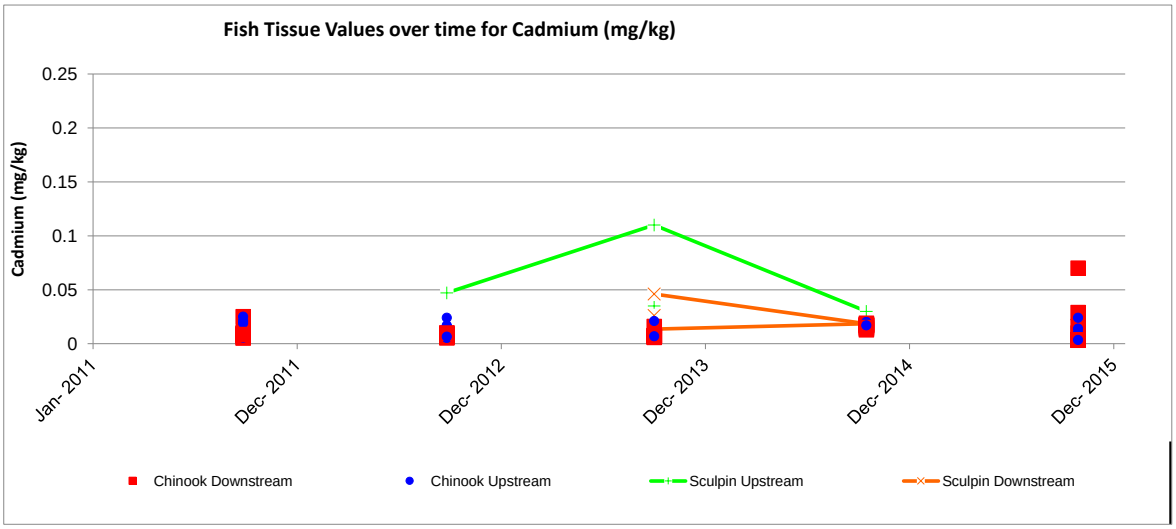

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
800
700
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Ground Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW04-213 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW11-216 TDS, Residue,Total Filtrable (Dried At 180C),mg/l

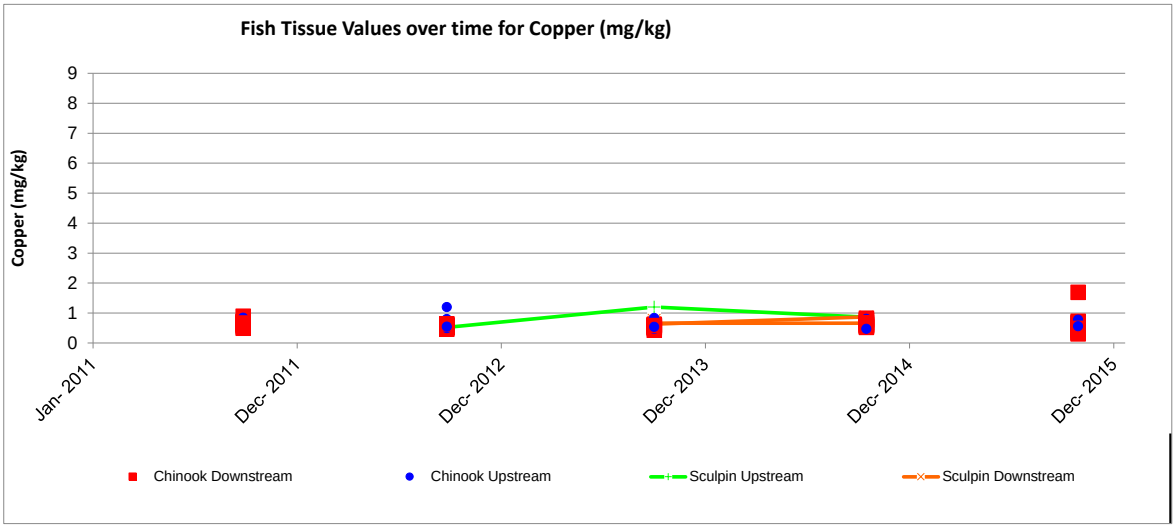

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitorgen (TKN) (mg/L)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Total Kjeldahl Nitrogen, mg/l as N
MW11-216 Total Kjeldahl Nitrogen, mg/l as N

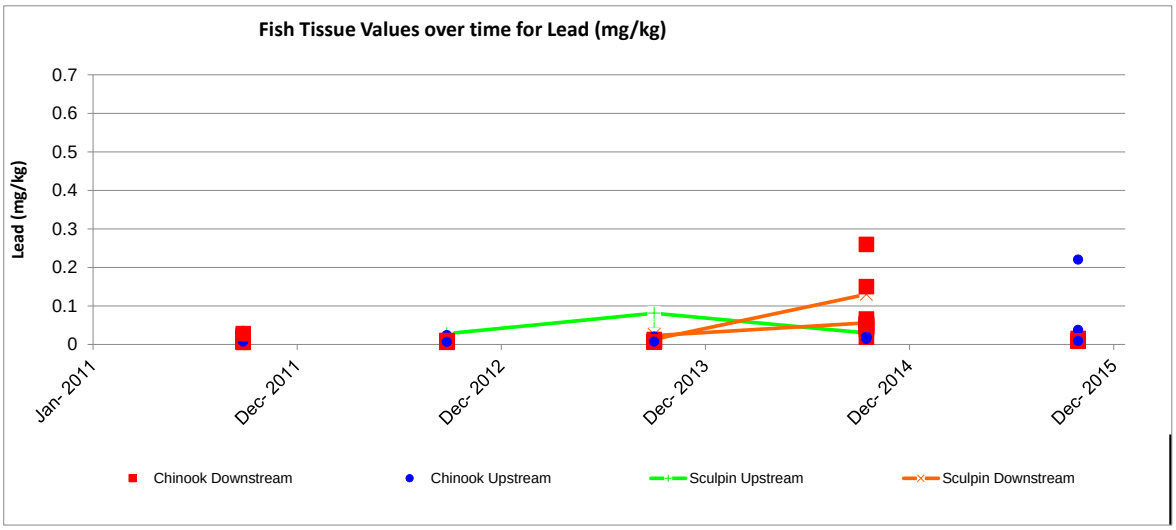

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependent. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW04-213 Zinc, Dissolved (ug/l as Zn)
Ground Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)
MW11-216 Zinc, Dissolved (ug/l as Zn)

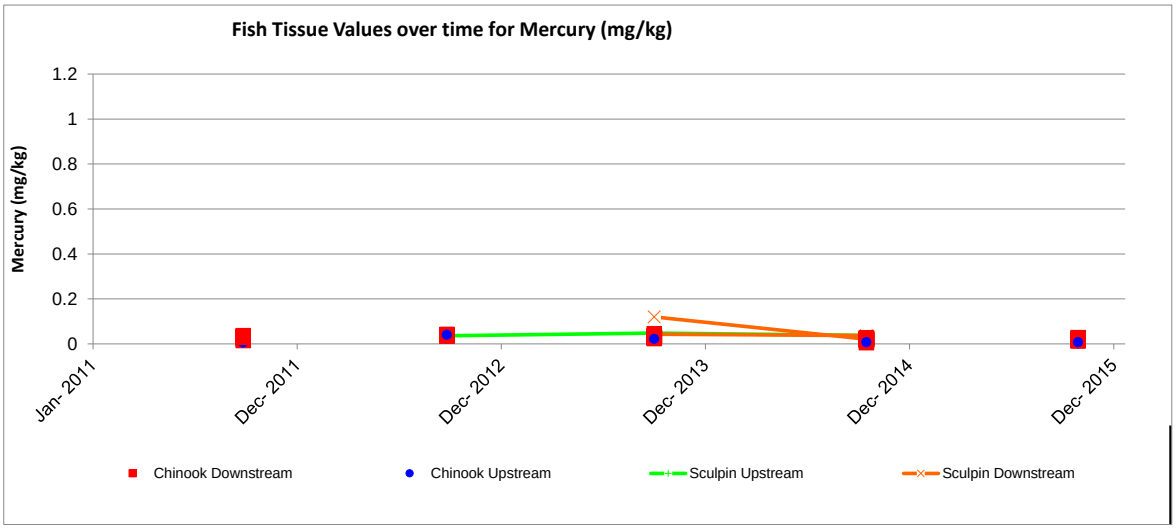

Fish Tissue Values over time for Antimony (mg/kg)
Antimony (mg/kg)
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream


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
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

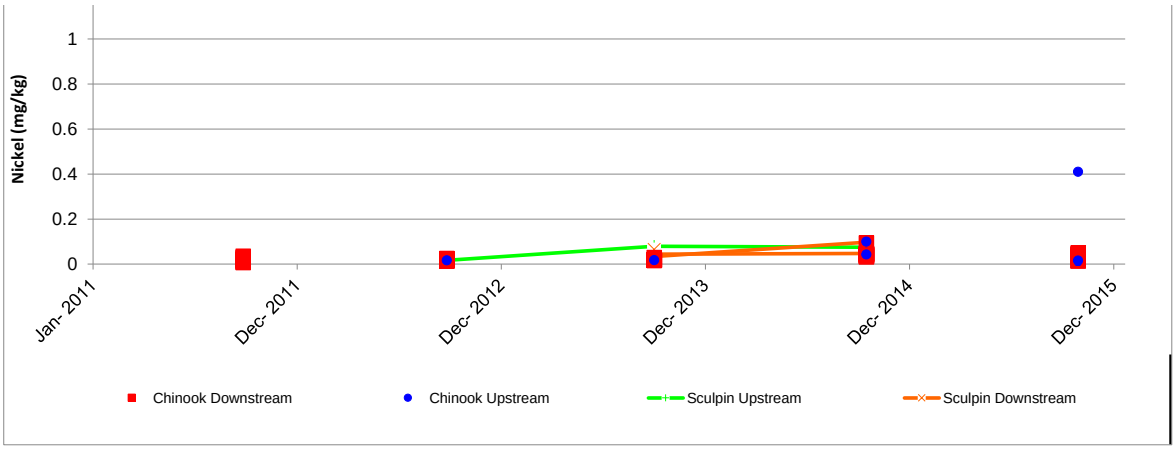

Fish Tissue Values over time for Cadmium (mg/kg)
Cadmium (mg/kg)
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

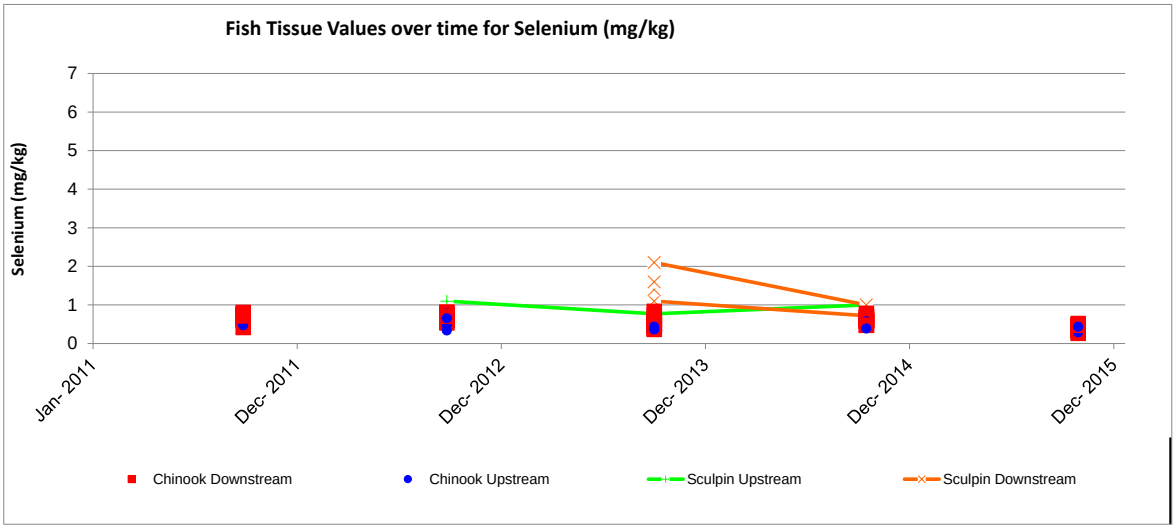

Fish Tissue Values over time for Copper (mg/kg)
Copper (mg/kg)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

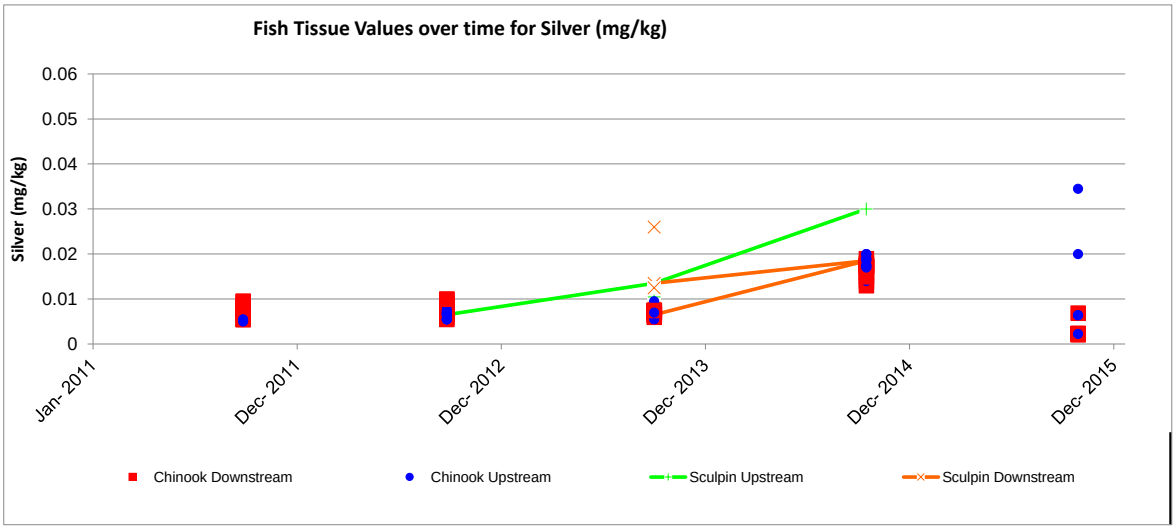

Fish Tissue Values over time for Lead (mg/kg)
Lead (mg/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

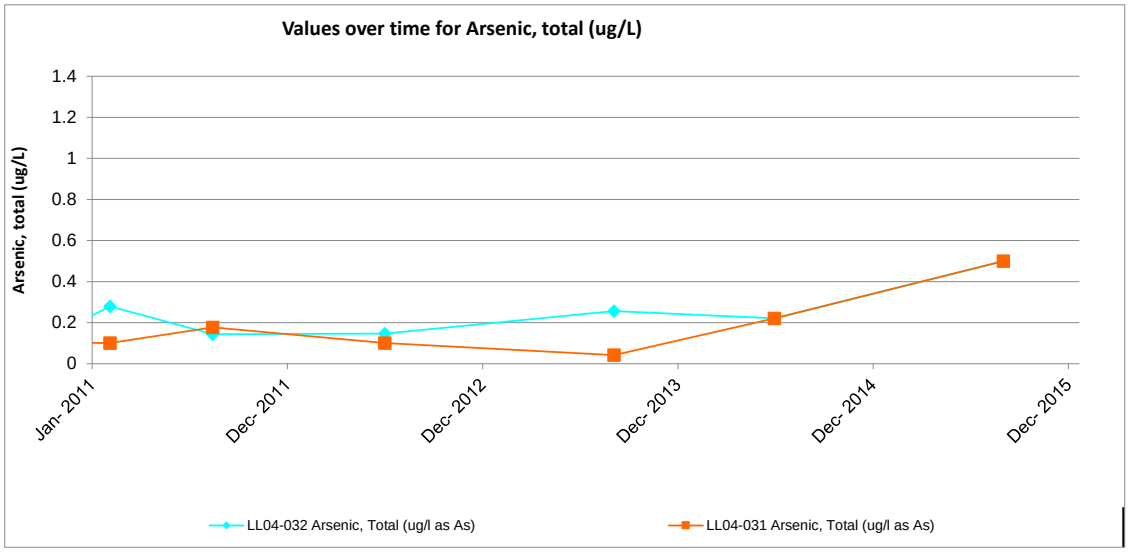

Fish Tissue Values over time for Mercury (mg/kg)
Mercury (mg/kg)
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

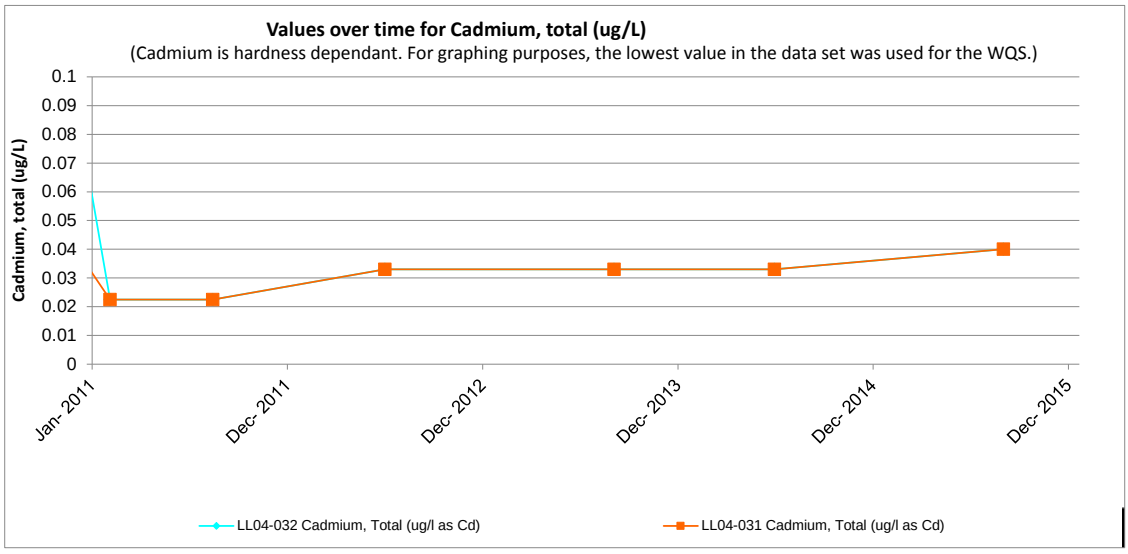
Fish Tissue Values over time for Nickel (mg/kg)
1.2

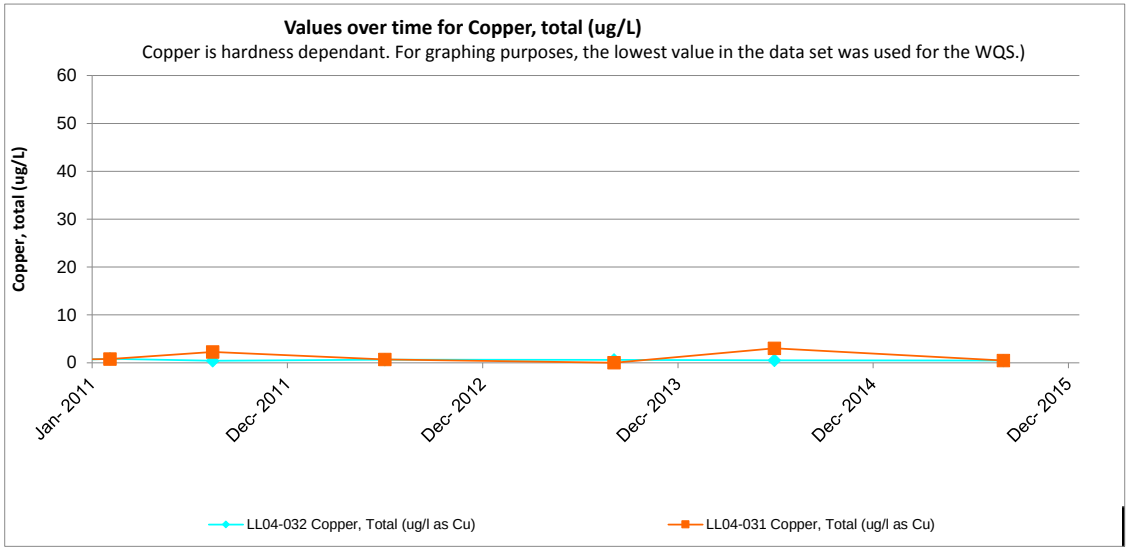

Nickel (mg/kg)
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

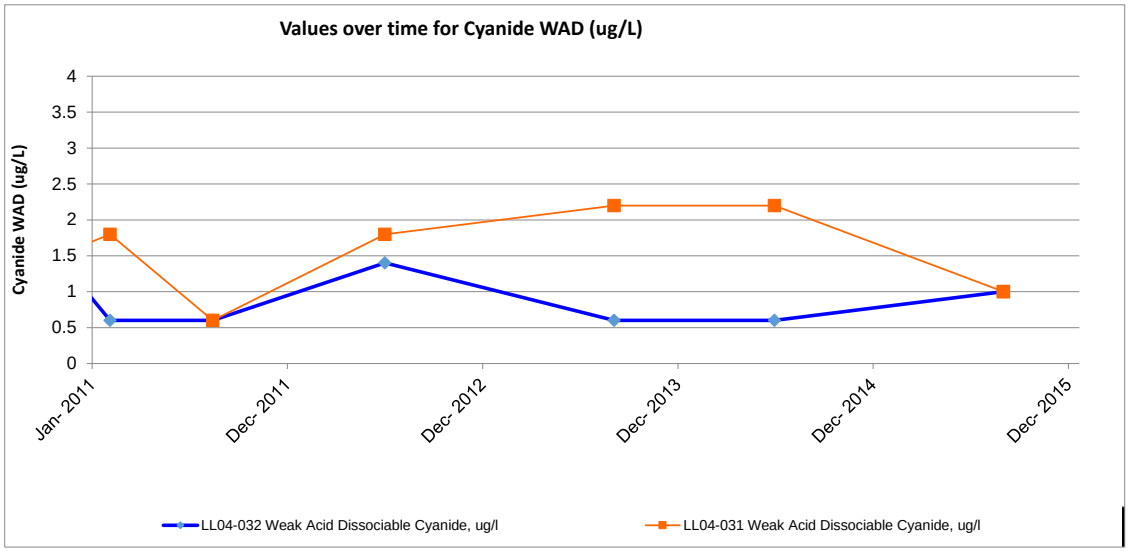

Fish Tissue Values over time for Selenium (mg/kg)
Selenium (mg/kg)
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

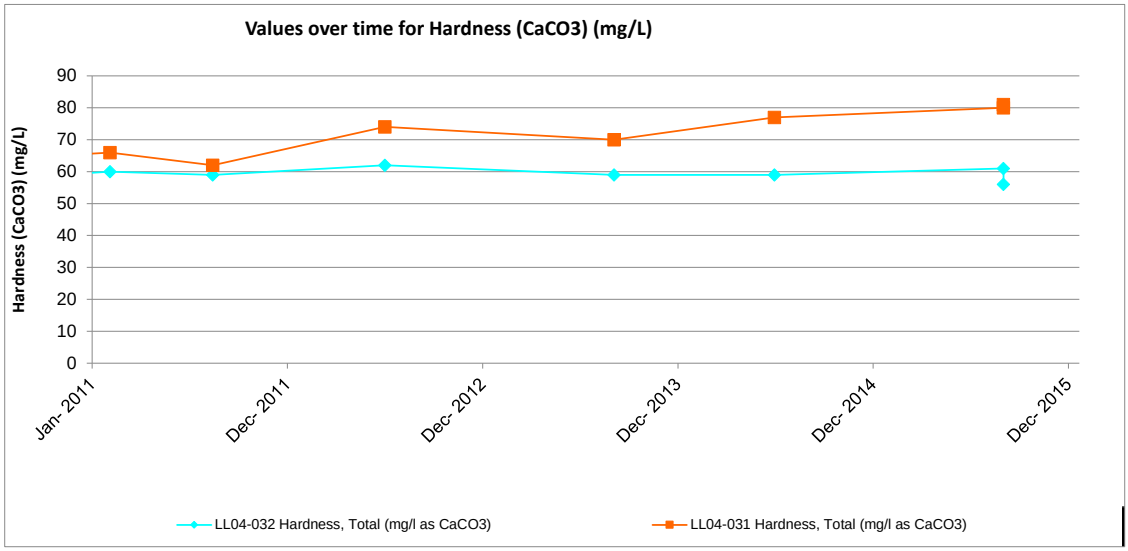

Fish Tissue Values over time for Silver (mg/kg)
Silver (mg/kg)
0.06
0.05
0.04
0.03
0.02
0.01
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Chinook Downstream
Chinook Upstream
Sculpin Upstream
Sculpin Downstream

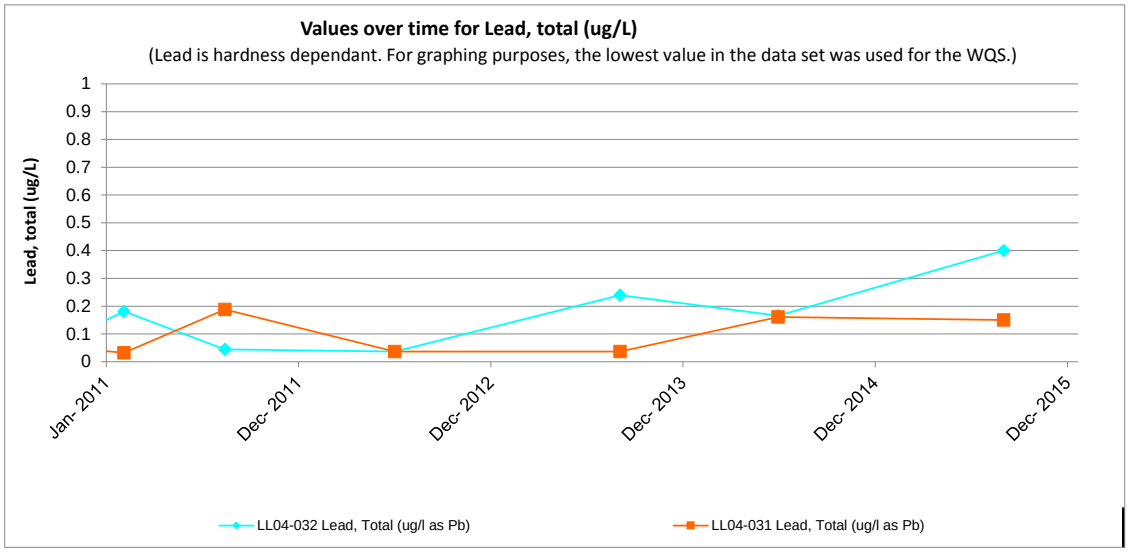

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Arsenic, Total (ug/l as As)
LL04-031 Arsenic, Total (ug/l as As)

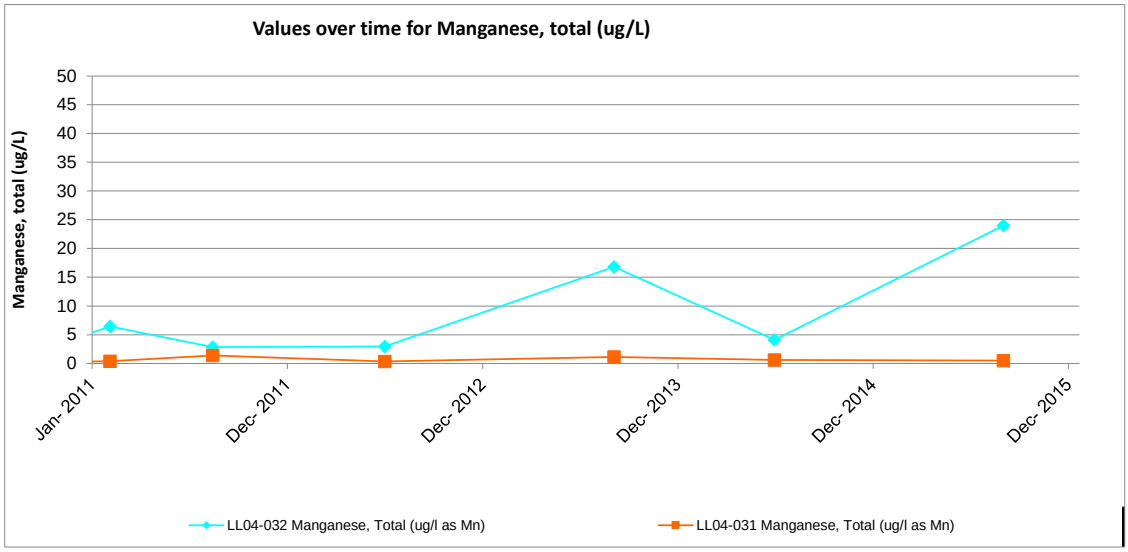

Values over time for Cadmium, total (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Cadmium, total (ug/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Cadmium, Total (ug/l as Cd)
LL04-031 Cadmium, Total (ug/l as Cd)

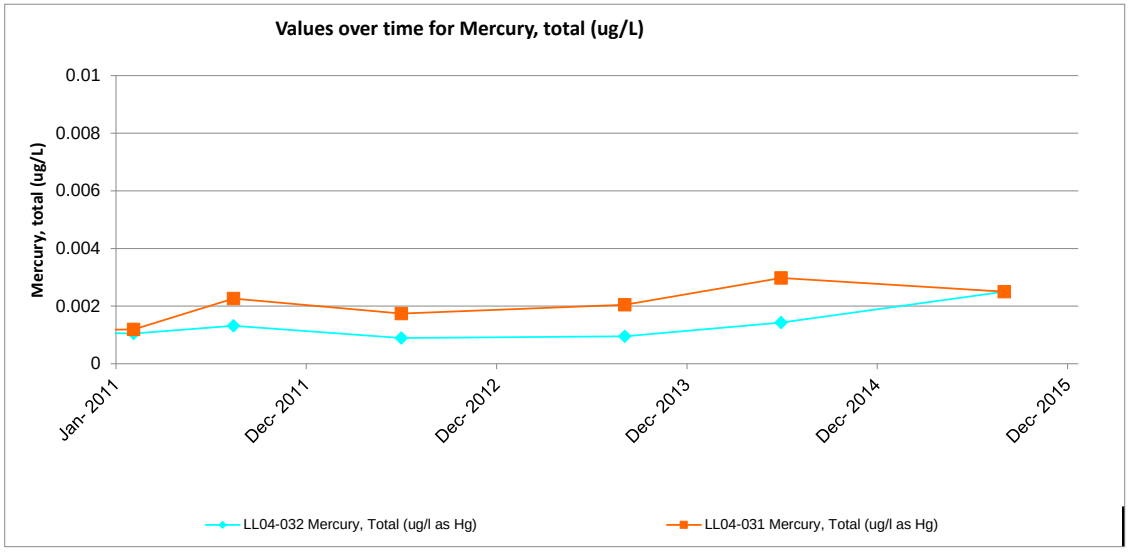

Values over time for Copper, total (ug/L)
Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Copper, total (ug/L)
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Copper, Total (ug/l as Cu)
LL04-031 Copper, Total (ug/l as Cu)

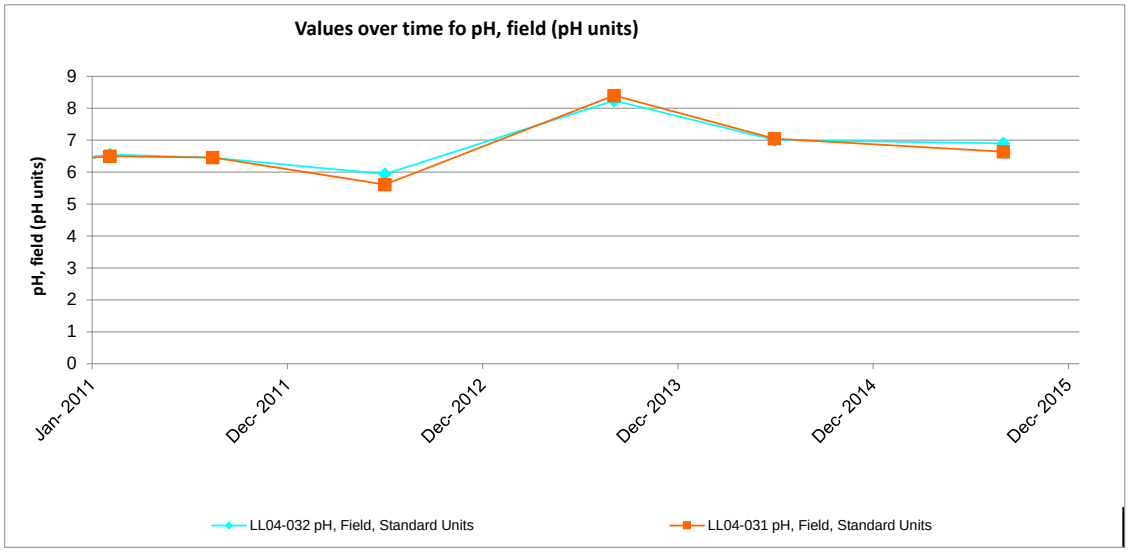

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Weak Acid Dissociable Cyanide, ug/l
LL04-031 Weak Acid Dissociable Cyanide, ug/l

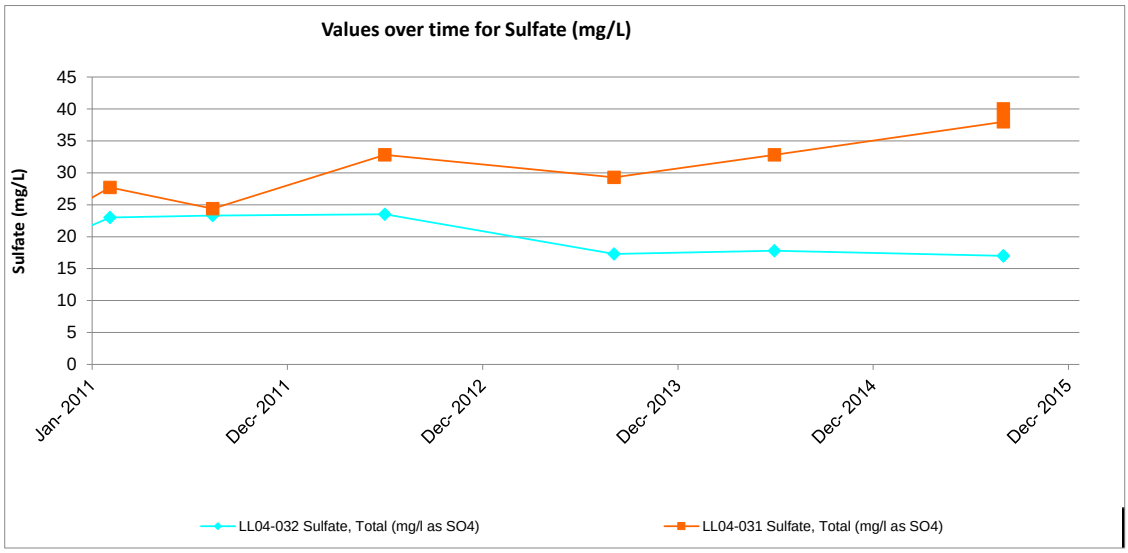

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Hardness, Total (mg/l as CaCO3)
LL04-031 Hardness, Total (mg/l as CaCO3)

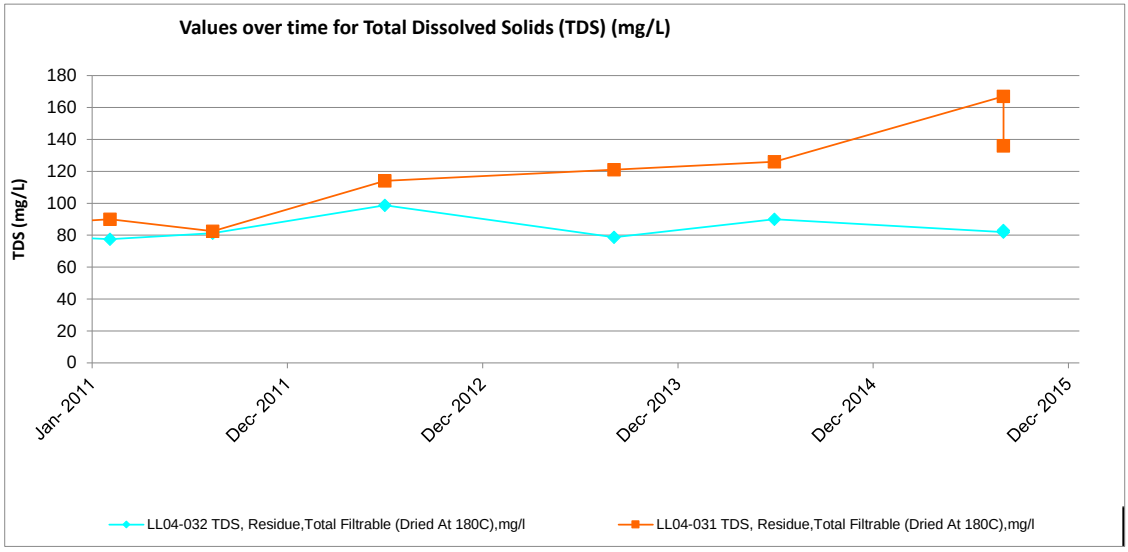

Values over time for Lead, total (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Lead, total (ug/L)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Lead, Total (ug/l as Pb)
LL04-031 Lead, Total (ug/l as Pb)

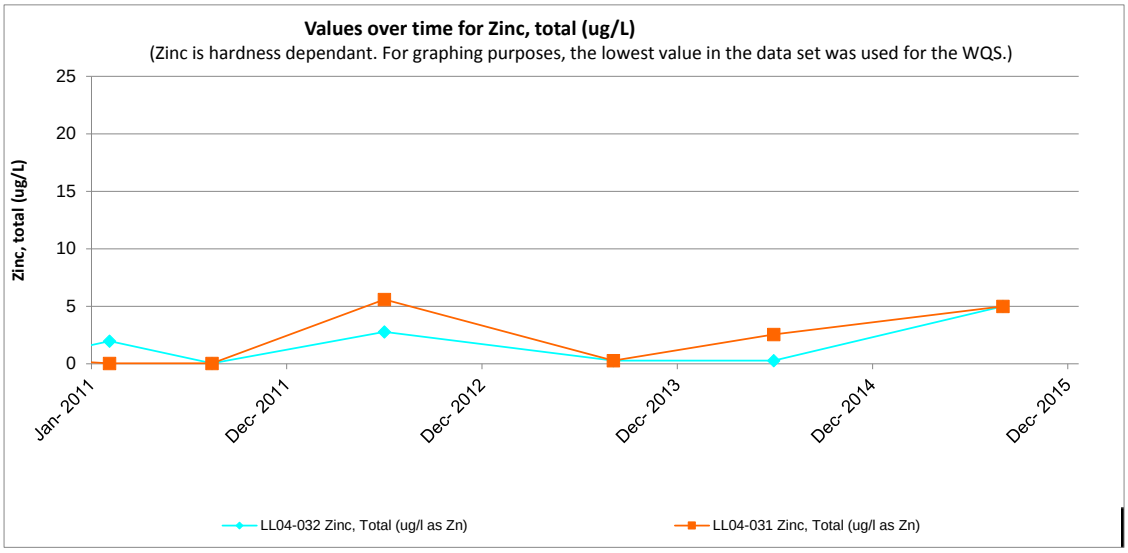

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Manganese, Total (ug/l as Mn)
LL04-031 Manganese, Total (ug/l as Mn)

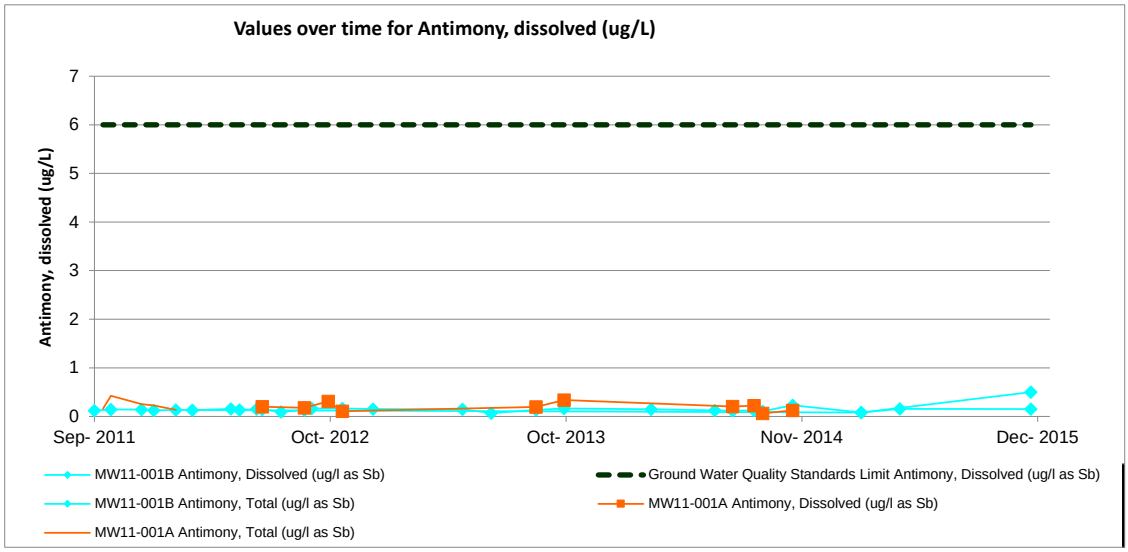

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.01
0.008
0.006
0.004
0.002
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Mercury, Total (ug/l as Hg)
LL04-031 Mercury, Total (ug/l as Hg)

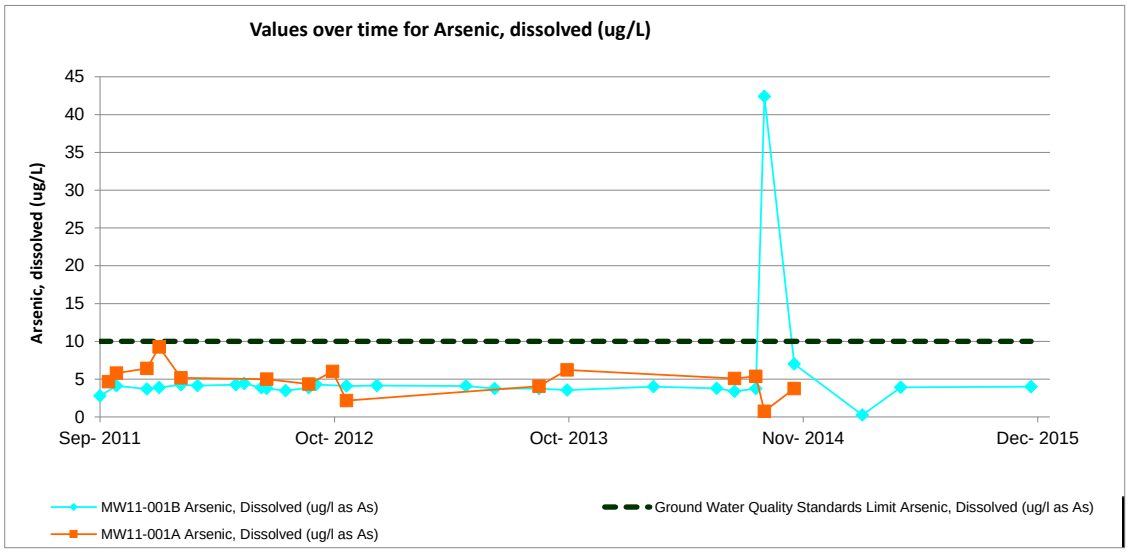

Values over time fo pH, field (pH units)
pH, field (pH units)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 pH, Field, Standard Units
LL04-031 pH, Field, Standard Units

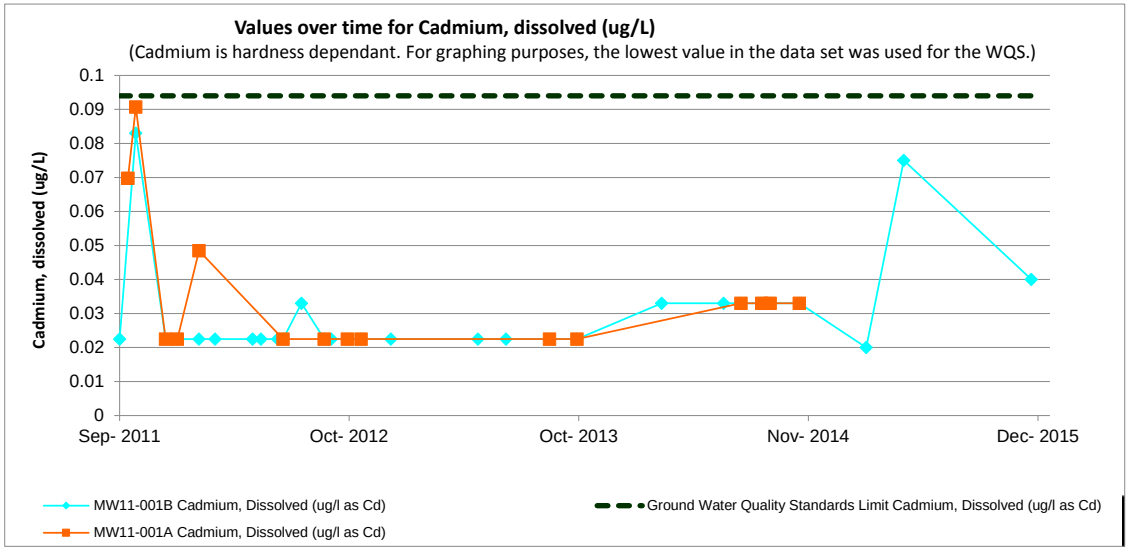

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Sulfate, Total (mg/l as SO4)
LL04-031 Sulfate, Total (mg/l as SO4)

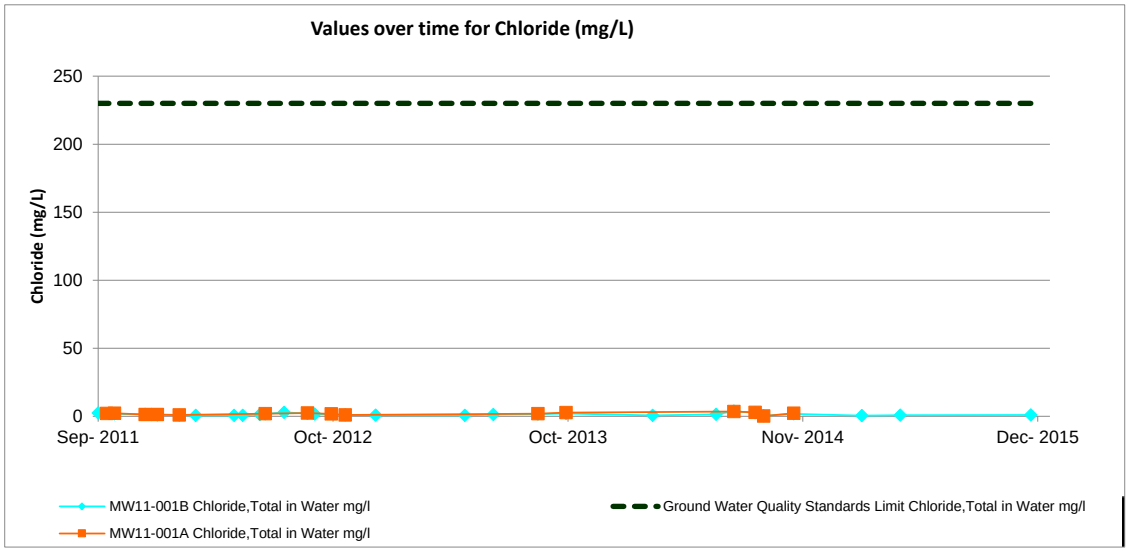

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
180
160
140
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
LL04-031 TDS, Residue,Total Filtrable (Dried At 180C),mg/l

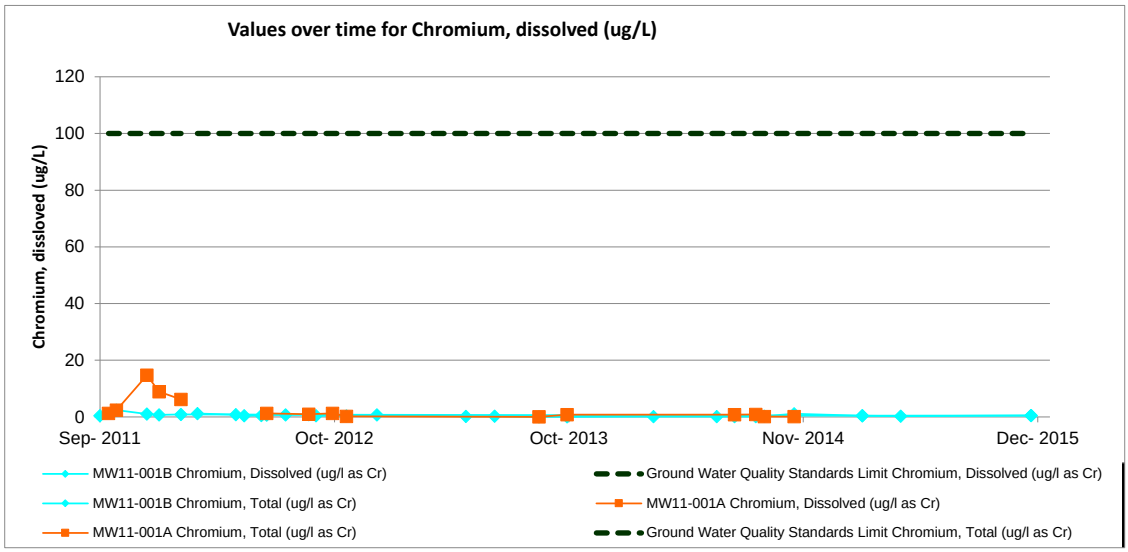

Values over time for Zinc, total (ug/L)
(Zinc is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, total (ug/L)
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LL04-032 Zinc, Total (ug/l as Zn)
LL04-031 Zinc, Total (ug/l as Zn)

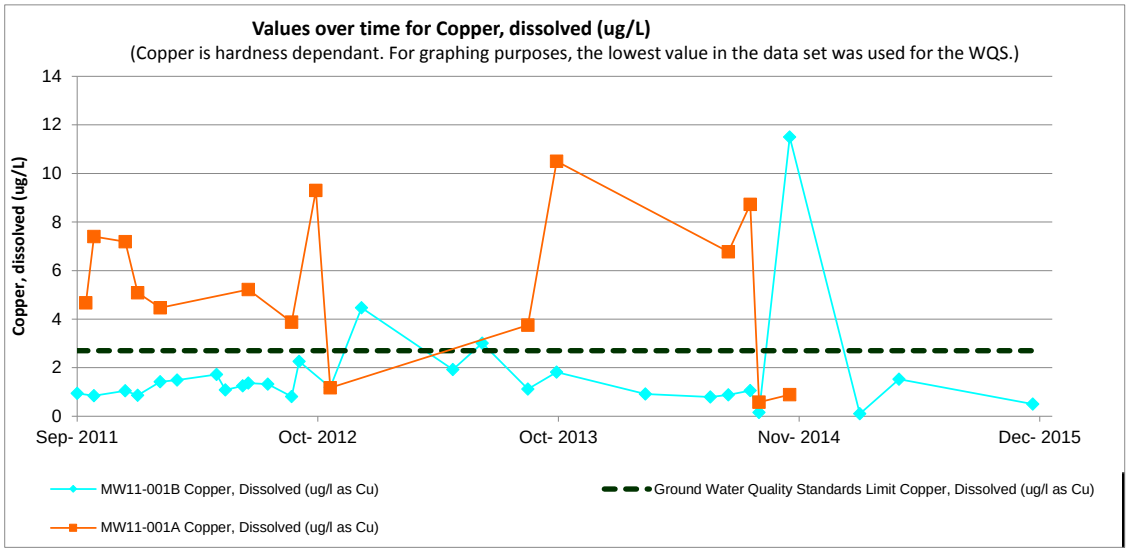

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
7
6
5
4
3
2
1
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Antimony, Dissolved (ug/l as Sb)
Ground Water Quality Standards Limit Antimony, Dissolved (ug/l as Sb)
MW11-001B Antimony, Total (ug/l as Sb)
MW11-001A Antimony, Dissolved (ug/l as Sb)
MW11-001A Antimony, Total (ug/l as Sb)

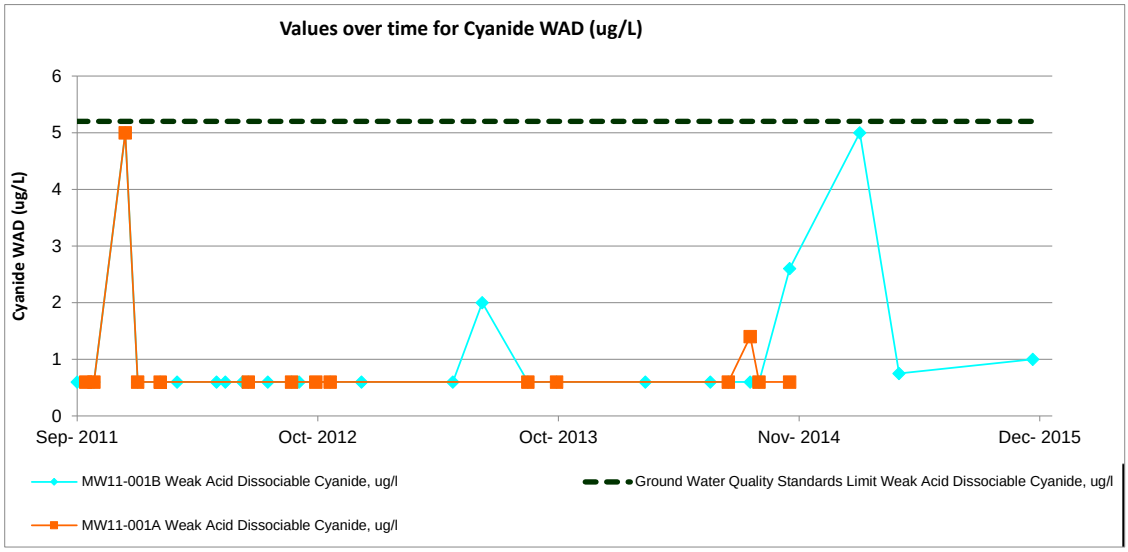

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
45
40
35
30
25
20
15
10
5
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Arsenic, Dissolved (ug/l as As)
Ground Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)
MW11-001A Arsenic, Dissolved (ug/l as As)

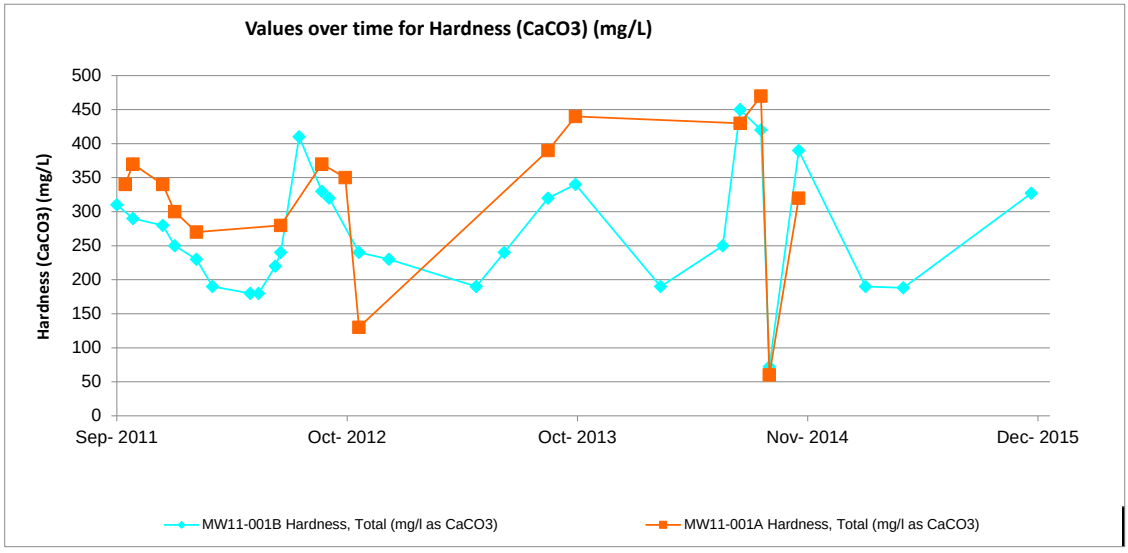

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Cadmium, dissolved (ug/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Cadmium, Dissolved (ug/l as Cd)
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)
MW11-001A Cadmium, Dissolved (ug/l as Cd)

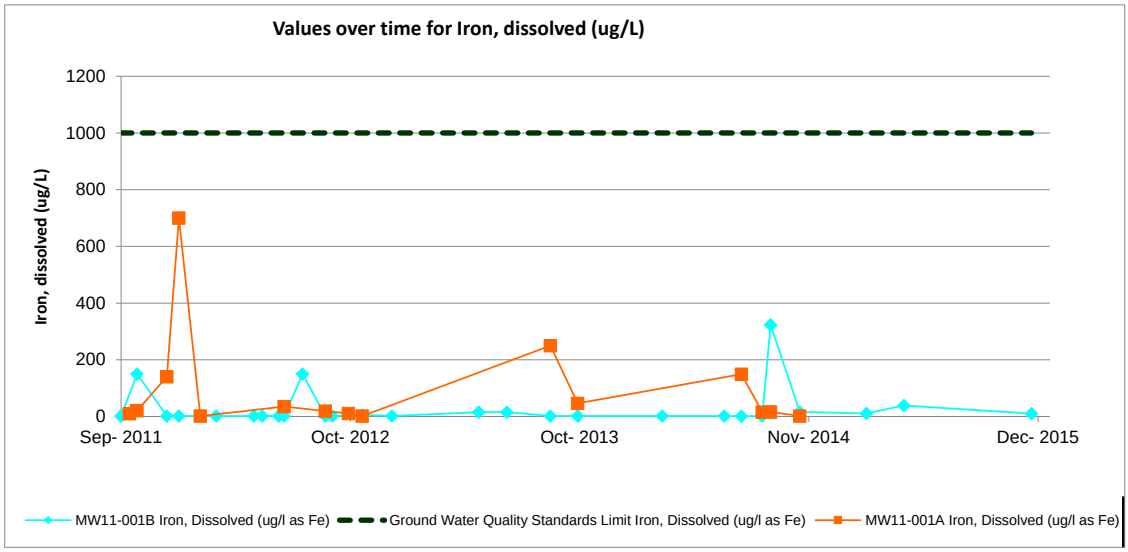

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Chloride,Total in Water mg/l
MW11-001A Chloride,Total in Water mg/l
Ground Water Quality Standards Limit Chloride,Total in Water mg/l

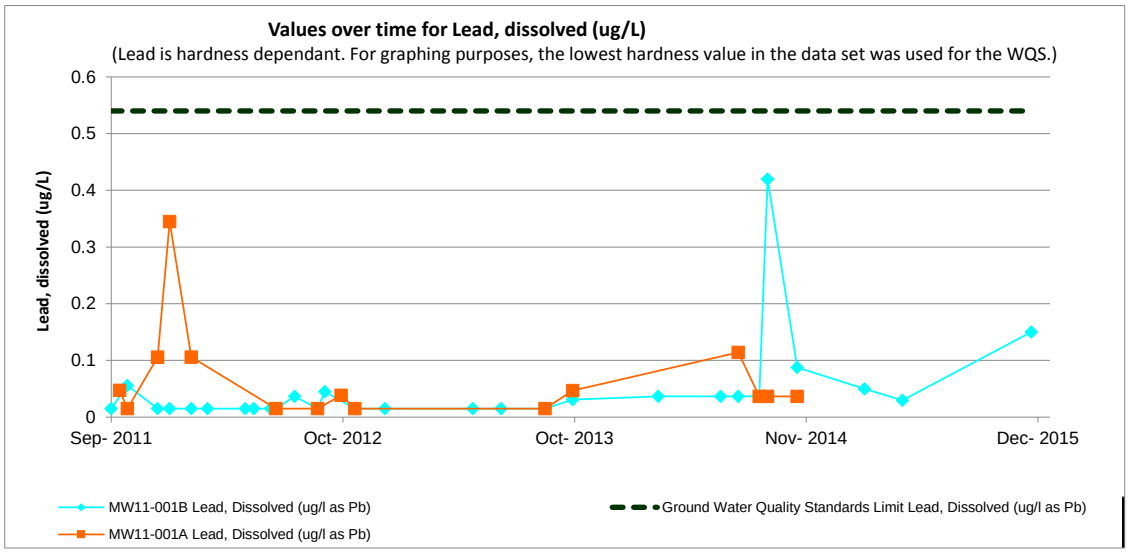

Values over time for Chromium, dissolved (ug/L)
Chromium, dissloved (ug/L)
120
100
80
60
40
20
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Chromium, Dissolved (ug/l as Cr)
MW11-001B Chromium, Total (ug/l as Cr)
MW11-001A Chromium, Total (ug/l as Cr)
Ground Water Quality Standards Limit 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)

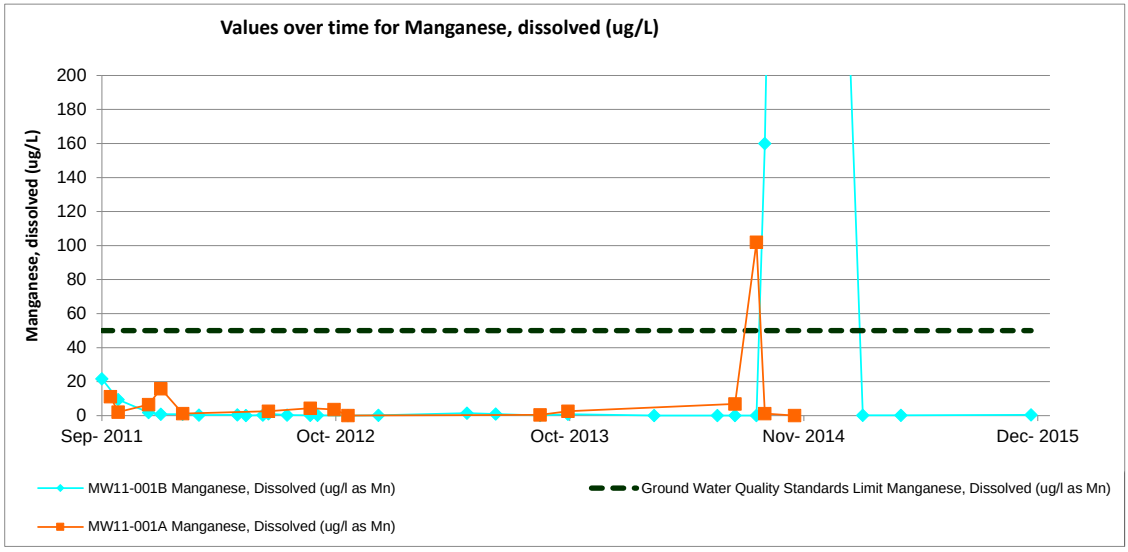

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Copper, dissolved (ug/L)
14
12
10
8
6
4
2
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Copper, Dissolved (ug/l as Cu)
MW11-001A Copper, Dissolved (ug/l as Cu)
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)

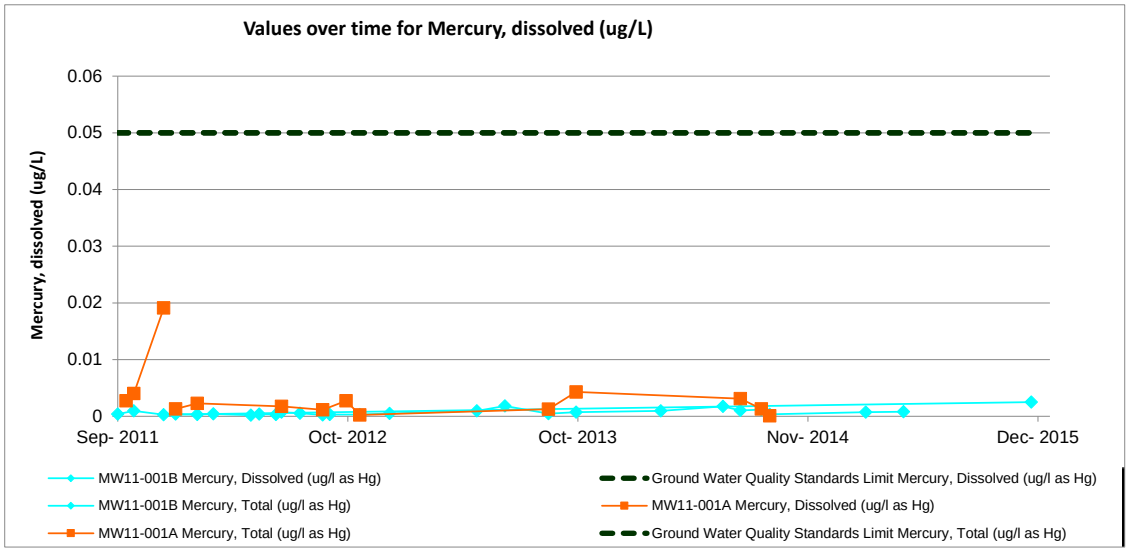

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
0
1
2
3
4
5
6
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Weak Acid Dissociable Cyanide, ug/l
Ground Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l
MW11-001A Weak Acid Dissociable Cyanide, ug/l

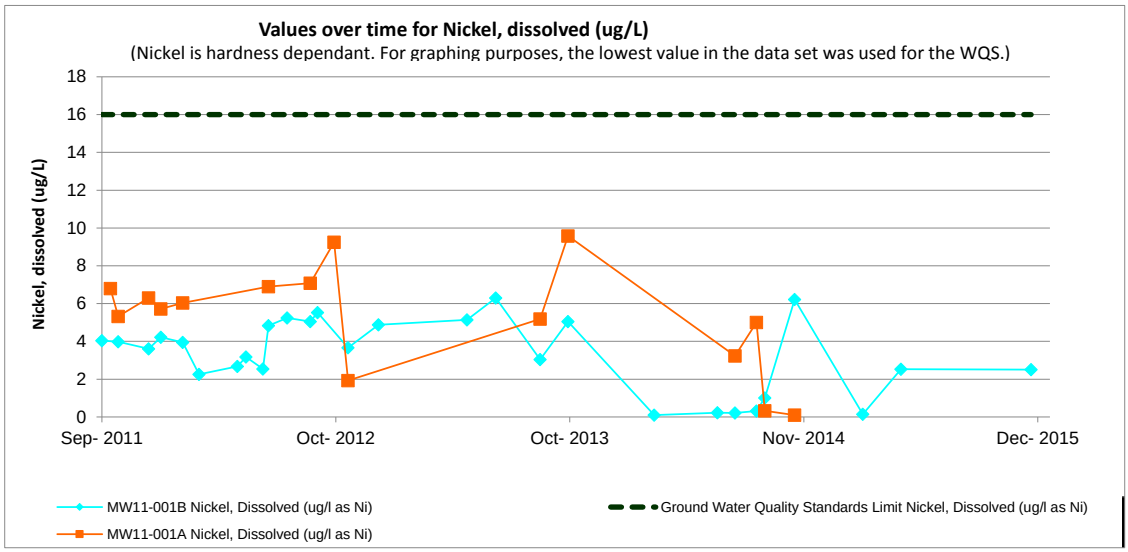

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
0
50
100
150
200
250
300
350
400
450
500
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Hardness, Total (mg/l as CaCO3)
MW11-001A Hardness, Total (mg/l as CaCO3)

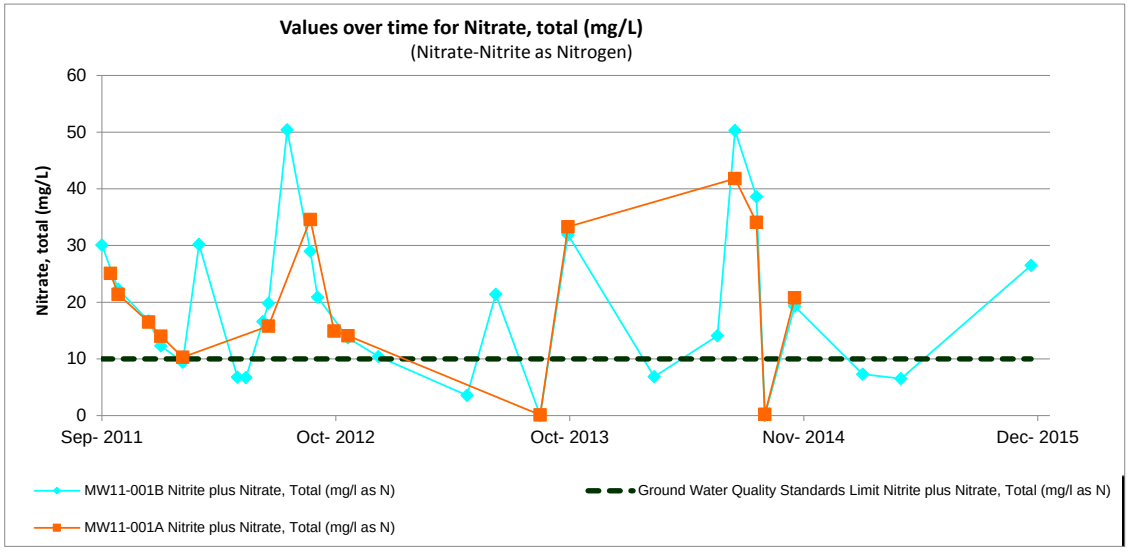

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
0
200
400
600
800
1000
1200
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Iron, Dissolved (ug/l as Fe)
Ground Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)
MW11-001A Iron, Dissolved (ug/l as Fe)

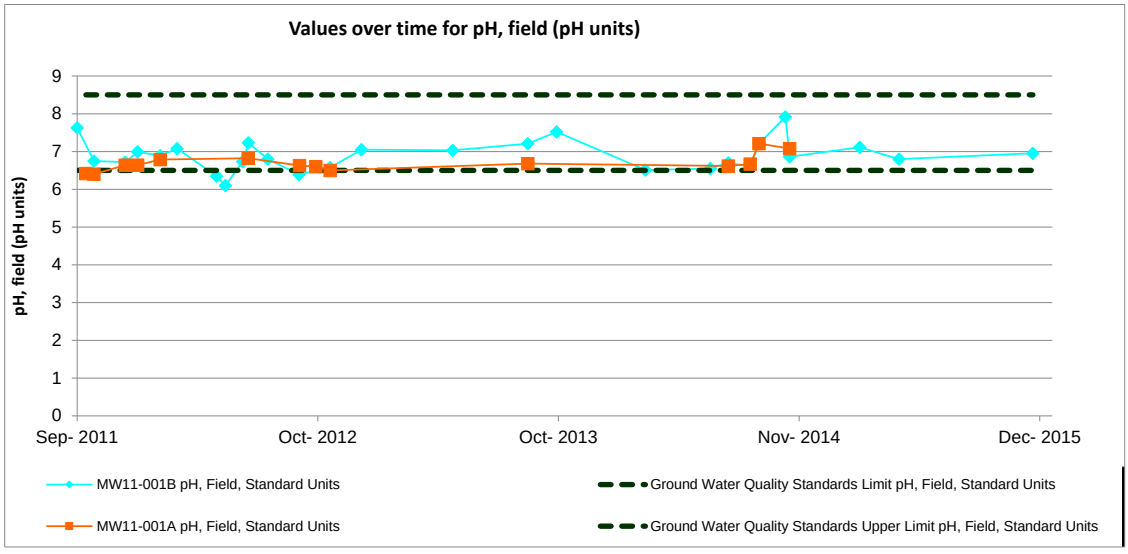

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest hardness value in the data set was used for the WQS.)
Lead, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Lead, Dissolved (ug/l as Pb)
MW11-001A Lead, Dissolved (ug/l as Pb)
Ground Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)

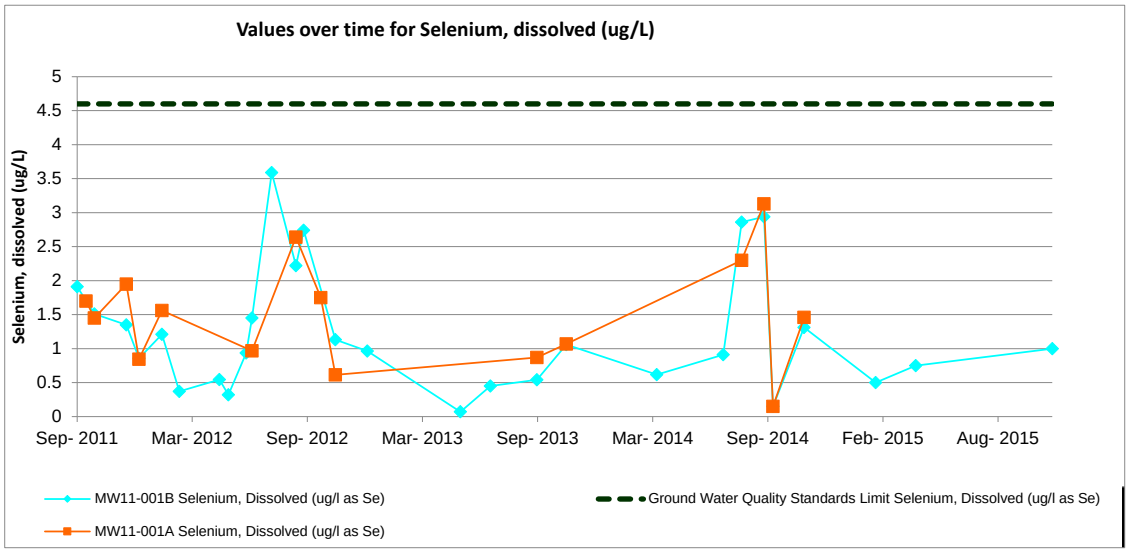

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
200
180
160
140
120
100
80
60
40
20
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Manganese, Dissolved (ug/l as Mn)
MW11-001A Manganese, Dissolved (ug/l as Mn)
Ground Water Quality Standards Limit Manganese, Dissolved (ug/l as Mn)

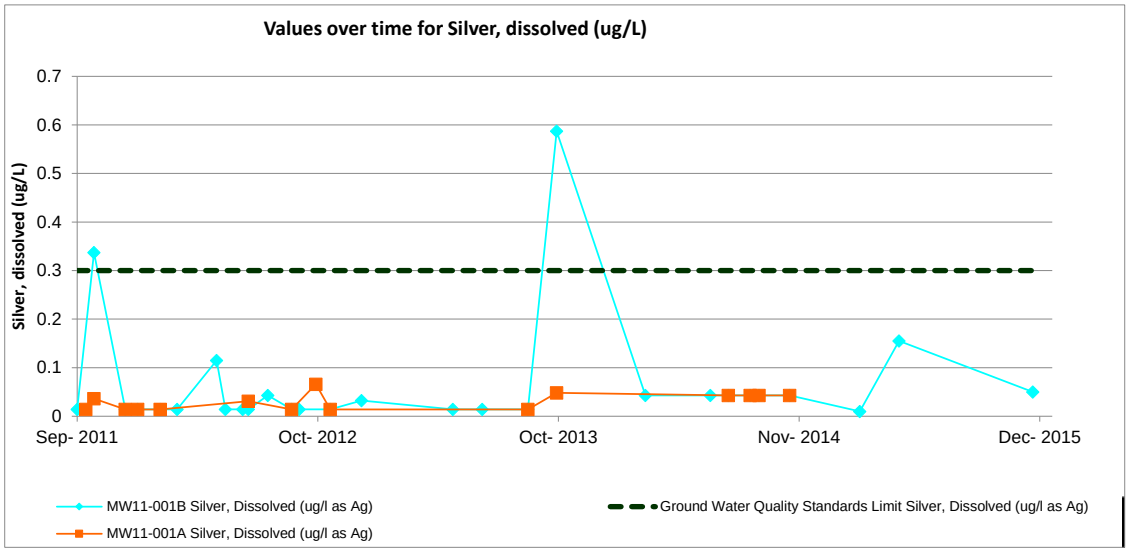

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Mercury, Dissolved (ug/l as Hg)
MW11-001B Mercury, Total (ug/l as Hg)
MW11-001A Mercury, Total (ug/l as Hg)
Ground Water Quality Standards 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)

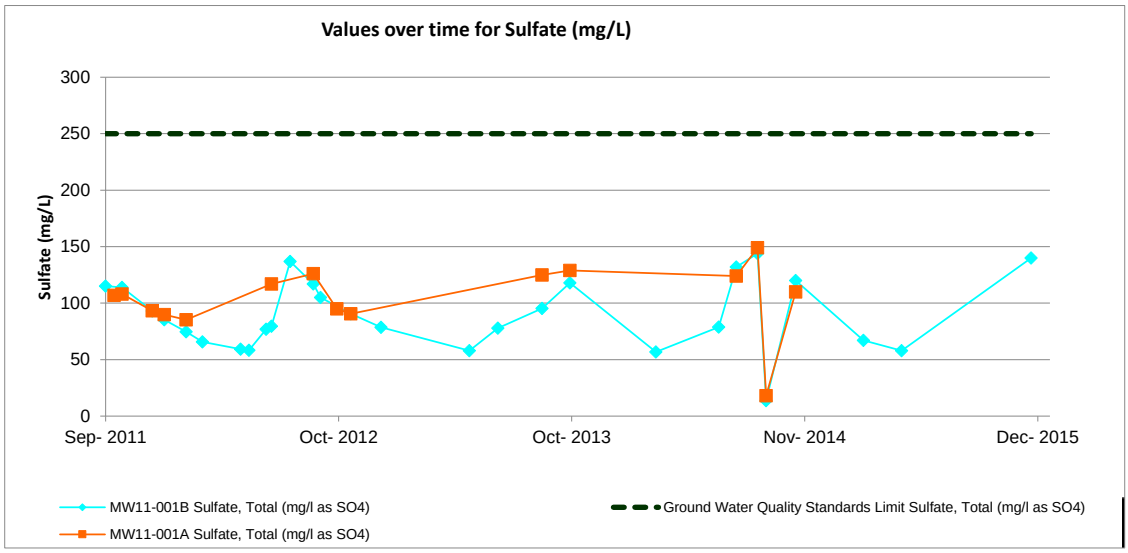

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Nickel, dissolved (ug/L)
18
16
14
12
10
8
6
4
2
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Nickel, Dissolved (ug/l as Ni)
MW11-001A Nickel, Dissolved (ug/l as Ni)
Ground Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)

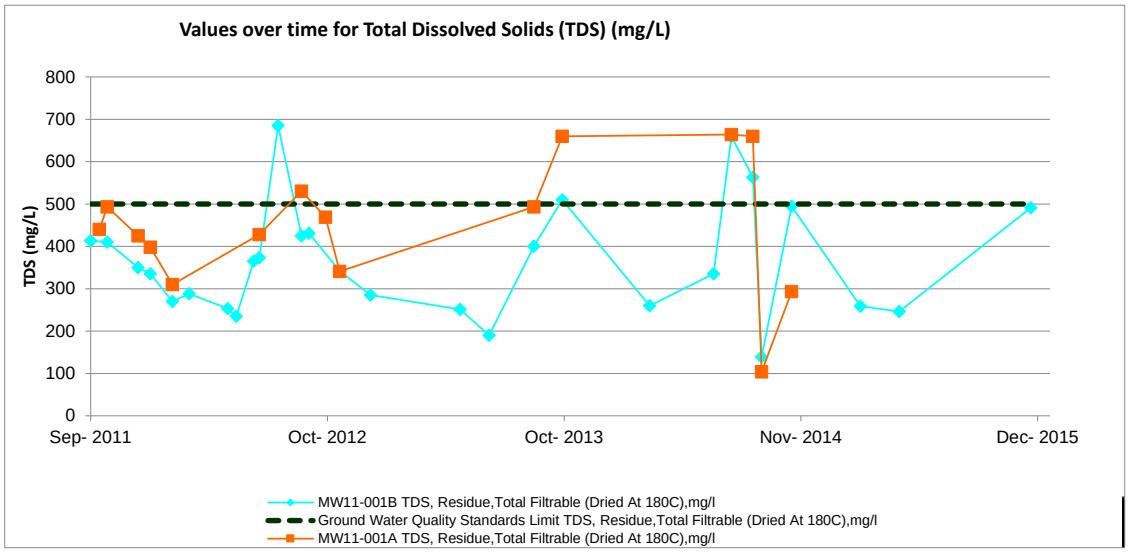

Values over time for Nitrate, total (mg/L)
(Nitrate-Nitrite as Nitrogen)
Nitrate, total (mg/L)
60
50
40
30
20
10
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Nitrite plus Nitrate, Total (mg/l as N)
MW11-001A Nitrite plus Nitrate, Total (mg/l as N)
Ground Water Quality Standards Limit Nitrite plus Nitrate, Total (mg/l as N)

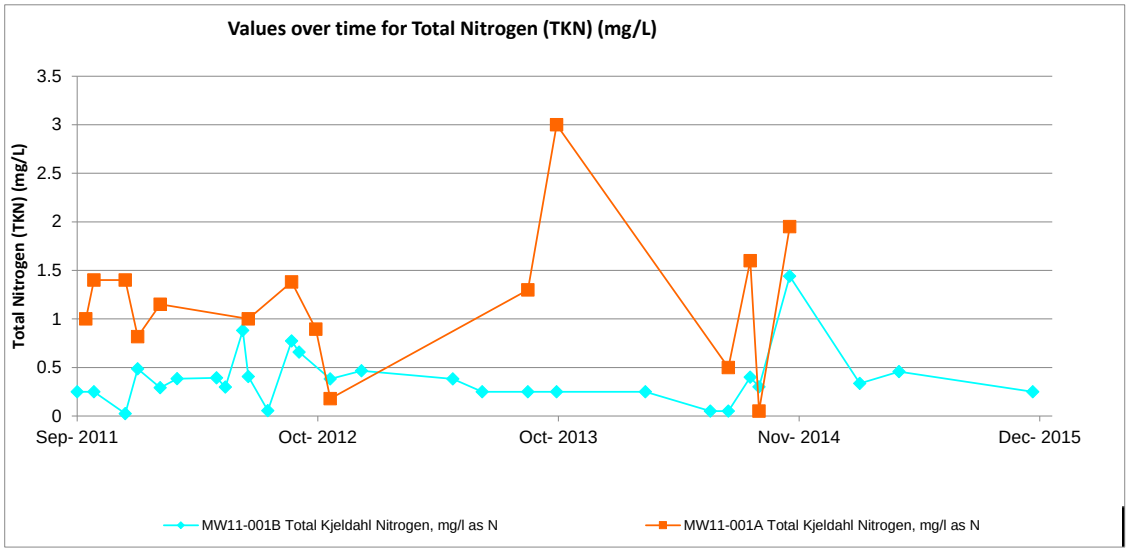

Values over time for pH, field (pH units)
pH, field (pH units)
9
8
7
6
5
4
3
2
1
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B pH, Field, Standard Units
MW11-001A pH, Field, Standard Units
Ground Water Quality Standards Limit pH, Field, Standard Units
Ground Water Quality Standards Upper Limit pH, Field, Standard Units

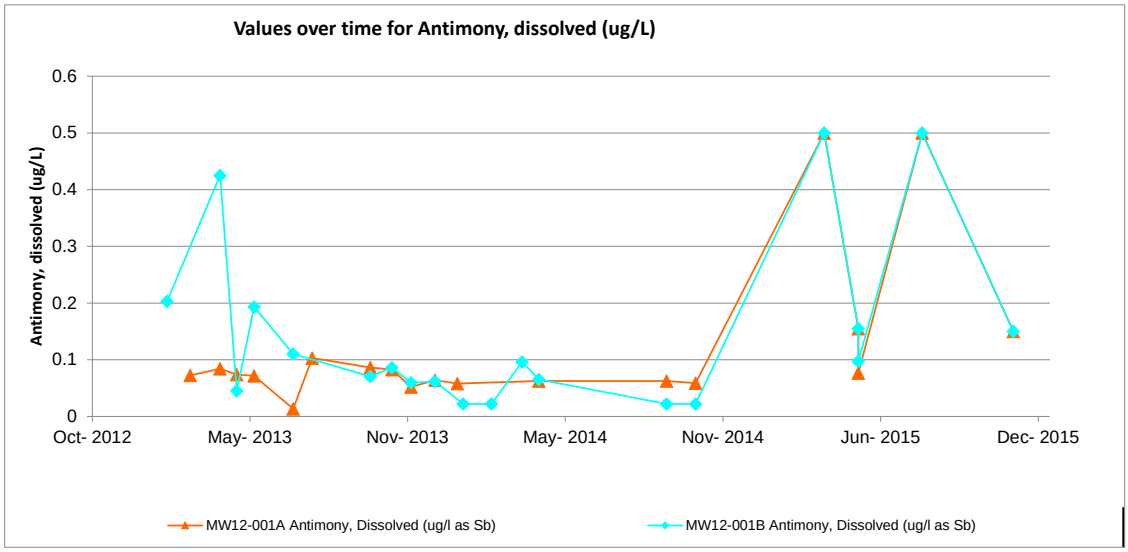

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Sep- 2011
Mar- 2012
Sep- 2012
Mar- 2013
Sep- 2013
Mar- 2014
Sep- 2014
Feb- 2015
Aug- 2015
MW11-001B Selenium, Dissolved (ug/l as Se)
MW11-001A Selenium, Dissolved (ug/l as Se)
Ground Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)

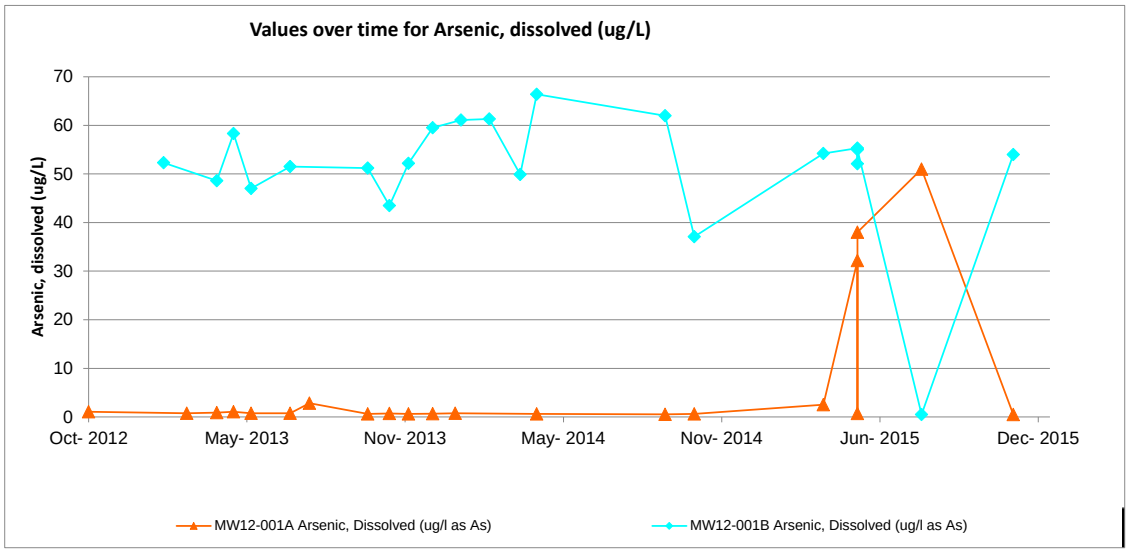

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Silver, Dissolved (ug/l as Ag)
MW11-001A Silver, Dissolved (ug/l as Ag)
Ground Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)

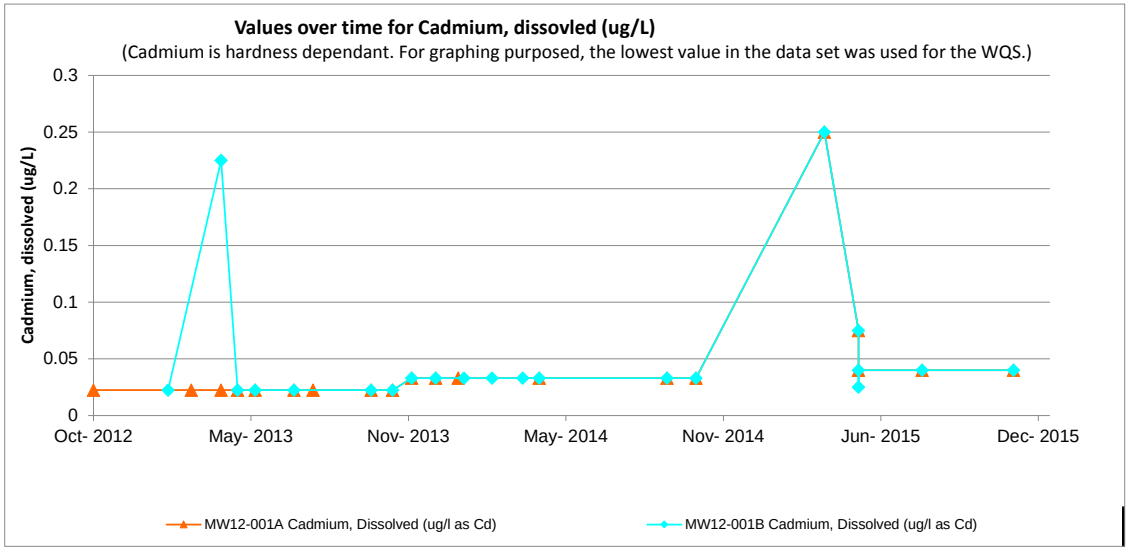

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
300
250
200
150
100
50
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Sulfate, Total (mg/l as SO4)
MW11-001A Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)

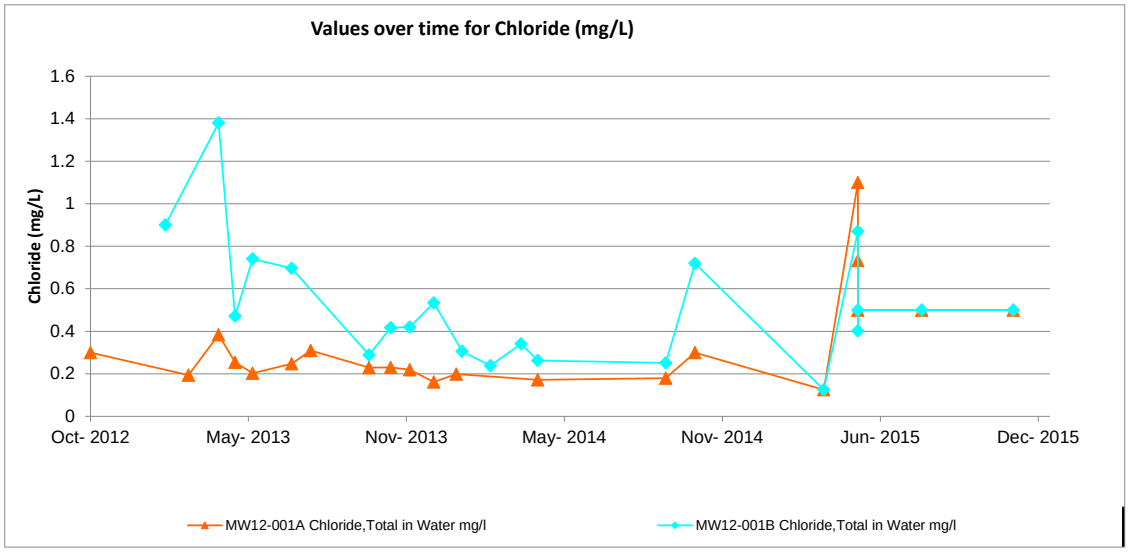

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
800
700
600
500
400
300
200
100
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Ground Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW11-001A TDS, Residue,Total Filtrable (Dried At 180C),mg/l

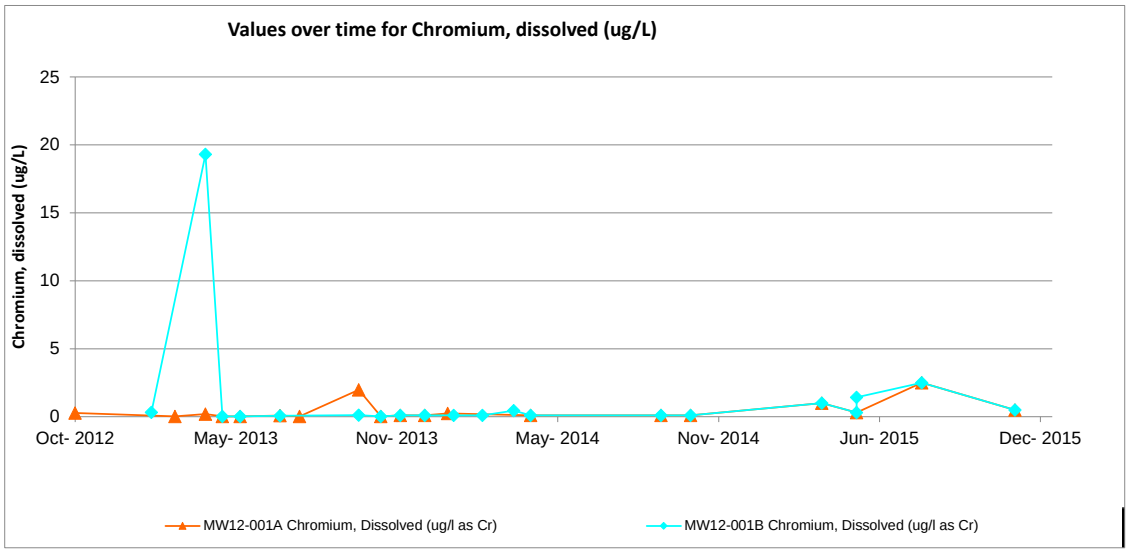

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Sep- 2011
Oct- 2012
Oct- 2013
Nov- 2014
Dec- 2015
MW11-001B Total Kjeldahl Nitrogen, mg/l as N
MW11-001A Total Kjeldahl Nitrogen, mg/l as N

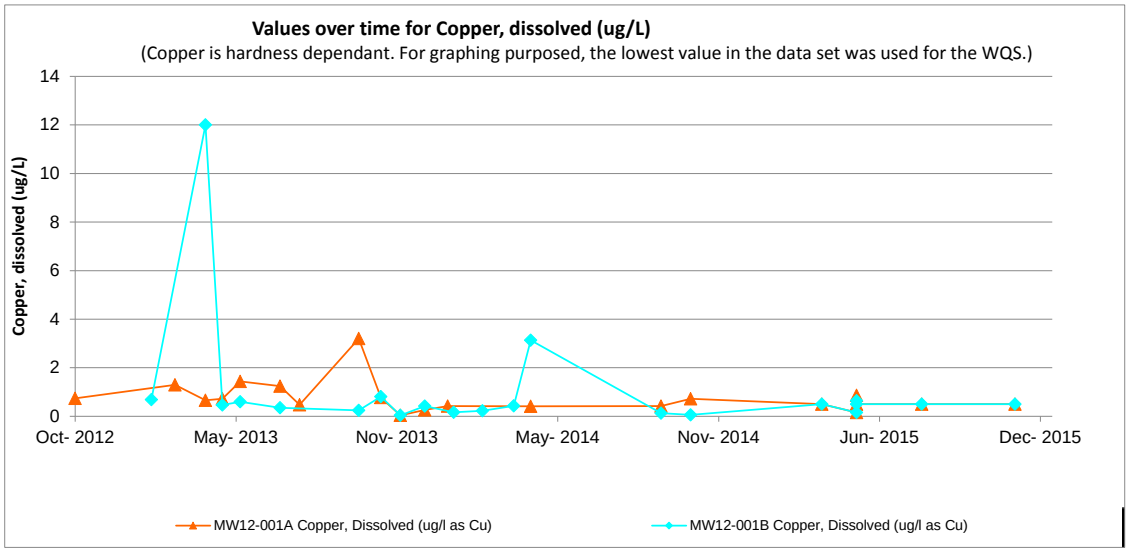

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Antimony, Dissolved (ug/l as Sb)
MW12-001B Antimony, Dissolved (ug/l as Sb)

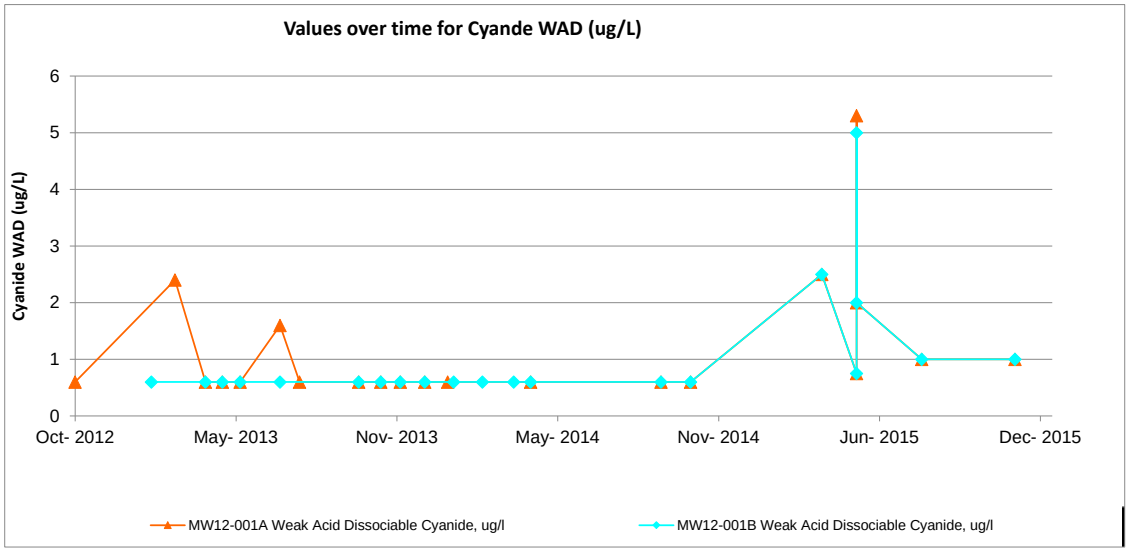

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
70
60
50
40
30
20
10
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Arsenic, Dissolved (ug/l as As)
MW12-001B Arsenic, Dissolved (ug/l as As)

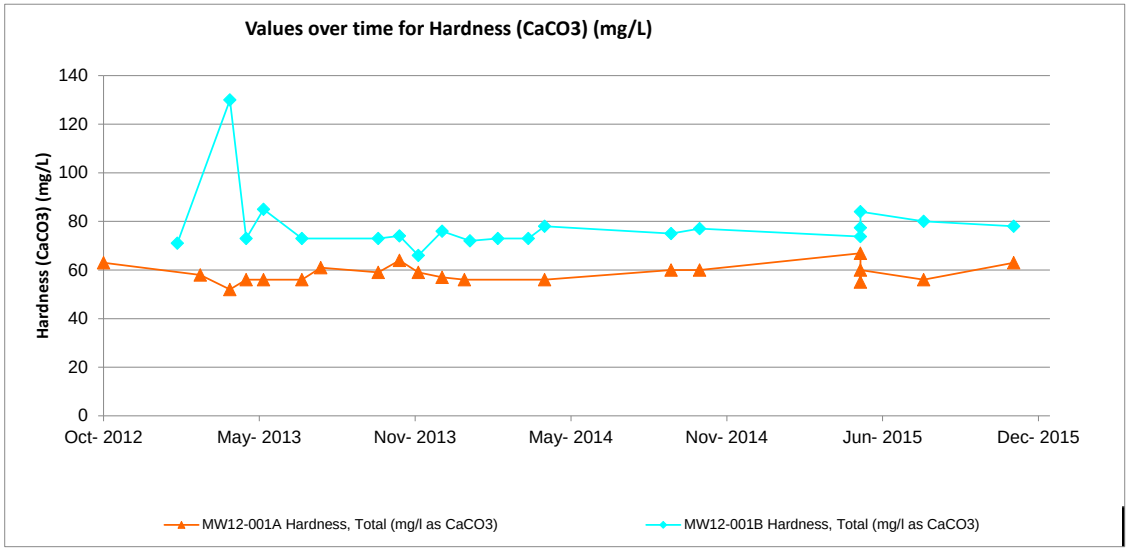

Values over time for Cadmium, dissovled (ug/L)
(Cadmium is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Cadmium, dissolved (ug/L)
0.3
0.25
0.2
0.15
0.1
0.05
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Cadmium, Dissolved (ug/l as Cd)
MW12-001B Cadmium, Dissolved (ug/l as Cd)

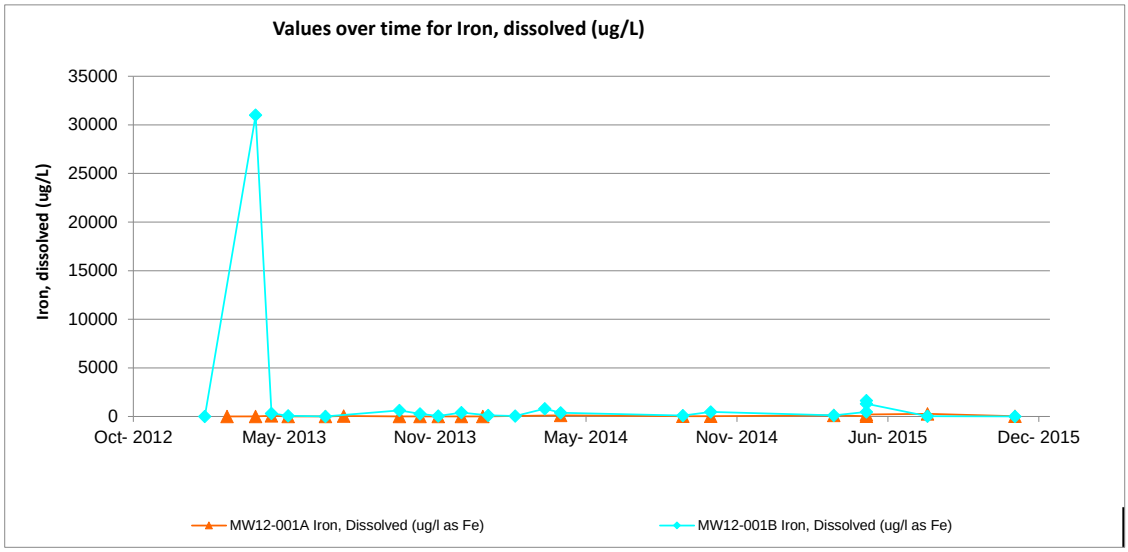

Values over time for Chloride (mg/L)
Chloride (mg/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Chloride,Total in Water mg/l
MW12-001B Chloride,Total in Water mg/l

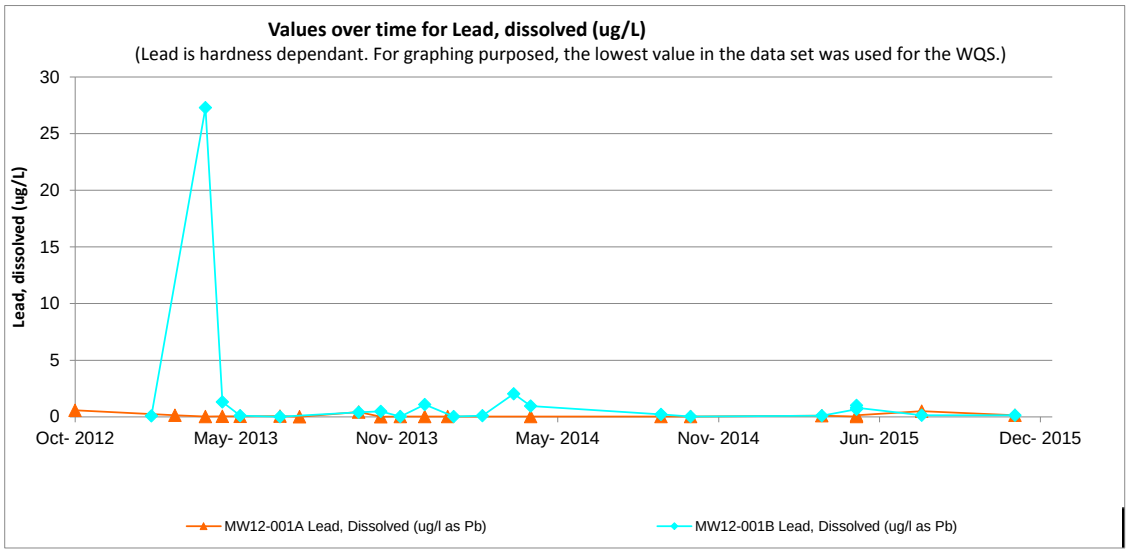

Values over time for Chromium, dissolved (ug/L)
Chromium, dissolved (ug/L)
25
20
15
10
5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Chromium, Dissolved (ug/l as Cr)
MW12-001B Chromium, Dissolved (ug/l as Cr)

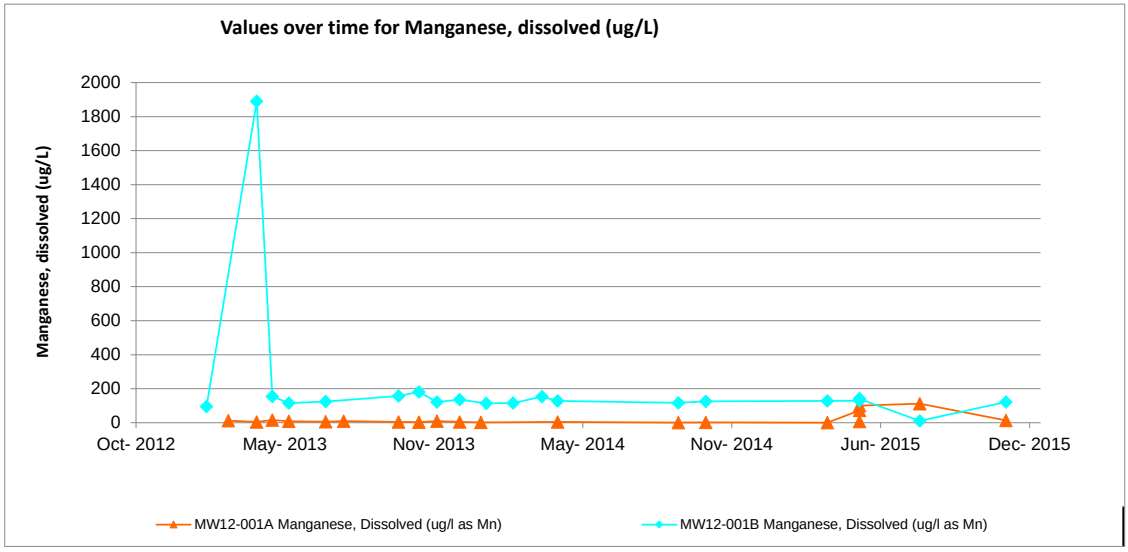

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Copper, dissolved (ug/L)
14
12
10
8
6
4
2
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Copper, Dissolved (ug/l as Cu)
MW12-001B Copper, Dissolved (ug/l as Cu)

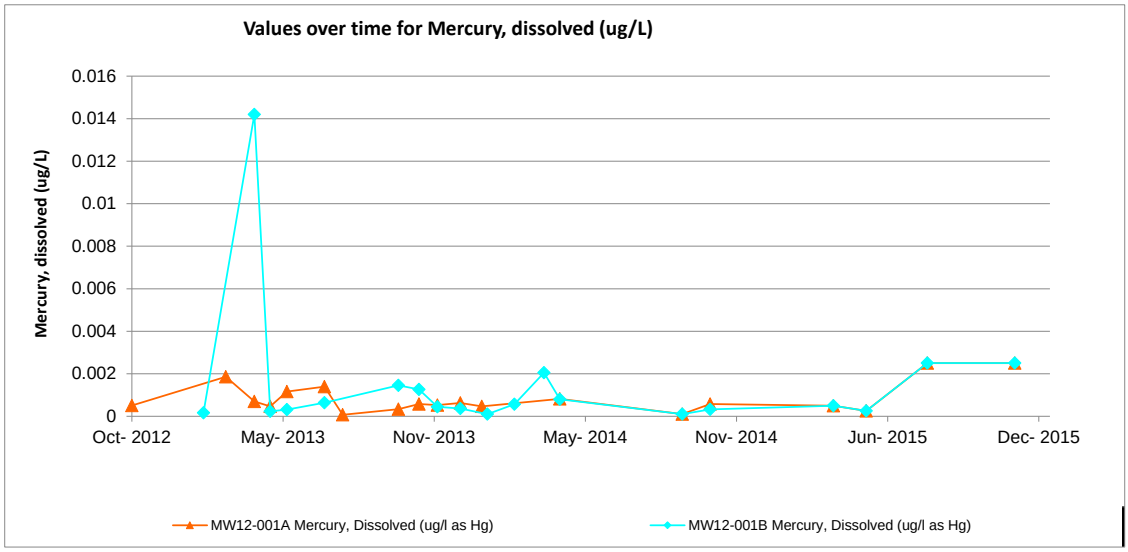

Values over time for Cyande WAD (ug/L)
Cyanide WAD (ug/L)
6
5
4
3
2
1
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Weak Acid Dissociable Cyanide, ug/l
MW12-001B Weak Acid Dissociable Cyanide, ug/l

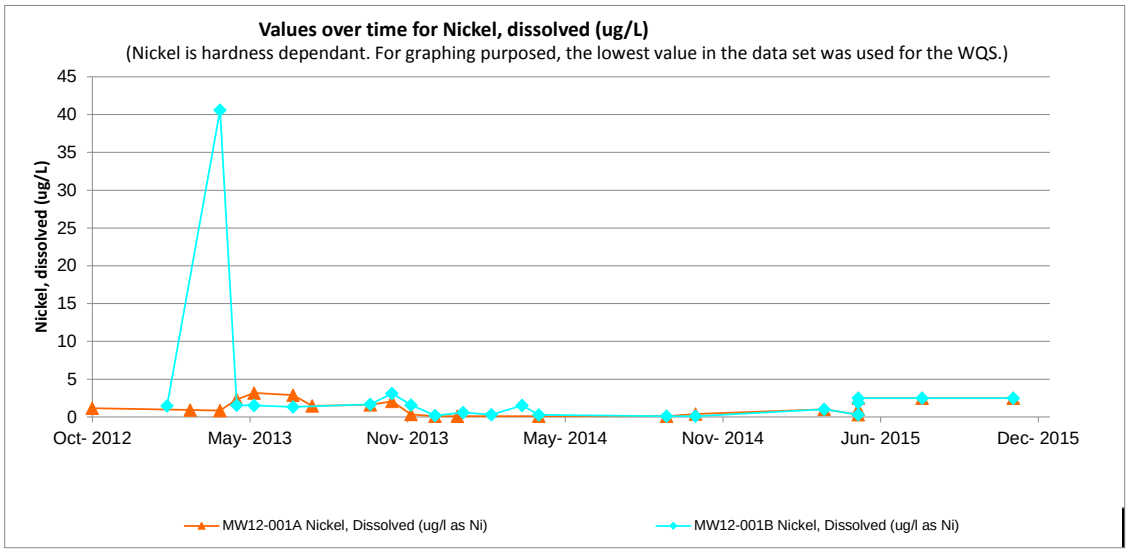

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
140
120
100
80
60
40
20
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Hardness, Total (mg/l as CaCO3)
MW12-001B Hardness, Total (mg/l as CaCO3)

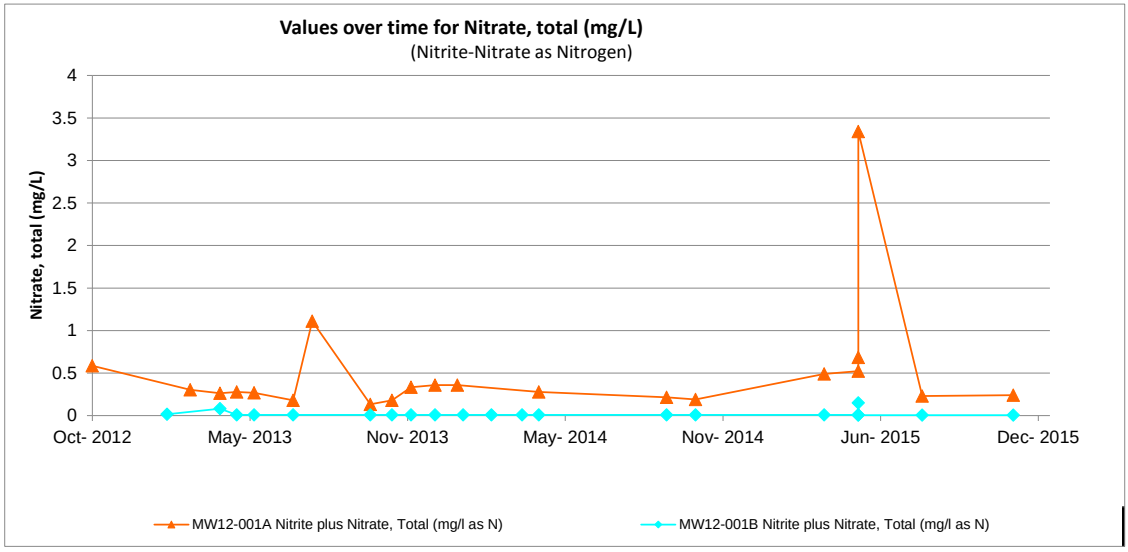

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
35000
30000
25000
20000
15000
10000
5000
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Iron, Dissolved (ug/l as Fe)
MW12-001B Iron, Dissolved (ug/l as Fe)

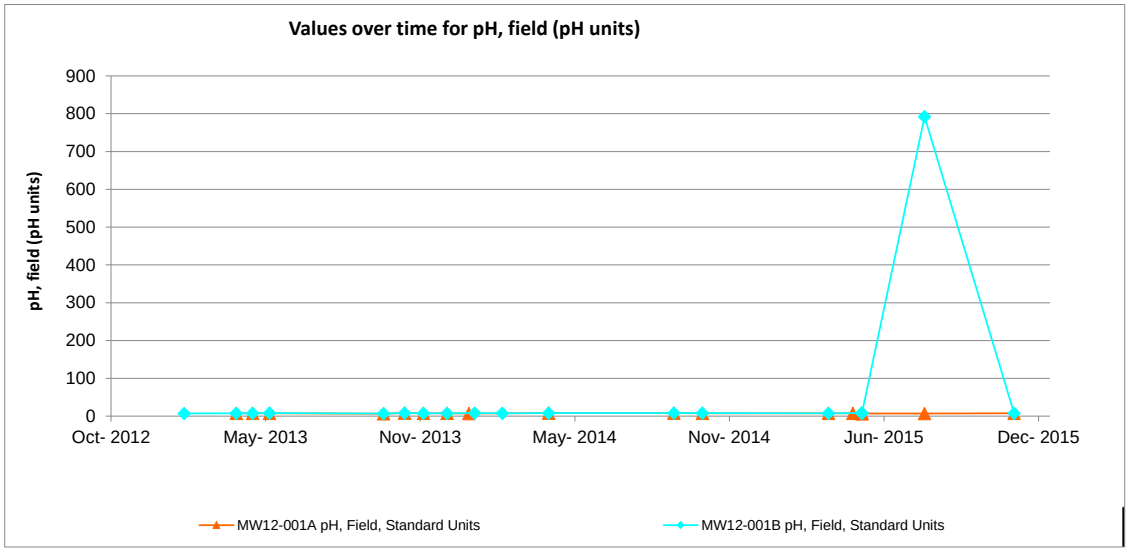

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Lead, dissolved (ug/L)
30
25
20
15
10
5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Lead, Dissolved (ug/l as Pb)
MW12-001B Lead, Dissolved (ug/l as Pb)

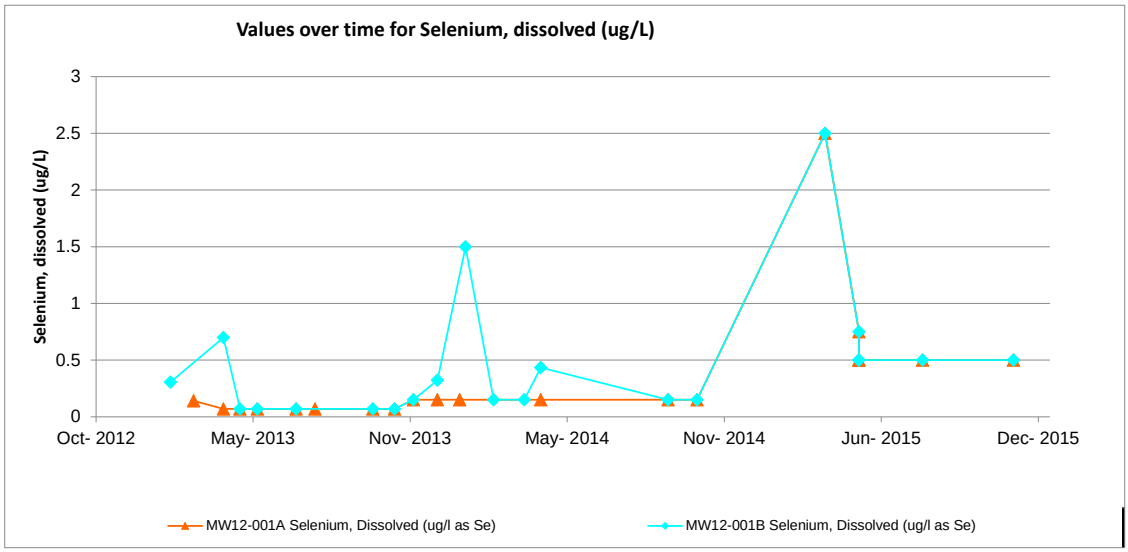

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Manganese, Dissolved (ug/l as Mn)
MW12-001B Manganese, Dissolved (ug/l as Mn)

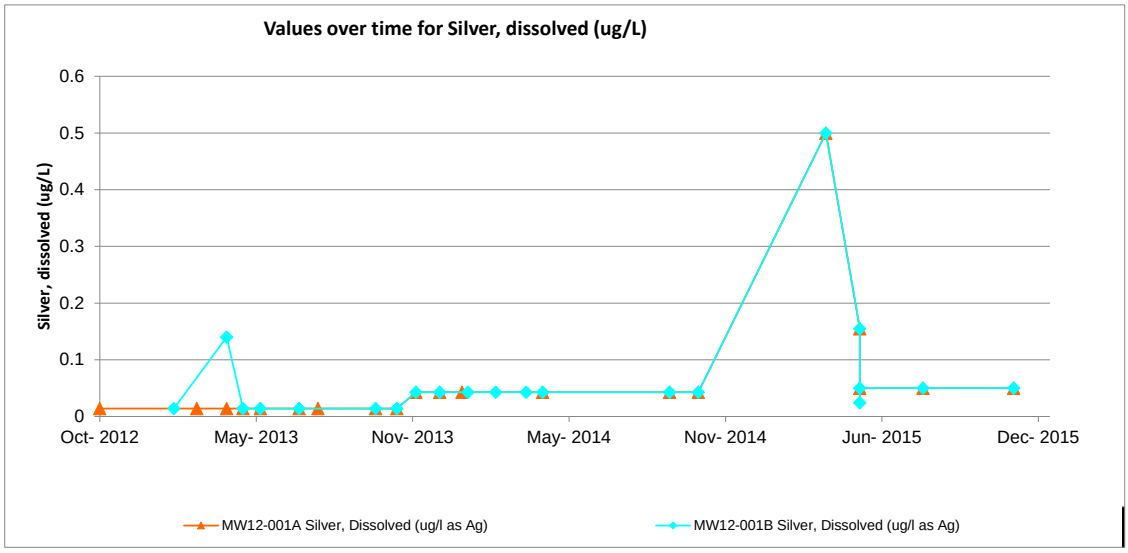

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Mercury, Dissolved (ug/l as Hg)
MW12-001B Mercury, Dissolved (ug/l as Hg)

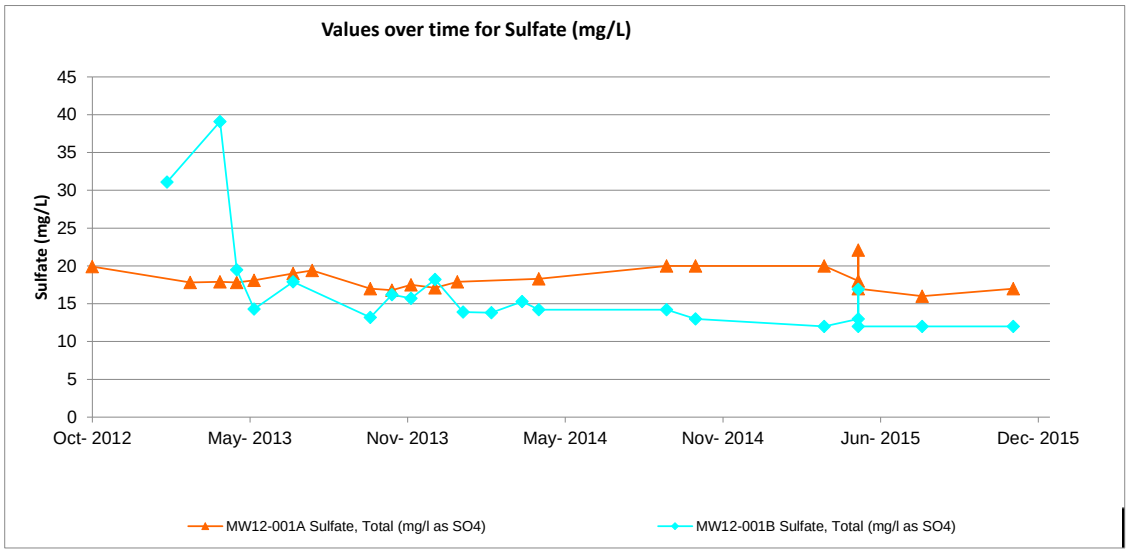

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Nickel, dissolved (ug/L)
45
40
35
30
25
20
15
10
5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Nickel, Dissolved (ug/l as Ni)
MW12-001B Nickel, Dissolved (ug/l as Ni)

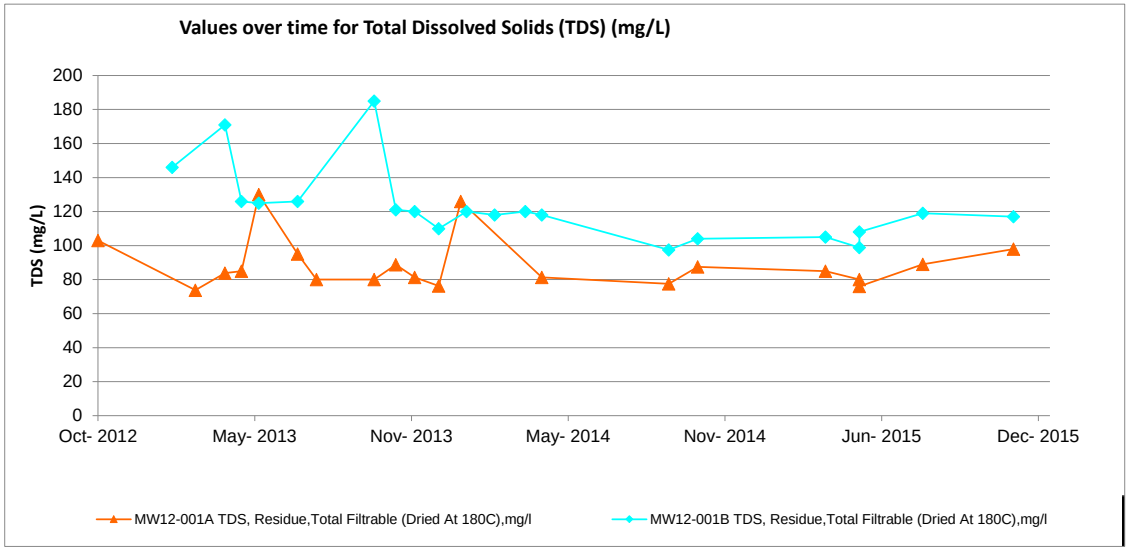

Values over time for Nitrate, total (mg/L)
(Nitrite-Nitrate as Nitrogen)
Nitrate, total (mg/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Nitrite plus Nitrate, Total (mg/l as N)
MW12-001B Nitrite plus Nitrate, Total (mg/l as N)

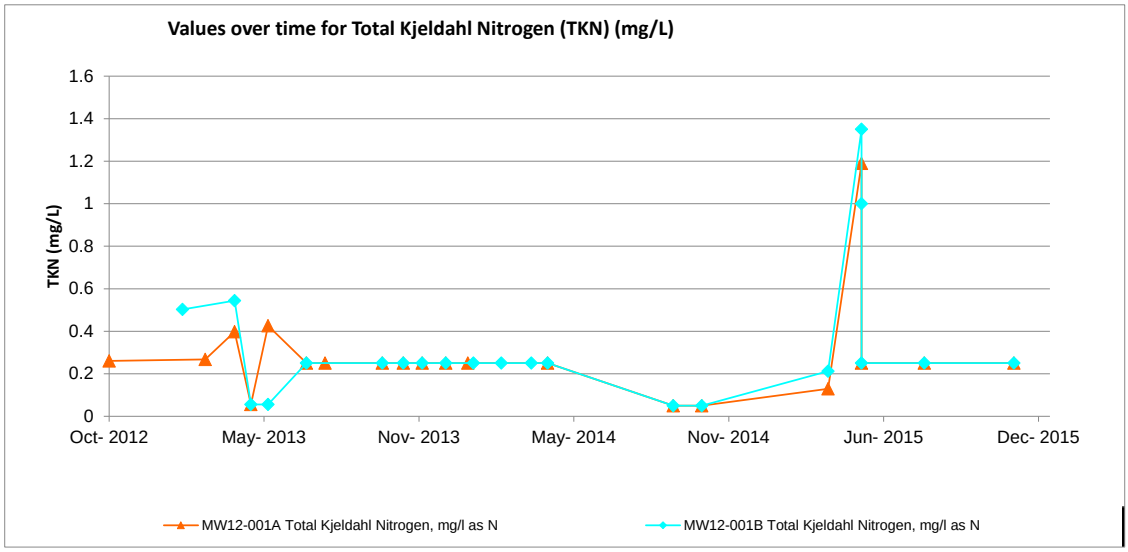

Values over time for pH, field (pH units)
pH, field (pH units)
900
800
700
600
500
400
300
200
100
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A pH, Field, Standard Units
MW12-001B pH, Field, Standard Units

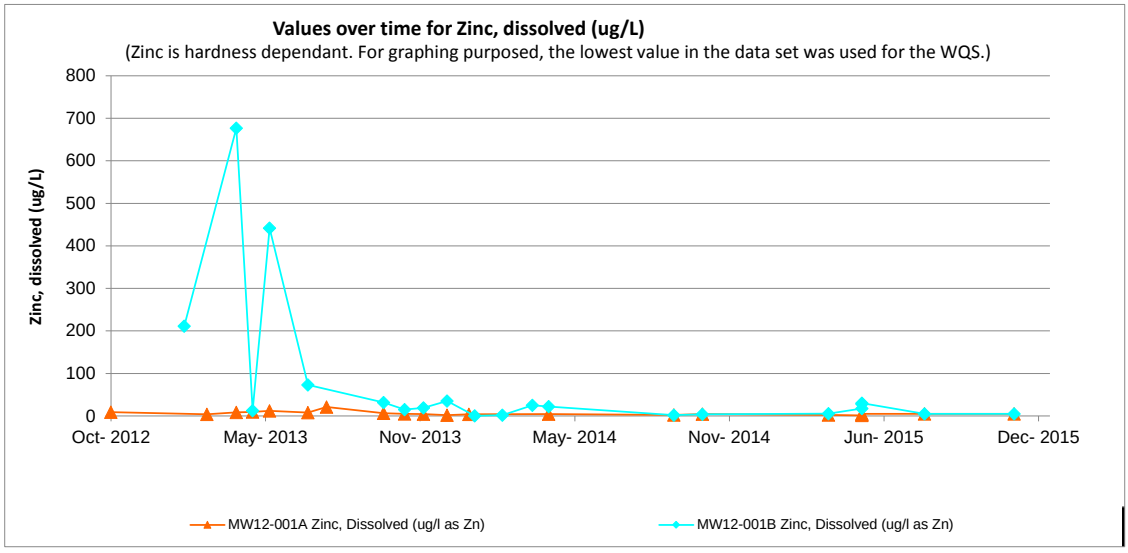

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
3
2.5
2
1.5
1
0.5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Selenium, Dissolved (ug/l as Se)
MW12-001B Selenium, Dissolved (ug/l as Se)

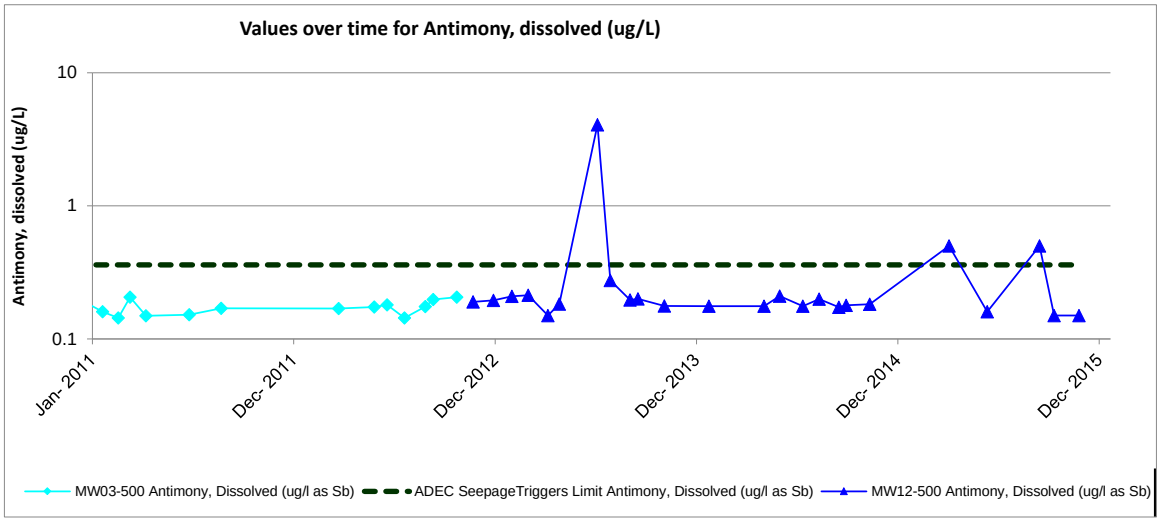

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Silver, Dissolved (ug/l as Ag)
MW12-001B Silver, Dissolved (ug/l as Ag)

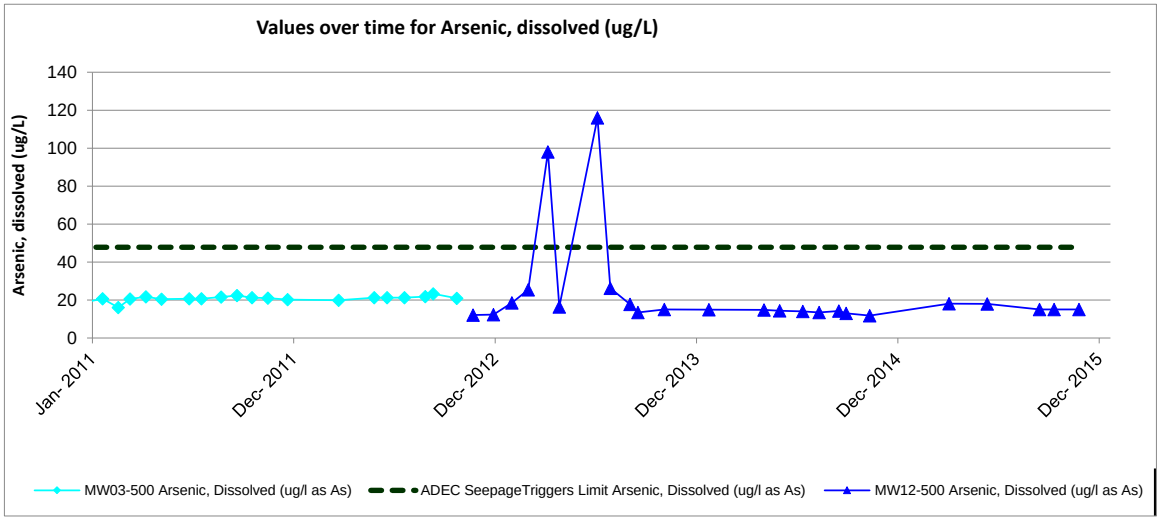

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
45
40
35
30
25
20
15
10
5
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Sulfate, Total (mg/l as SO4)
MW12-001B Sulfate, Total (mg/l as SO4)

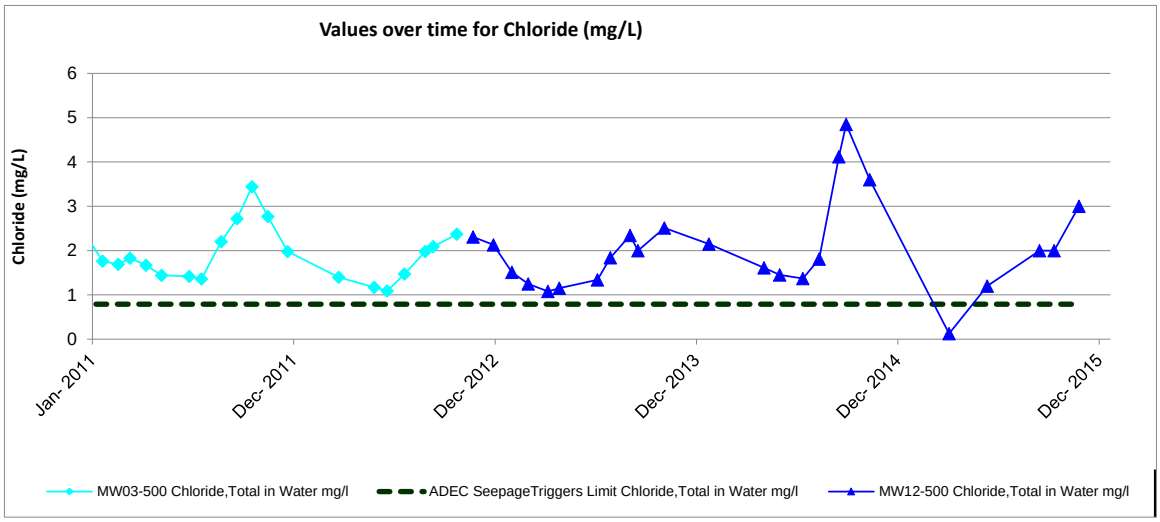

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW12-001B TDS, Residue,Total Filtrable (Dried At 180C),mg/l

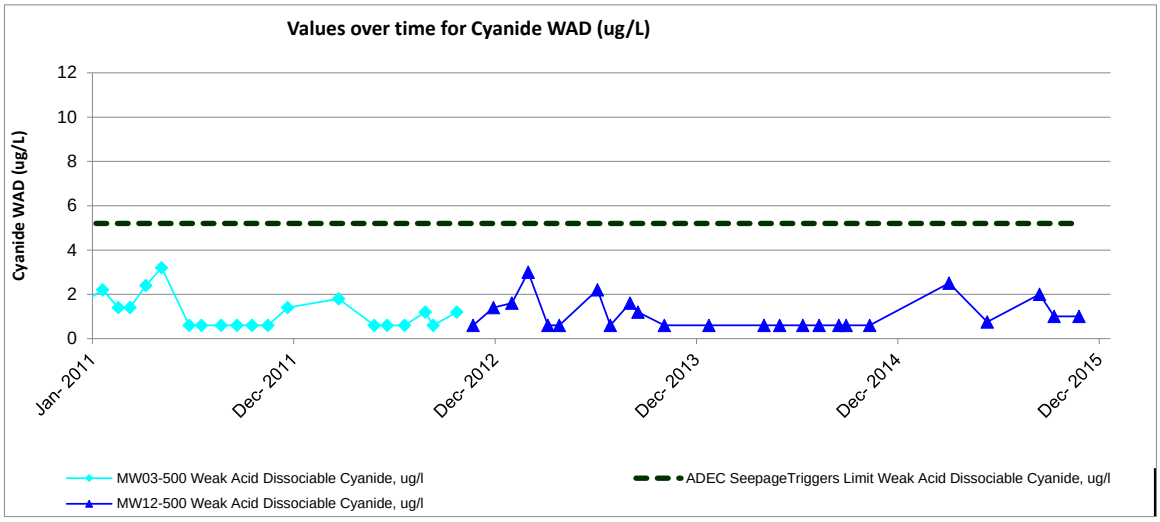

Values over time for Total Kjeldahl Nitrogen (TKN) (mg/L)
TKN (mg/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Total Kjeldahl Nitrogen, mg/l as N
MW12-001B Total Kjeldahl Nitrogen, mg/l as N

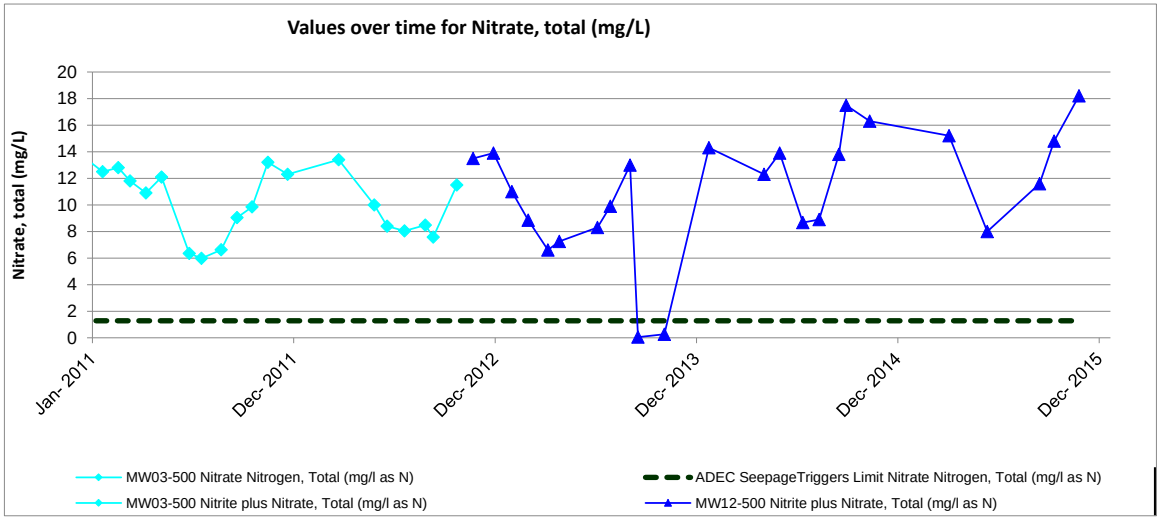

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependant. For graphing purposed, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
800
700
600
500
400
300
200
100
0
Oct- 2012
May- 2013
Nov- 2013
May- 2014
Nov- 2014
Jun- 2015
Dec- 2015
MW12-001A Zinc, Dissolved (ug/l as Zn)
MW12-001B Zinc, Dissolved (ug/l as Zn)

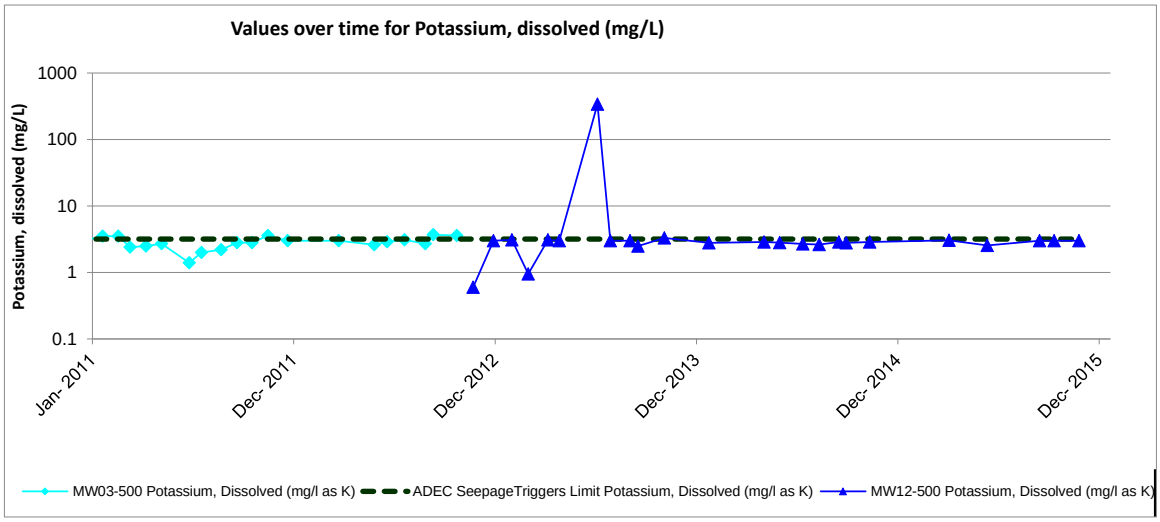

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Antimony, Dissolved (ug/l as Sb)
ADEC SeepageTriggers Limit Antimony, Dissolved (ug/l as Sb)
MW12-500 Antimony, Dissolved (ug/l as Sb)

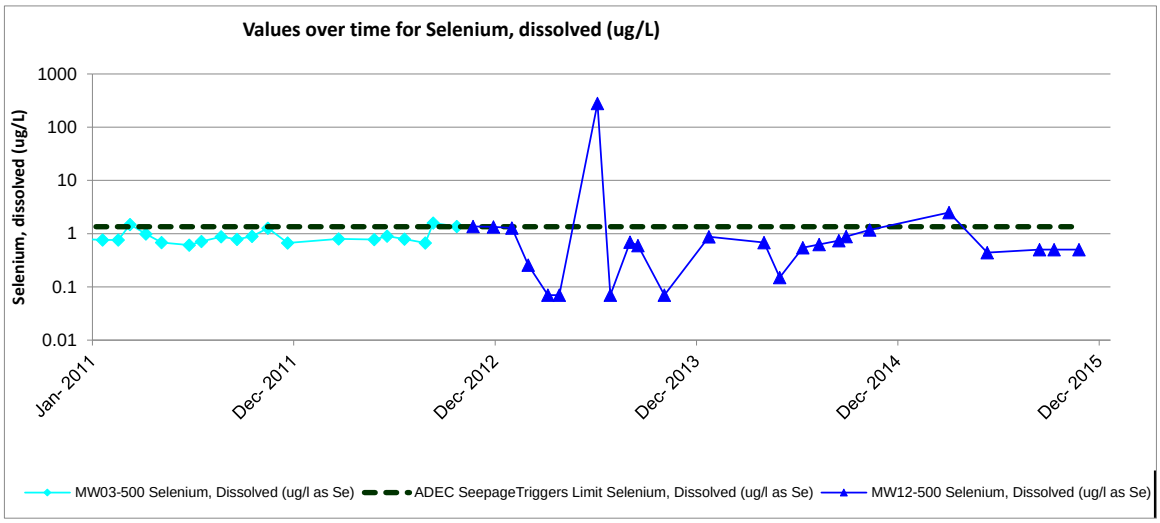

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
140
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Arsenic, Dissolved (ug/l as As)
ADEC SeepageTriggers Limit Arsenic, Dissolved (ug/l as As)
MW12-500 Arsenic, Dissolved (ug/l as As)

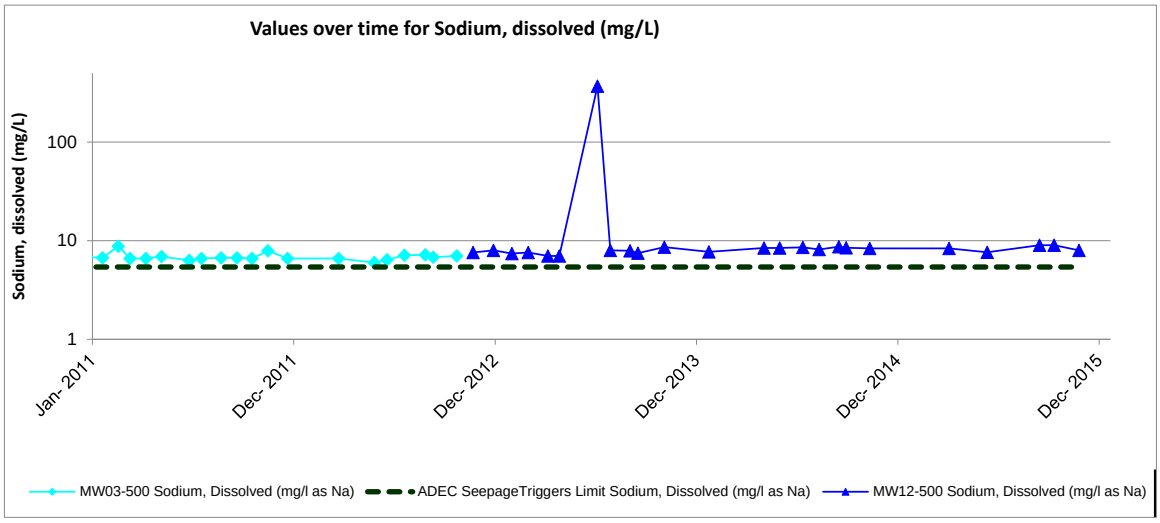

Values over time for Chloride (mg/L)
Chloride (mg/L)
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Chloride,Total in Water mg/l
ADEC SeepageTriggers Limit Chloride,Total in Water mg/l
MW12-500 Chloride,Total in Water mg/l

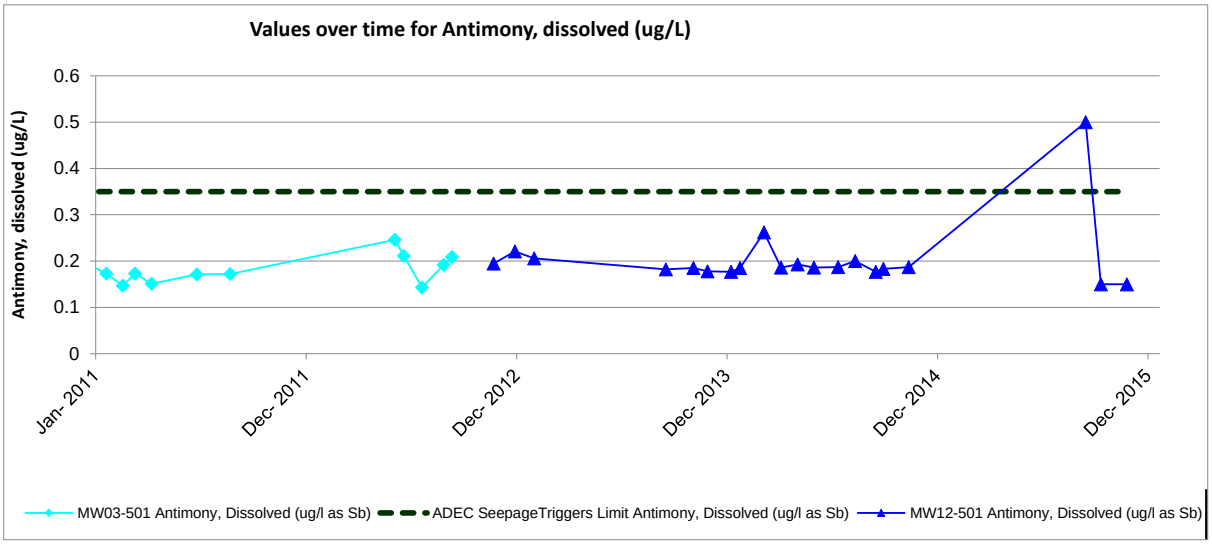

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Weak Acid Dissociable Cyanide, ug/l
ADEC SeepageTriggers Limit Weak Acid Dissociable Cyanide, ug/l
MW12-500 Weak Acid Dissociable Cyanide, ug/l

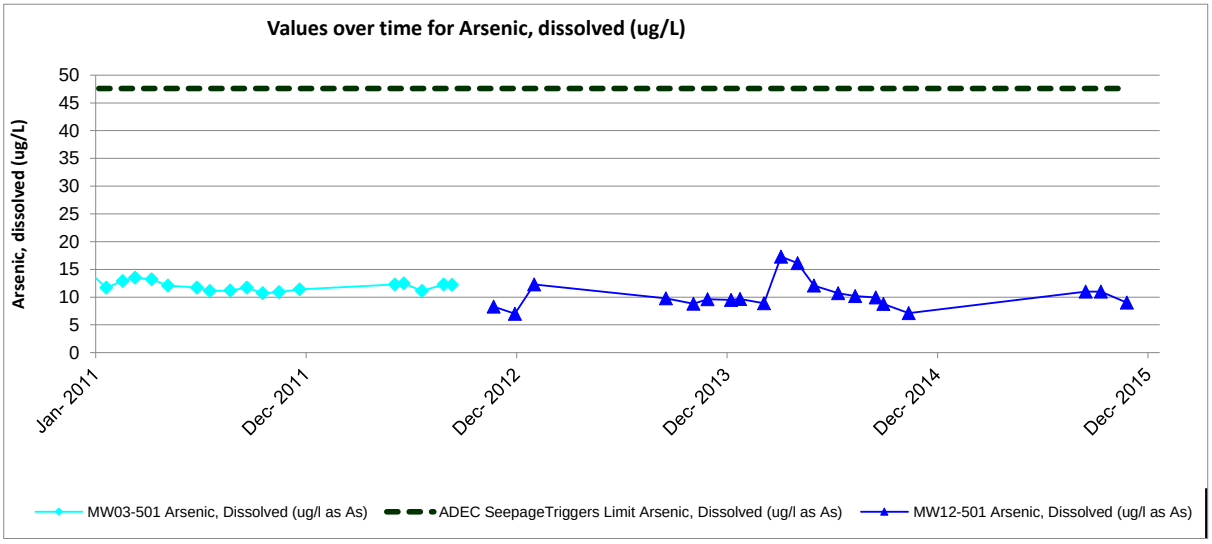

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Nitrate Nitrogen, Total (mg/l as N)
ADEC SeepageTriggers Limit Nitrate Nitrogen, Total (mg/l as N)
MW03-500 Nitrite plus Nitrate, Total (mg/l as N)
MW12-500 Nitrite plus Nitrate, Total (mg/l as N)

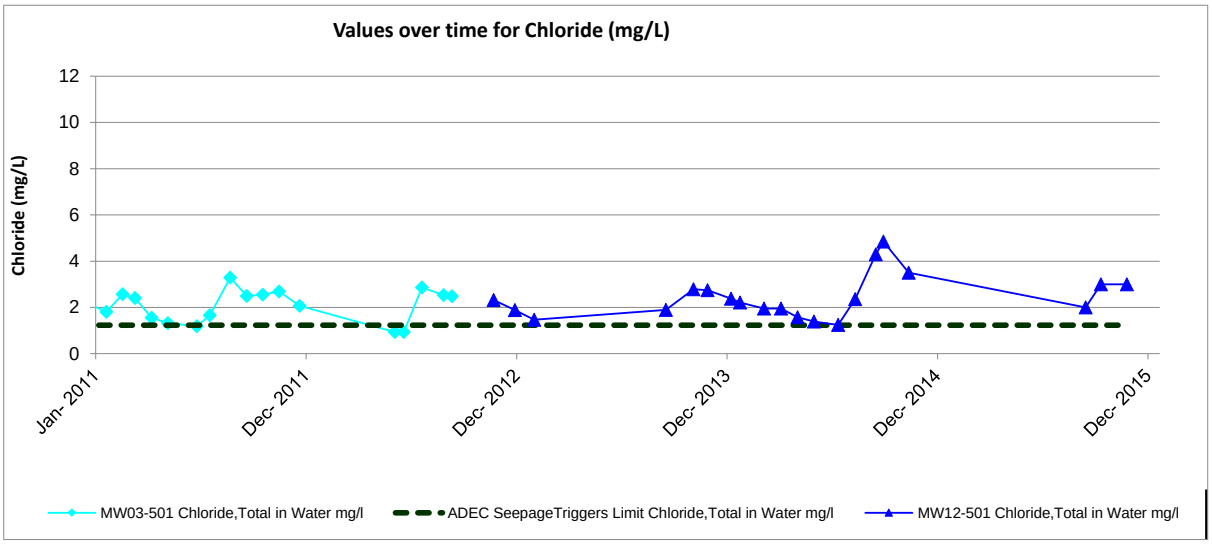

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
1000
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Potassium, Dissolved (mg/l as K)
ADEC SeepageTriggers Limit Potassium, Dissolved (mg/l as K)
MW12-500 Potassium, Dissolved (mg/l as K)

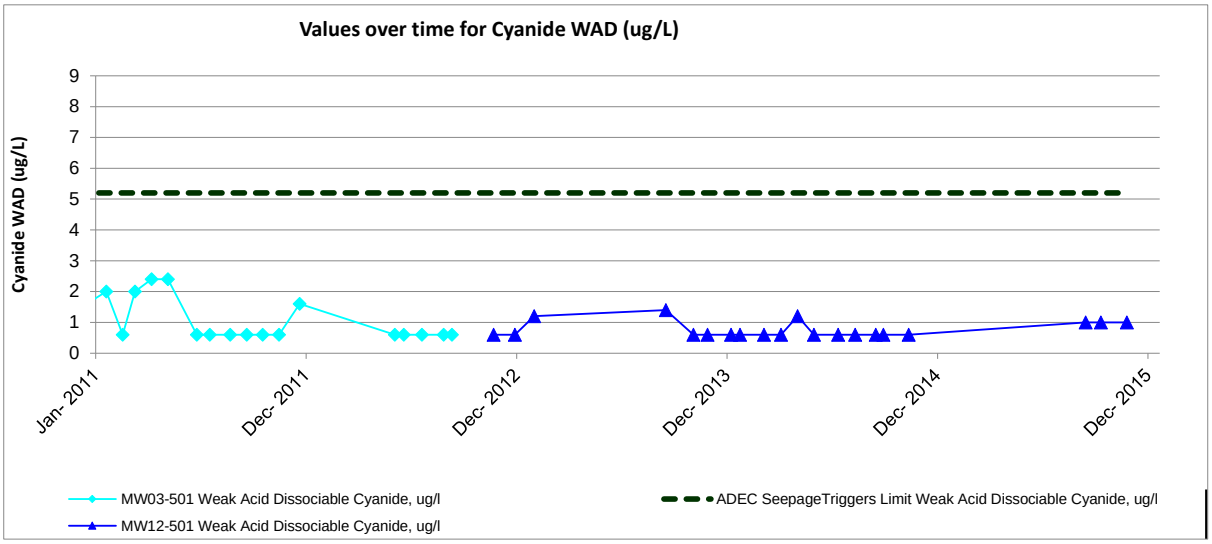

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Selenium, Dissolved (ug/l as Se)
ADEC SeepageTriggers Limit Selenium, Dissolved (ug/l as Se)
MW12-500 Selenium, Dissolved (ug/l as Se)

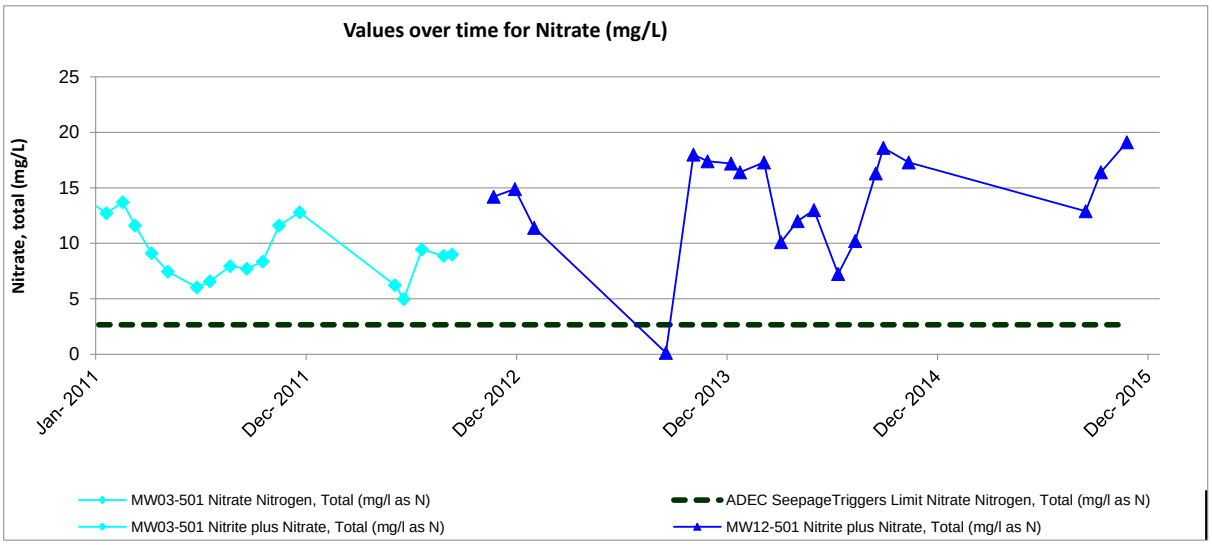

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-500 Sodium, Dissolved (mg/l as Na)
ADEC SeepageTriggers Limit Sodium, Dissolved (mg/l as Na)
MW12-500 Sodium, Dissolved (mg/l as Na)

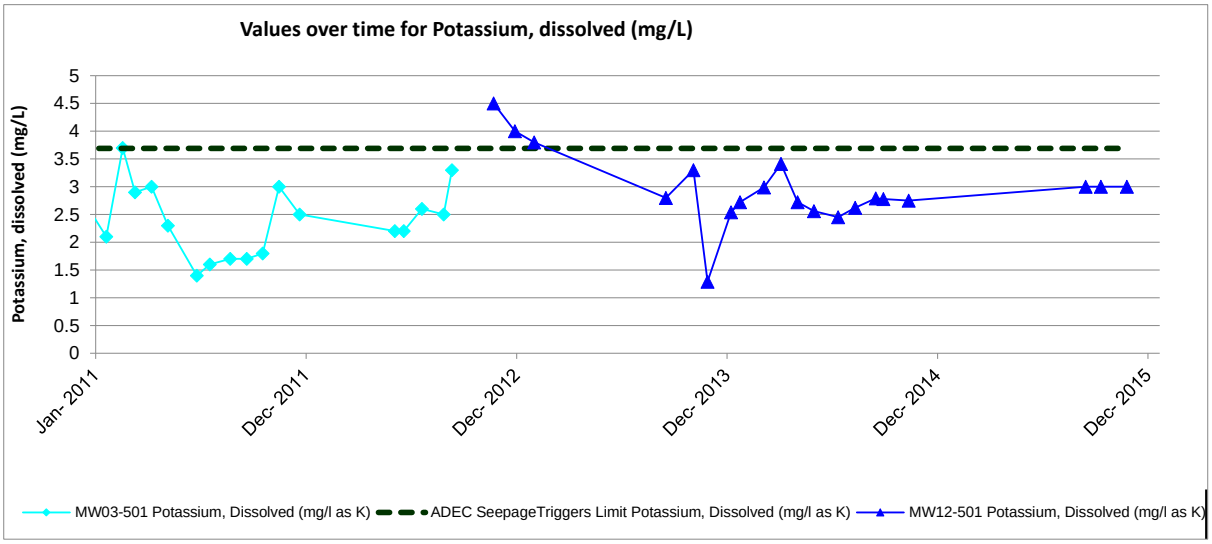

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Antimony, Dissolved (ug/l as Sb)
ADEC SeepageTriggers Limit Antimony, Dissolved (ug/l as Sb)
MW12-501 Antimony, Dissolved (ug/l as Sb)

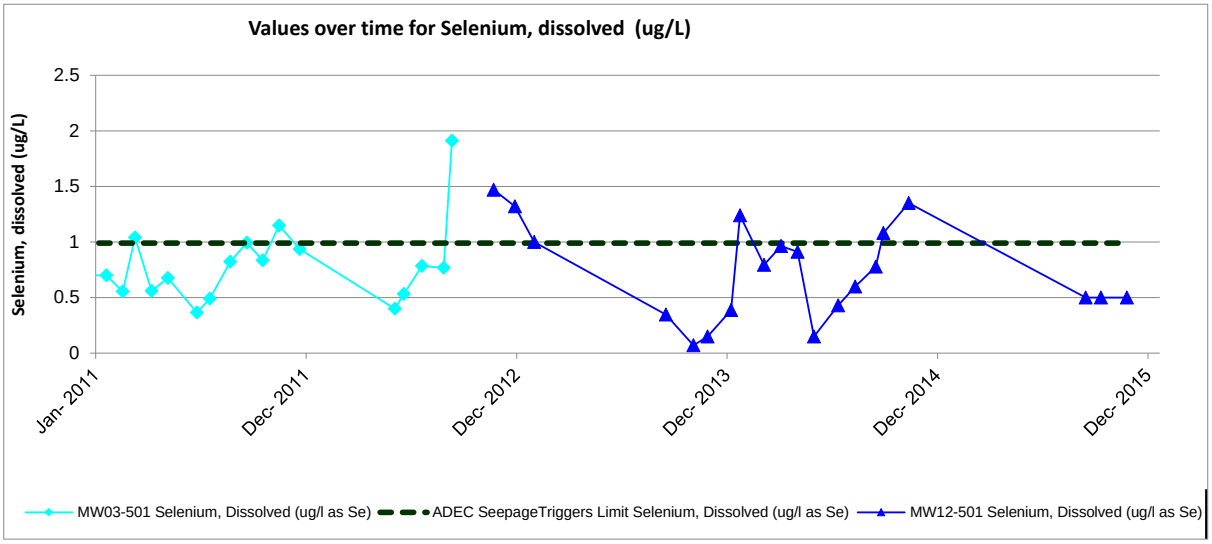

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Arsenic, Dissolved (ug/l as As)
ADEC SeepageTriggers Limit Arsenic, Dissolved (ug/l as As)
MW12-501 Arsenic, Dissolved (ug/l as As)

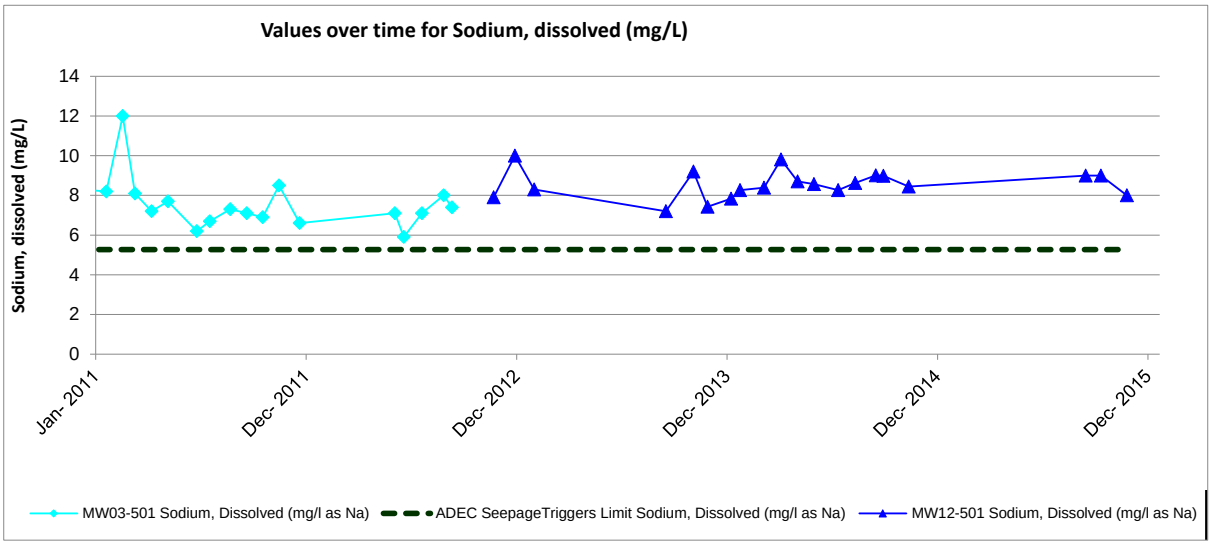

Values over time for Chloride (mg/L)
Chloride (mg/L)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Chloride,Total in Water mg/l
ADEC SeepageTriggers Limit Chloride,Total in Water mg/l
MW12-501 Chloride,Total in Water mg/l

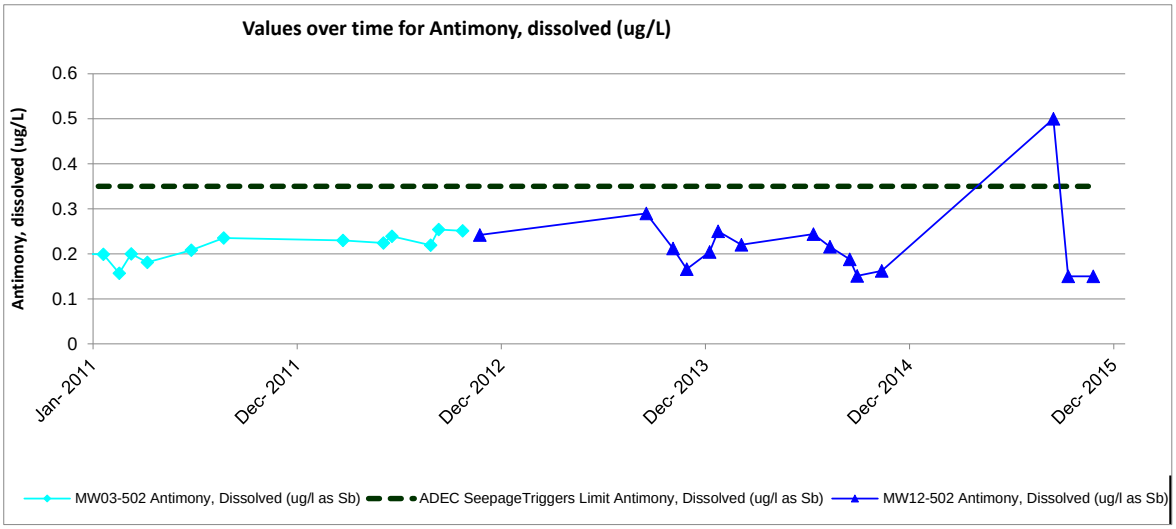

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Weak Acid Dissociable Cyanide, ug/l
ADEC SeepageTriggers Limit Weak Acid Dissociable Cyanide, ug/l
MW12-501 Weak Acid Dissociable Cyanide, ug/l

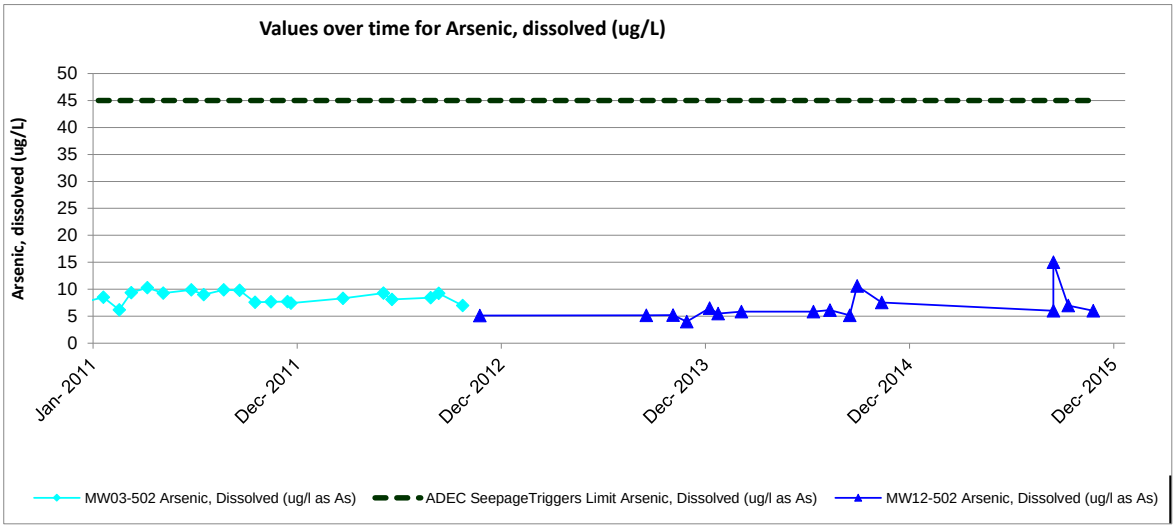

Values over time for Nitrate (mg/L)
Nitrate, total (mg/L)
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Nitrate Nitrogen, Total (mg/l as N)
ADEC SeepageTriggers Limit Nitrate Nitrogen, Total (mg/l as N)
MW03-501 Nitrite plus Nitrate, Total (mg/l as N)
MW12-501 Nitrite plus Nitrate, Total (mg/l as N)

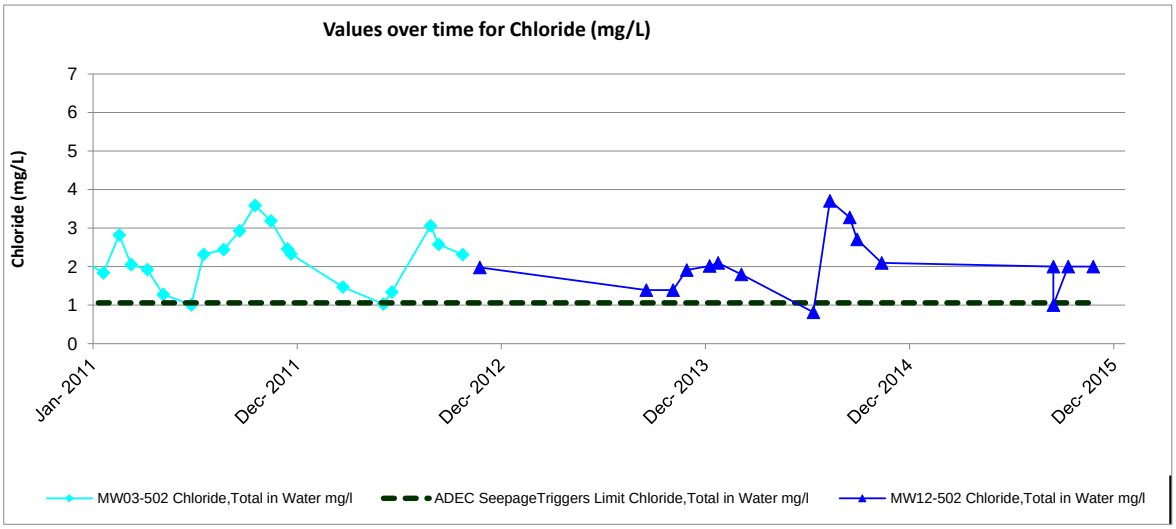

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Potassium, Dissolved (mg/l as K)
ADEC SeepageTriggers Limit Potassium, Dissolved (mg/l as K)
MW12-501 Potassium, Dissolved (mg/l as K)

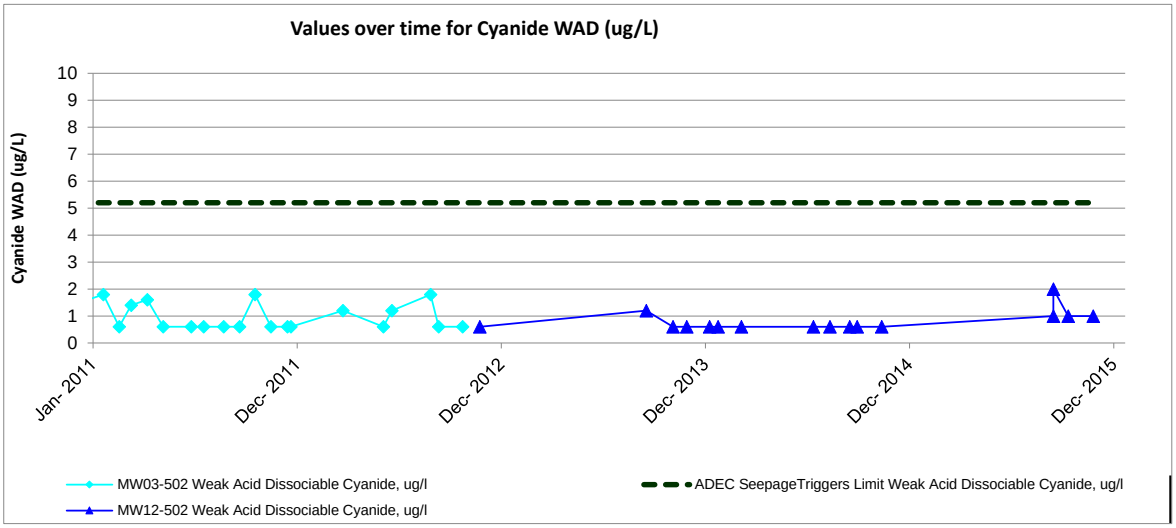

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Selenium, Dissolved (ug/l as Se)
ADEC SeepageTriggers Limit Selenium, Dissolved (ug/l as Se)
MW12-501 Selenium, Dissolved (ug/l as Se)

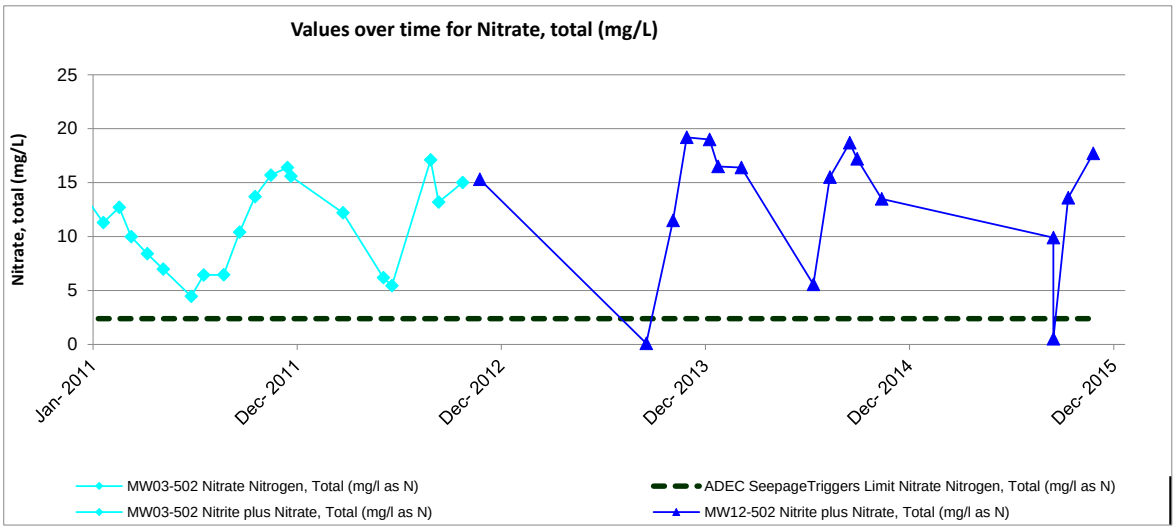

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
14
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Sodium, Dissolved (mg/l as Na)
ADEC SeepageTriggers Limit Sodium, Dissolved (mg/l as Na)
MW12-501 Sodium, Dissolved (mg/l as Na)

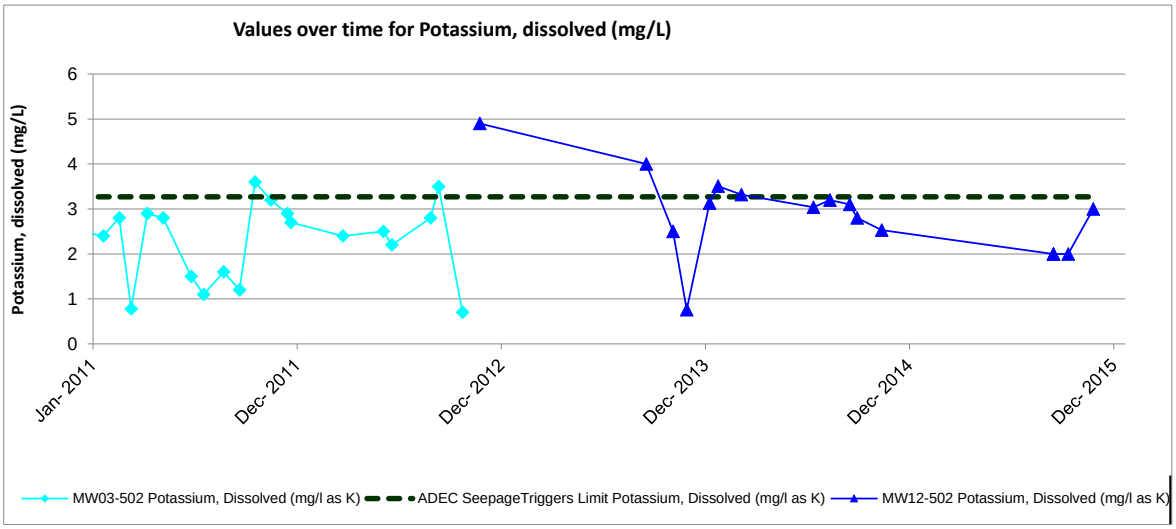

Values over time for Antimony, dissolved (ug/L)
Antimony, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Antimony, Dissolved (ug/l as Sb)
ADEC SeepageTriggers Limit Antimony, Dissolved (ug/l as Sb)
MW12-502 Antimony, Dissolved (ug/l as Sb)

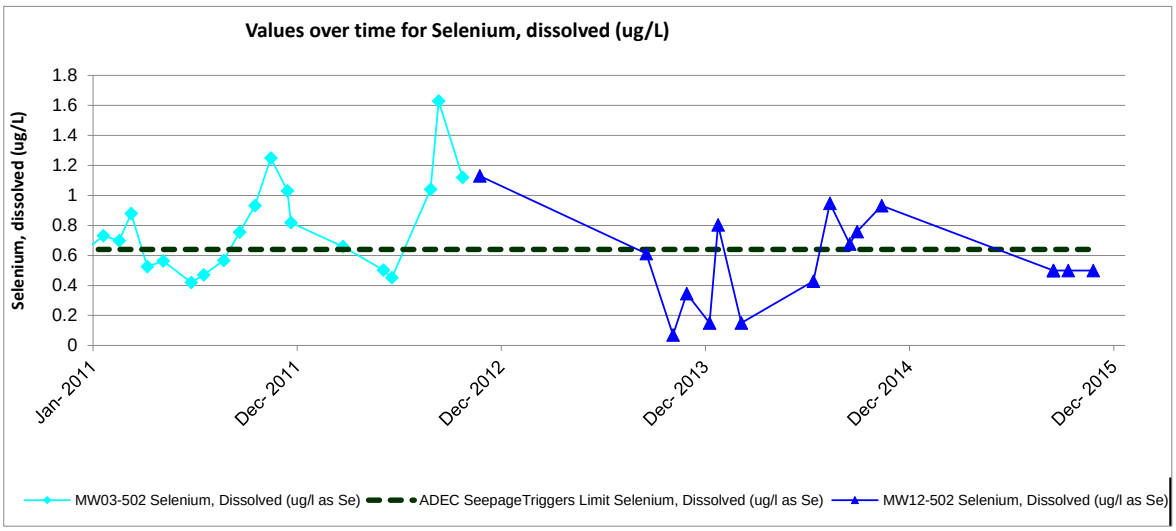

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Arsenic, Dissolved (ug/l as As)
ADEC SeepageTriggers Limit Arsenic, Dissolved (ug/l as As)
MW12-502 Arsenic, Dissolved (ug/l as As)

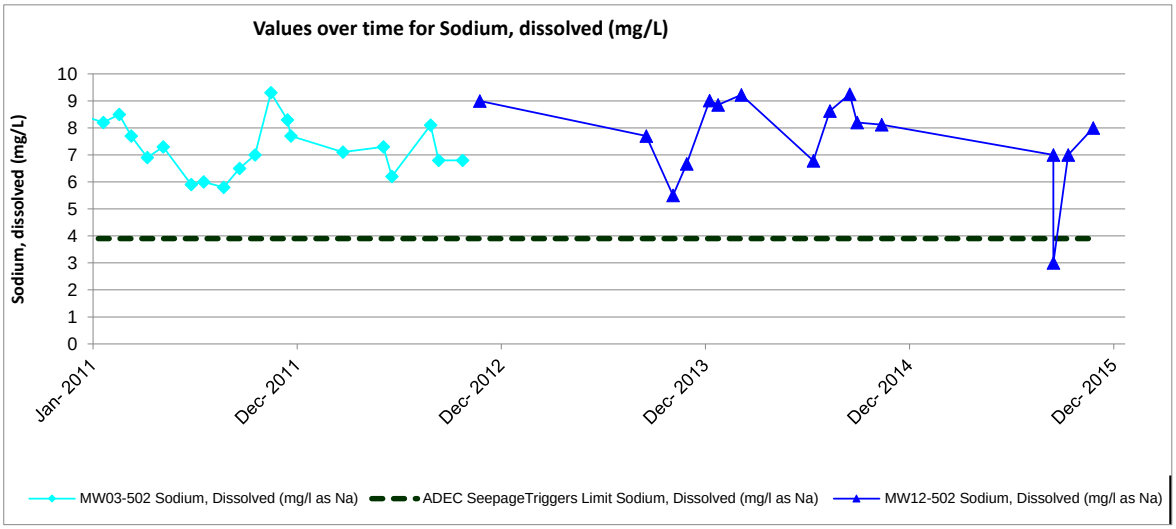

Values over time for Chloride (mg/L)
Chloride (mg/L)
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Chloride,Total in Water mg/l
ADEC SeepageTriggers Limit Chloride,Total in Water mg/l
MW12-502 Chloride,Total in Water mg/l

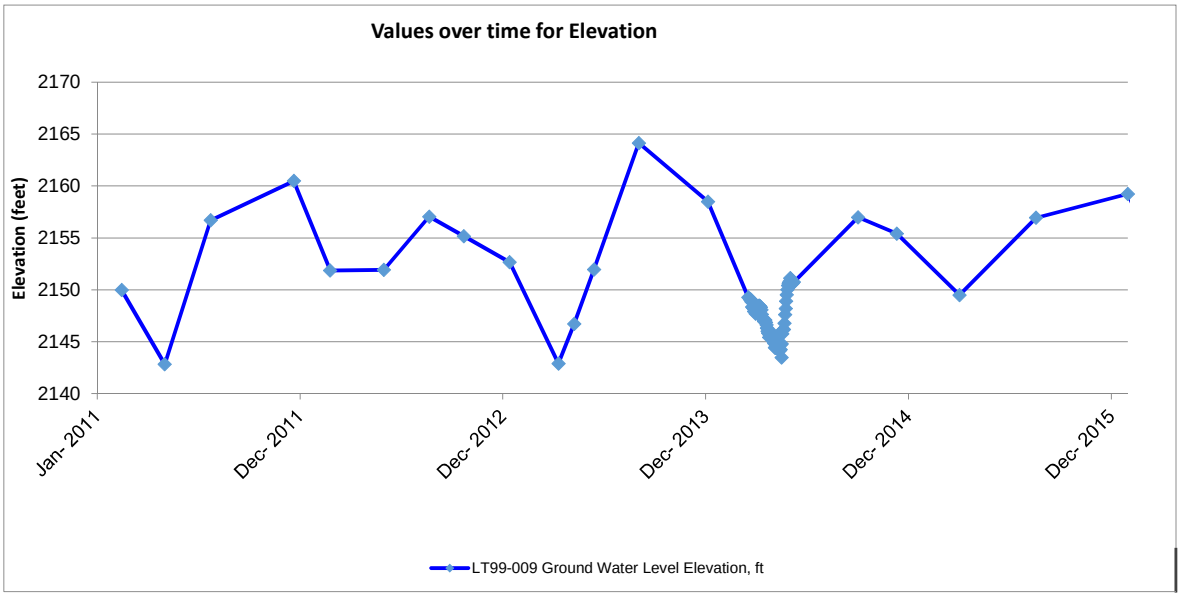

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Weak Acid Dissociable Cyanide, ug/l
ADEC SeepageTriggers Limit Weak Acid Dissociable Cyanide, ug/l
MW12-502 Weak Acid Dissociable Cyanide, ug/l

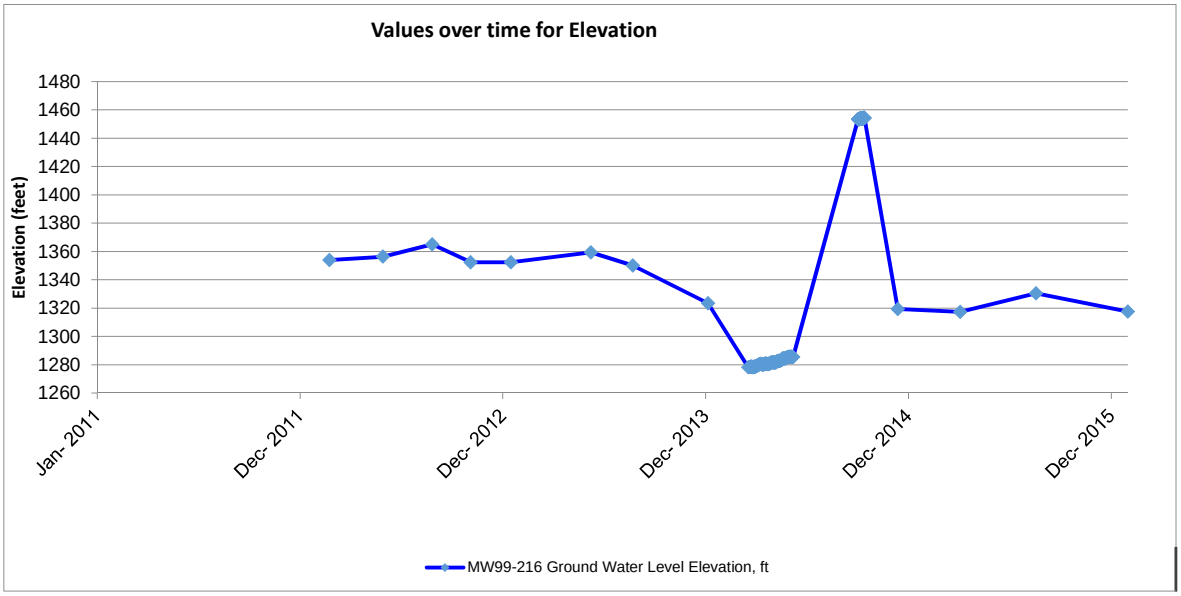

Values over time for Nitrate, total (mg/L)
Nitrate, total (mg/L)
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Nitrate Nitrogen, Total (mg/l as N)
ADEC SeepageTriggers Limit Nitrate Nitrogen, Total (mg/l as N)
MW03-502 Nitrite plus Nitrate, Total (mg/l as N)
MW12-502 Nitrite plus Nitrate, Total (mg/l as N)

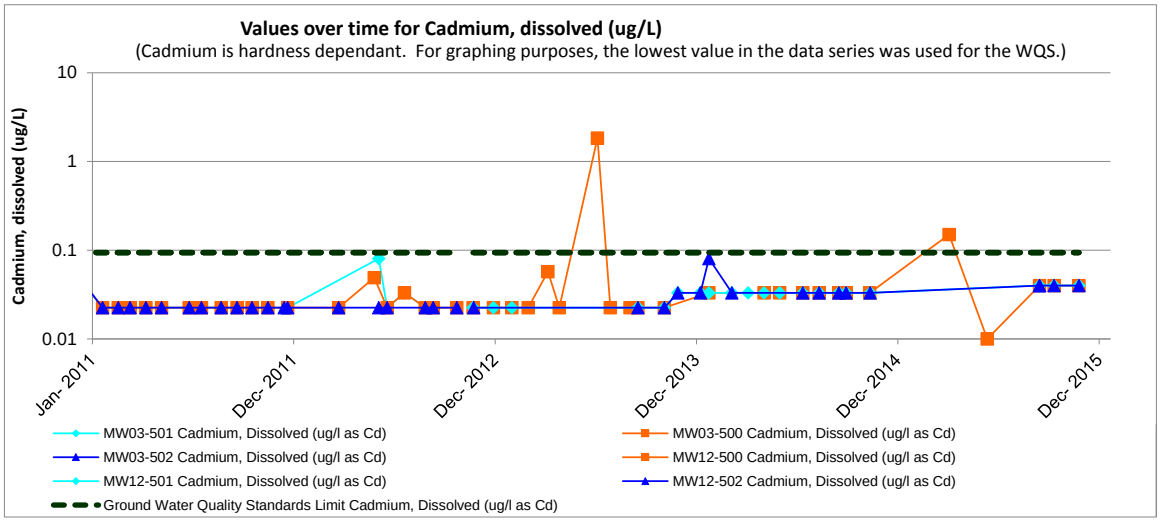

Values over time for Potassium, dissolved (mg/L)
Potassium, dissolved (mg/L)
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Potassium, Dissolved (mg/l as K)
ADEC SeepageTriggers Limit Potassium, Dissolved (mg/l as K)
MW12-502 Potassium, Dissolved (mg/l as K)

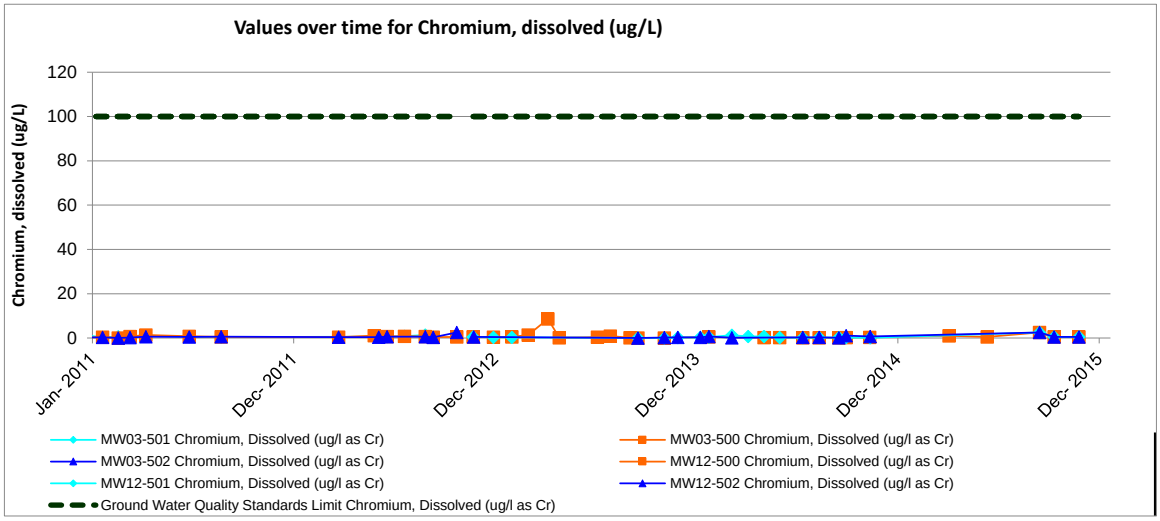

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug/L)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Selenium, Dissolved (ug/l as Se)
ADEC SeepageTriggers Limit Selenium, Dissolved (ug/l as Se)
MW12-502 Selenium, Dissolved (ug/l as Se)

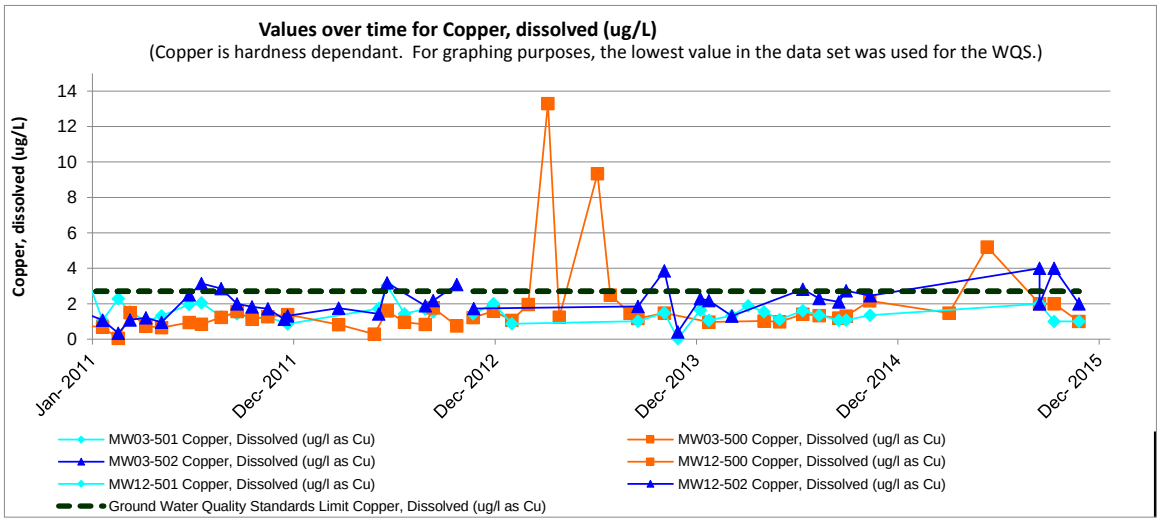

Values over time for Sodium, dissolved (mg/L)
Sodium, dissolved (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-502 Sodium, Dissolved (mg/l as Na)
ADEC SeepageTriggers Limit Sodium, Dissolved (mg/l as Na)
MW12-502 Sodium, Dissolved (mg/l as Na)

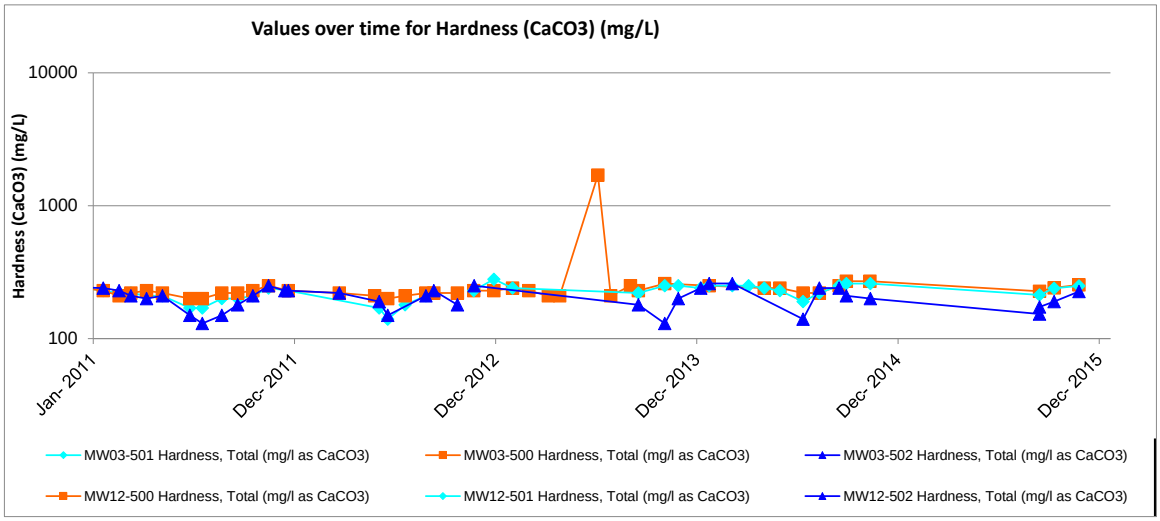

Values over time for Elevation
Elevation (feet)
2170
2165
2160
2155
2150
2145
2140
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
LT99-009 Ground Water Level Elevation, ft

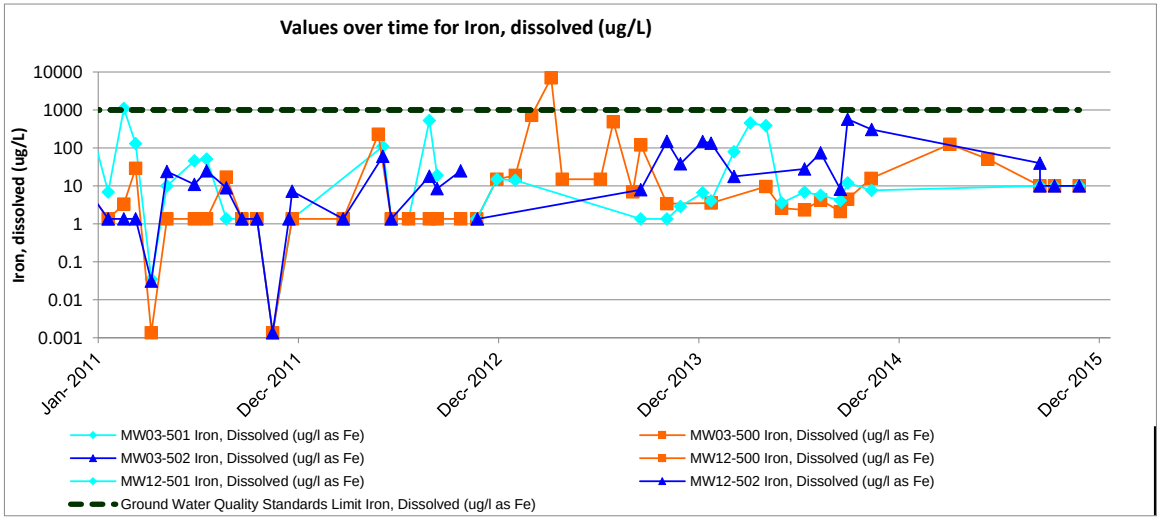

Values over time for Elevation
Elevation (feet)
1480
1460
1440
1420
1400
1380
1360
1340
1320
1300
1280
1260
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW99-216 Ground Water Level Elevation, ft

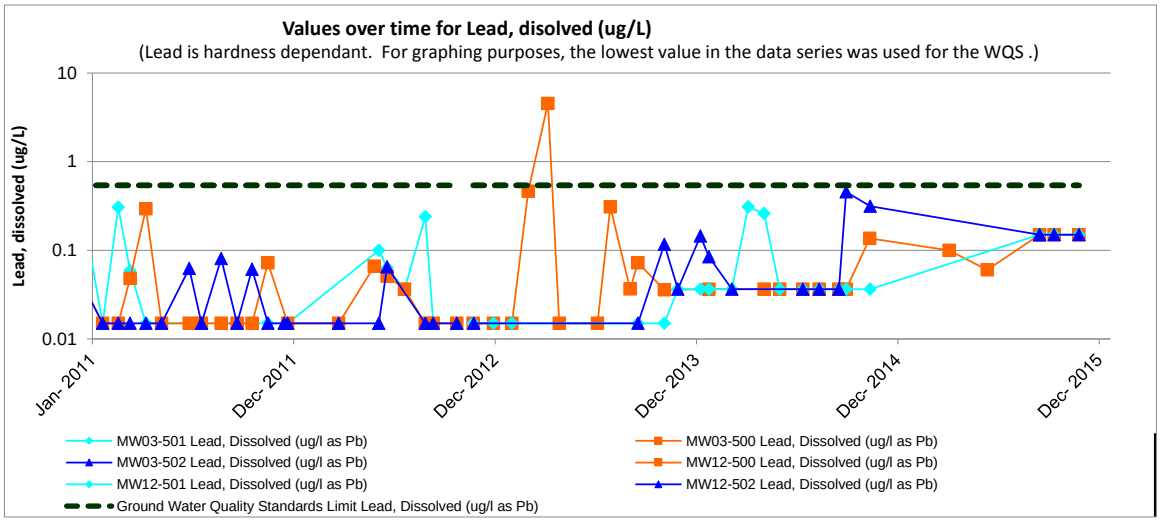

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes, the lowest value in the data series was used for the WQS.)
Cadmium, dissolved (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Cadmium, Dissolved (ug/l as Cd)
MW03-500 Cadmium, Dissolved (ug/l as Cd)
MW03-502 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)
Ground Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)

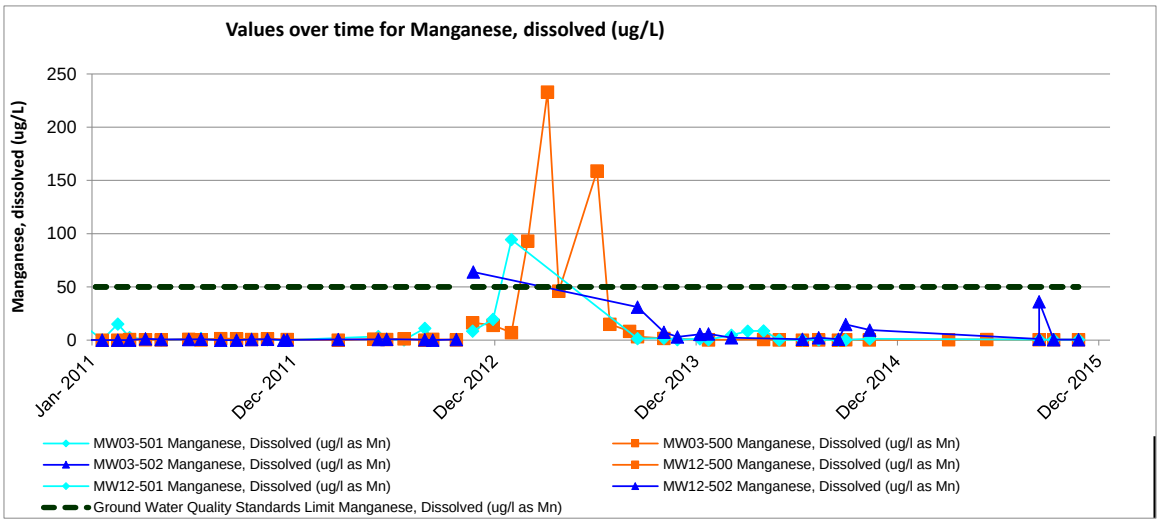

Values over time for Chromium, dissolved (ug/L)
Chromium, dissolved (ug/L)
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Chromium, Dissolved (ug/l as Cr)
MW03-500 Chromium, Dissolved (ug/l as Cr)
MW03-502 Chromium, Dissolved (ug/l as Cr)
MW12-500 Chromium, Dissolved (ug/l as Cr)
MW12-501 Chromium, Dissolved (ug/l as Cr)
MW12-502 Chromium, Dissolved (ug/l as Cr)
Ground Water Quality Standards Limit Chromium, Dissolved (ug/l as Cr)

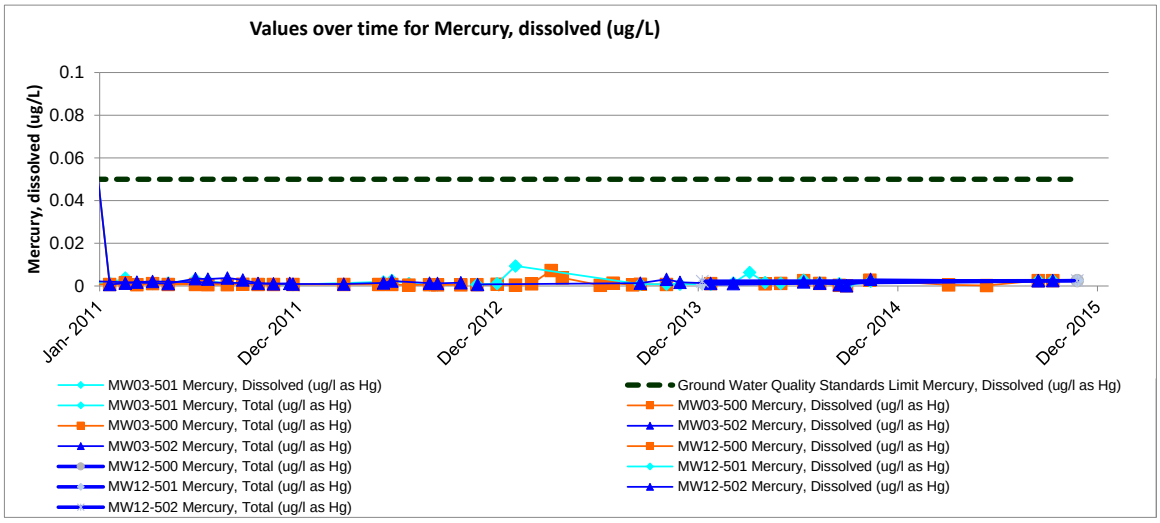

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Copper, dissolved (ug/L)
14
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Copper, Dissolved (ug/l as Cu)
MW03-500 Copper, Dissolved (ug/l as Cu)
MW03-502 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)
Ground Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)

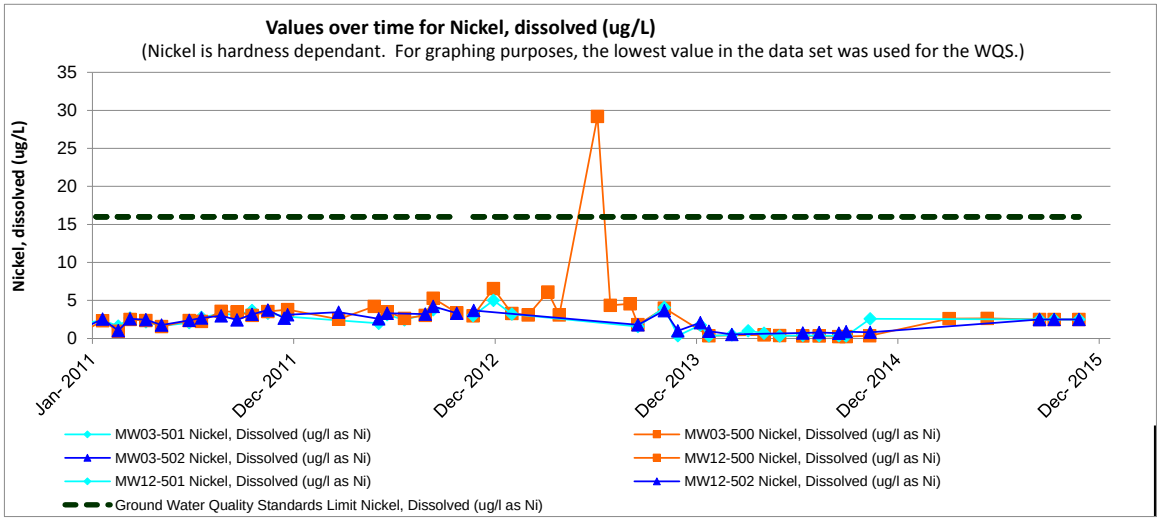

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
10000
1000
100
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Hardness, Total (mg/l as CaCO3)
MW03-500 Hardness, Total (mg/l as CaCO3)
MW03-502 Hardness, Total (mg/l as CaCO3)
MW12-500 Hardness, Total (mg/l as CaCO3)
MW12-501 Hardness, Total (mg/l as CaCO3)
MW12-502 Hardness, Total (mg/l as CaCO3)

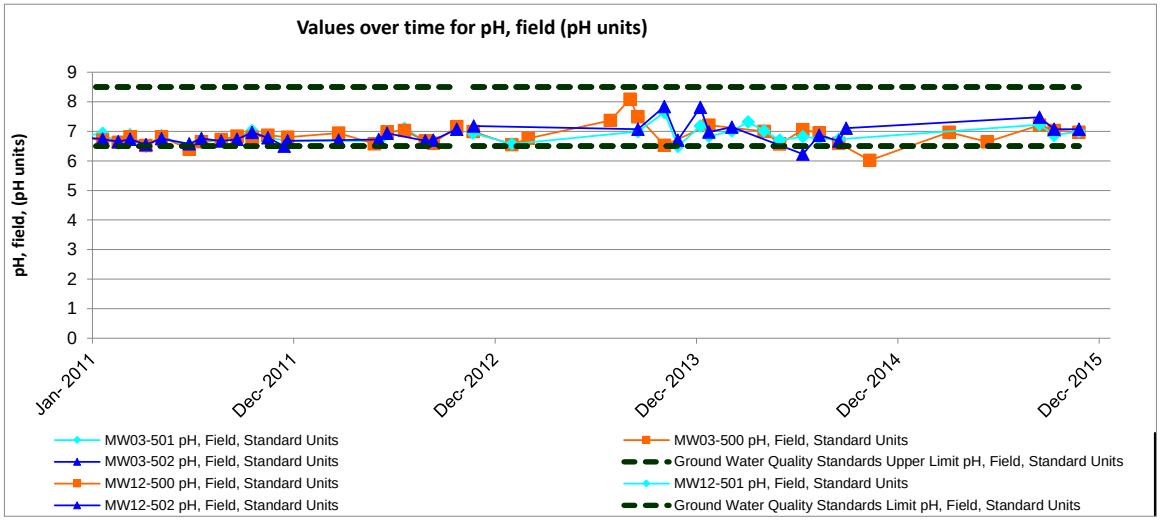

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
10000
1000
100
10
1
0.1
0.01
0.001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Iron, Dissolved (ug/l as Fe)
MW03-500 Iron, Dissolved (ug/l as Fe)
MW03-502 Iron, Dissolved (ug/l as Fe)
MW12-500 Iron, Dissolved (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)

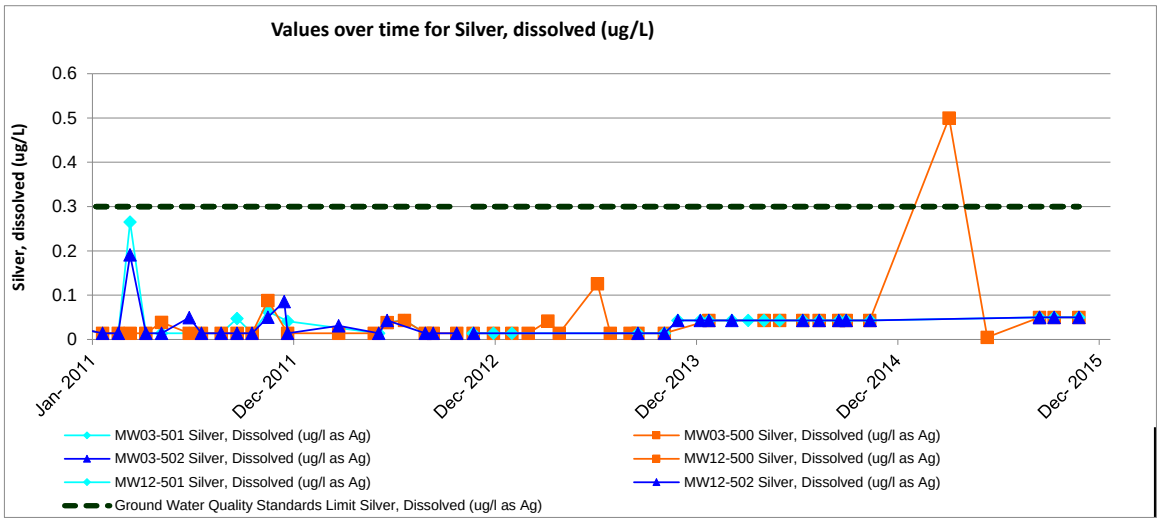

Values over time for Lead, disolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data series was used for the WQS .)
Lead, dissolved (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Lead, Dissolved (ug/l as Pb)
MW03-500 Lead, 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)

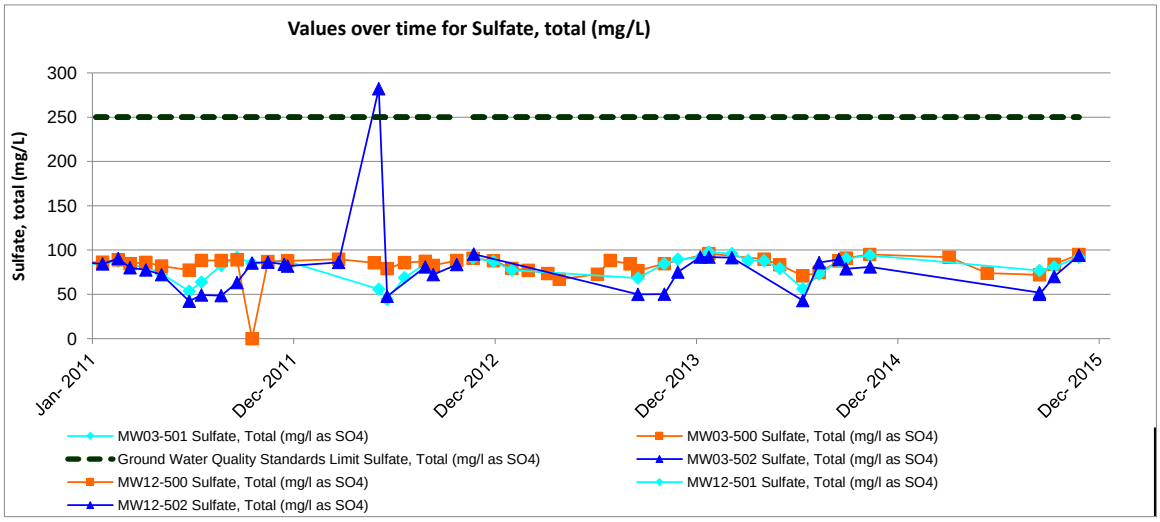

Values over time for Manganese, dissolved (ug/L)
Manganese, dissolved (ug/L)
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Manganese, Dissolved (ug/l as Mn)
MW03-500 Manganese, Dissolved (ug/l as Mn)
MW03-502 Manganese, Dissolved (ug/l as Mn)
MW12-500 Manganese, 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)

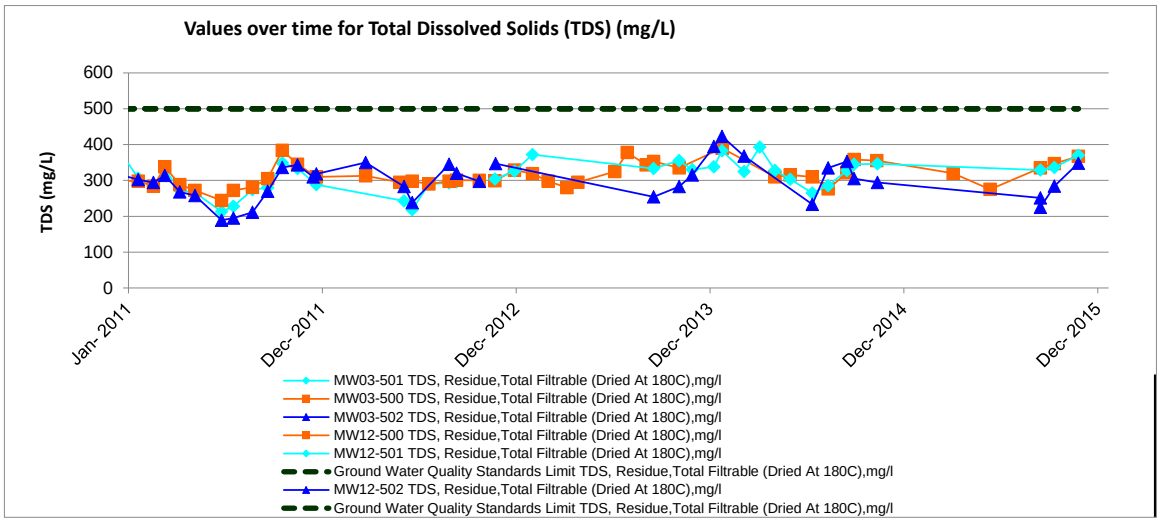

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.1
0.08
0.06
0.04
0.02
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Mercury, Dissolved (ug/l as Hg)
Ground Water Quality Standards Limit Mercury, Dissolved (ug/l as Hg)
MW03-501 Mercury, Total (ug/l as 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)
MW12-500 Mercury, Dissolved (ug/l as Hg)
MW12-500 Mercury, Total (ug/l as Hg)
MW12-501 Mercury, Dissolved (ug/l as Hg)
MW12-501 Mercury, Total (ug/l as Hg)
MW12-502 Mercury, Dissolved (ug/l as Hg)
MW12-502 Mercury, Total (ug/l as Hg)

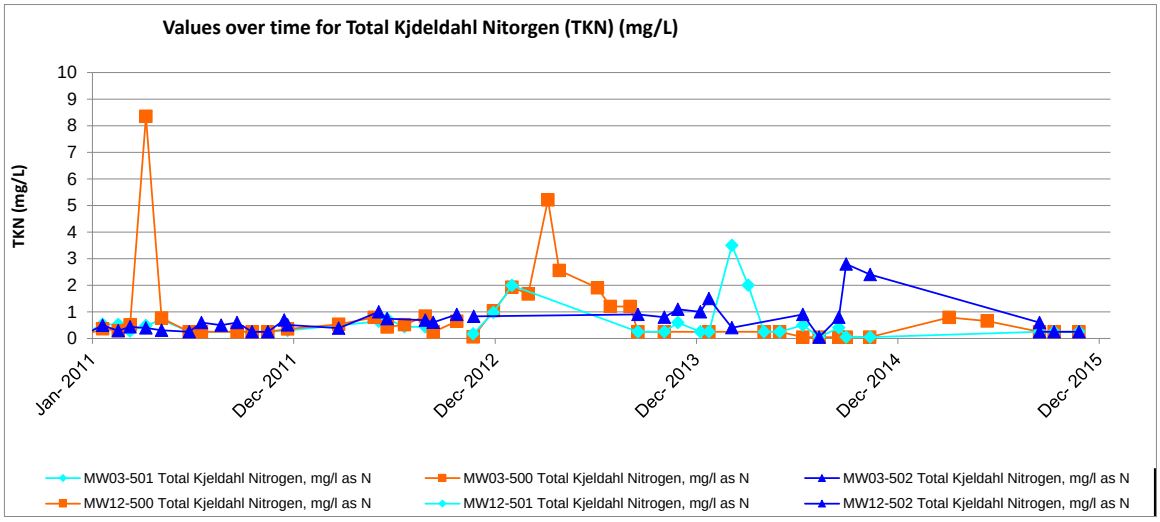

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Nickel, dissolved (ug/L)
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Nickel, Dissolved (ug/l as Ni)
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)

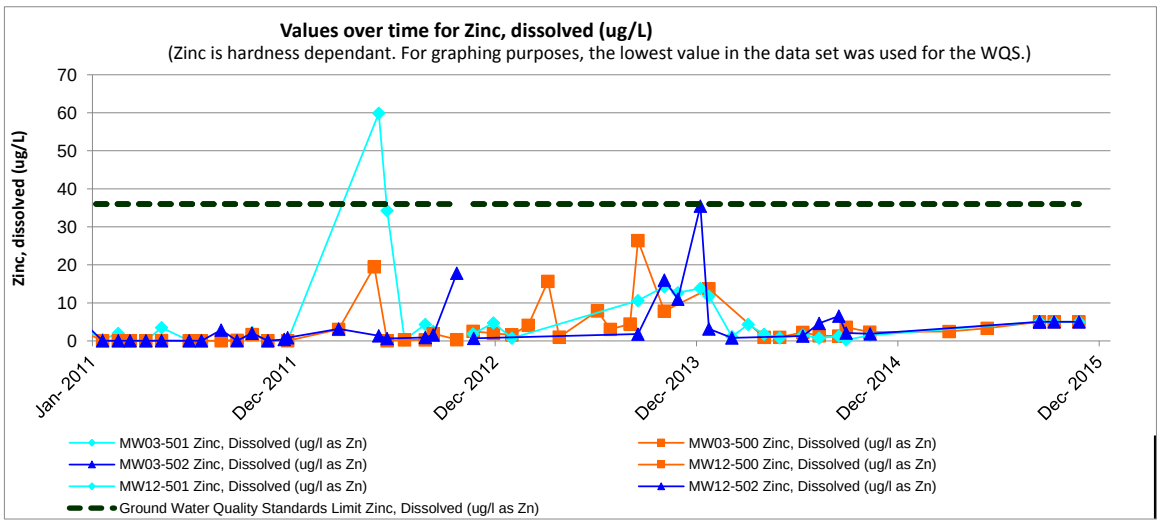

Values over time for pH, field (pH units)
pH, field, (pH units)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 pH, Field, Standard Units
MW03-500 pH, Field, Standard Units
MW03-502 pH, Field, Standard Units
Ground Water Quality Standards Upper Limit pH, Field, 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

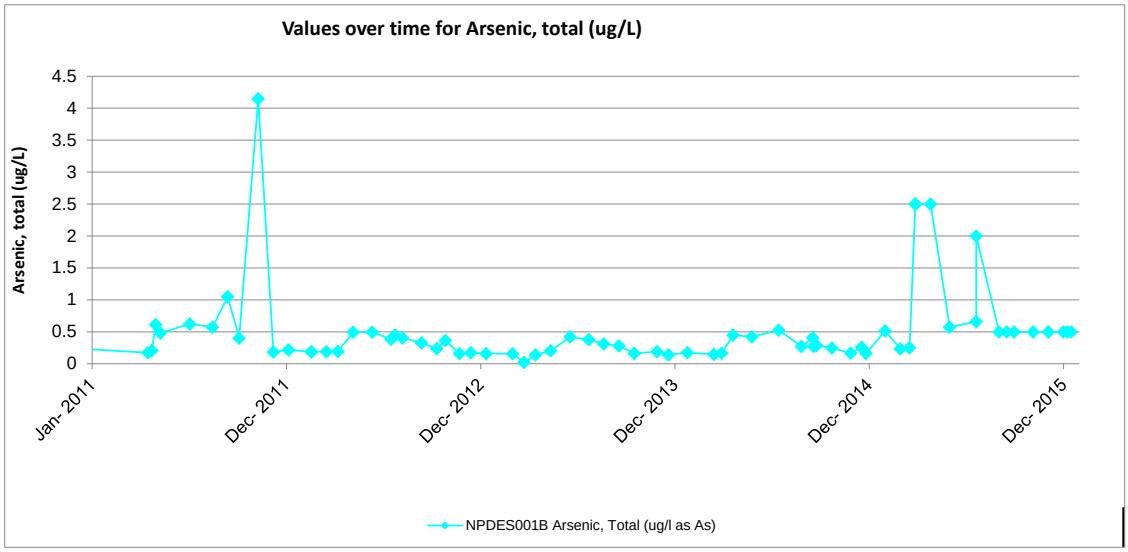

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Silver, Dissolved (ug/l as Ag)
MW03-500 Silver, Dissolved (ug/l as Ag)
MW03-502 Silver, Dissolved (ug/l as Ag)
MW12-500 Silver, Dissolved (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)

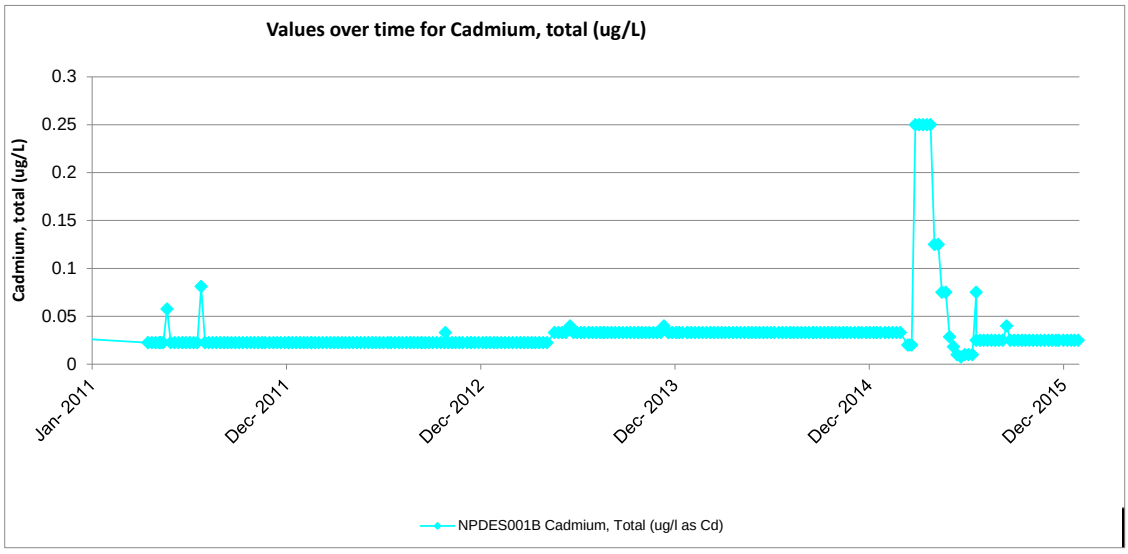

Values over time for Sulfate, total (mg/L)
Sulfate, total (mg/L)
300
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Sulfate, Total (mg/l as SO4)
MW03-500 Sulfate, Total (mg/l as SO4)
Ground Water Quality Standards Limit Sulfate, Total (mg/l as SO4)
MW03-502 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)

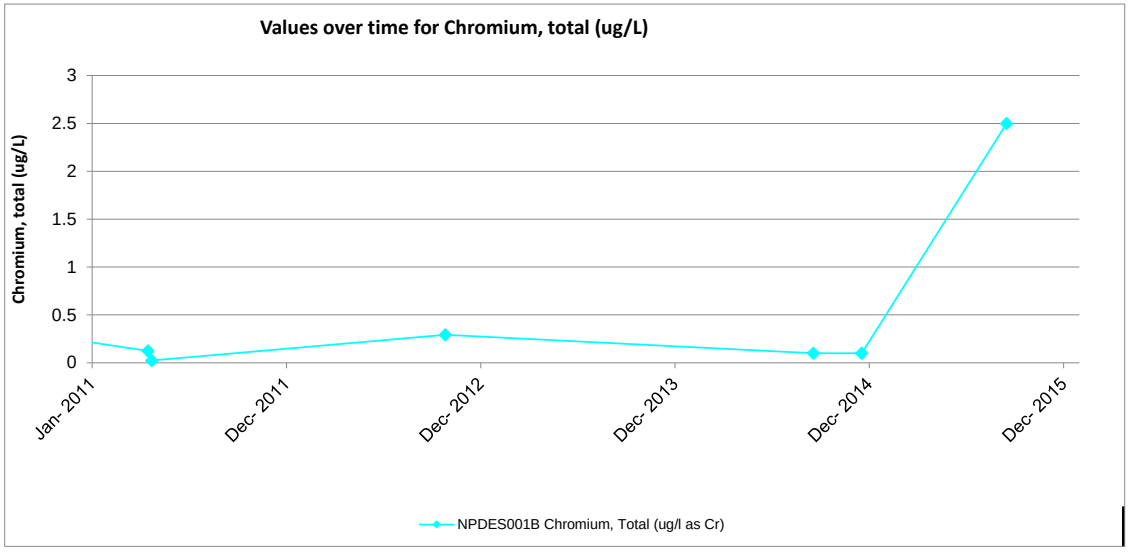

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW03-500 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
MW03-502 TDS, Residue,Total Filtrable (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
Ground Water Quality Standards Limit 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

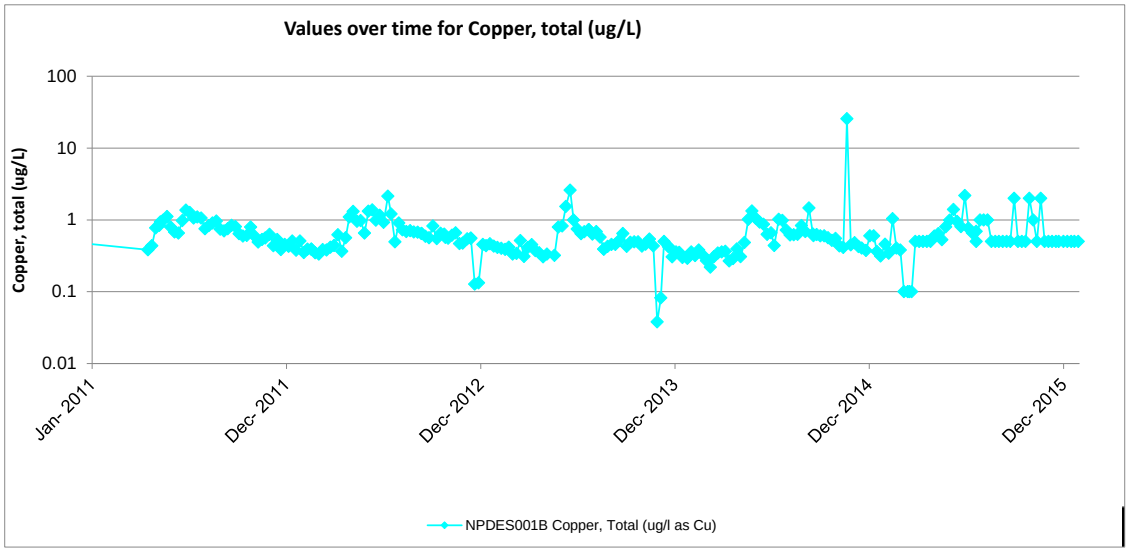

Values over time for Total Kjdeldahl Nitorgen (TKN) (mg/L)
TKN (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Total Kjeldahl Nitrogen, mg/l as N
MW03-500 Total Kjeldahl Nitrogen, mg/l as N
MW03-502 Total Kjeldahl Nitrogen, mg/l as N
MW12-500 Total Kjeldahl Nitrogen, mg/l as N
MW12-501 Total Kjeldahl Nitrogen, mg/l as N
MW12-502 Total Kjeldahl Nitrogen, mg/l as N

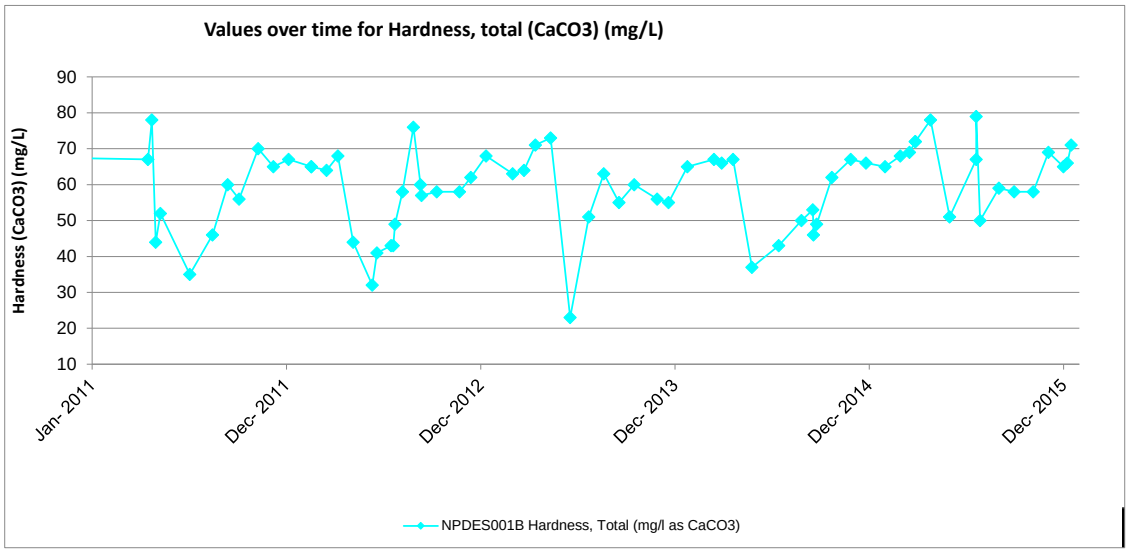

Values over time for Zinc, dissolved (ug/L)
(Zinc is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Zinc, dissolved (ug/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
MW03-501 Zinc, Dissolved (ug/l as Zn)
MW03-500 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)

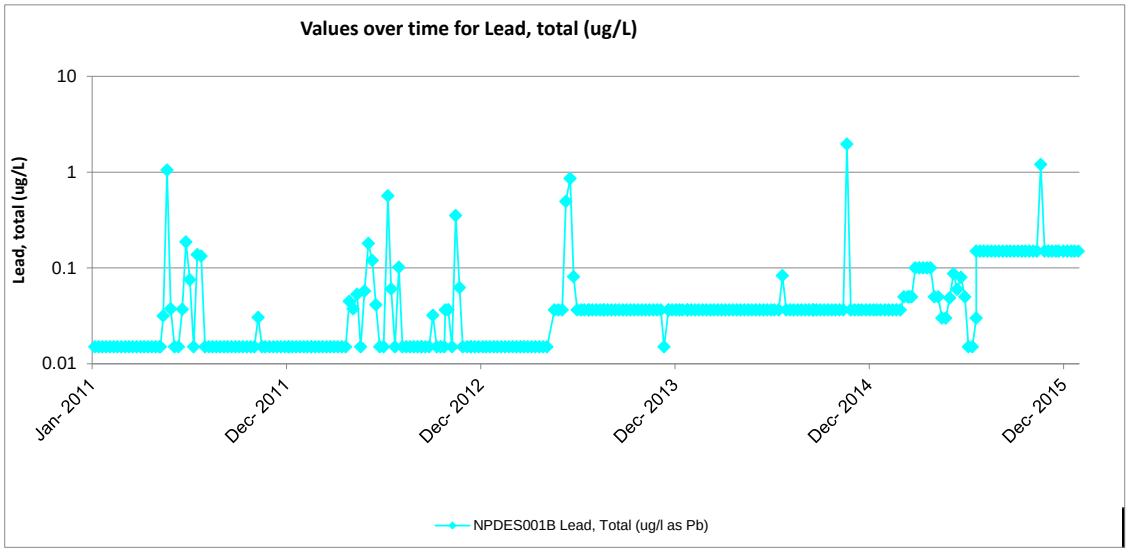

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Arsenic, Total (ug/l as As)

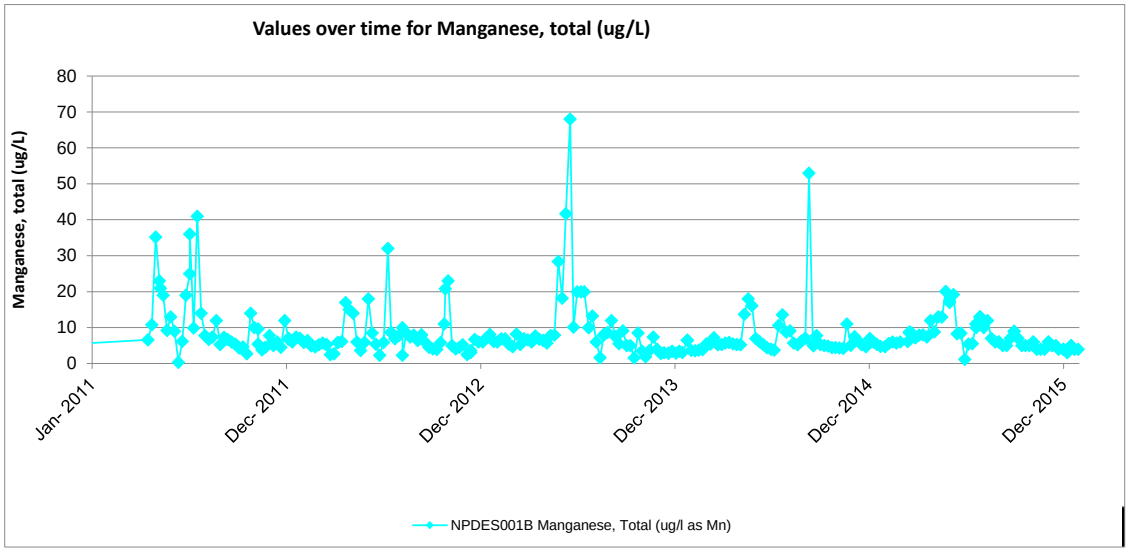

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Cadmium, Total (ug/l as Cd)

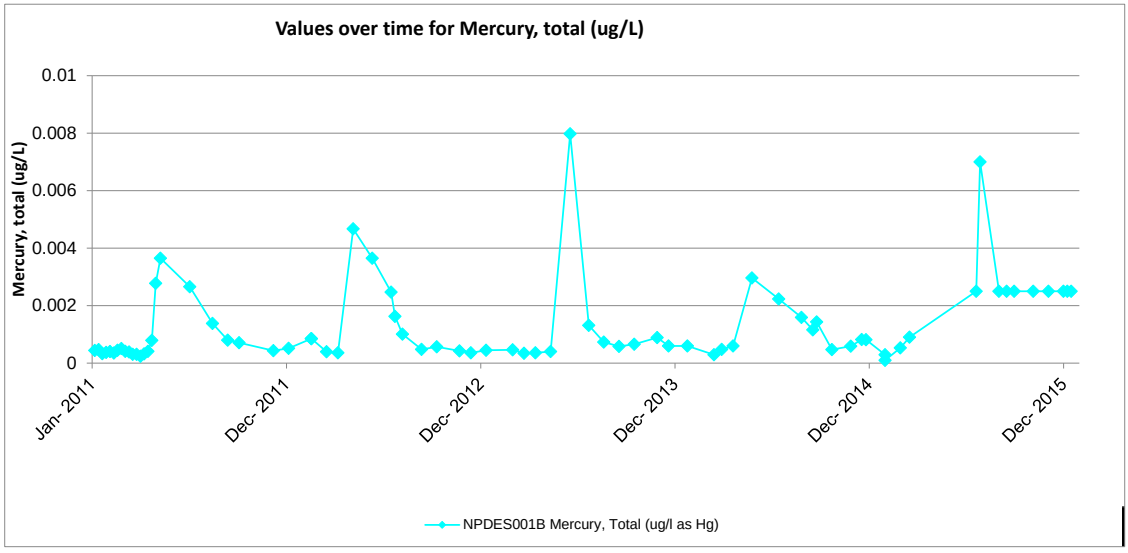

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Chromium, Total (ug/l as Cr)

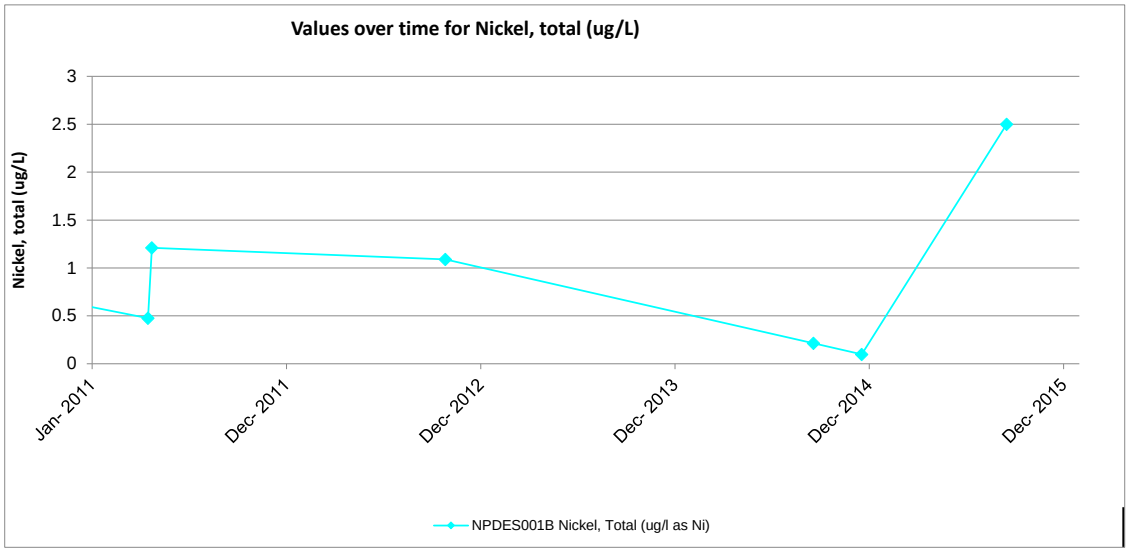

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Copper, Total (ug/l as Cu)

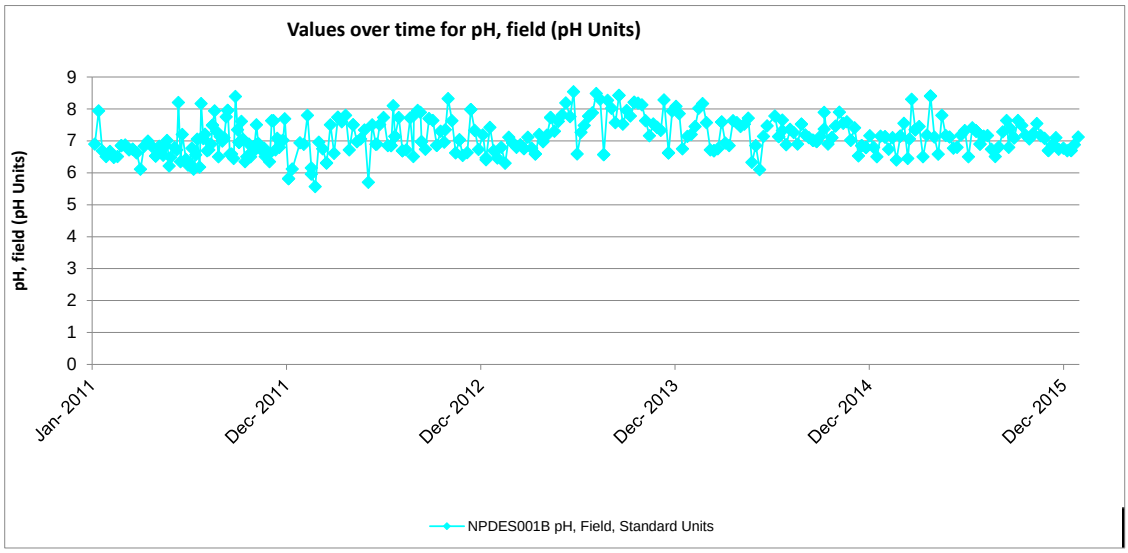

Values over time for Hardness, total (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
90
80
70
60
50
40
30
20
10
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Hardness, Total (mg/l as CaCO3)

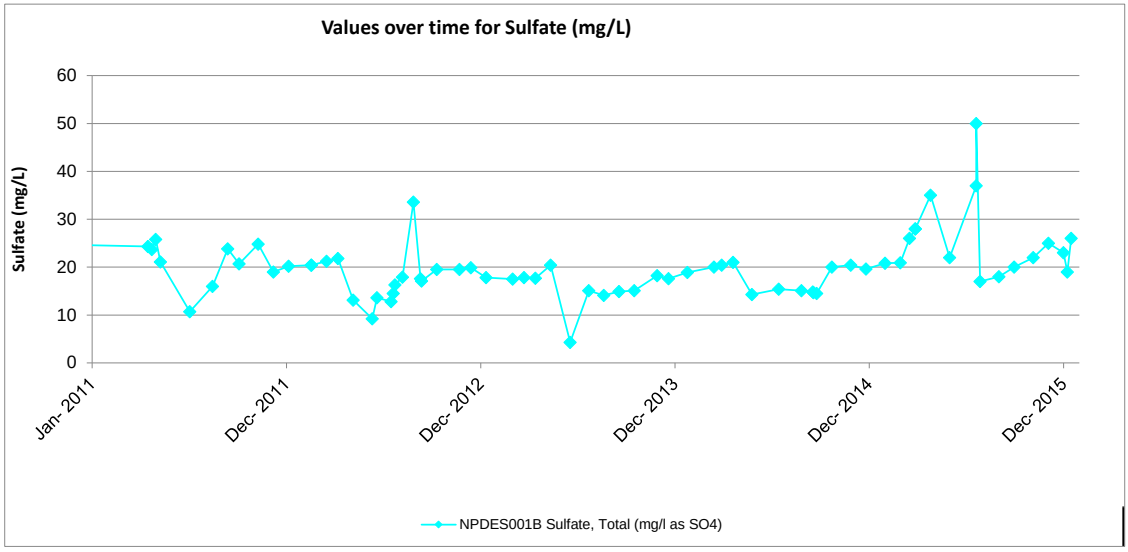

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Lead, Total (ug/l as Pb)

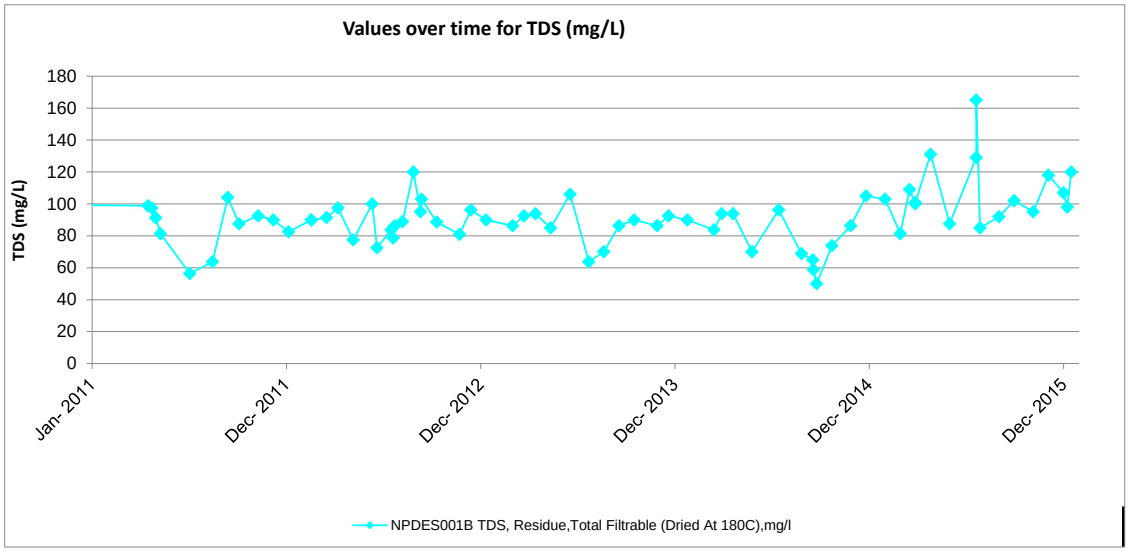

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
80
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Manganese, Total (ug/l as Mn)

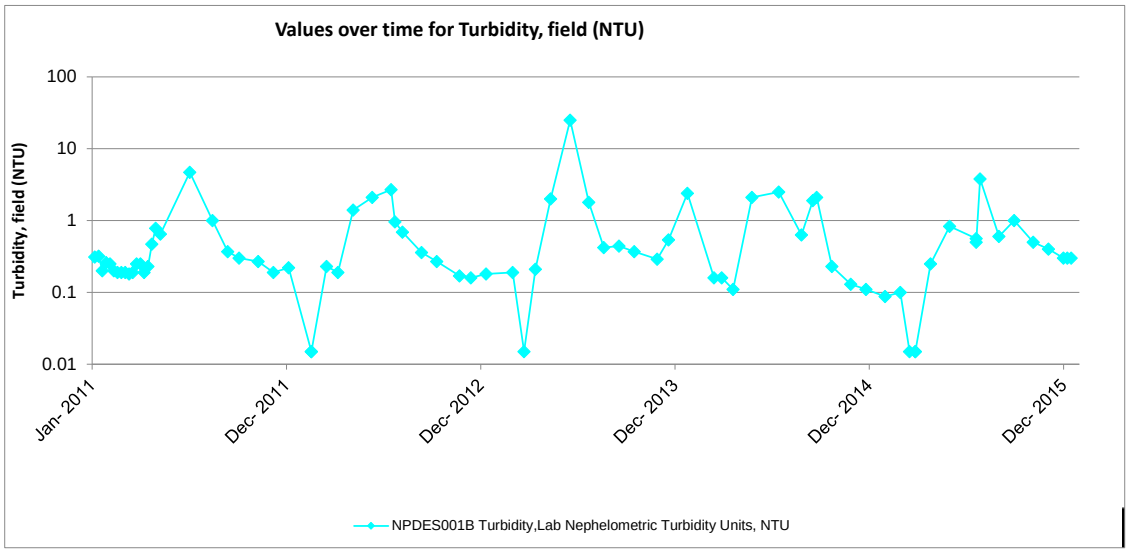

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.01
0.008
0.006
0.004
0.002
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Mercury, Total (ug/l as Hg)

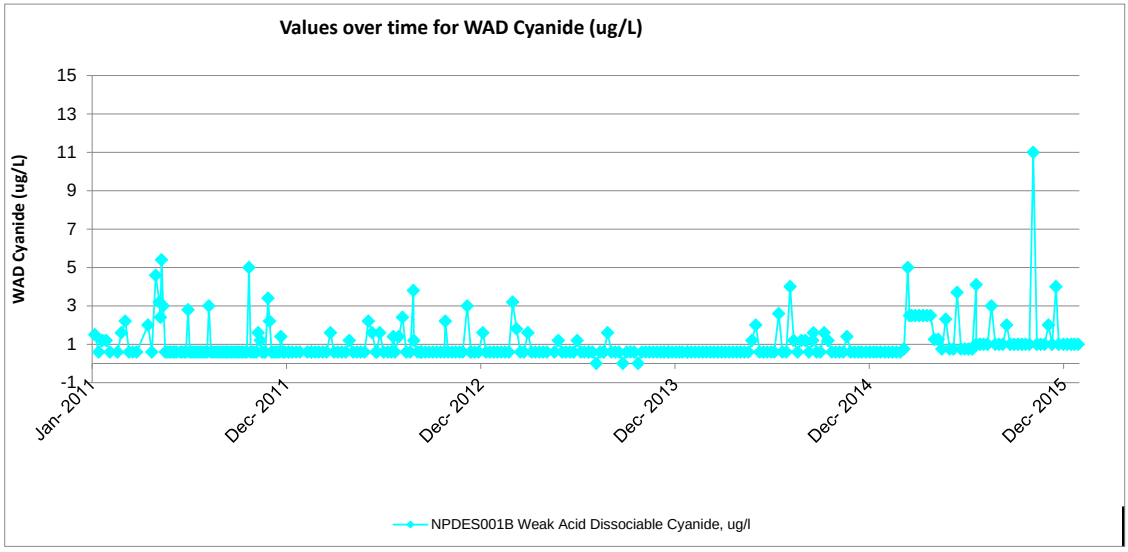

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Nickel, Total (ug/l as Ni)

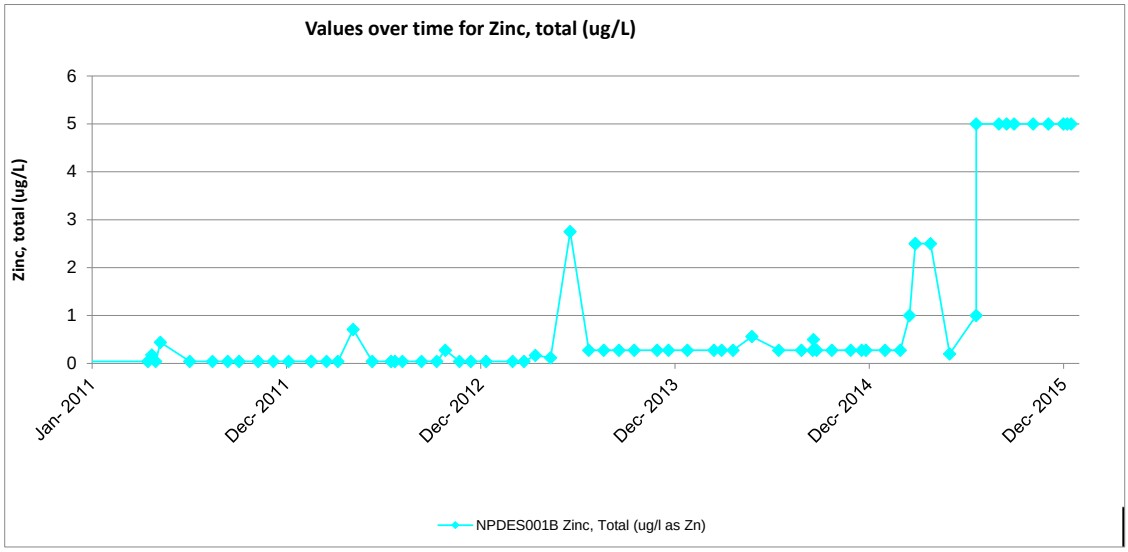

Values over time for pH, field (pH Units)
pH, field (pH Units)
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B pH, Field, Standard Units

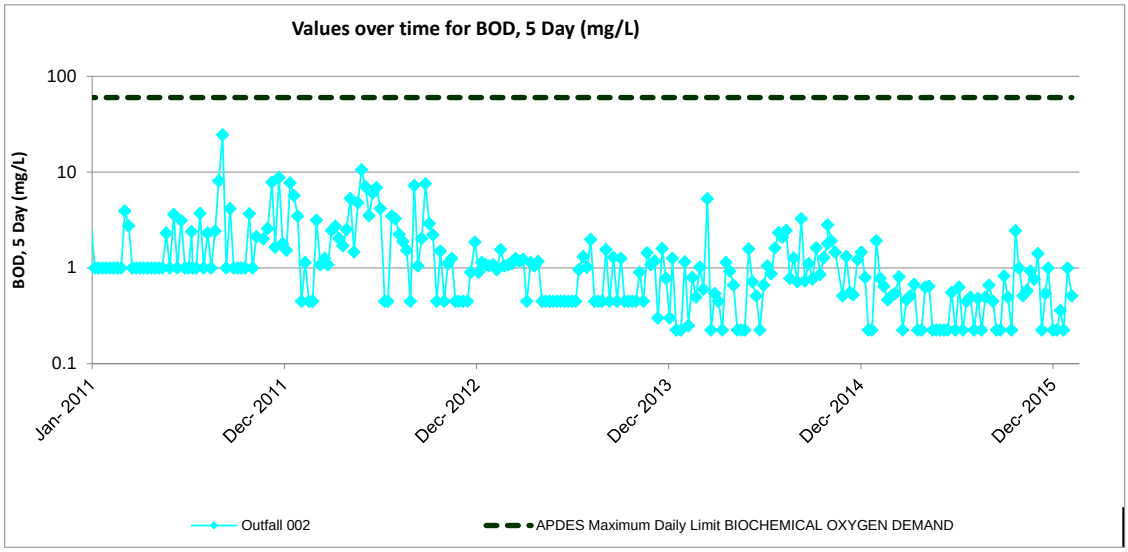

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Sulfate, Total (mg/l as SO4)

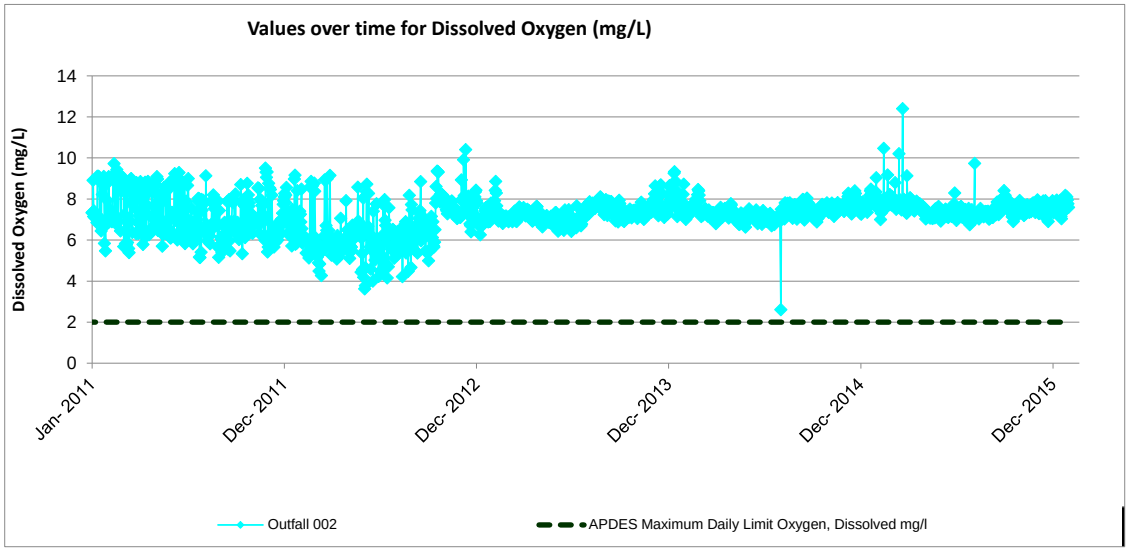

Values over time for TDS (mg/L)
TDS (mg/L)
180
160
140
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B TDS, Residue,Total Filtrable (Dried At 180C),mg/l

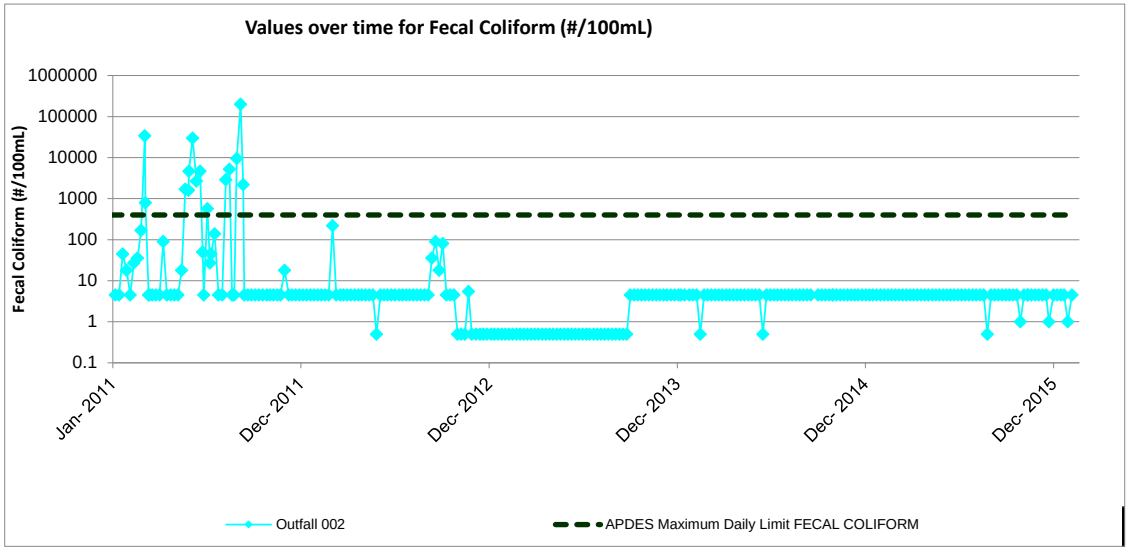

Values over time for Turbidity, field (NTU)
Turbidity, field (NTU)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Turbidity,Lab Nephelometric Turbidity Units, NTU

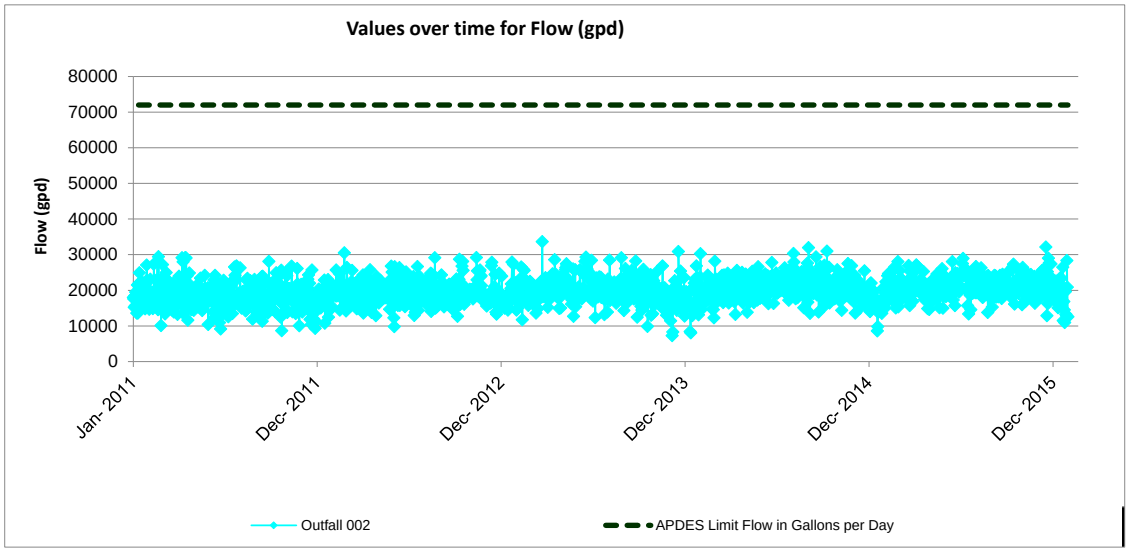

Values over time for WAD Cyanide (ug/L)
WAD Cyanide (ug/L)
15
13
11
9
7
5
3
1
-1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Weak Acid Dissociable Cyanide, ug/l

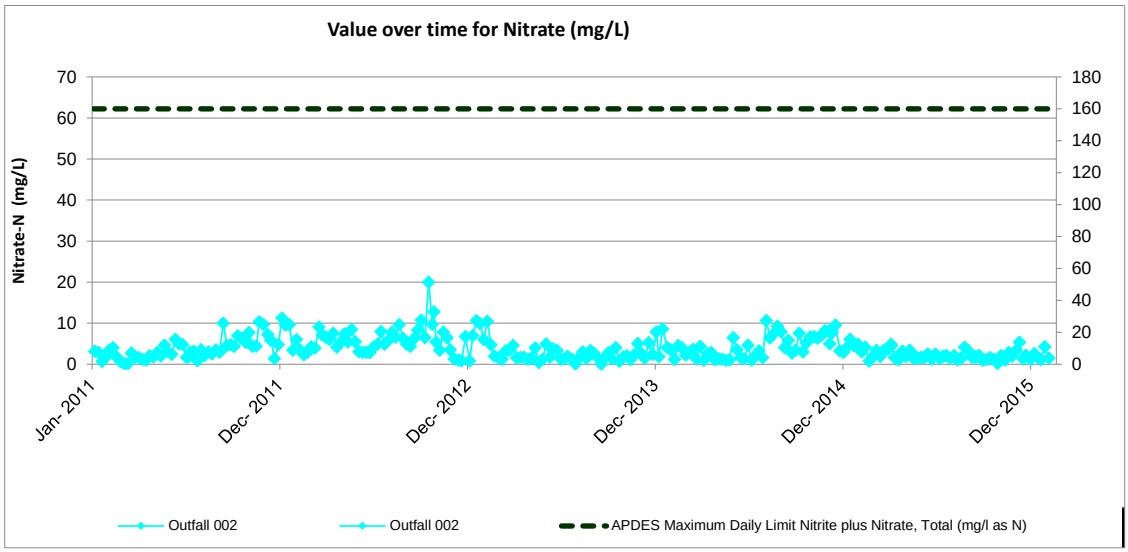

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
NPDES001B Zinc, Total (ug/l as Zn)

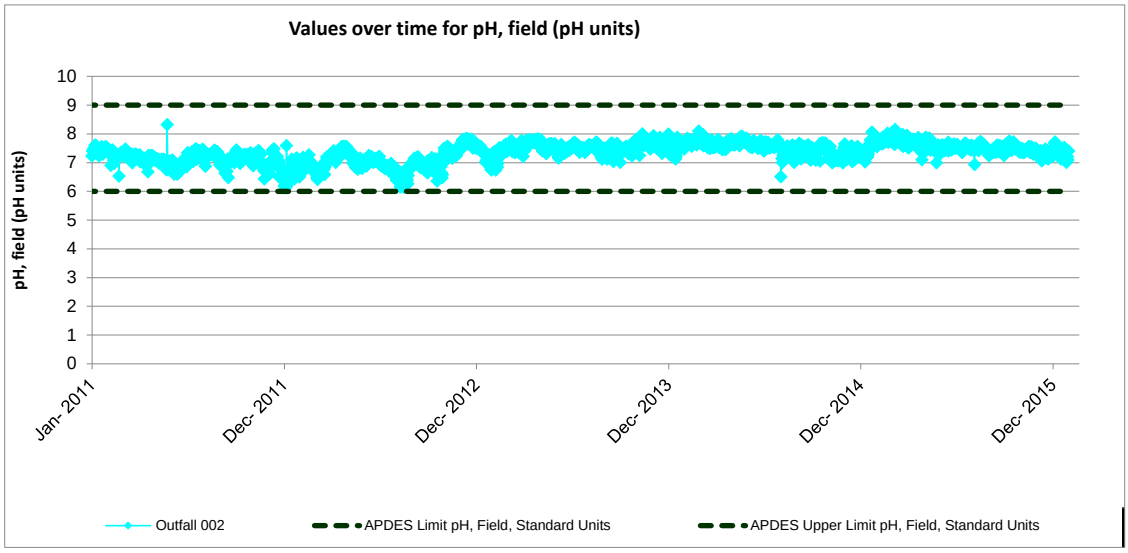

Values over time for BOD, 5 Day (mg/L)
BOD, 5 Day (mg/L)
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Maximum Daily Limit BIOCHEMICAL OXYGEN DEMAND

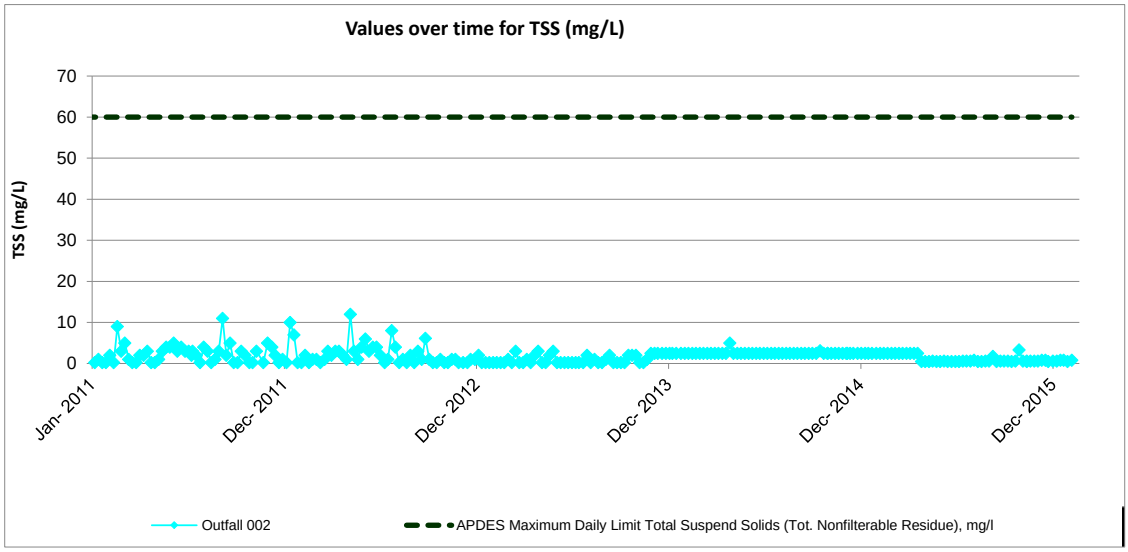

Values over time for Dissolved Oxygen (mg/L)
Dissolved Oxygen (mg/L)
14
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Maximum Daily Limit Oxygen, Dissolved mg/l

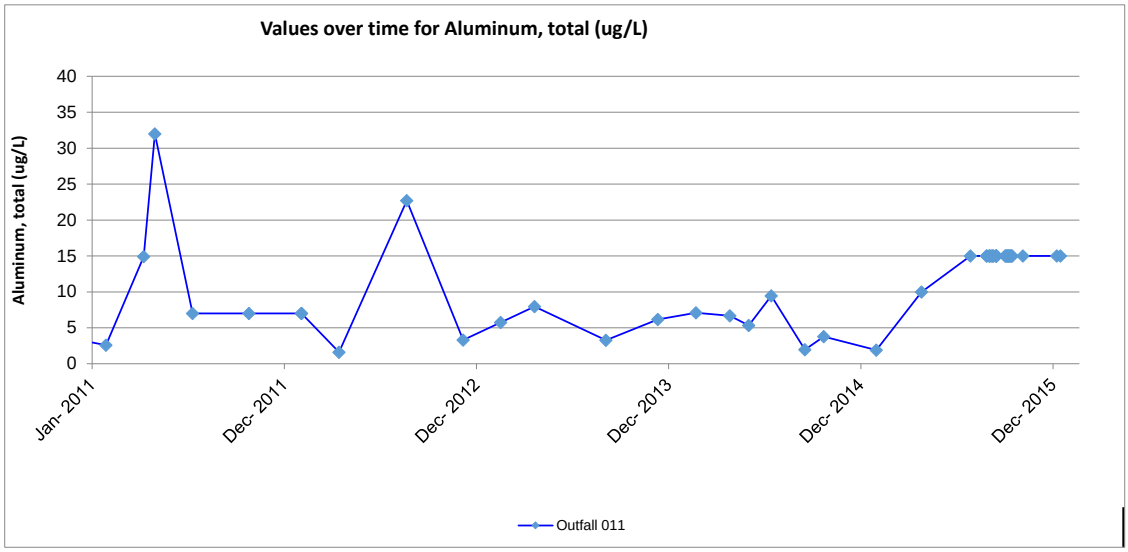

Values over time for Fecal Coliform (#/100mL)
Fecal Coliform (#/100mL)
1000000
100000
10000
1000
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Maximum Daily Limit FECAL COLIFORM

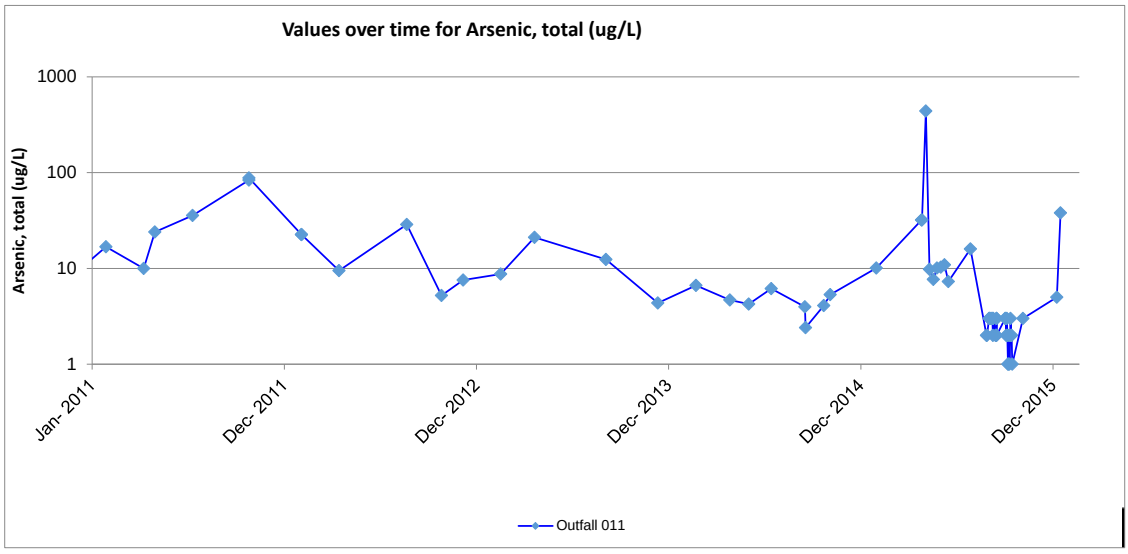

Values over time for Flow (gpd)
Flow (gpd)
80000
70000
60000
50000
40000
30000
20000
10000
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Limit Flow in Gallons per Day

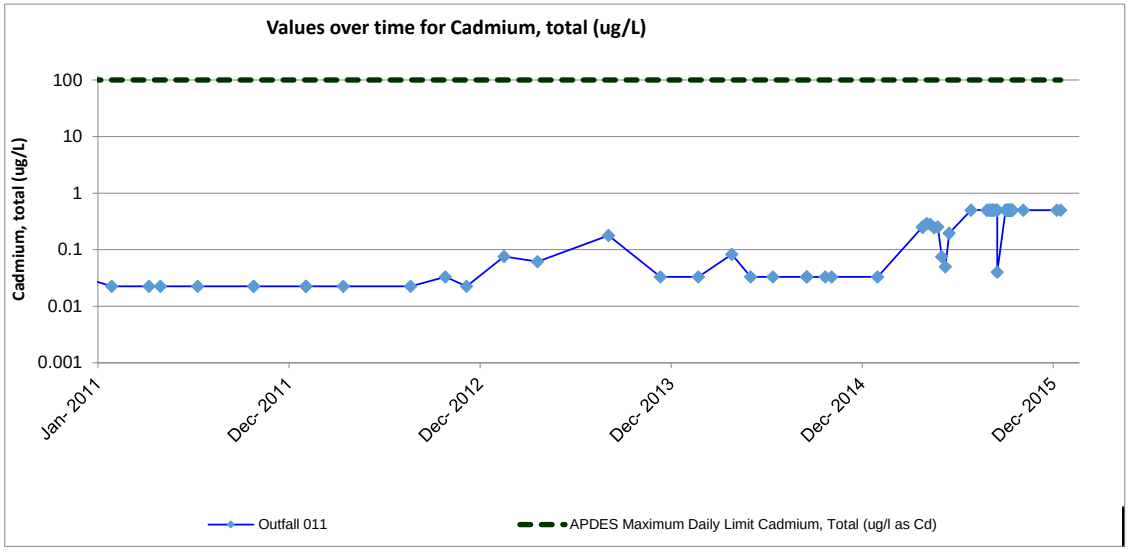

Value over time for Nitrate (mg/L)
Nitrate-N (mg/L)
70
60
50
40
30
20
10
0
180
160
140
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
Outfall 002
APDES Maximum Daily Limit Nitrite plus Nitrate, Total (mg/l as N)

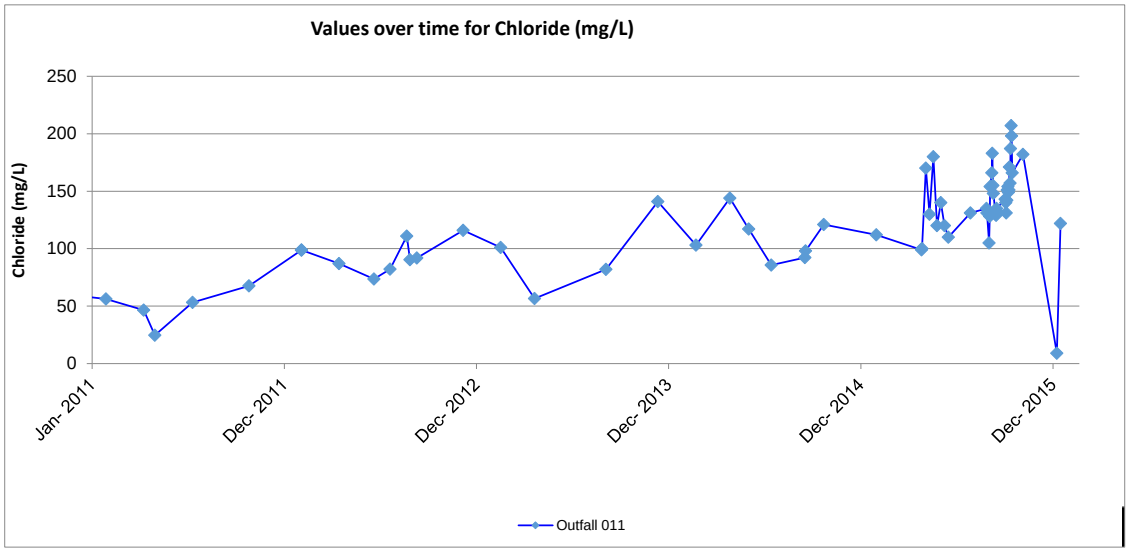

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

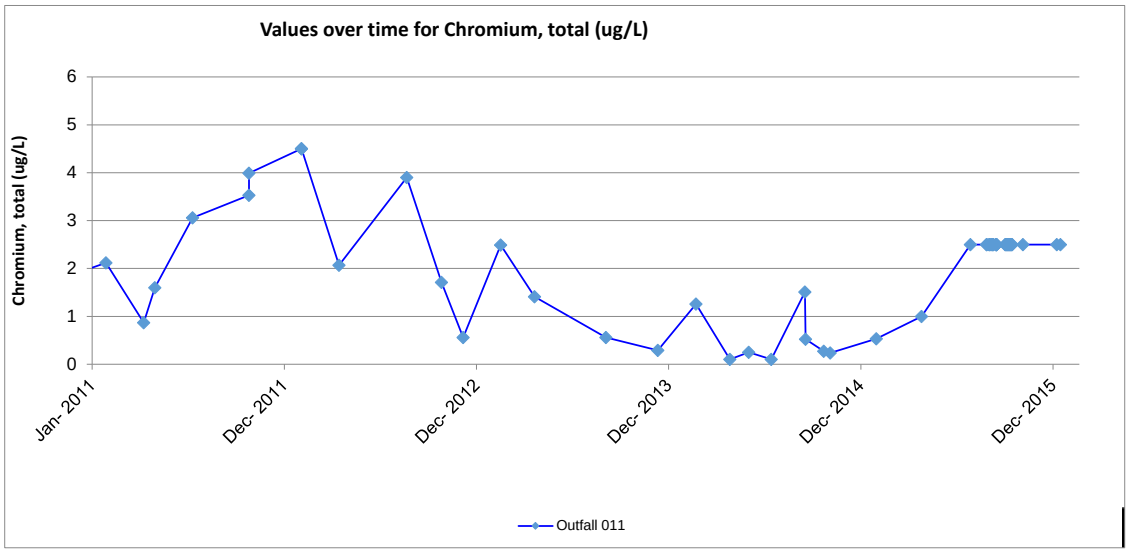

Values over time for TSS (mg/L)
TSS (mg/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 002
APDES Maximum Daily Limit Total Suspend Solids (Tot. Nonfilterable Residue), mg/l

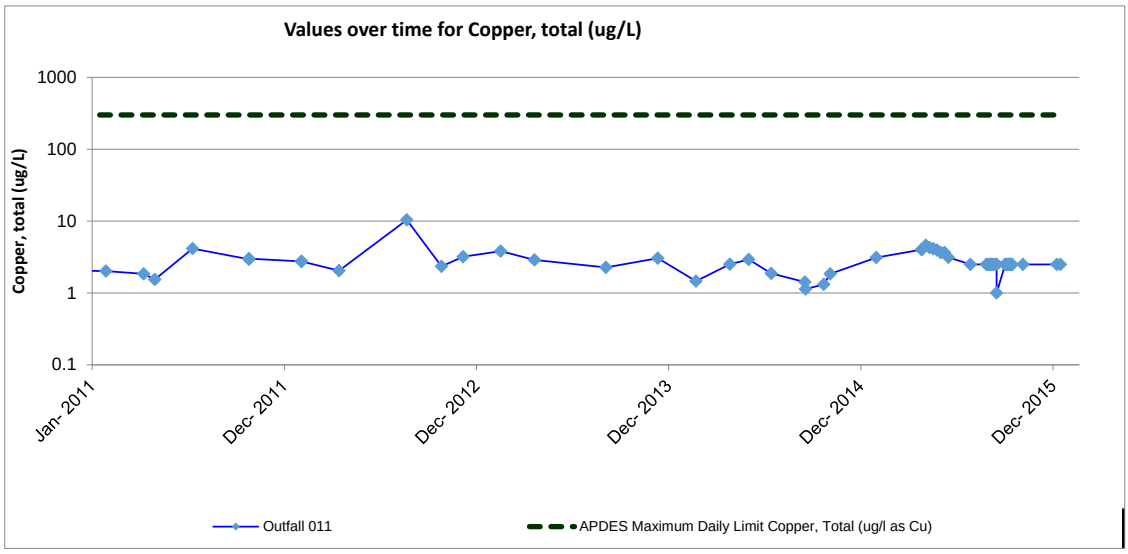

Values over time for Aluminum, total (ug/L)
Aluminum, total (ug/L)
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

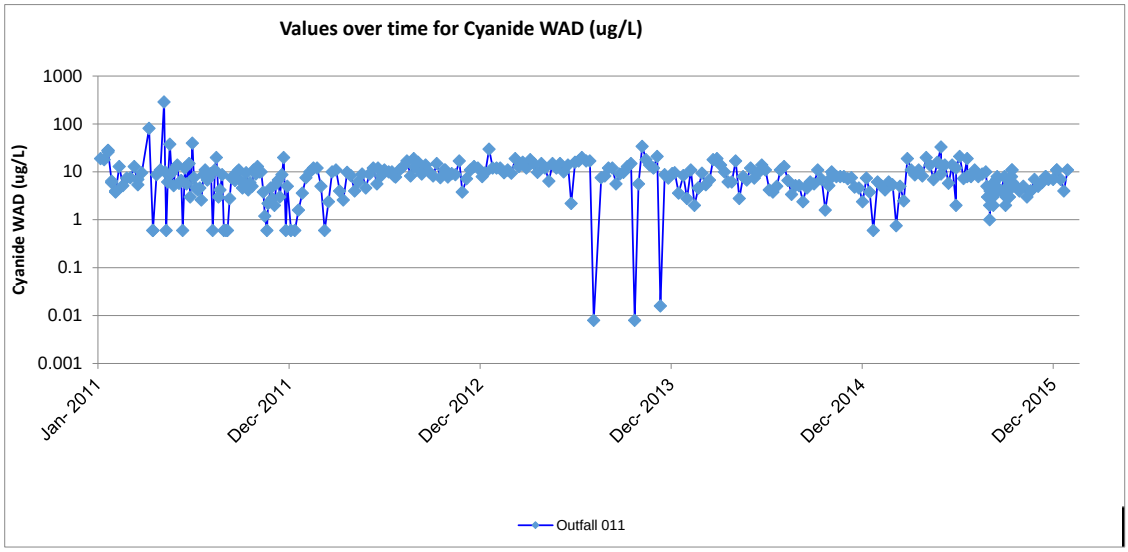

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
1000
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

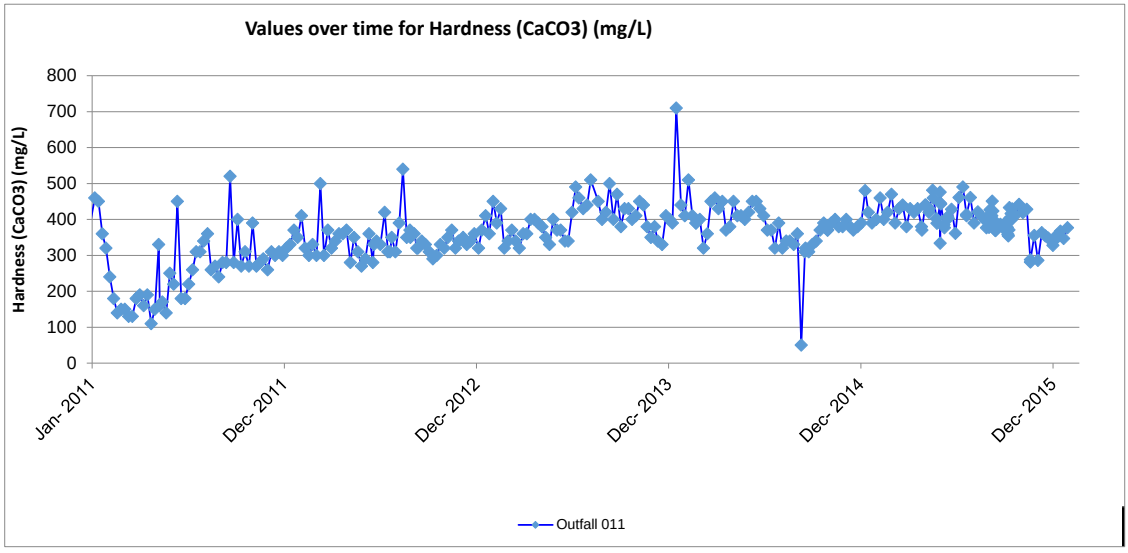

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
100
10
1
0.1
0.01
0.001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Cadmium, Total (ug/l as Cd)

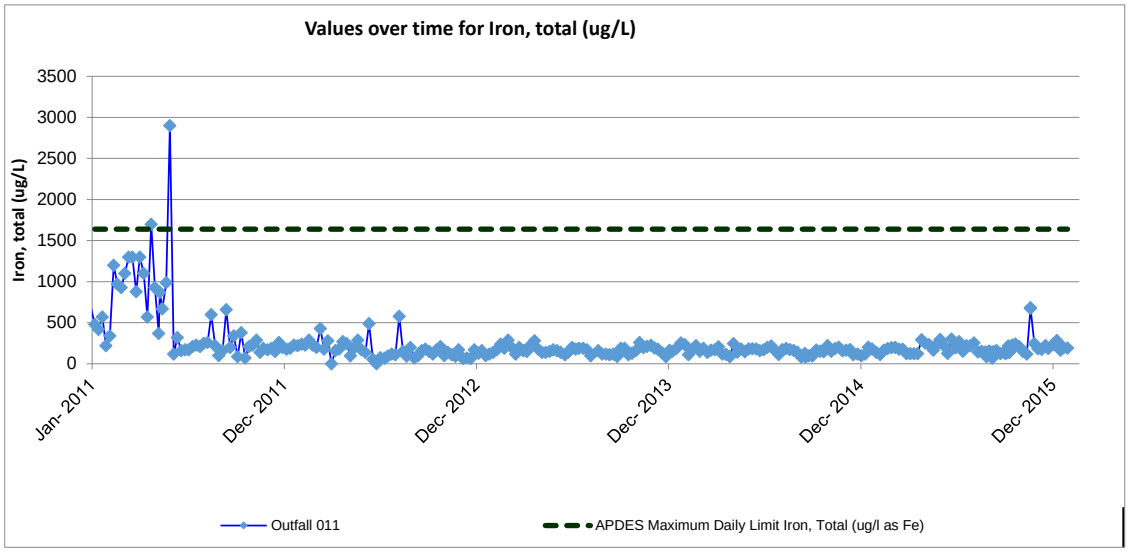

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

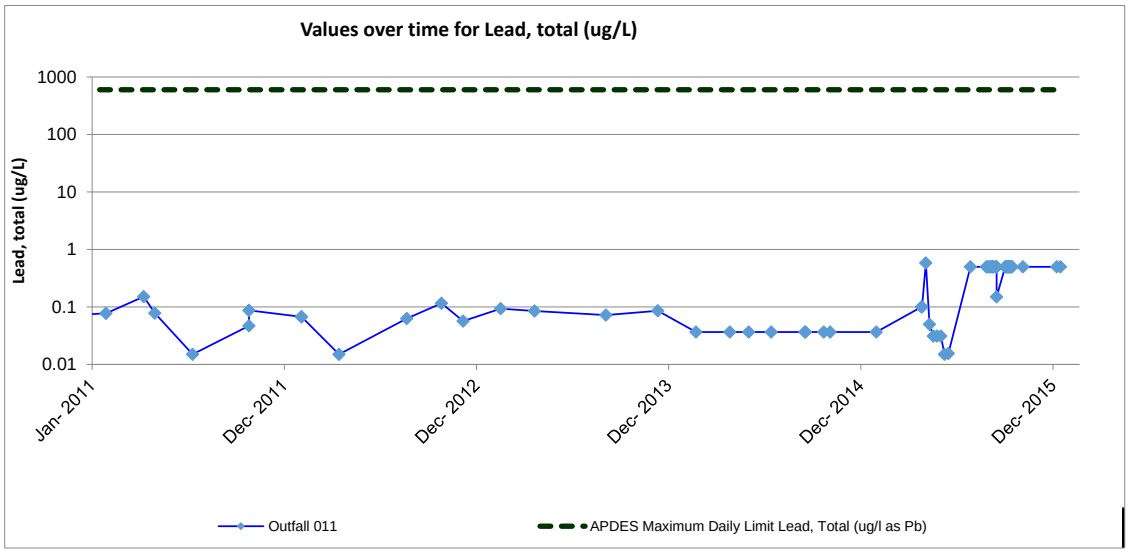

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

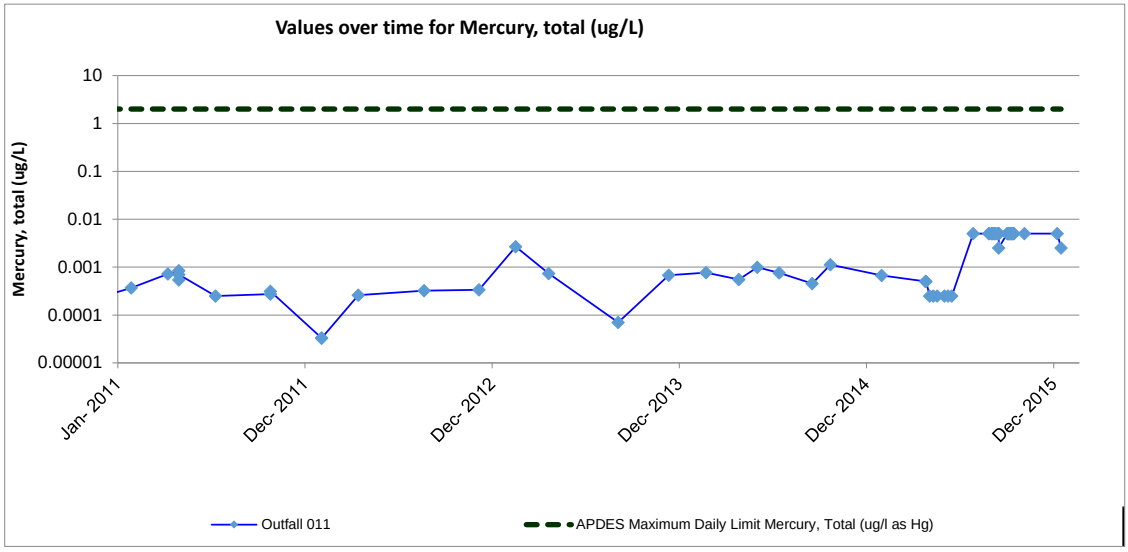

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
1000
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Copper, Total (ug/l as Cu)

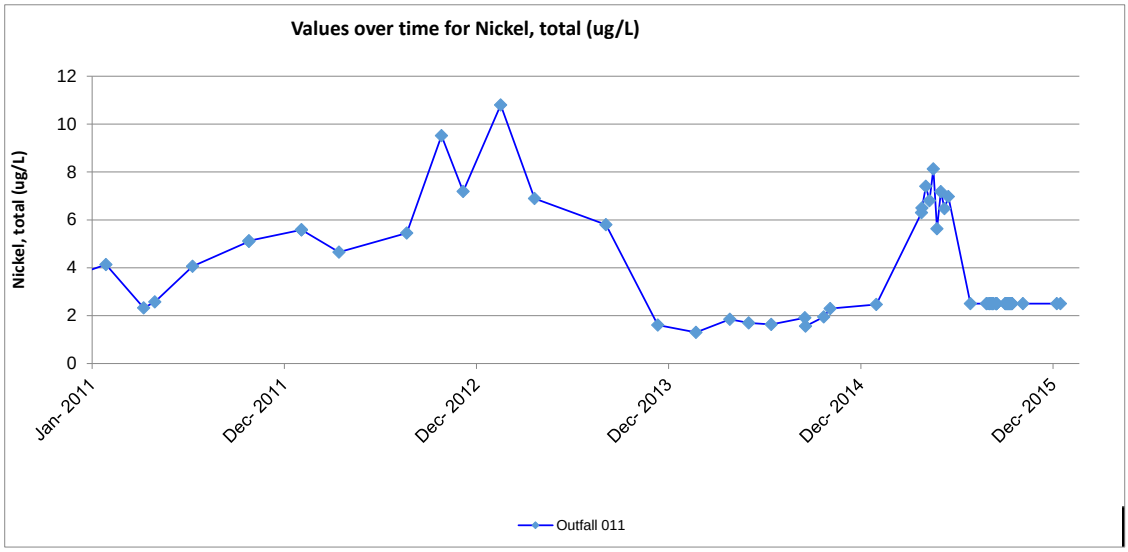

Values over time for Cyanide WAD (ug/L)
Cyanide WAD (ug/L)
1000
100
10
1
0.1
0.01
0.001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

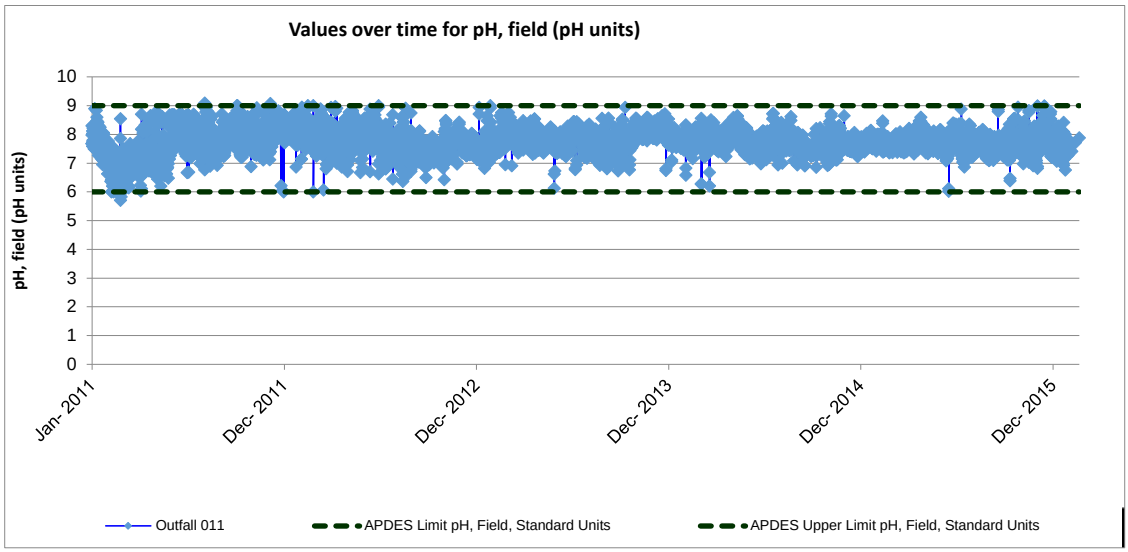

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
800
700
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

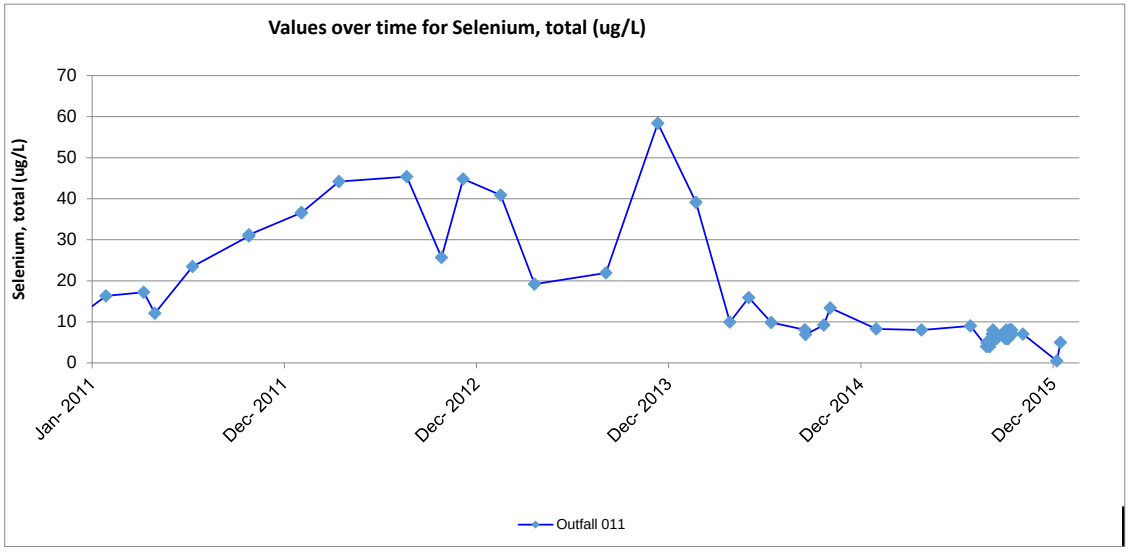

Values over time for Iron, total (ug/L)
Iron, total (ug/L)
3500
3000
2500
2000
1500
1000
500
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Iron, Total (ug/l as Fe)

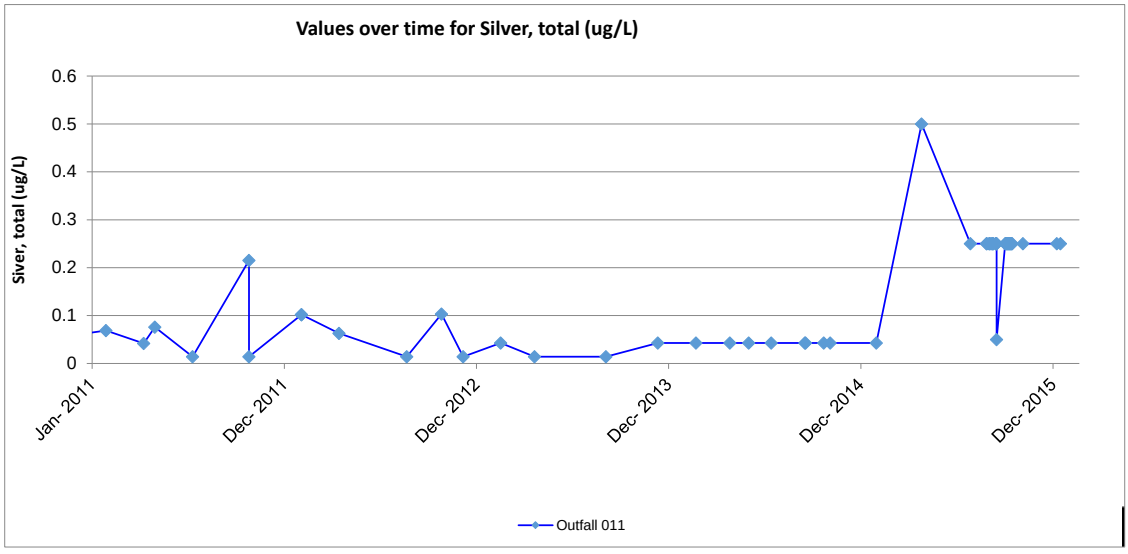

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Lead, Total (ug/l as Pb)

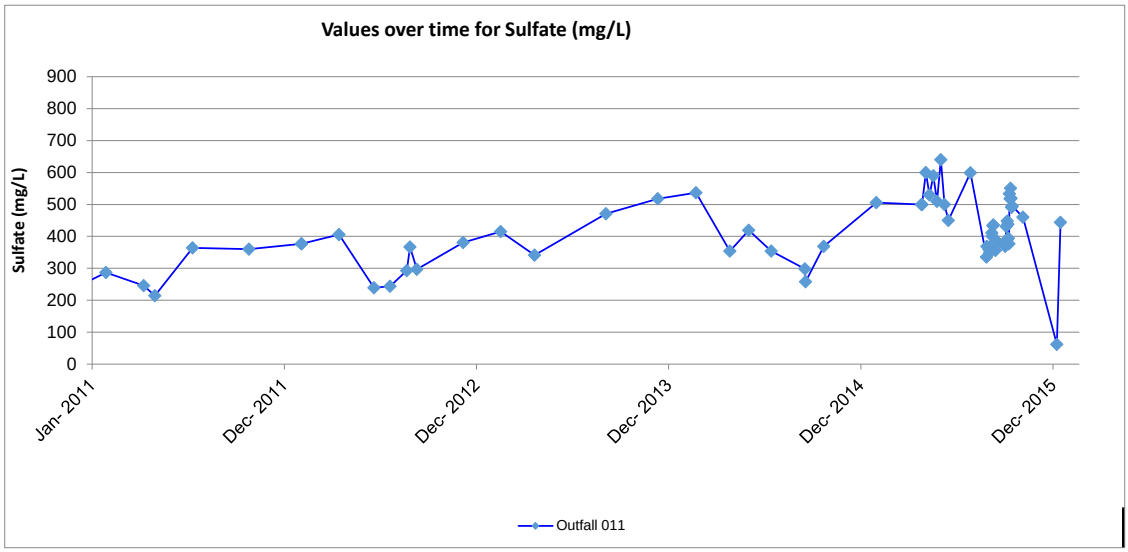

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
10
1
0.1
0.01
0.001
0.0001
0.00001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Mercury, Total (ug/l as Hg)

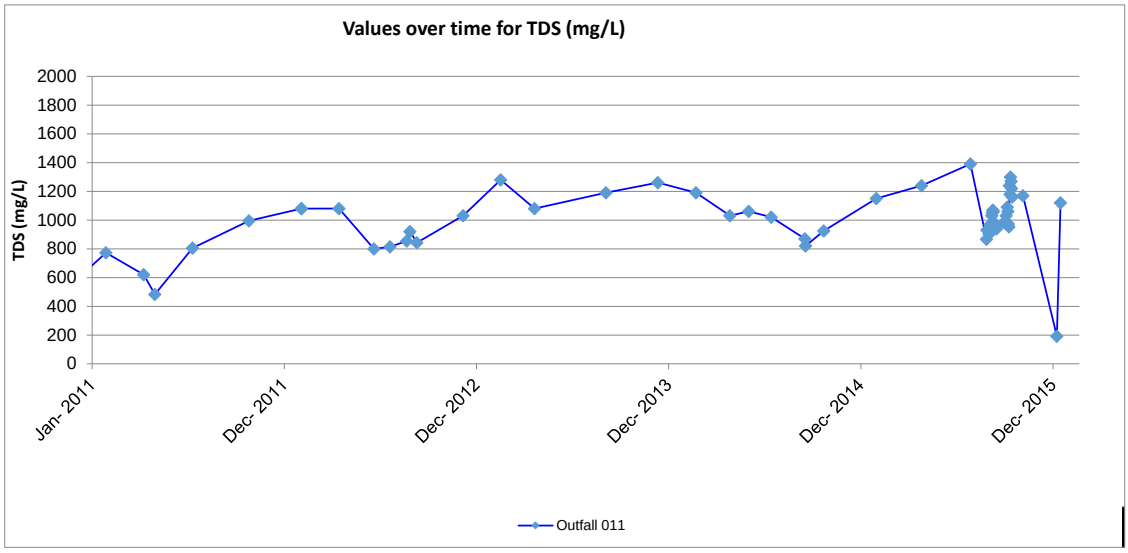

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

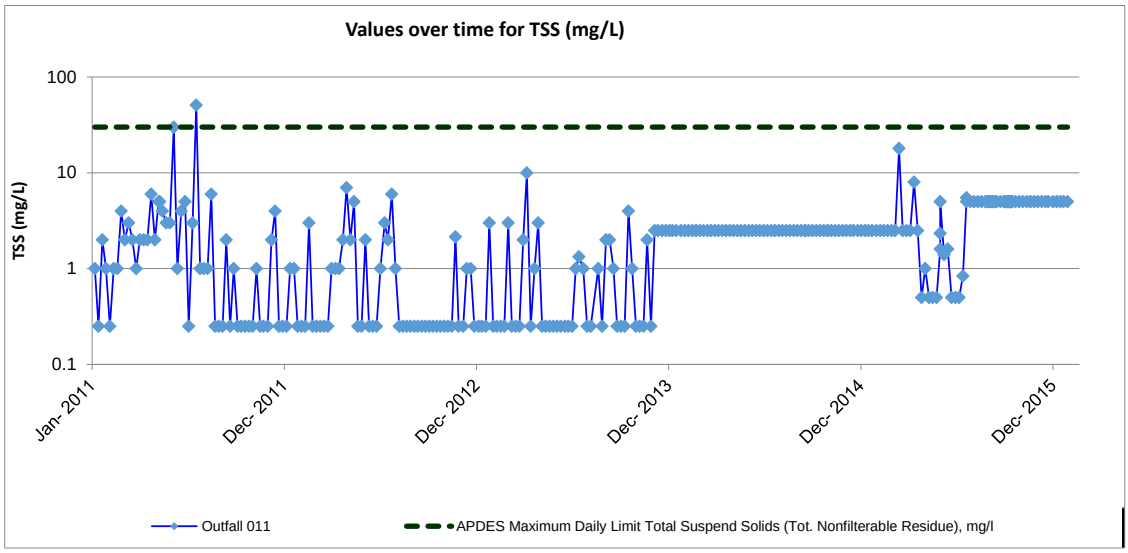

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

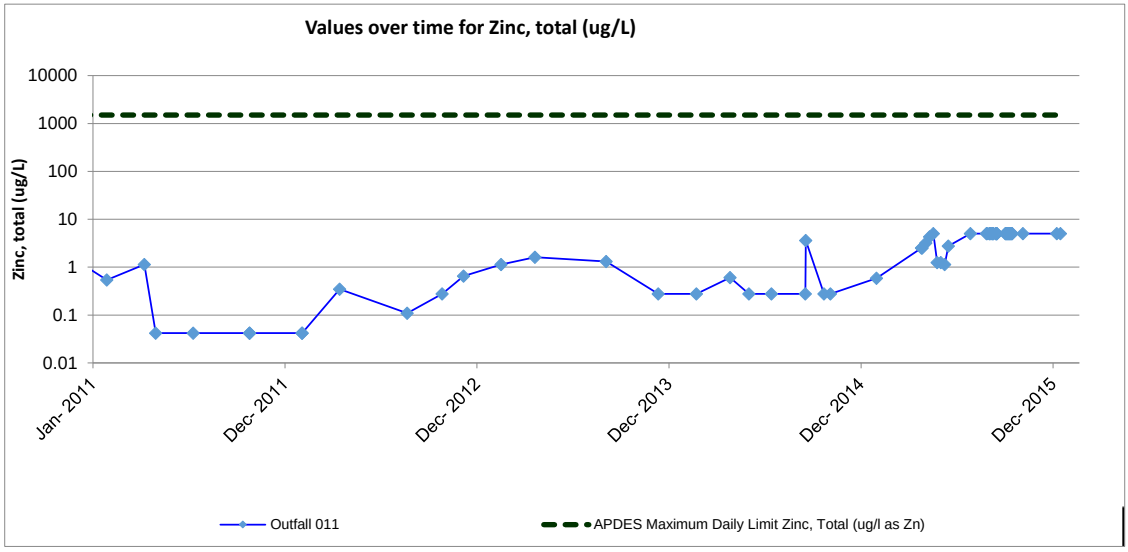

Values over time for Selenium, total (ug/L)
Selenium, total (ug/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

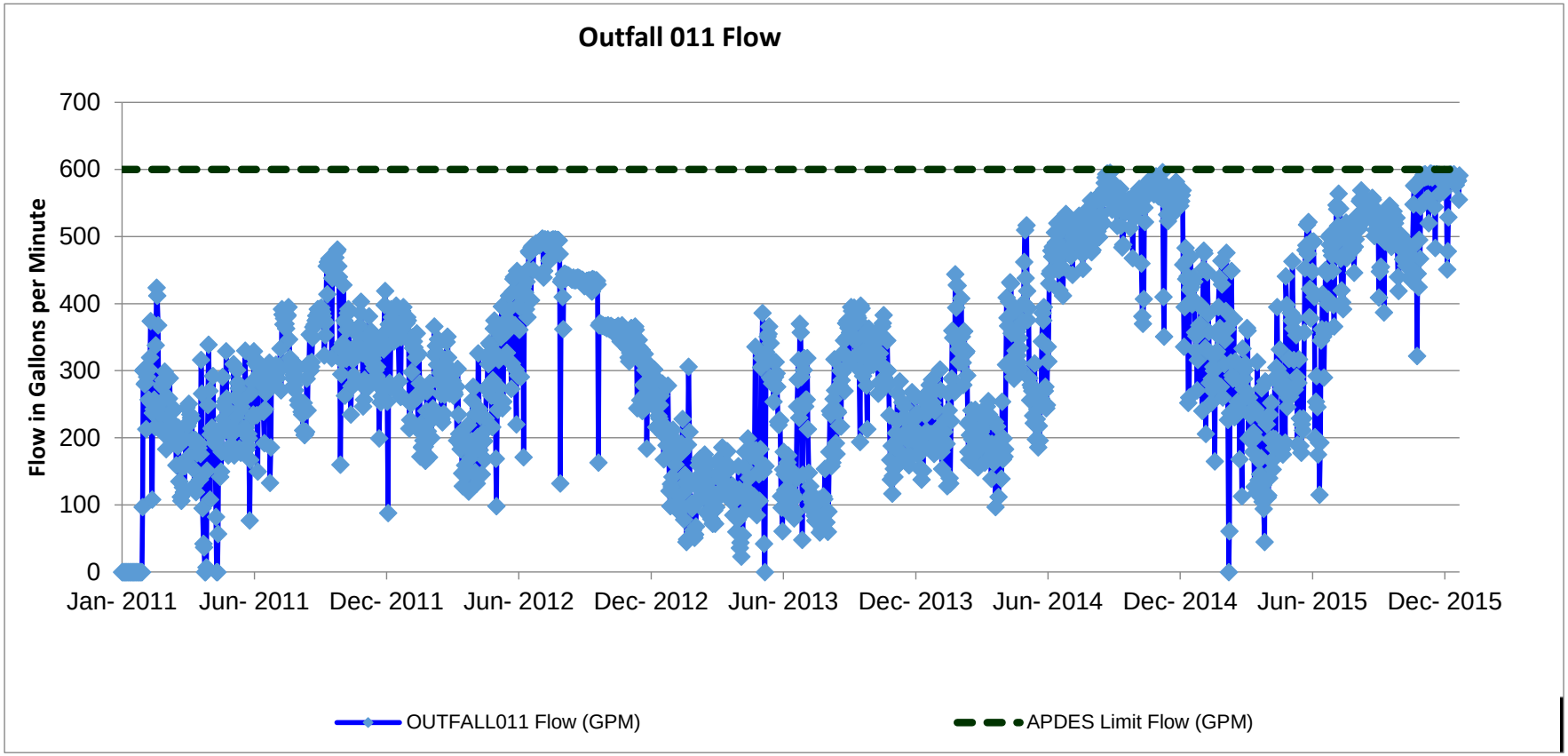

Values over time for Silver, total (ug/L)
Siver, total (ug/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

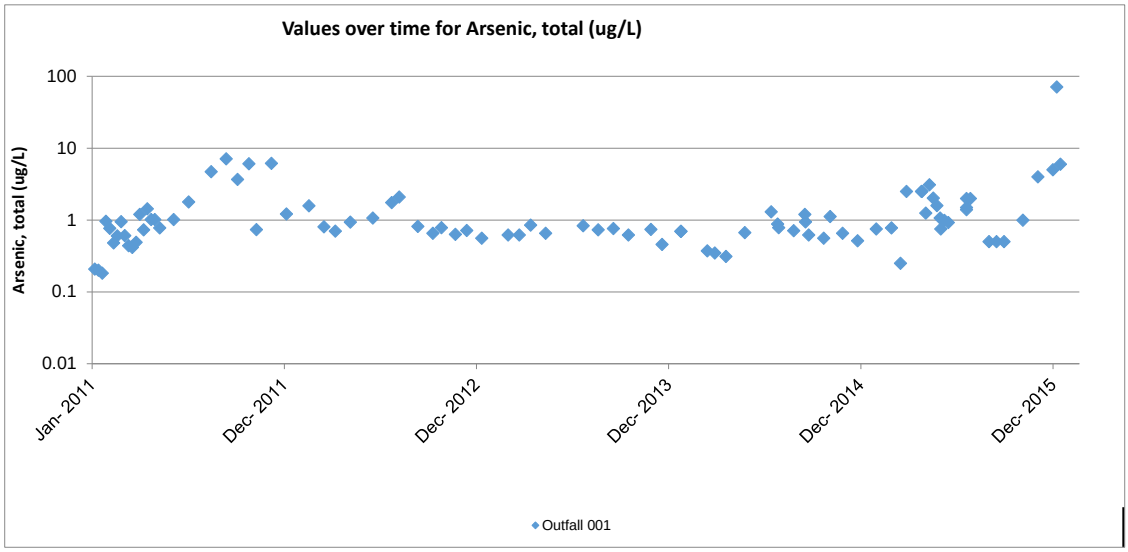

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
900
800
700
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

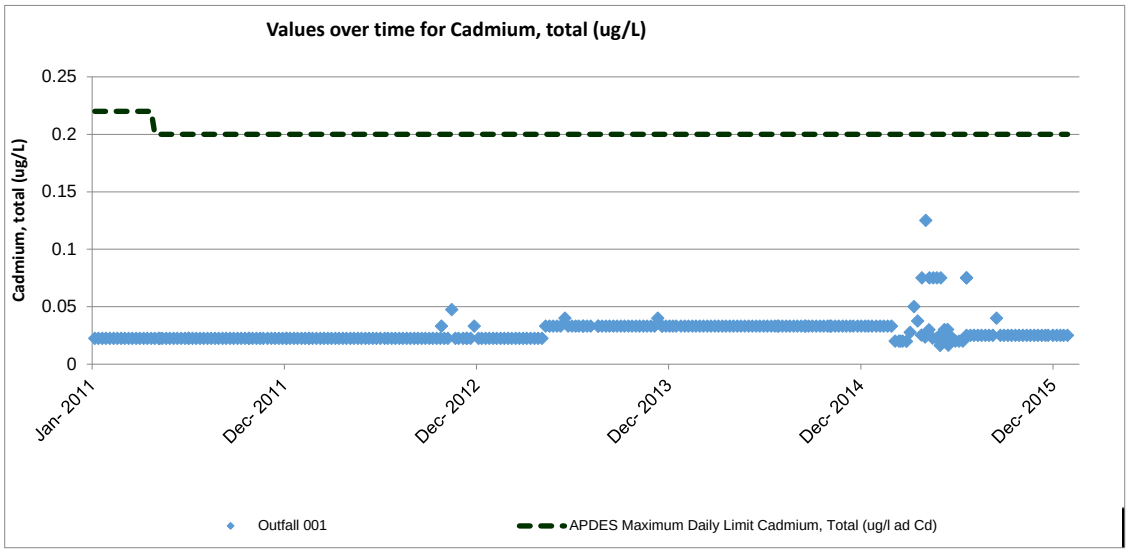

Values over time for TDS (mg/L)
TDS (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011

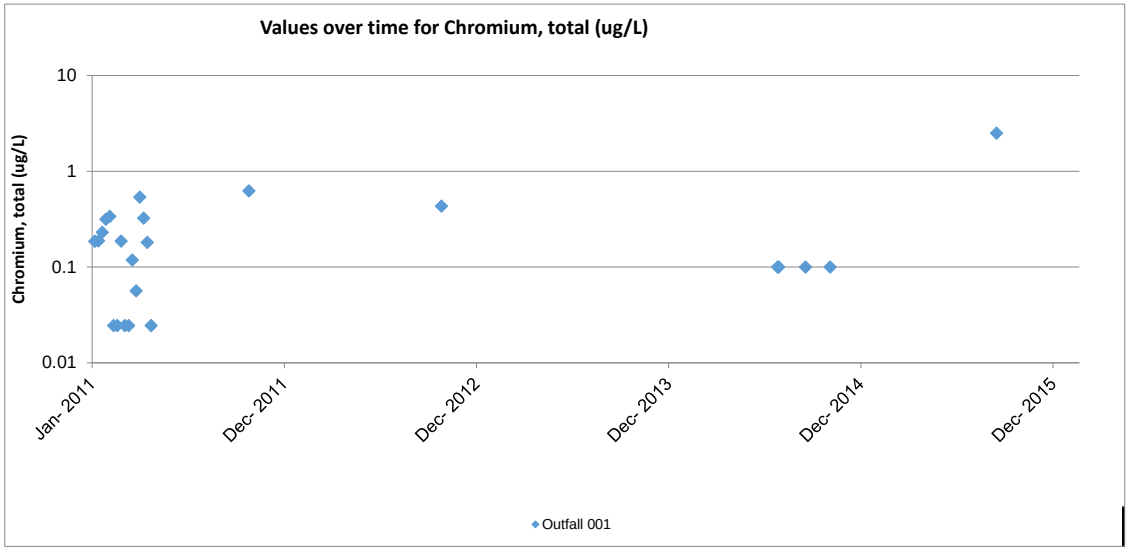

Values over time for TSS (mg/L)
TSS (mg/L)
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Total Suspend Solids (Tot. Nonfilterable Residue), mg/l

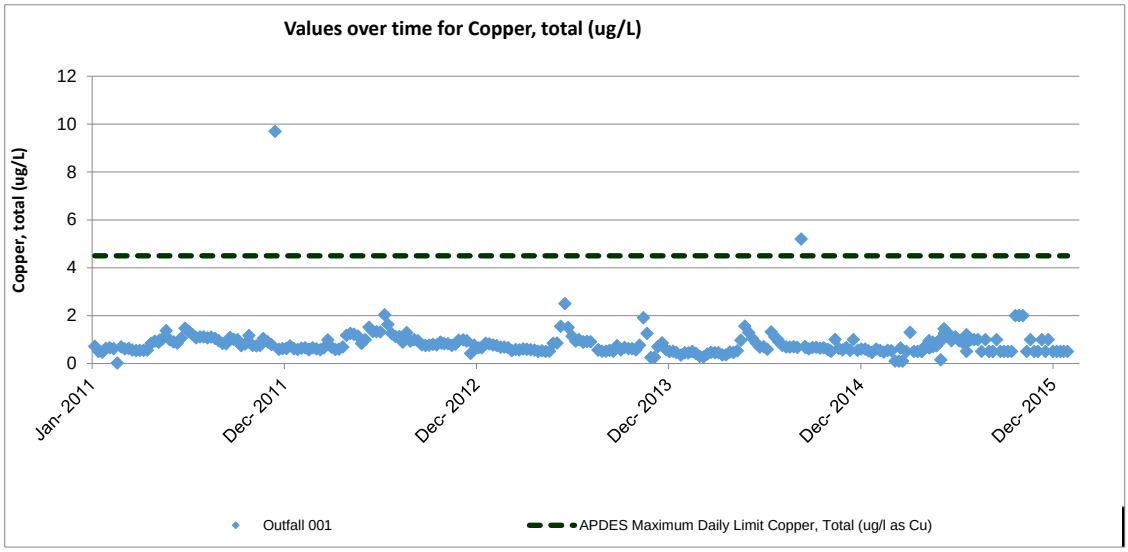

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
10000
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 011
APDES Maximum Daily Limit Zinc, Total (ug/l as Zn)

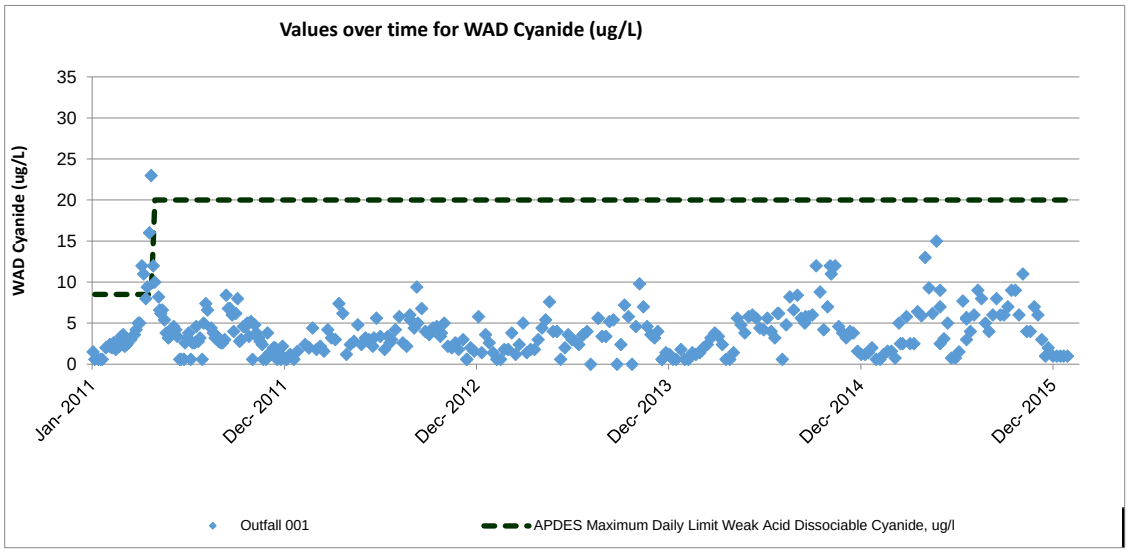

Outfall 011 Flow
Flow in Gallons per Minute
700
600
500
400
300
200
100
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
OUTFALL011 Flow (GPM)
APDES Limit Flow (GPM)

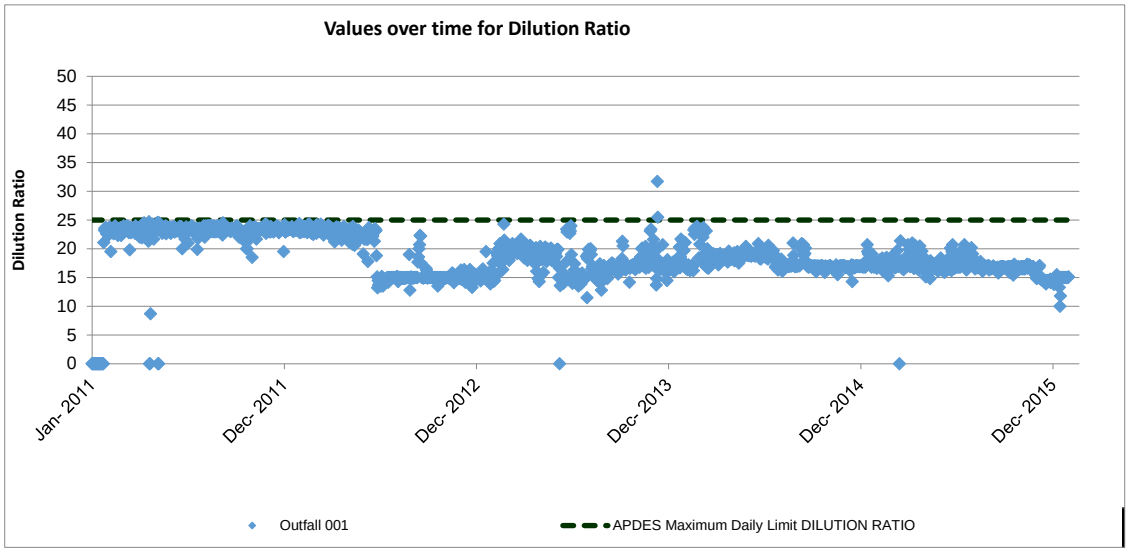

Values over time for Arsenic, total (ug/L)
Arsenic, total (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

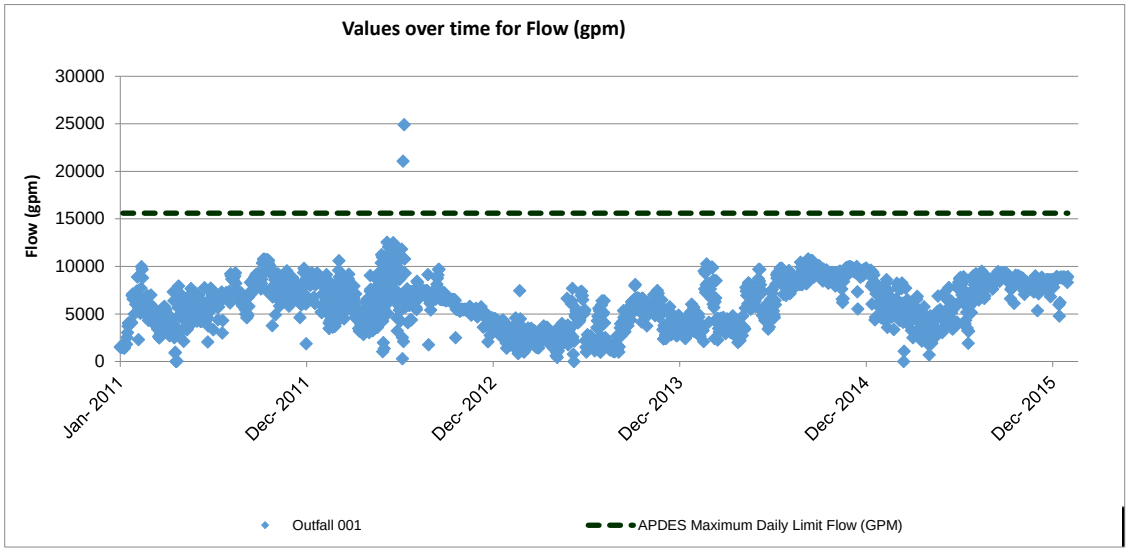

Values over time for Cadmium, total (ug/L)
Cadmium, total (ug/L)
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Cadmium, Total (ug/l ad Cd)

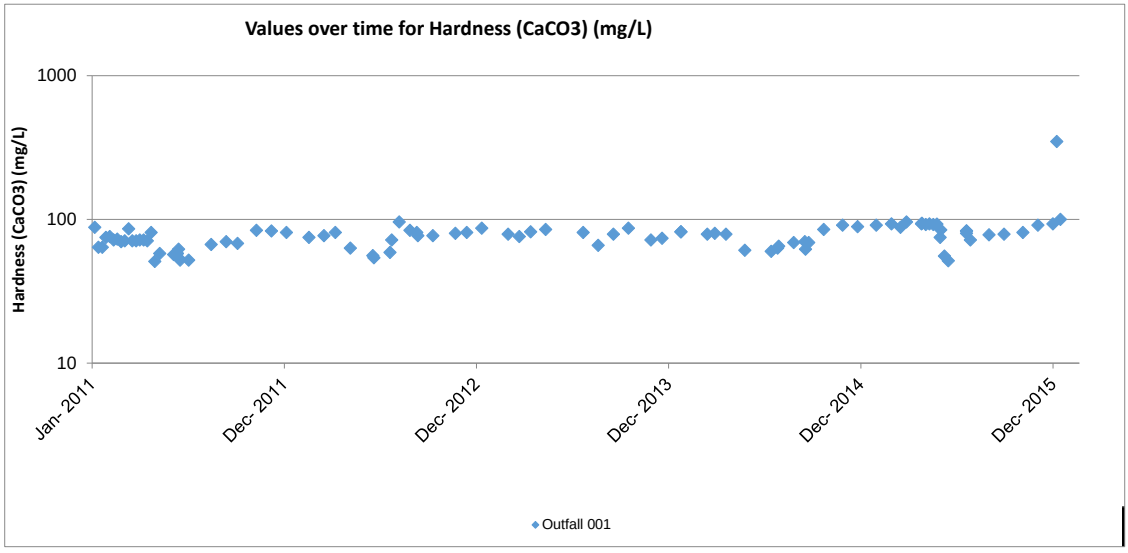

Values over time for Chromium, total (ug/L)
Chromium, total (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

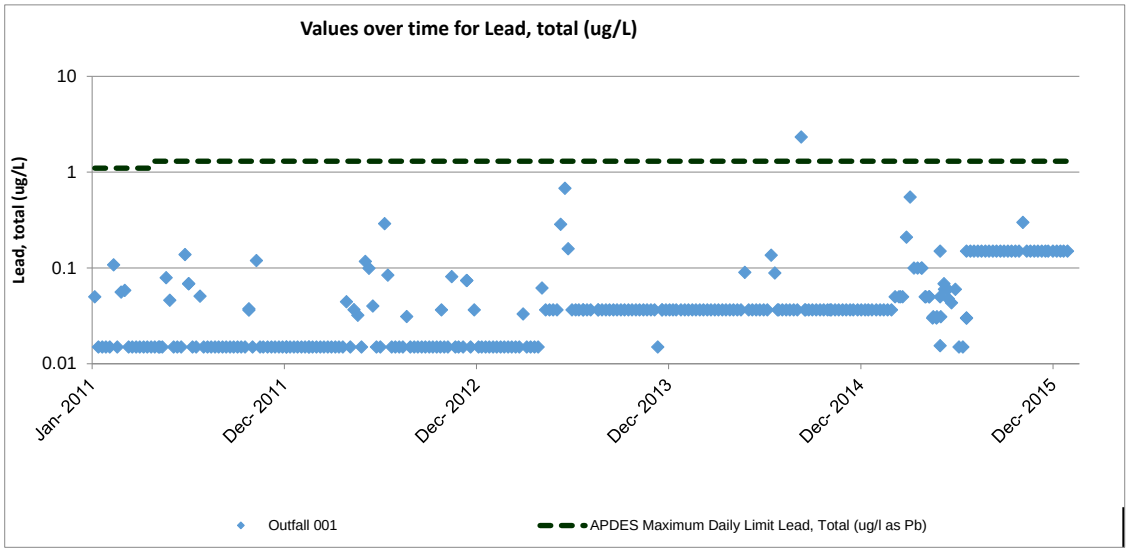

Values over time for Copper, total (ug/L)
Copper, total (ug/L)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Copper, Total (ug/l as Cu)

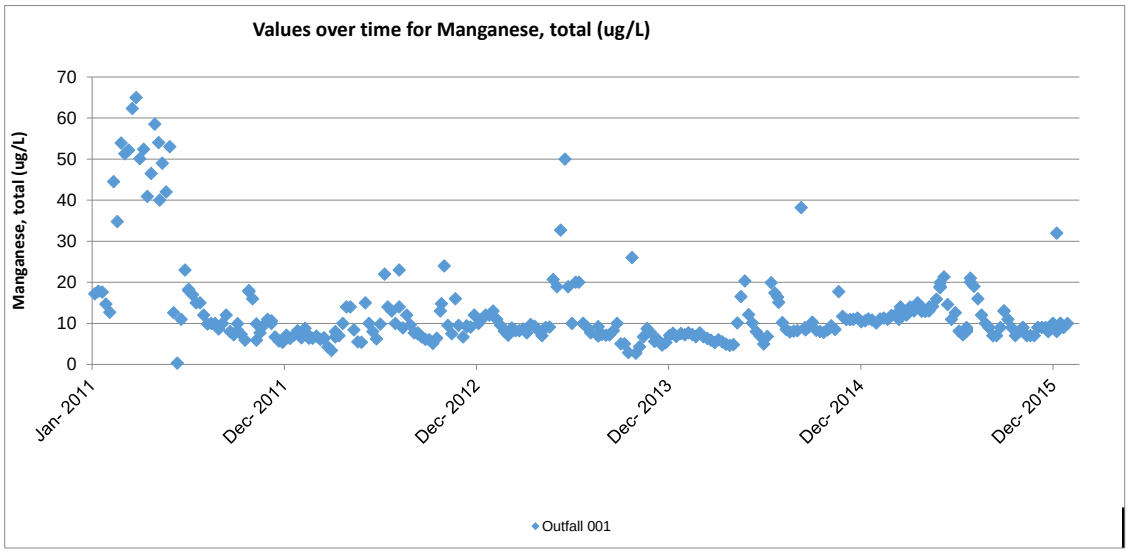

Values over time for WAD Cyanide (ug/L)
WAD Cyanide (ug/L)
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Weak Acid Dissociable Cyanide, ug/l

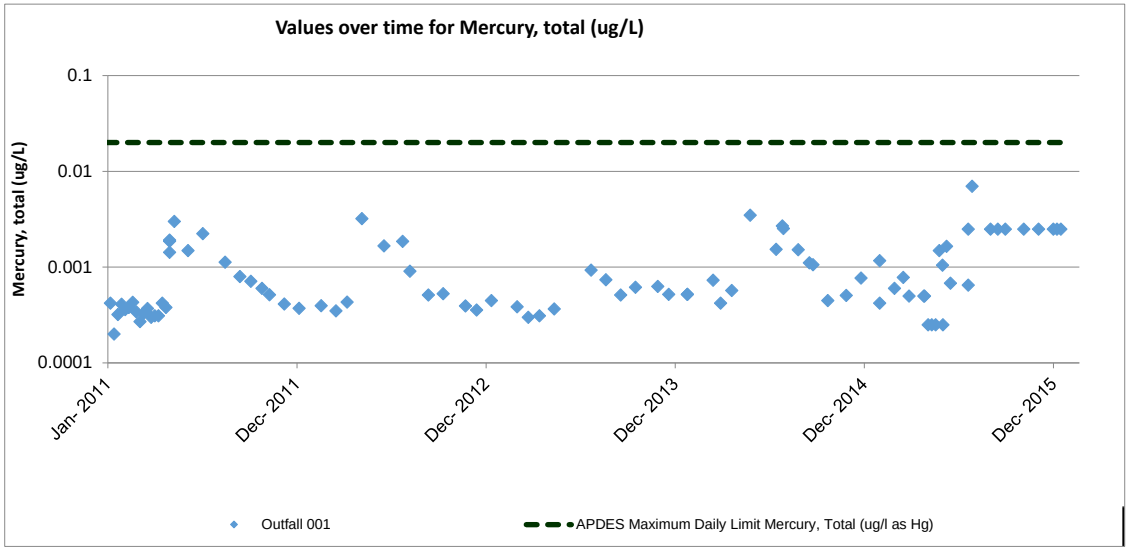

Values over time for Dilution Ratio
Dilution Ratio
50
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit DILUTION RATIO

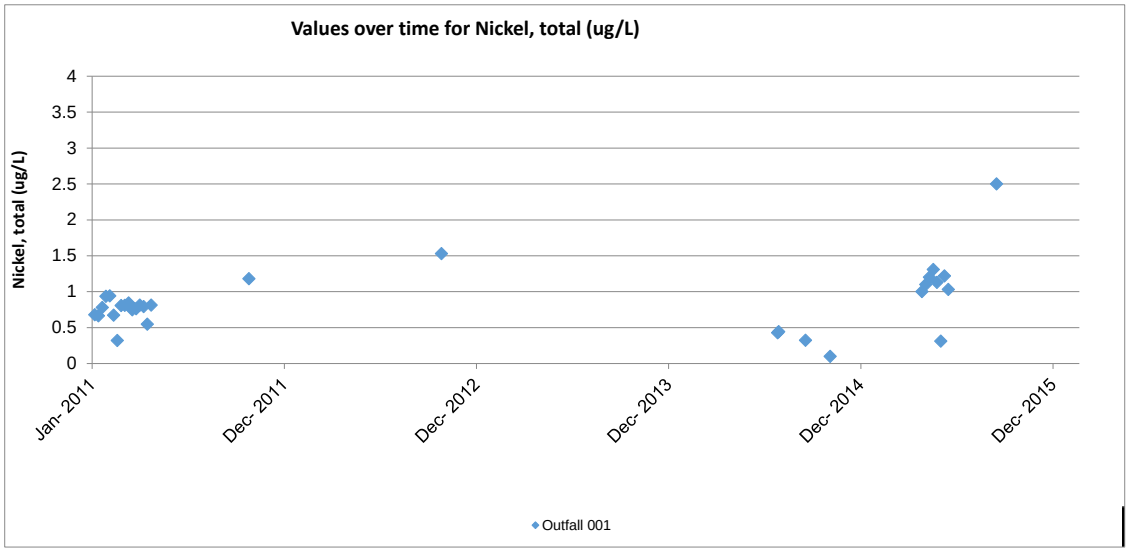

Values over time for Flow (gpm)
Flow (gpm)
30000
25000
20000
15000
10000
5000
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Flow (GPM)

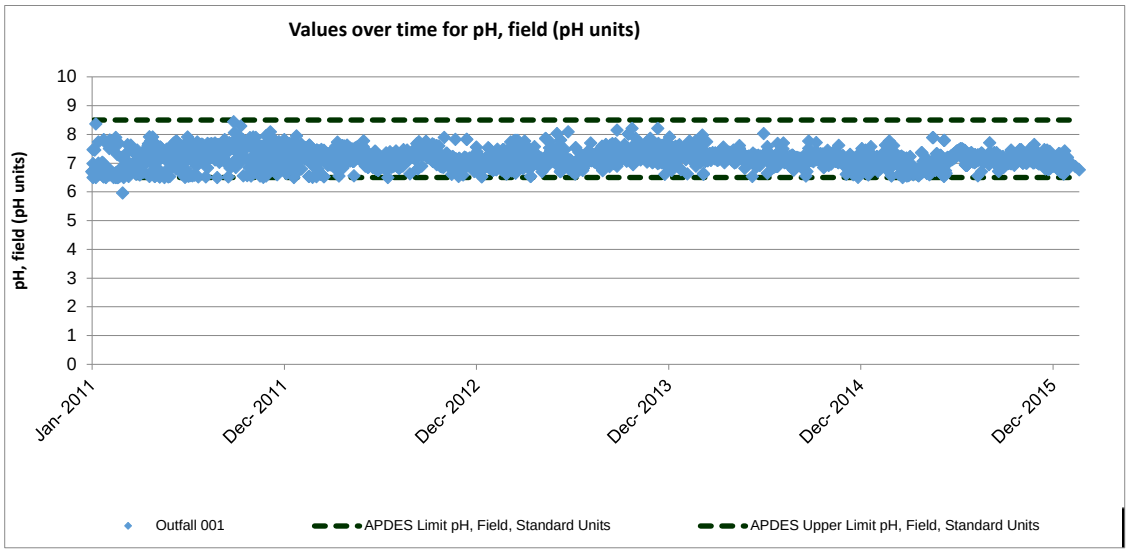

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
1000
100
10
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

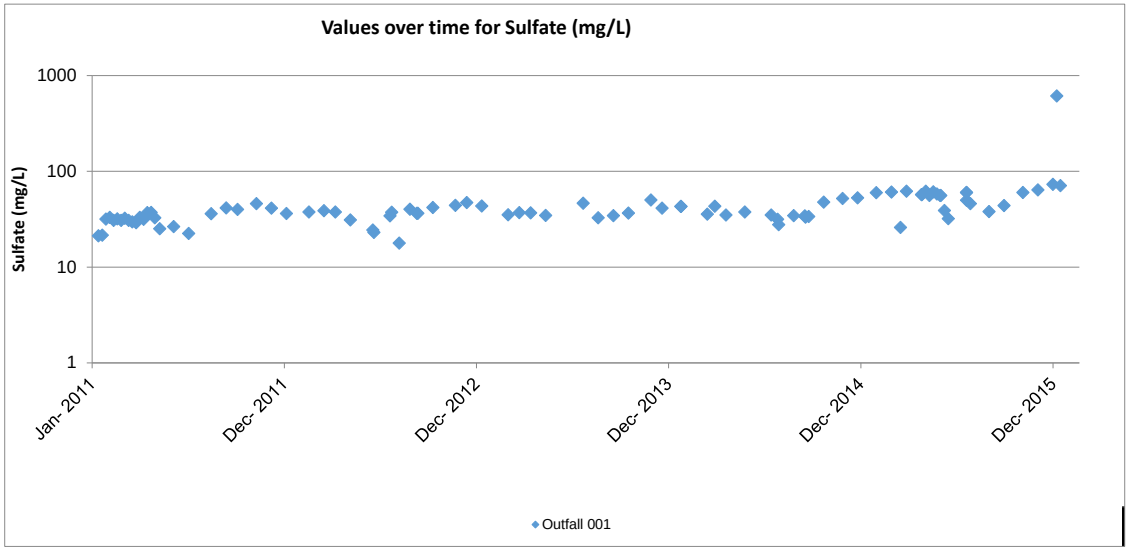

Values over time for Lead, total (ug/L)
Lead, total (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Lead, Total (ug/l as Pb)

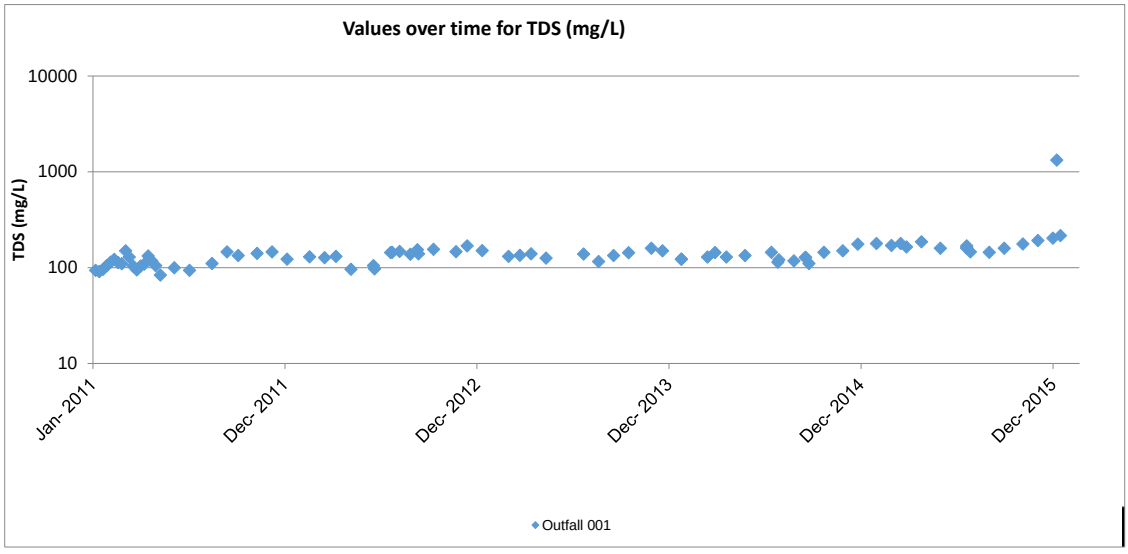

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

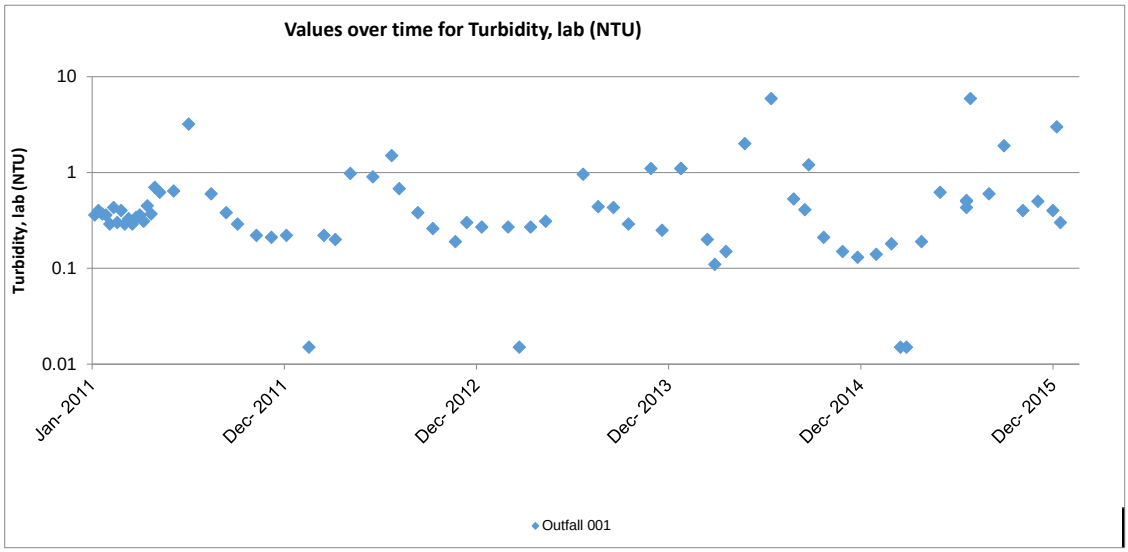

Values over time for Mercury, total (ug/L)
Mercury, total (ug/L)
0.1
0.01
0.001
0.0001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Mercury, Total (ug/l as Hg)

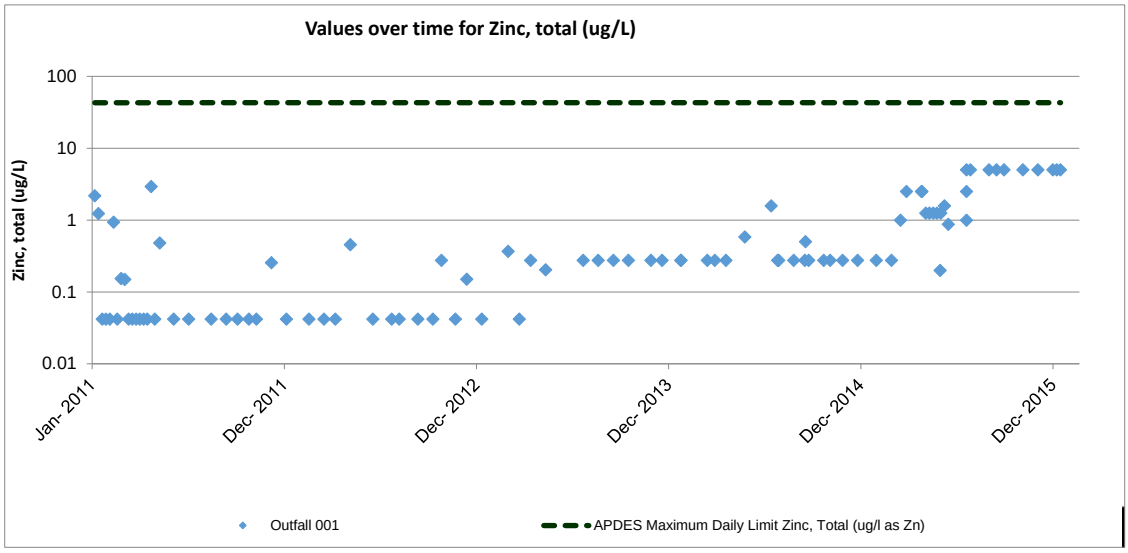

Values over time for Nickel, total (ug/L)
Nickel, total (ug/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

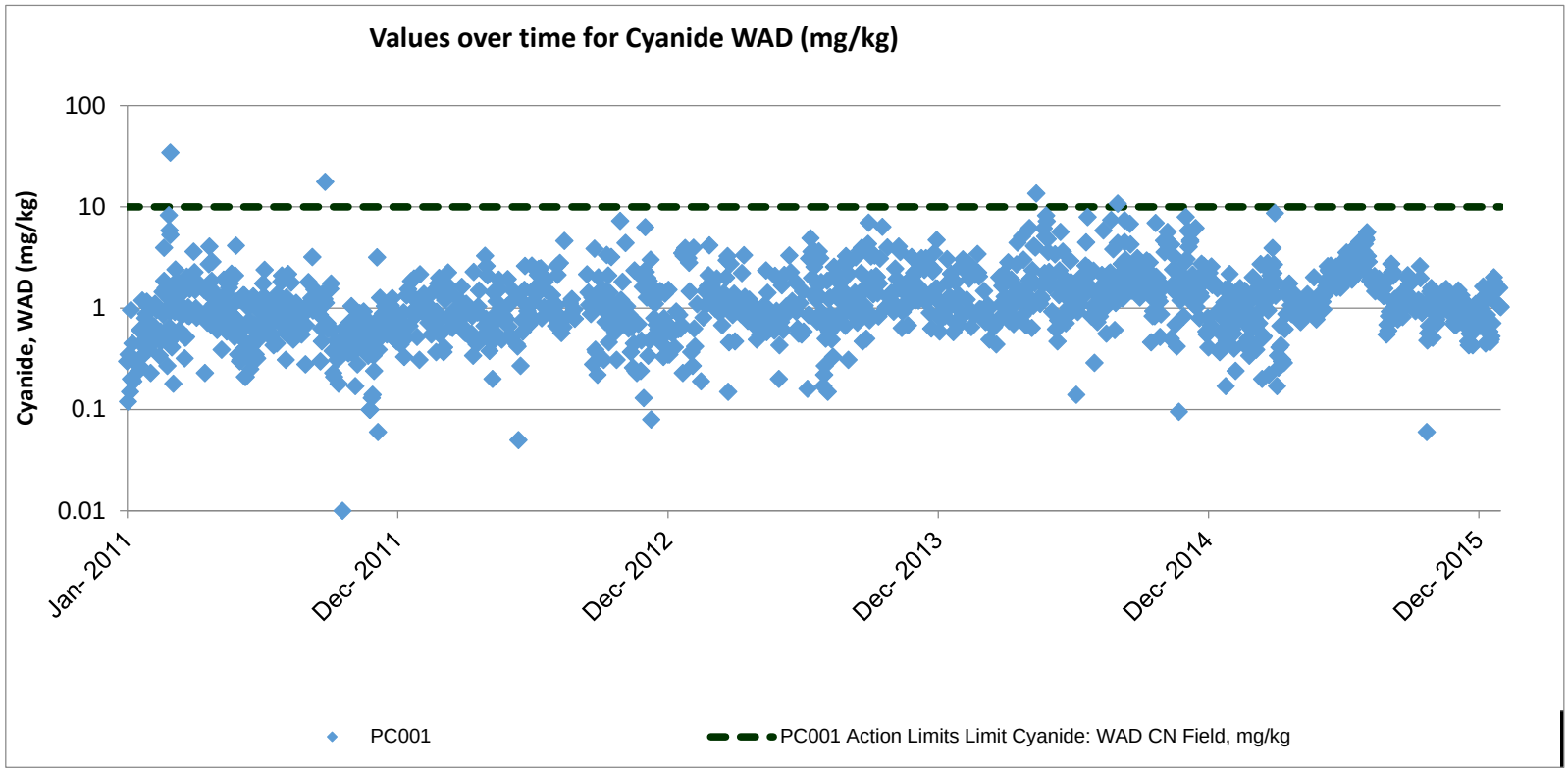

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Limit pH, Field, Standard Units
APDES Upper Limit pH, Field, Standard Units

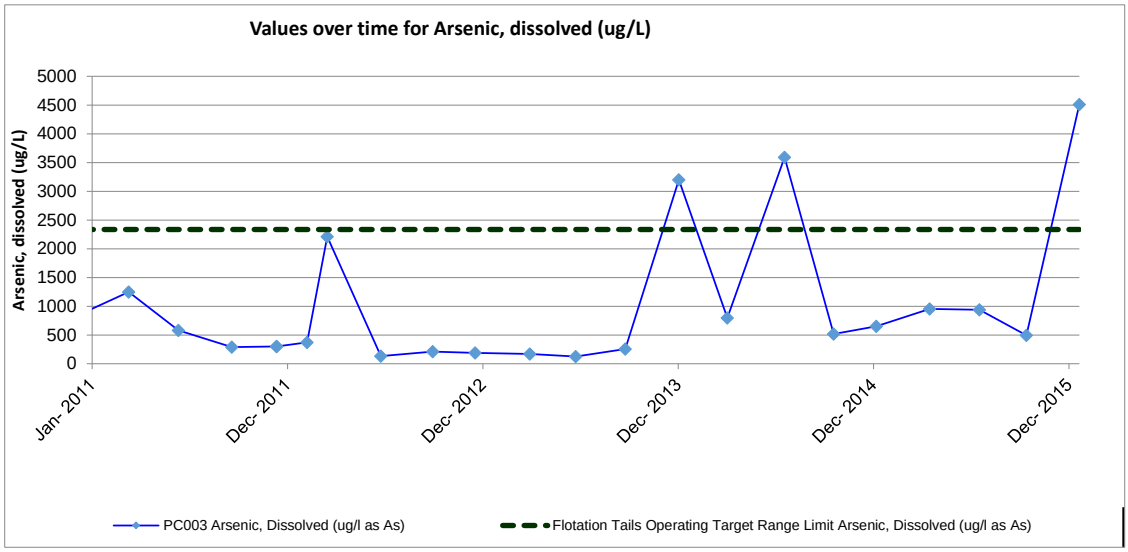

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
1000
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

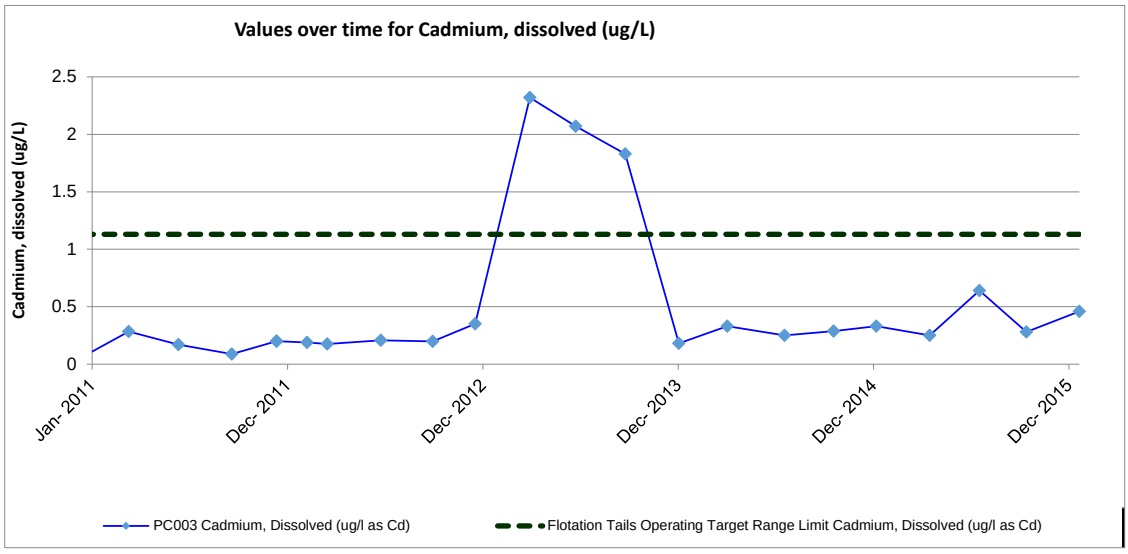

Values over time for TDS (mg/L)
TDS (mg/L)
10000
1000
100
10
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

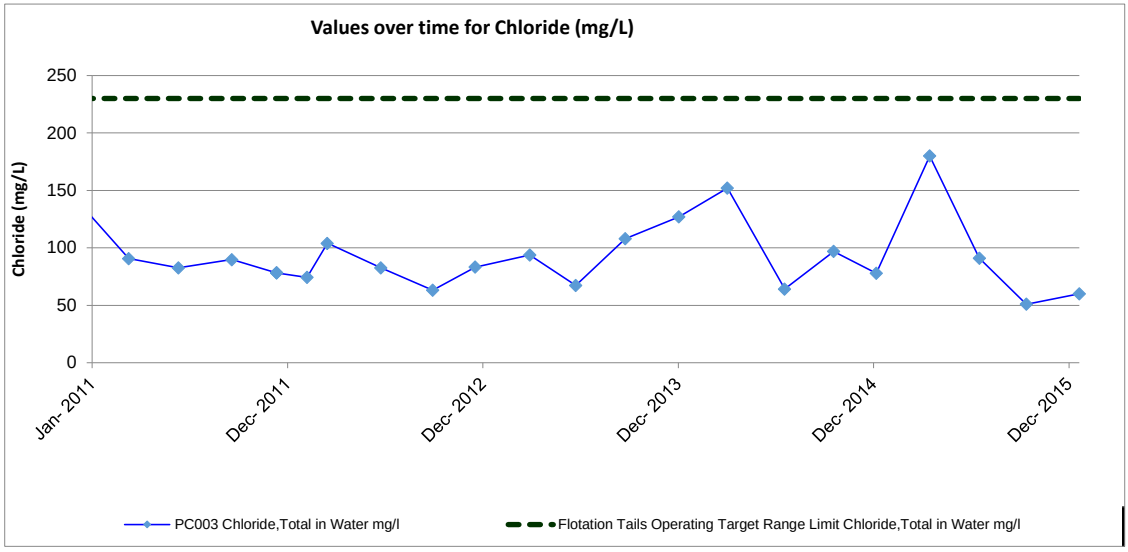

Values over time for Turbidity, lab (NTU)
Turbidity, lab (NTU)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001

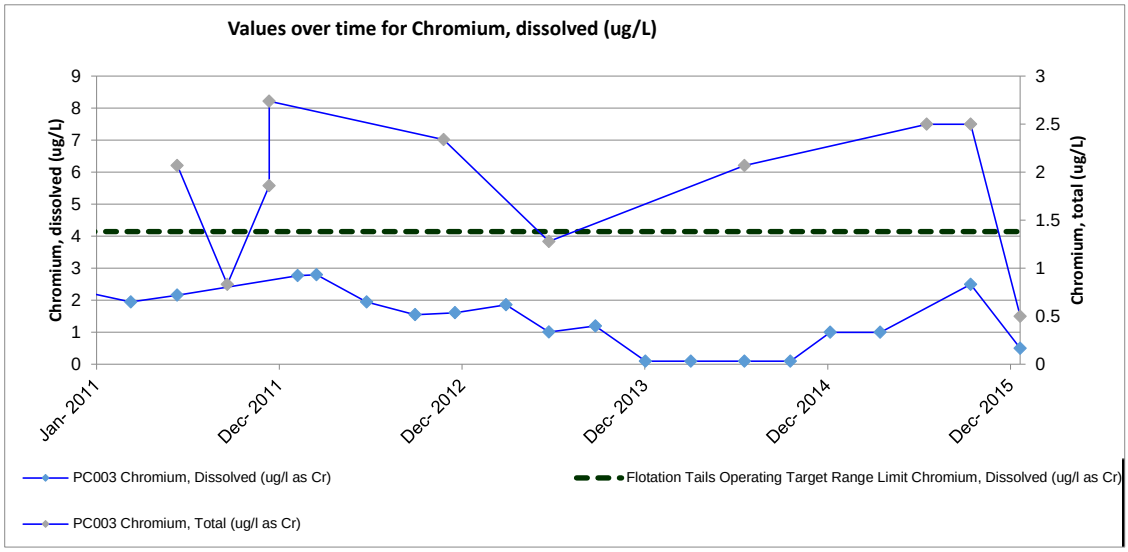

Values over time for Zinc, total (ug/L)
Zinc, total (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
Outfall 001
APDES Maximum Daily Limit Zinc, Total (ug/l as Zn)

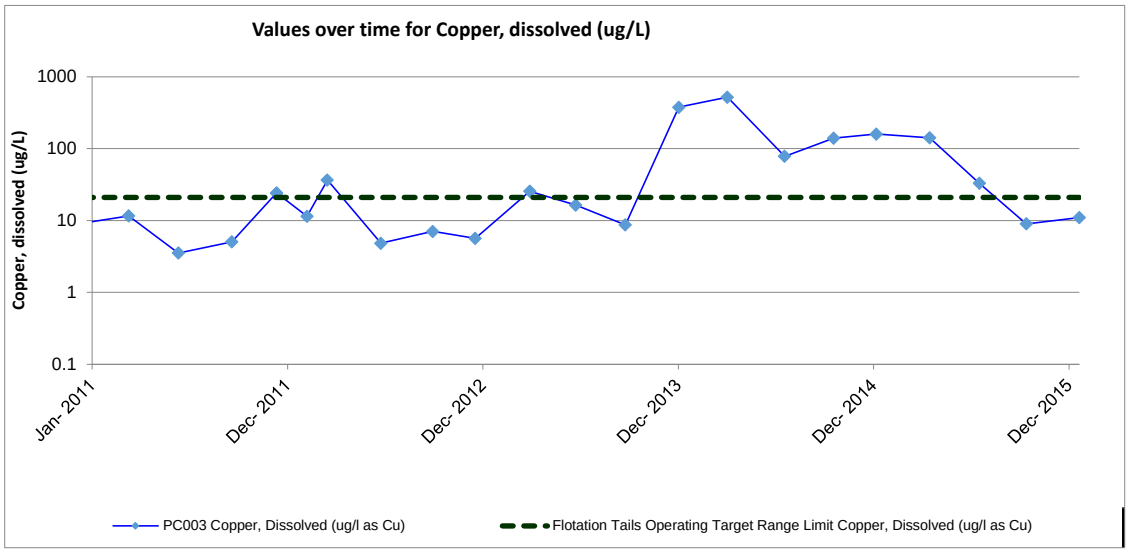

Values over time for Cyanide WAD (mg/kg)
Cyanide, WAD (mg/kg)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC001
PC001 Action Limits Limit Cyanide: WAD CN Field, mg/kg

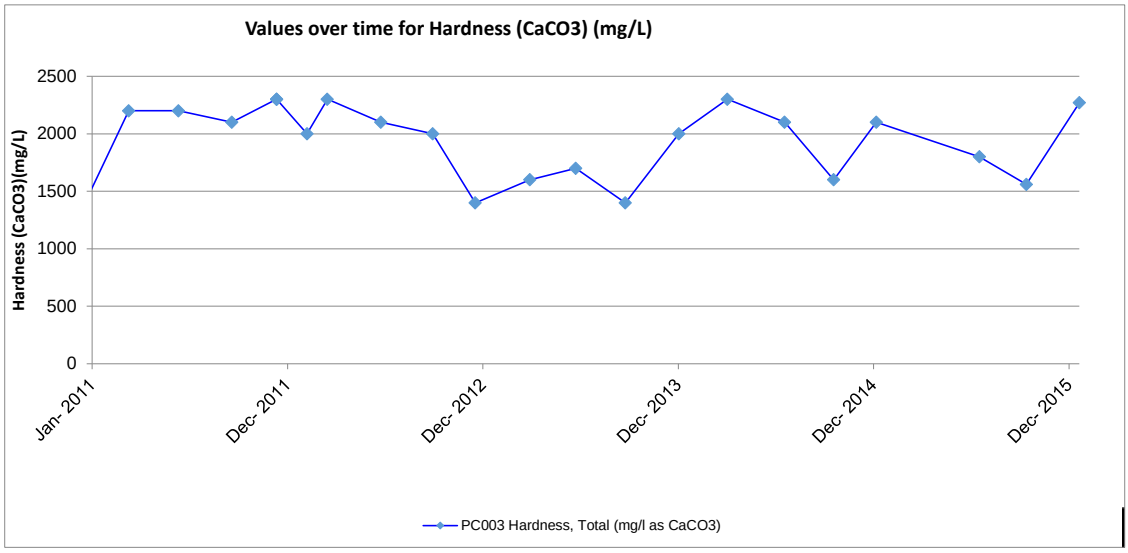

Values over time for Arsenic, dissolved (ug/L)
Arsenic, dissolved (ug/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Arsenic, Dissolved (ug/l as As)
Flotation Tails Operating Target Range Limit Arsenic, Dissolved (ug/l as As)

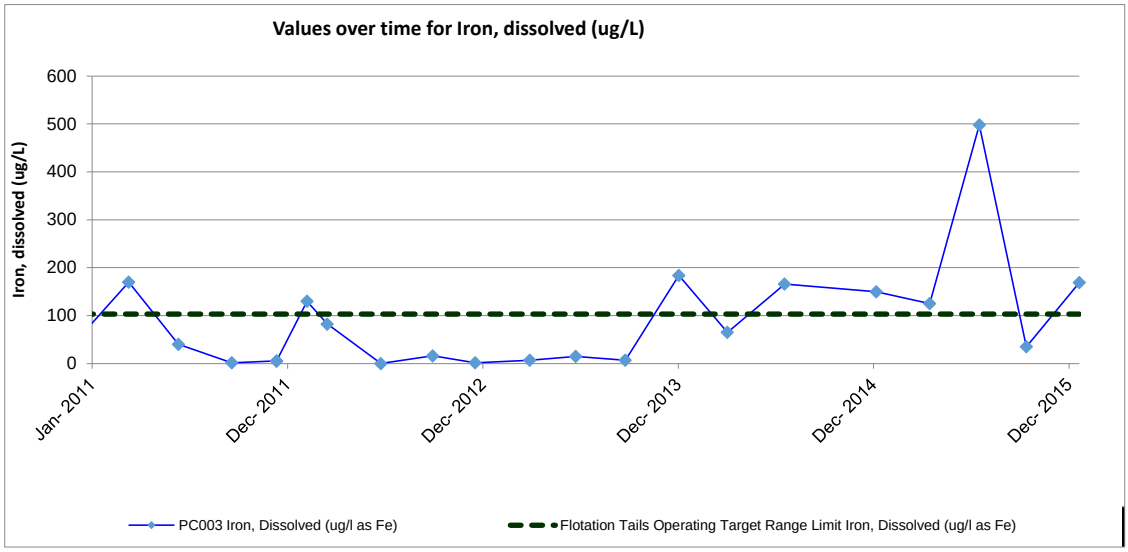

Values over time for Cadmium, dissolved (ug/L)
Cadmium, dissolved (ug/L)
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Cadmium, Dissolved (ug/l as Cd)
Flotation Tails Operating Target Range Limit Cadmium, Dissolved (ug/l as Cd)

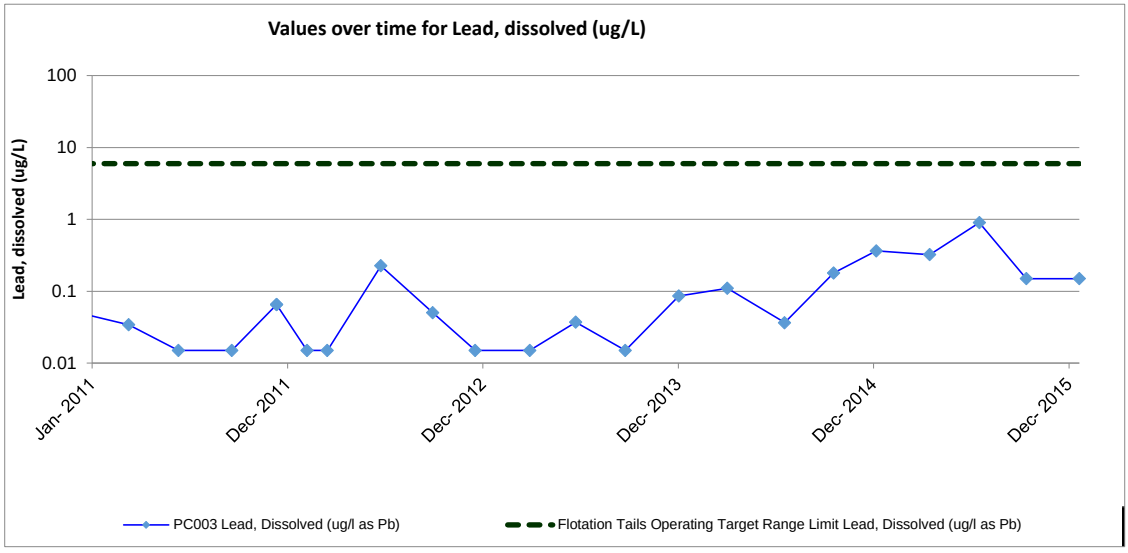

Values over time for Chloride (mg/L)
Chloride (mg/L)
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Chloride,Total in Water mg/l
Flotation Tails Operating Target Range Limit Chloride,Total in Water mg/l

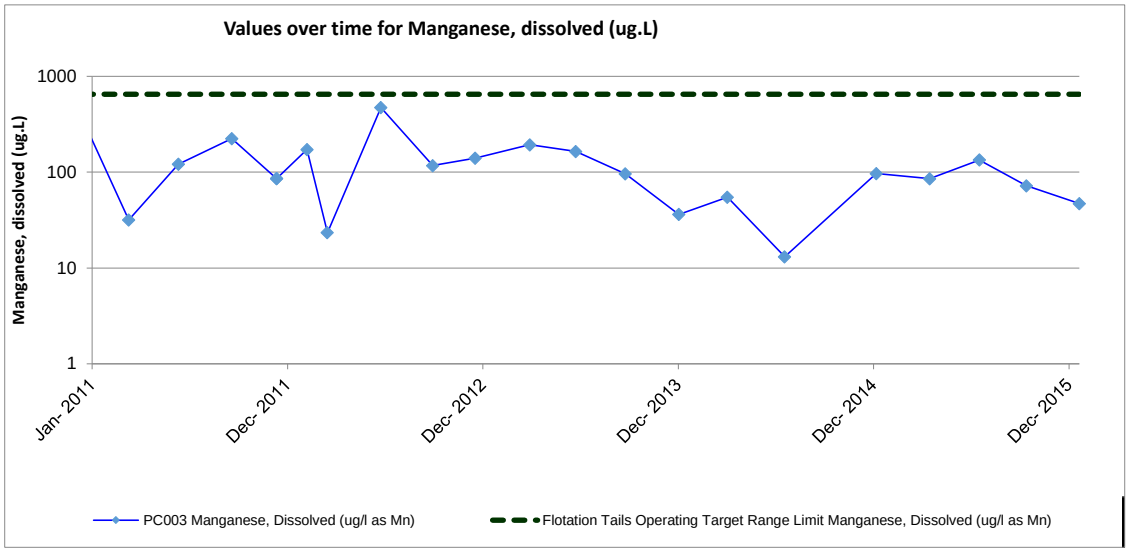

Values over time for Chromium, dissolved (ug/L)
Chromium, dissolved (ug/L)
Chromium, total (ug/L)
9
8
7
6
5
4
3
2
1
0
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Chromium, Dissolved (ug/l as Cr)
Flotation Tails Operating Target Range Limit Chromium, Dissolved (ug/l as Cr)
PC003 Chromium, Total (ug/l as Cr)

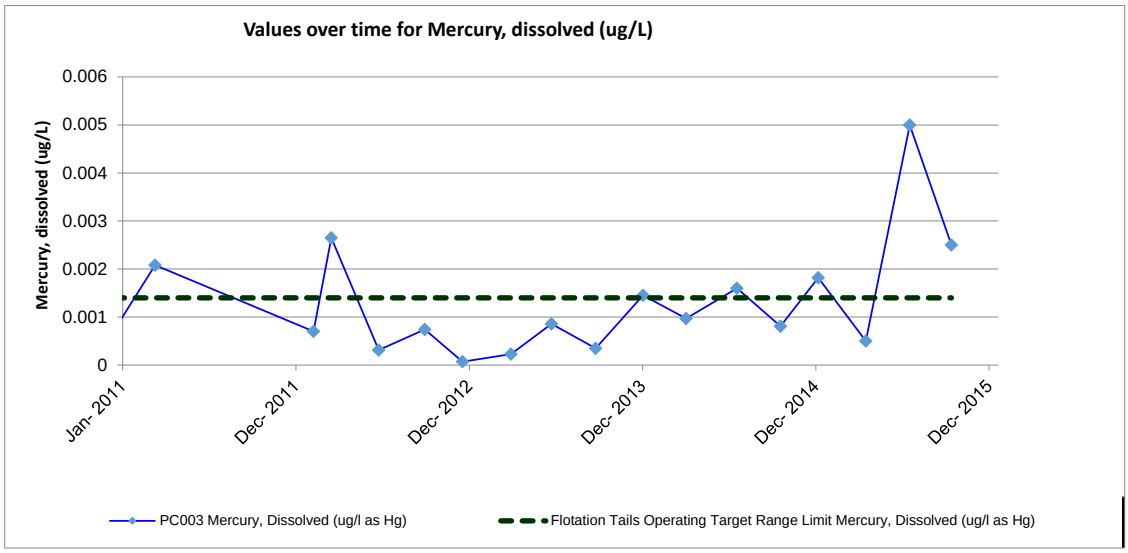

Values over time for Copper, dissolved (ug/L)
Copper, dissolved (ug/L)
1000
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Copper, Dissolved (ug/l as Cu)
Flotation Tails Operating Target Range Limit Copper, Dissolved (ug/l as Cu)

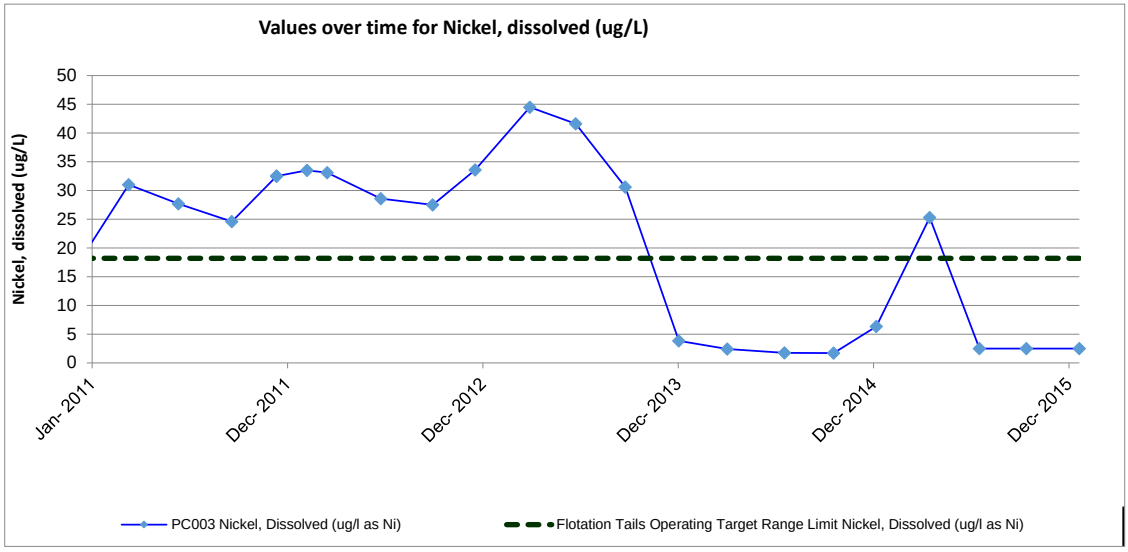

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3)(mg/L)
2500
2000
1500
1000
500
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Hardness, Total (mg/l as CaCO3)

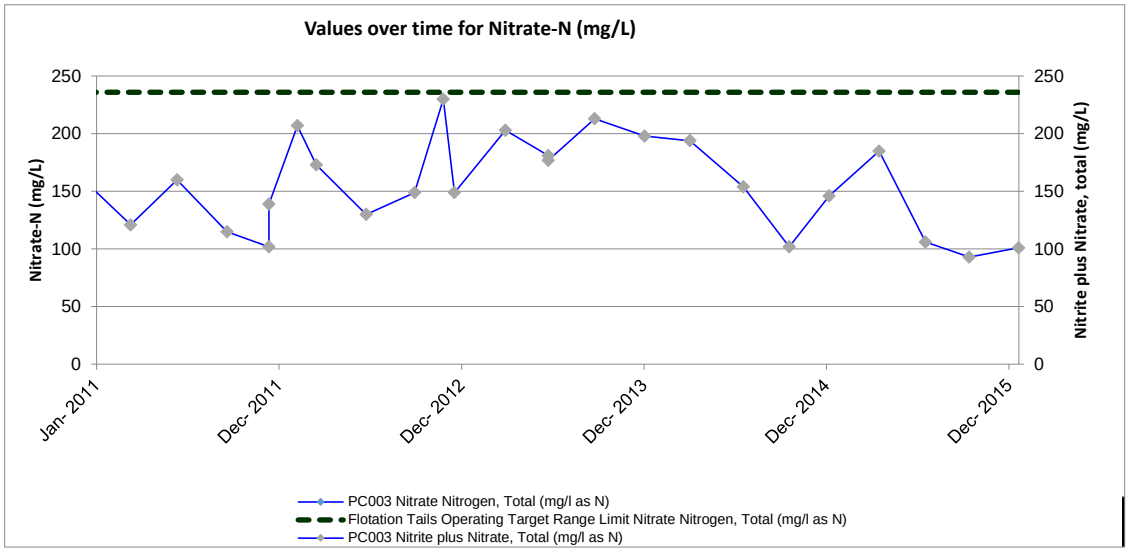

Values over time for Iron, dissolved (ug/L)
Iron, dissolved (ug/L)
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Iron, Dissolved (ug/l as Fe)
Flotation Tails Operating Target Range Limit Iron, Dissolved (ug/l as Fe)

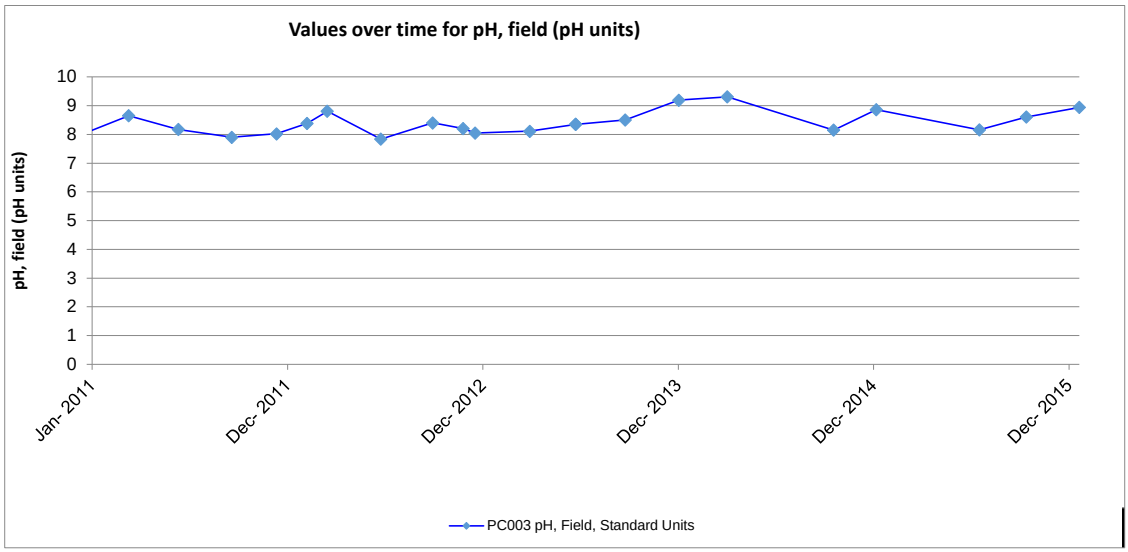

Values over time for Lead, dissolved (ug/L)
Lead, dissolved (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Lead, Dissolved (ug/l as Pb)
Flotation Tails Operating Target Range Limit Lead, Dissolved (ug/l as Pb)

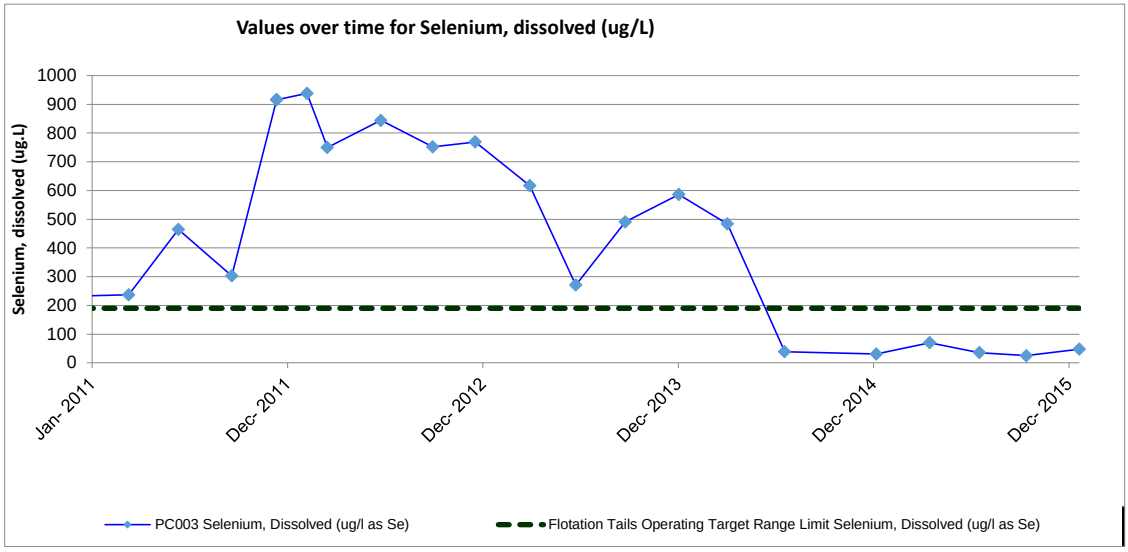

Values over time for Manganese, dissolved (ug.L)
Manganese, dissolved (ug.L)
1000
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Manganese, Dissolved (ug/l as Mn)
Flotation Tails Operating Target Range Limit Manganese, Dissolved (ug/l as Mn)

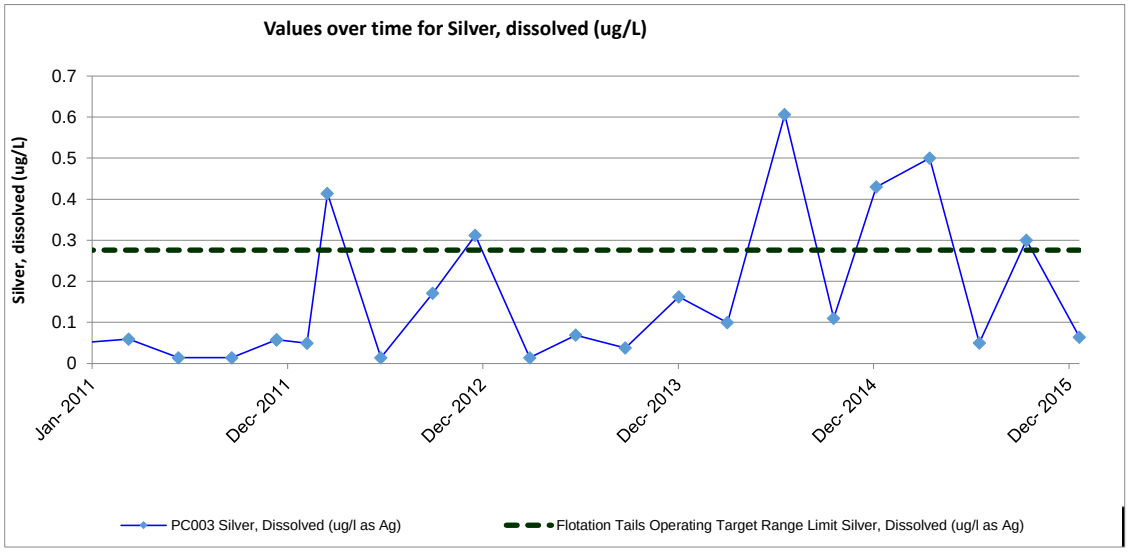

Values over time for Mercury, dissolved (ug/L)
Mercury, dissolved (ug/L)
0.006
0.005
0.004
0.003
0.002
0.001
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Mercury, Dissolved (ug/l as Hg)
Flotation Tails Operating Target Range Limit Mercury, Dissolved (ug/l as Hg)

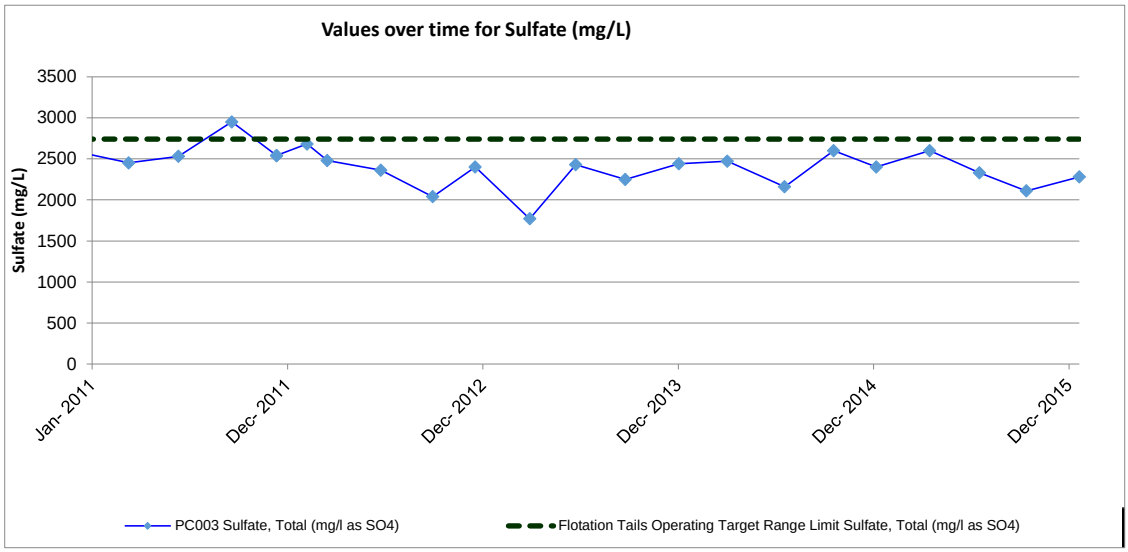

Values over time for Nickel, dissolved (ug/L)
Nickel, dissolved (ug/L)
50
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Nickel, Dissolved (ug/l as Ni)
Flotation Tails Operating Target Range Limit Nickel, Dissolved (ug/l as Ni)

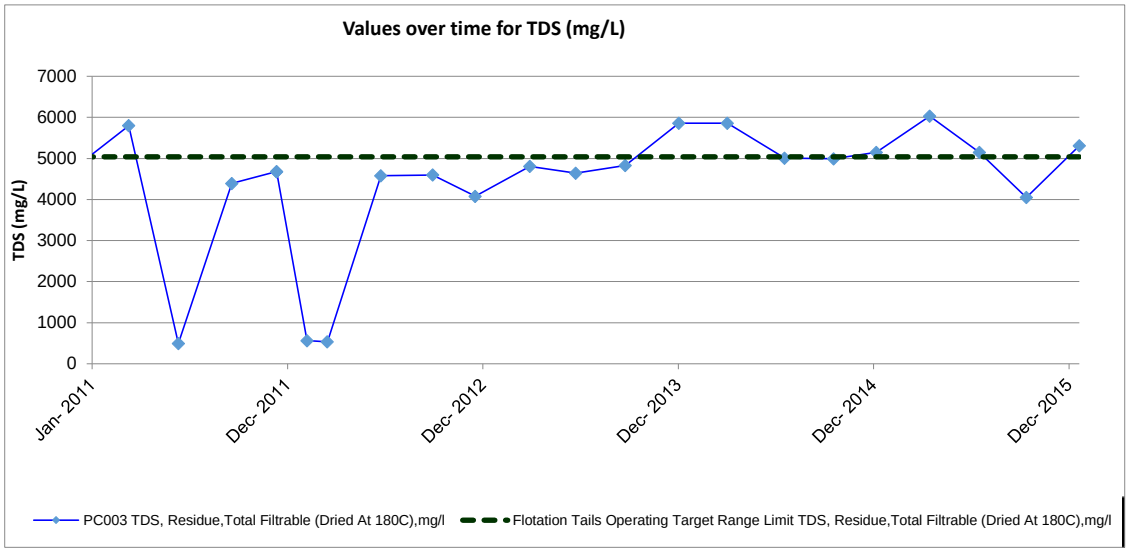

Values over time for Nitrate-N (mg/L)
Nitrate-N (mg/L)
Nitrite plus Nitrate, total (mg/L)
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Nitrate Nitrogen, Total (mg/l as N)
Flotation Tails Operating Target Range Limit Nitrate Nitrogen, Total (mg/l as N)
PC003 Nitrite plus Nitrate, Total (mg/l as N)

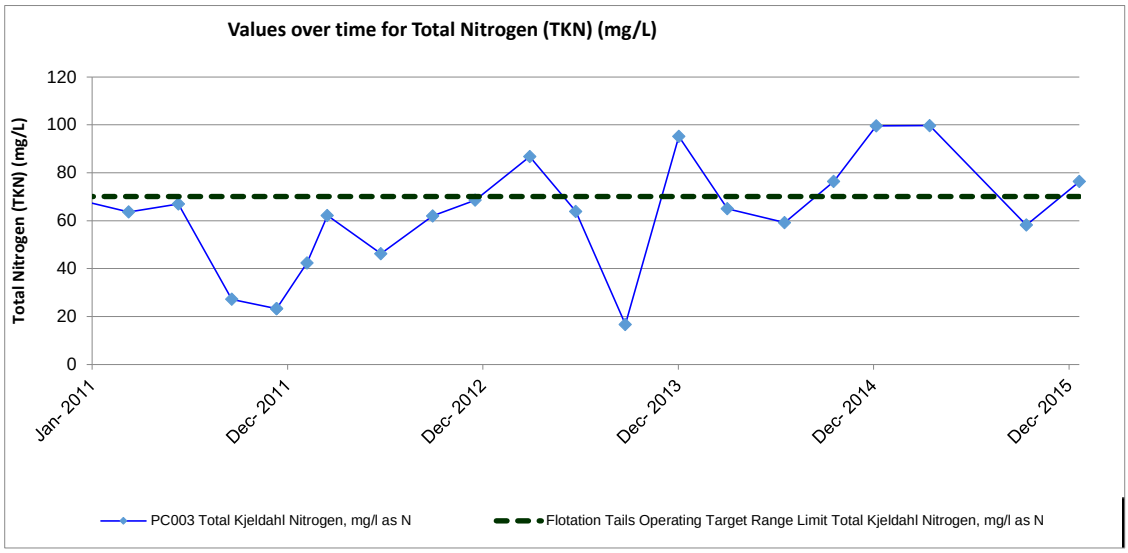

Values over time for pH, field (pH units)
pH, field (pH units)
10
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 pH, Field, Standard Units

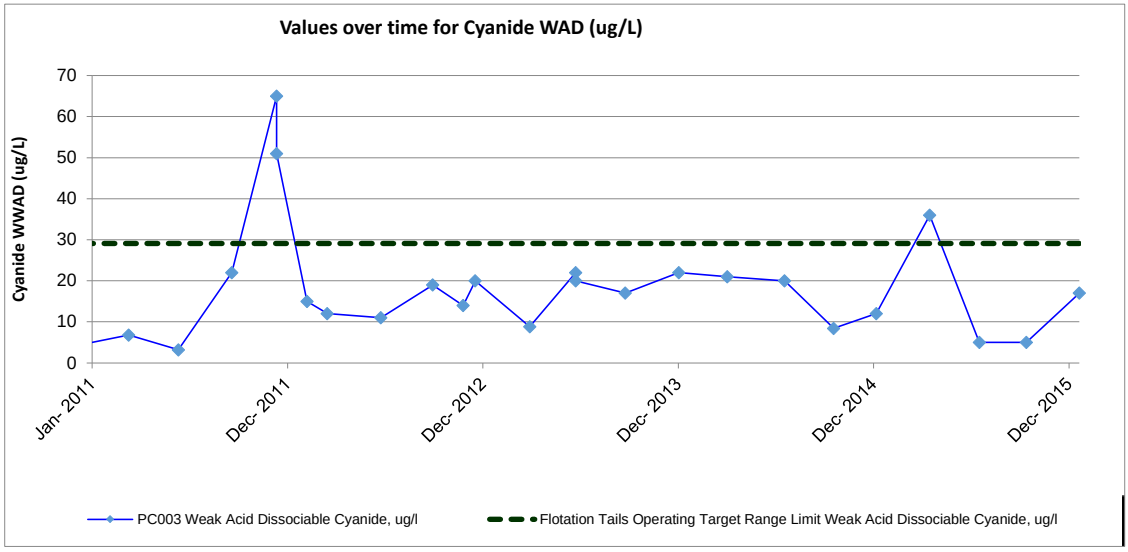

Values over time for Selenium, dissolved (ug/L)
Selenium, dissolved (ug.L)
1000
900
800
700
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Selenium, Dissolved (ug/l as Se)
Flotation Tails Operating Target Range Limit Selenium, Dissolved (ug/l as Se)

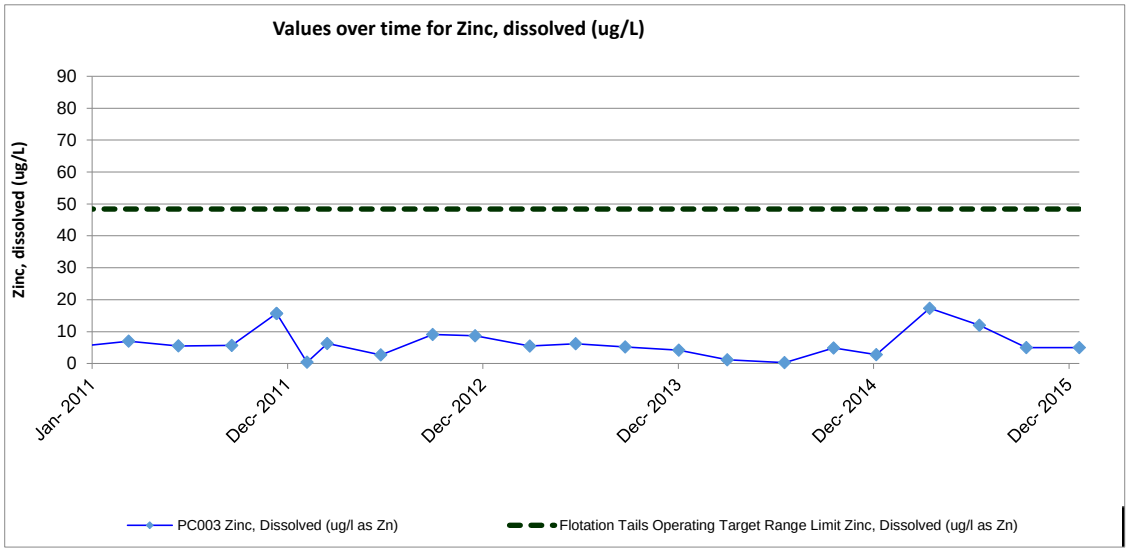

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Silver, Dissolved (ug/l as Ag)
Flotation Tails Operating Target Range Limit Silver, Dissolved (ug/l as Ag)

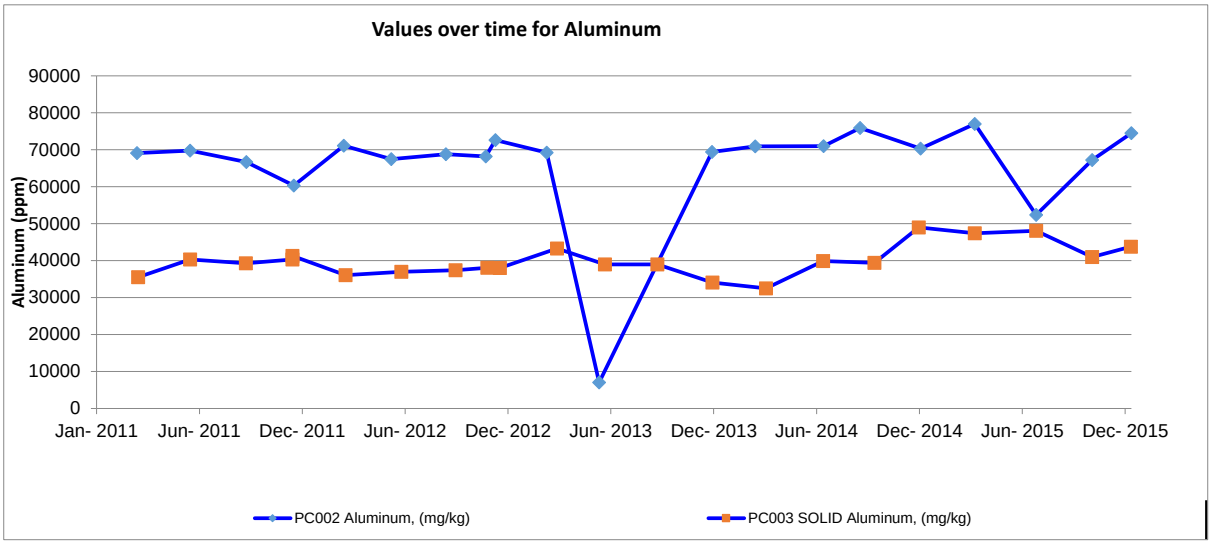

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
3500
3000
2500
2000
1500
1000
500
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Sulfate, Total (mg/l as SO4)
Flotation Tails Operating Target Range Limit Sulfate, Total (mg/l as SO4)

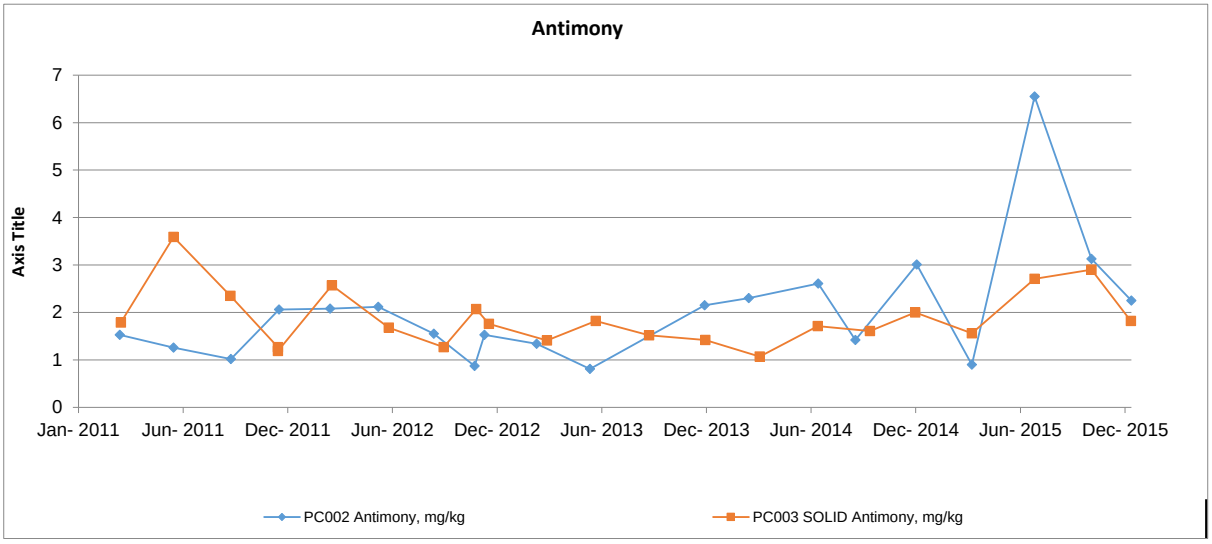

Values over time for TDS (mg/L)
TDS (mg/L)
7000
6000
5000
4000
3000
2000
1000
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Flotation Tails Operating Target Range Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l

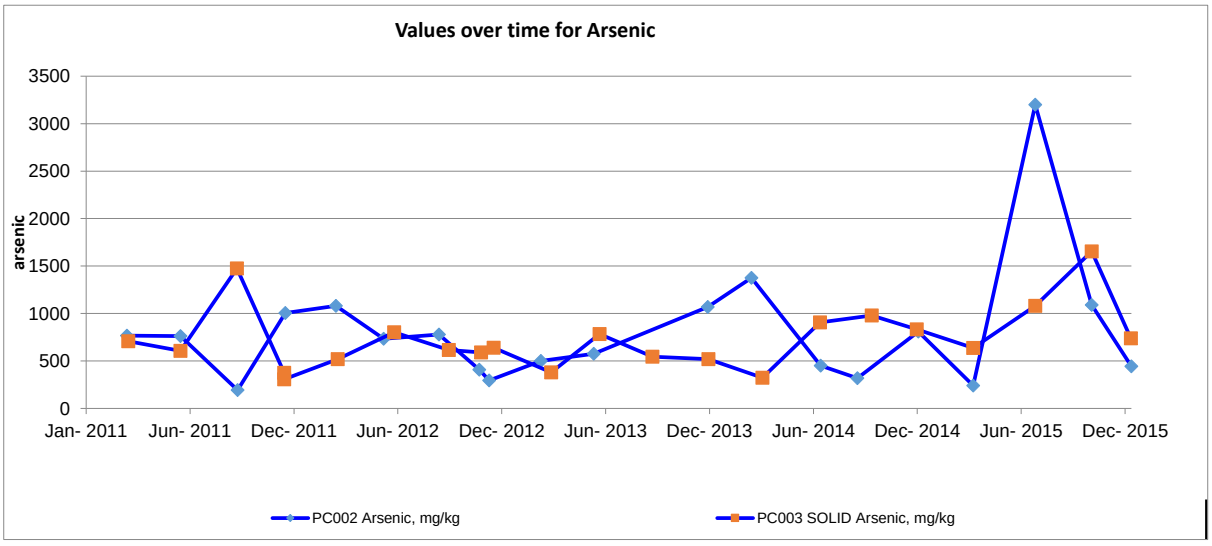

Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
120
100
80
60
40
20
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Total Kjeldahl Nitrogen, mg/l as N
Flotation Tails Operating Target Range Limit Total Kjeldahl Nitrogen, mg/l as N

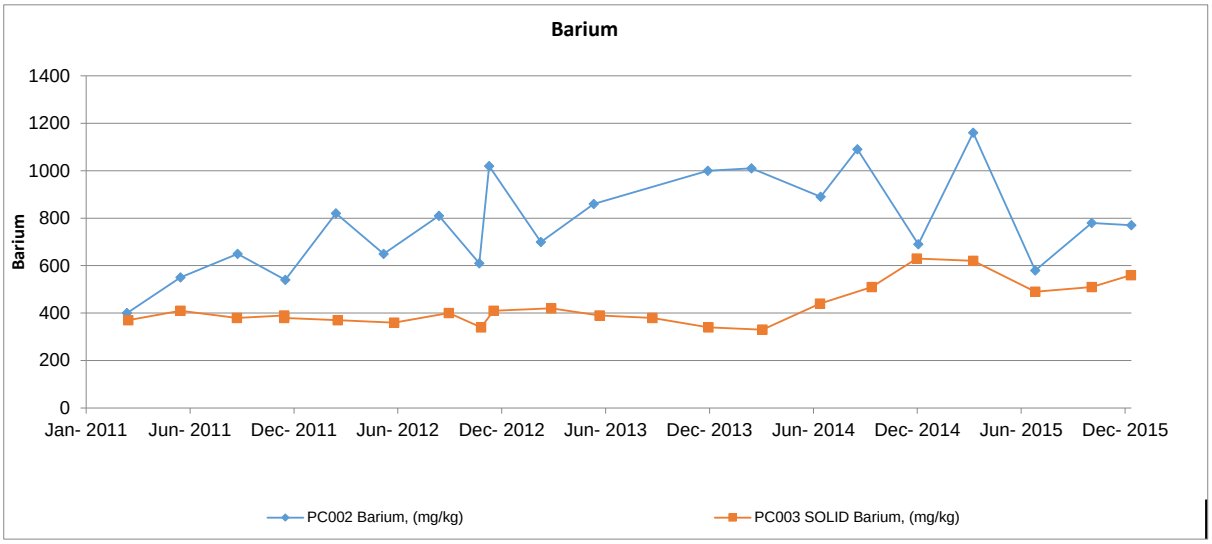

Values over time for Cyanide WAD (ug/L)
Cyanide WWAD (ug/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Weak Acid Dissociable Cyanide, ug/l
Flotation Tails Operating Target Range Limit Weak Acid Dissociable Cyanide, ug/l

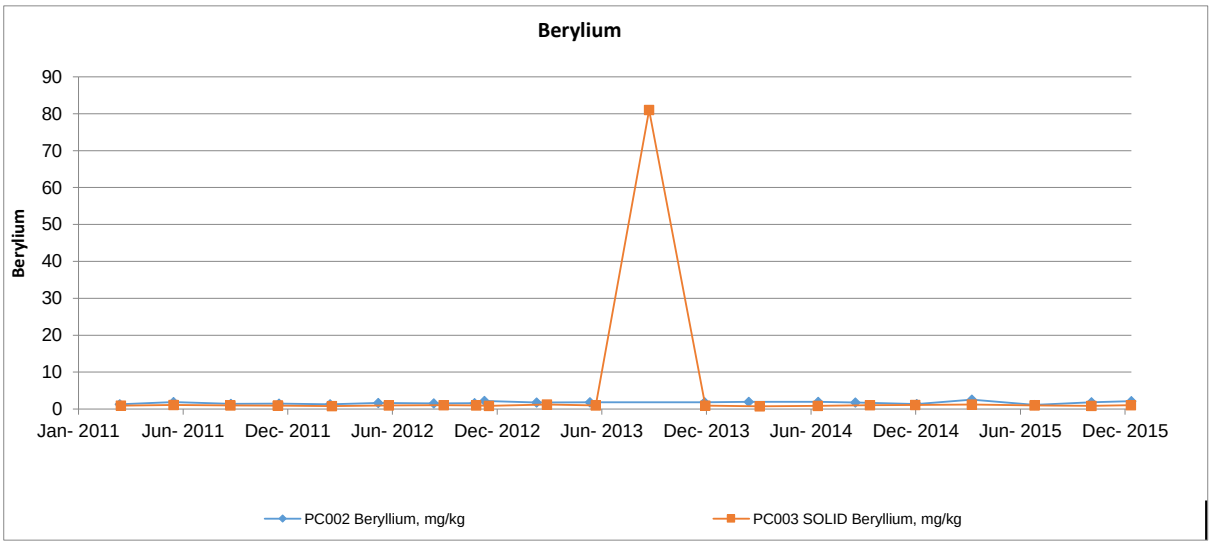

Values over time for Zinc, dissolved (ug/L)
Zinc, dissolved (ug/L)
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
PC003 Zinc, Dissolved (ug/l as Zn)
Flotation Tails Operating Target Range Limit Zinc, Dissolved (ug/l as Zn)

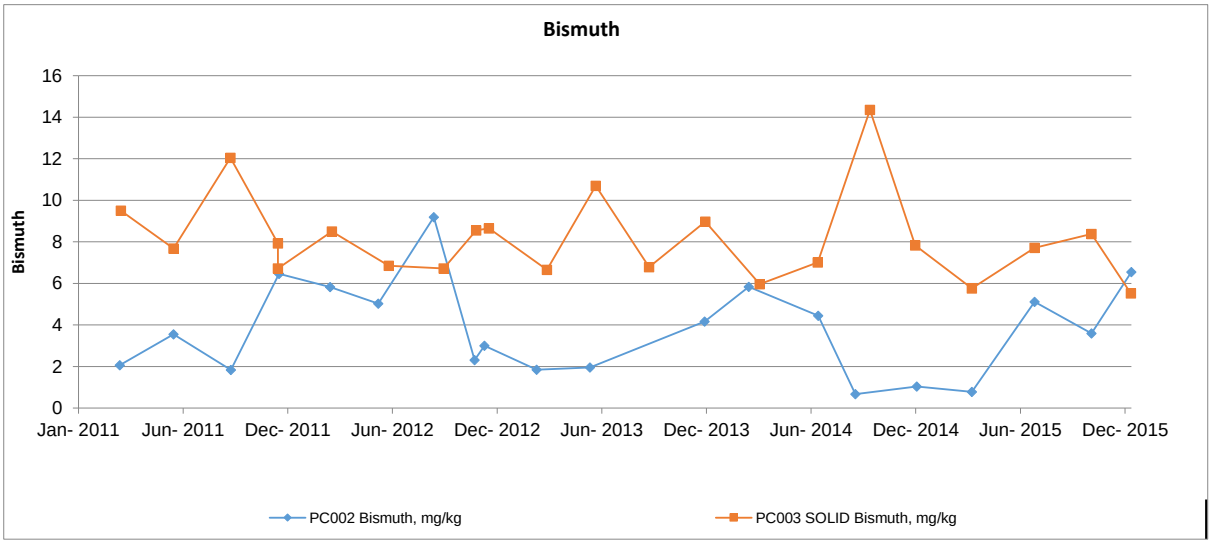

Values over time for Aluminum
Aluminum (ppm)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Aluminum, (mg/kg)
PC003 SOLID Aluminum, (mg/kg)

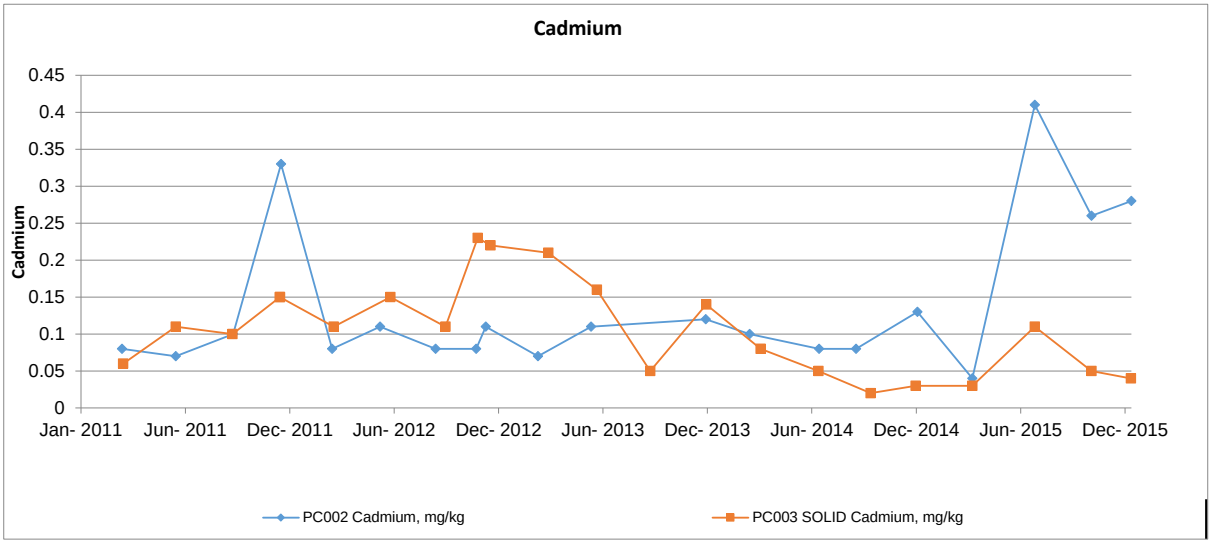

Antimony
Axis Title
7
6
5
4
3
2
1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Antimony, mg/kg
PC003 SOLID Antimony, mg/kg

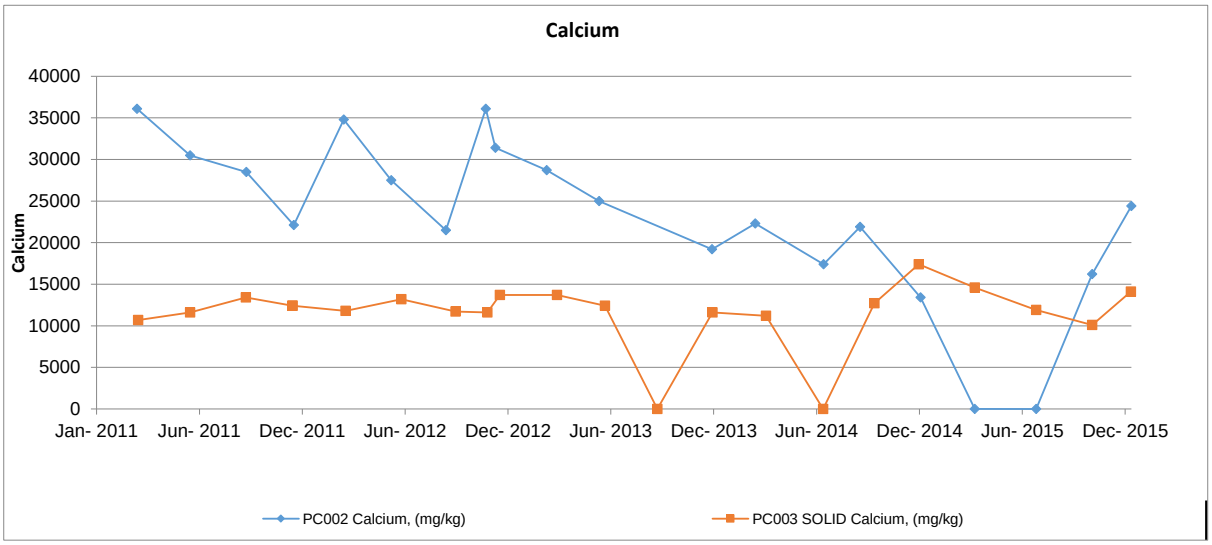

Values over time for Arsenic
arsenic
3500
3000
2500
2000
1500
1000
500
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Arsenic, mg/kg
PC003 SOLID Arsenic, mg/kg

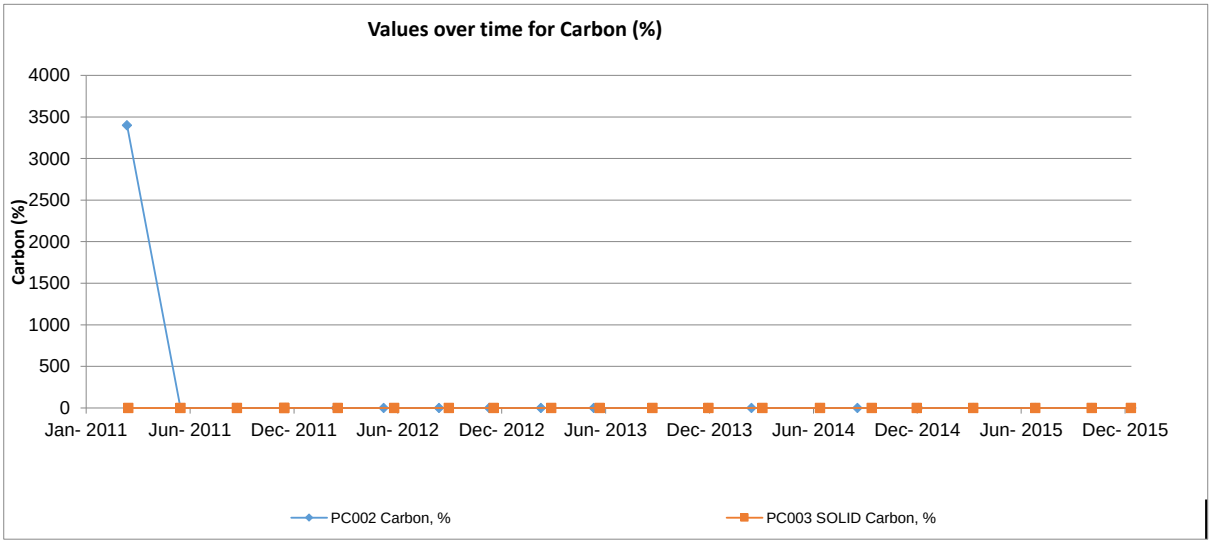

Barium
1400
1200
1000
800
600
400
200
0
Barium
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Barium, (mg/kg)
PC003 SOLID Barium, (mg/kg)

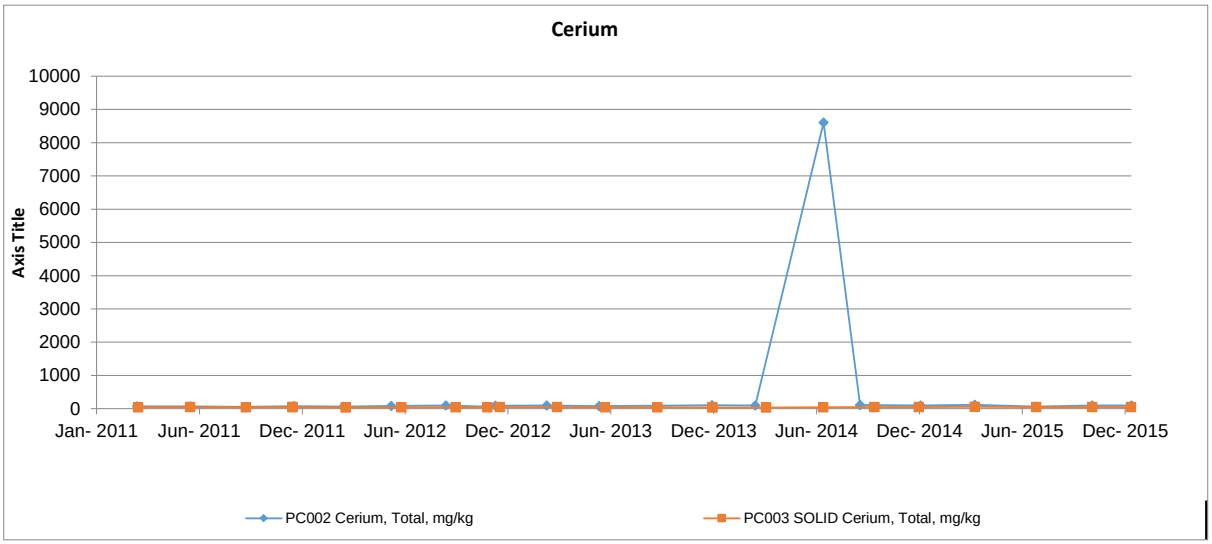

Berylium
90
80
70
60
50
40
30
20
10
0
Berylium
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Beryllium, mg/kg
PC003 SOLID Beryllium, mg/kg

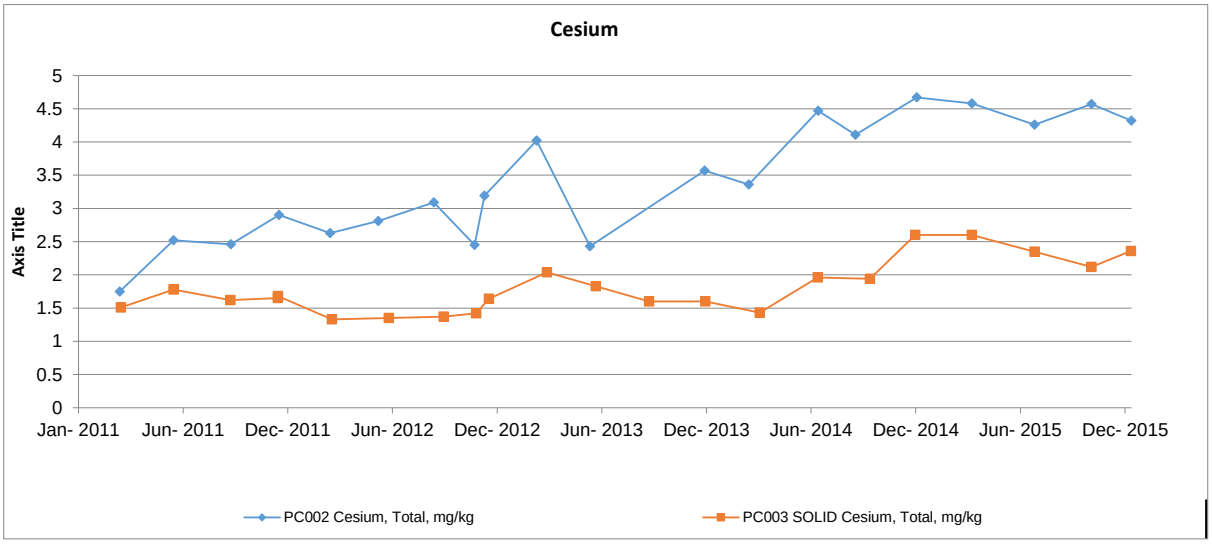

Bismuth
16
14
12
10
8
6
4
2
0
Bismuth
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Bismuth, mg/kg
PC003 SOLID Bismuth, mg/kg

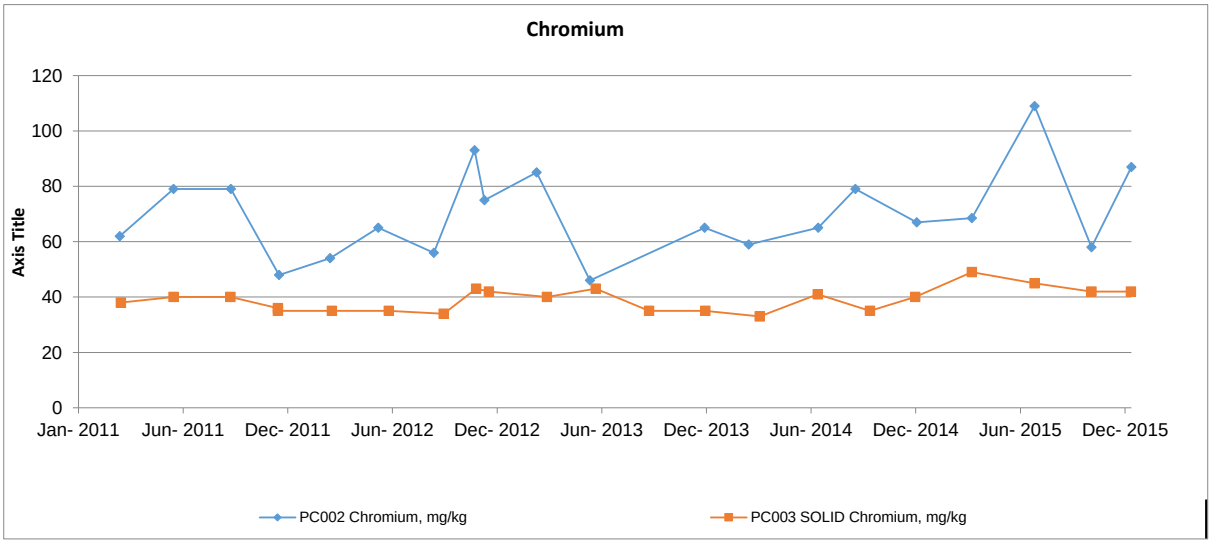

Cadmium
Cadmium
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Cadmium, mg/kg
PC003 SOLID Cadmium, mg/kg

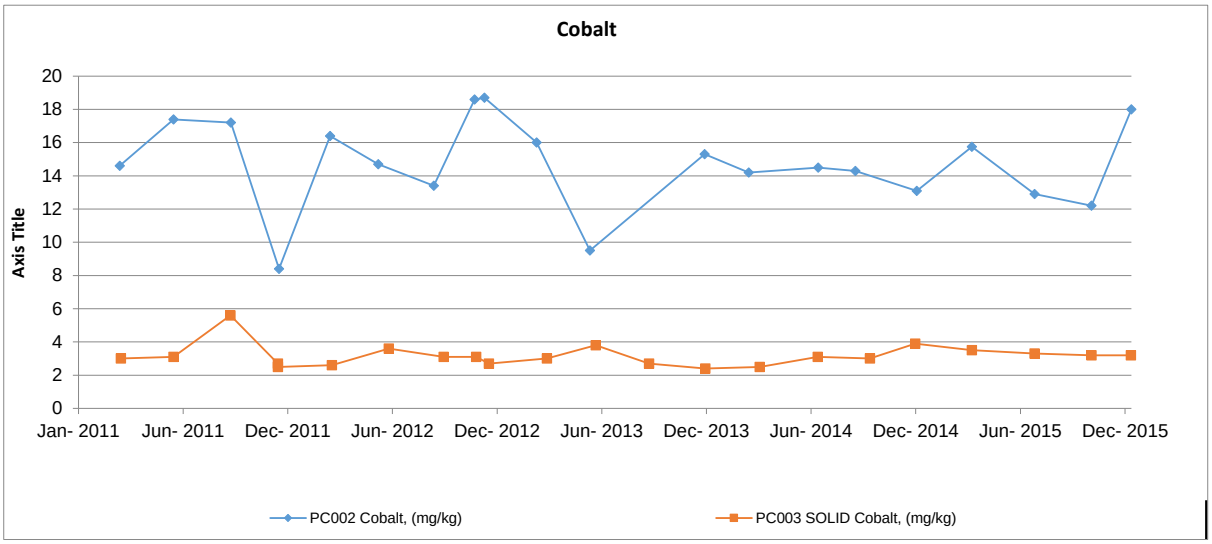

Calcium
Calcium
40000
35000
30000
25000
20000
15000
10000
5000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Calcium, (mg/kg)
PC003 SOLID Calcium, (mg/kg)

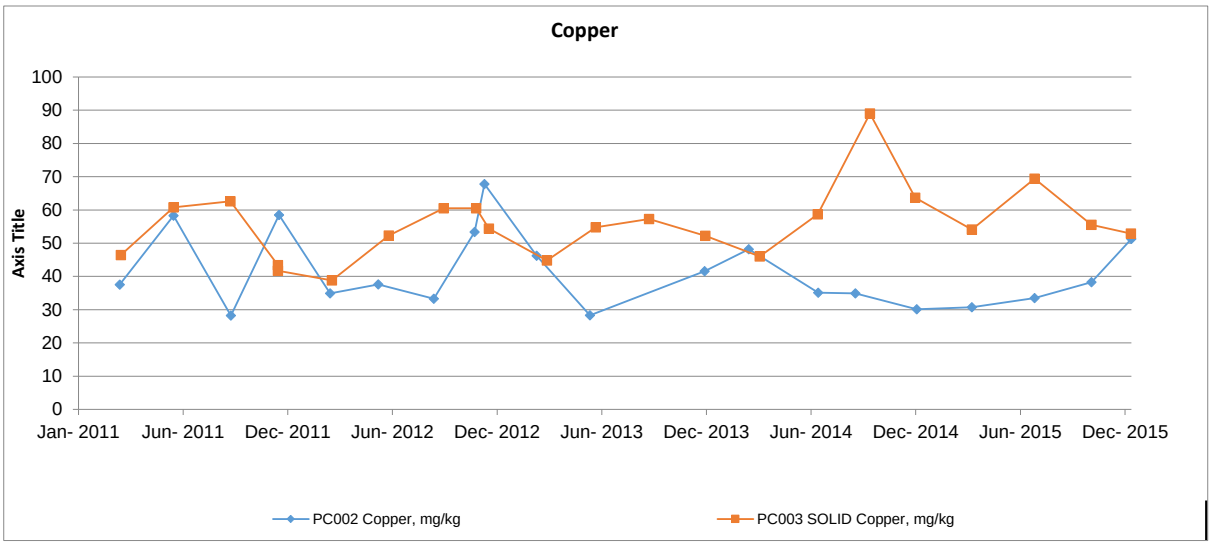

Values over time for Carbon (%)
Carbon (%)
4000
3500
3000
2500
2000
1500
1000
500
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Carbon, %
PC003 SOLID Carbon, %

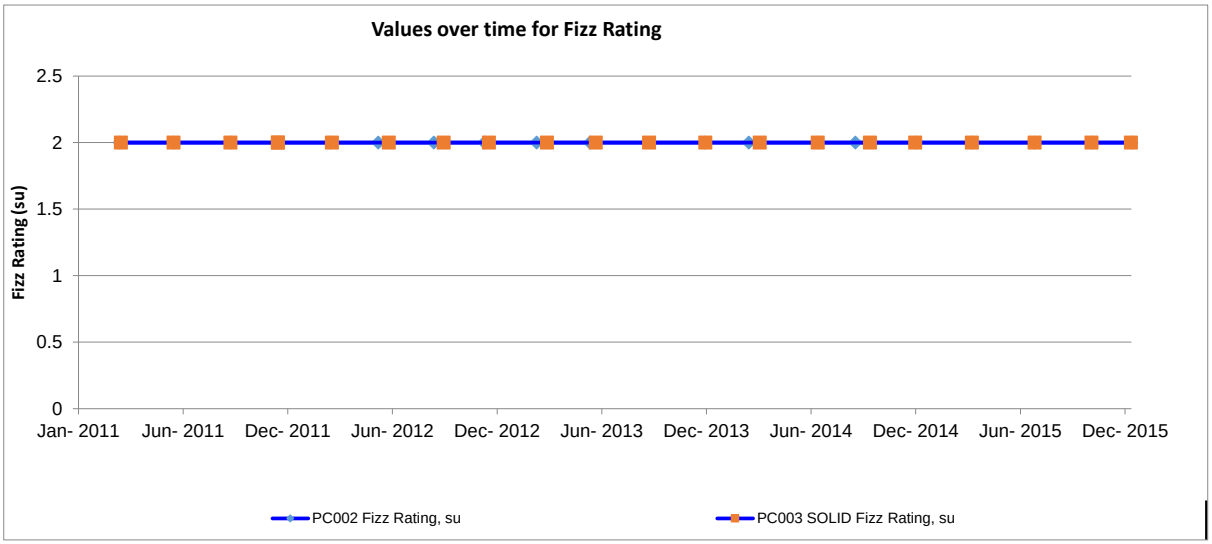

Cerium
Axis Title
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Cerium, Total, mg/kg
PC003 SOLID Cerium, Total, mg/kg

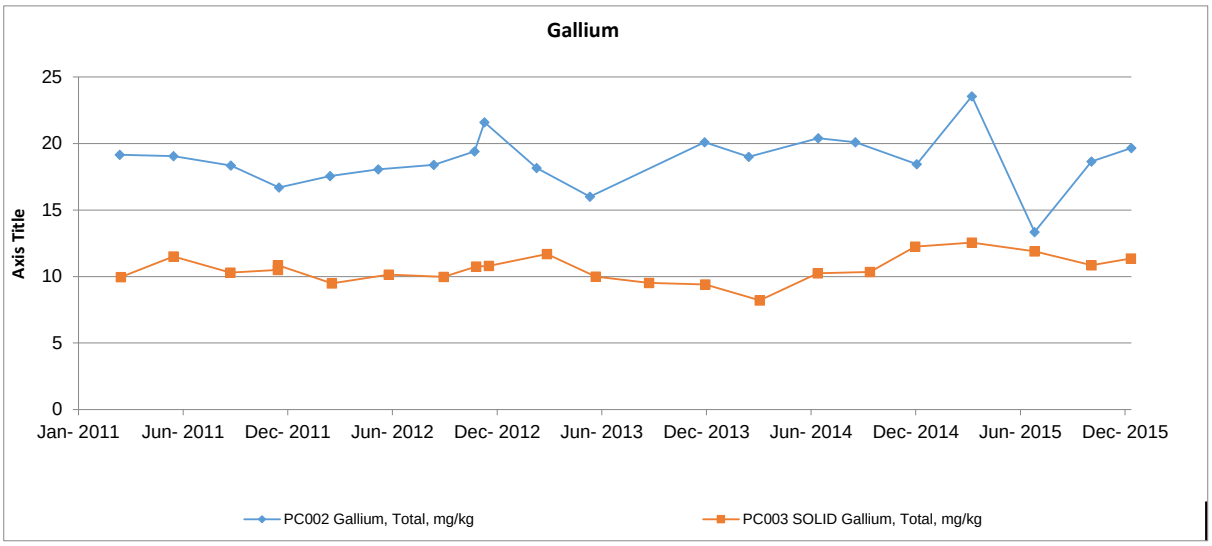

Cesium
Axis Title
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Cesium, Total, mg/kg
PC003 SOLID Cesium, Total, mg/kg

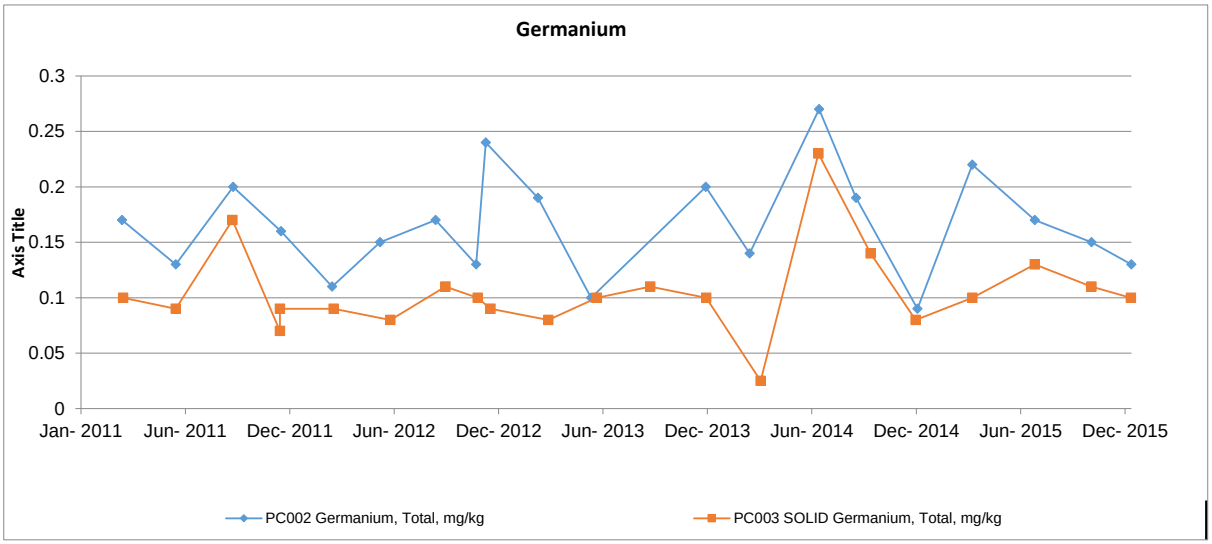

Chromium
Axis Title
120
100
80
60
40
20
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Chromium, mg/kg
PC003 SOLID Chromium, mg/kg

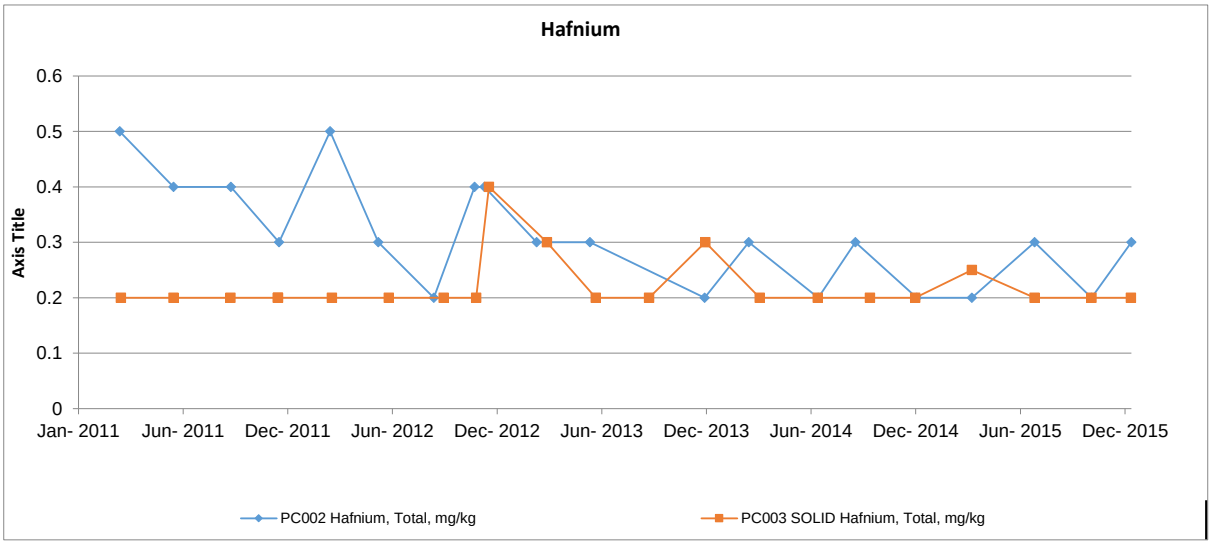

Cobalt
Axis Title
20
18
16
14
12
10
8
6
4
2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Cobalt, (mg/kg)
PC003 SOLID Cobalt, (mg/kg)

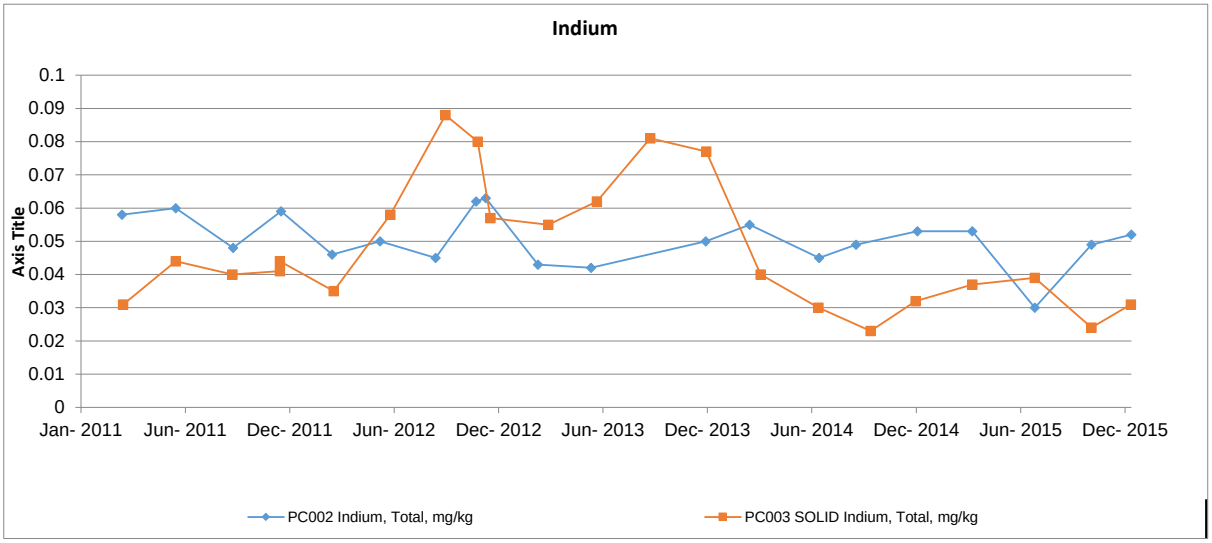

Copper
Axis Title
100
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Copper, mg/kg
PC003 SOLID Copper, mg/kg

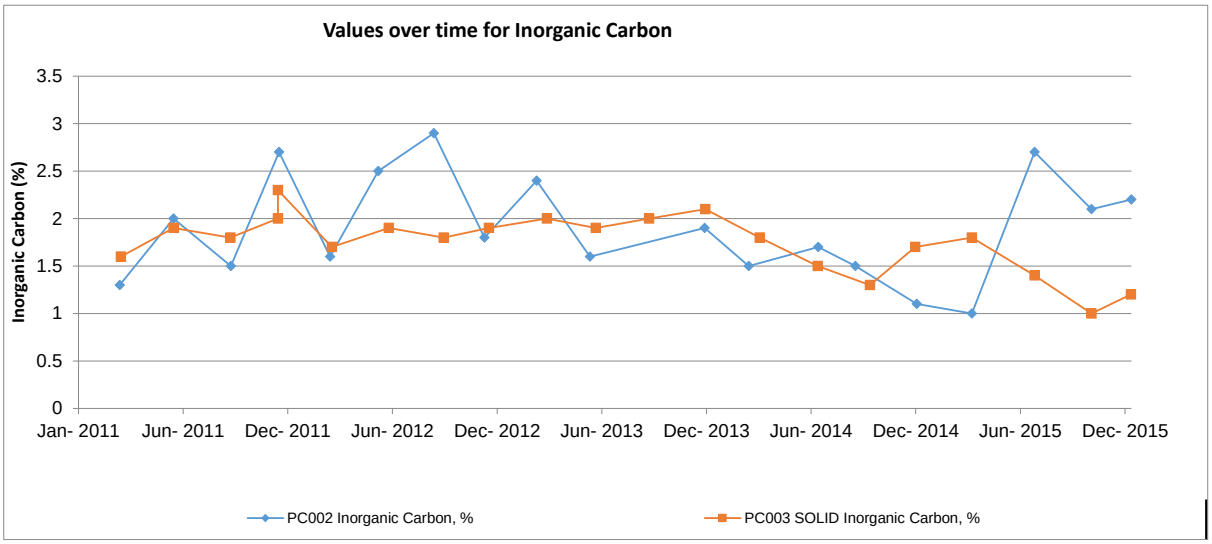

Values over time for Fizz Rating
Fizz Rating (su)
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Fizz Rating, su
PC003 SOLID Fizz Rating, su

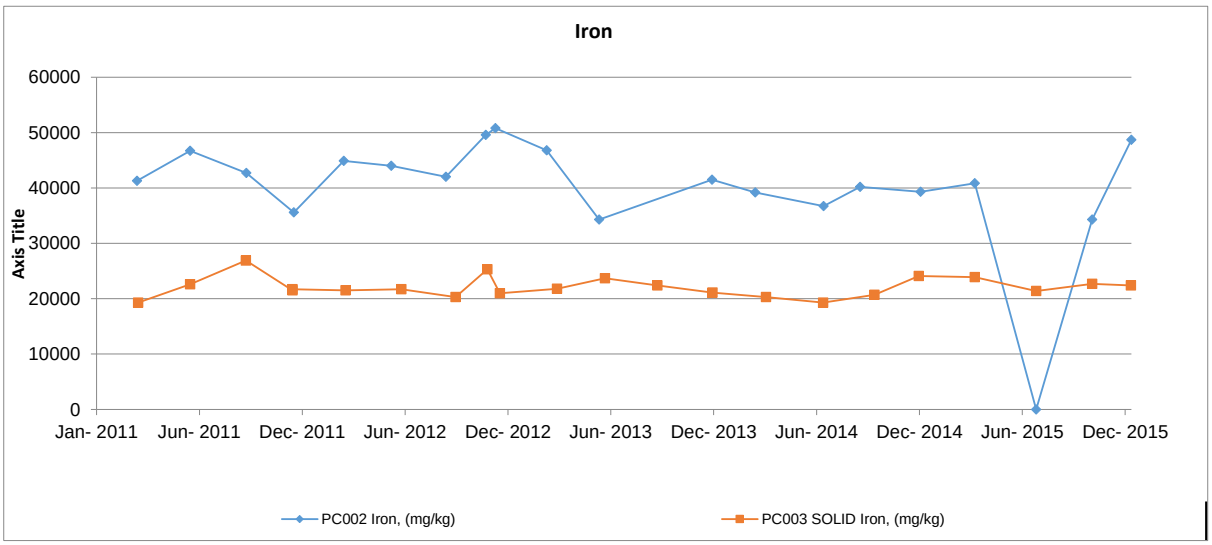

Gallium
Axis Title
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Gallium, Total, mg/kg
PC003 SOLID Gallium, Total, mg/kg

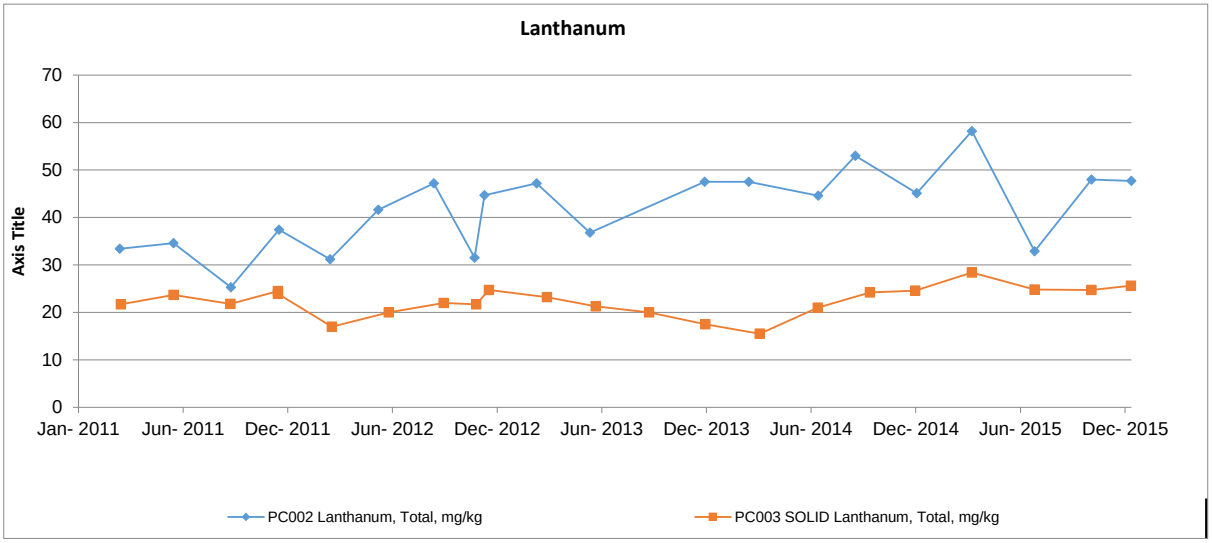

Germanium
Axis Title
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Germanium, Total, mg/kg
PC003 SOLID Germanium, Total, mg/kg

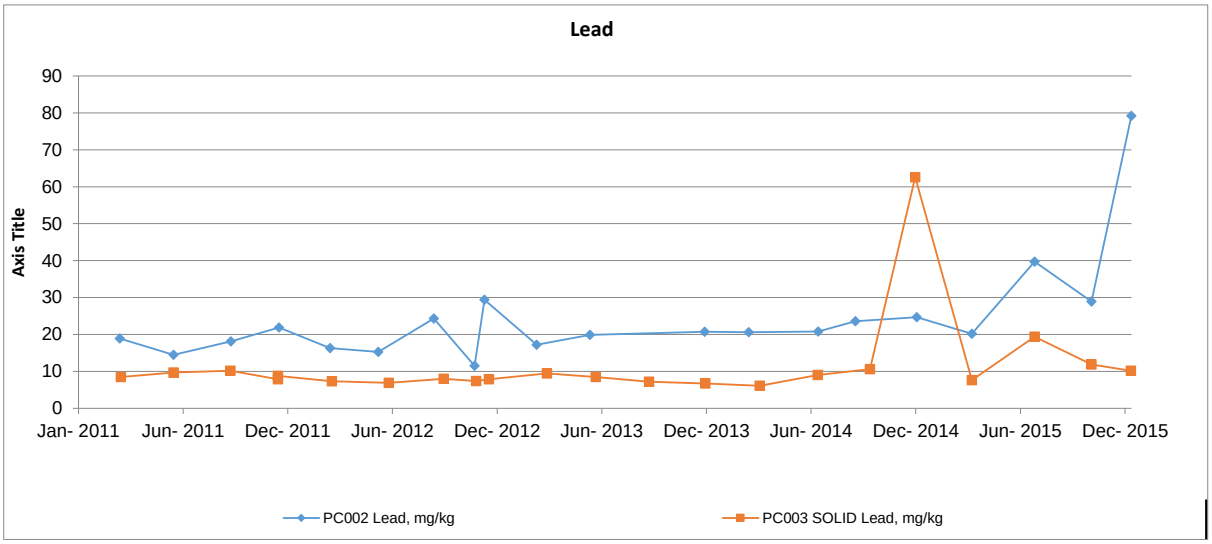

Hafnium
Axis Title
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Hafnium, Total, mg/kg
PC003 SOLID Hafnium, Total, mg/kg

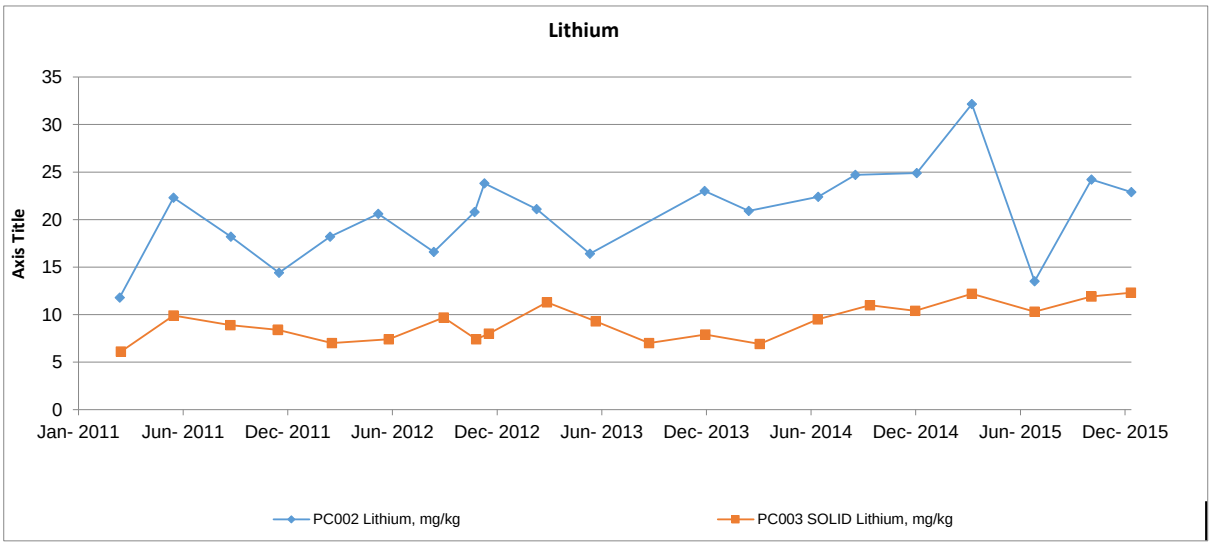

Indium
Axis Title
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Indium, Total, mg/kg
PC003 SOLID Indium, Total, mg/kg

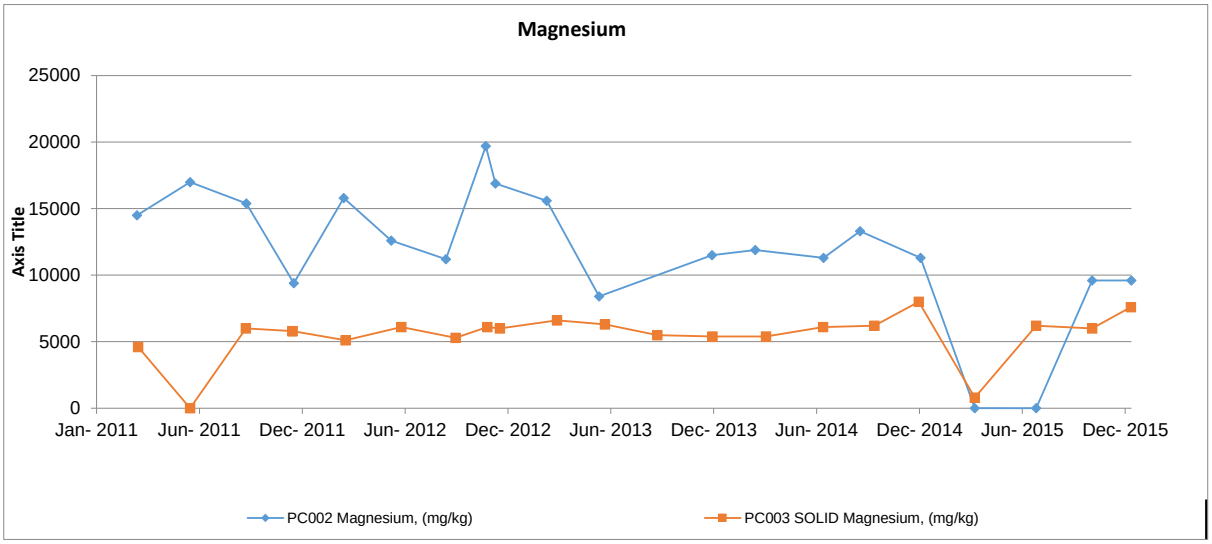

Values over time for Inorganic Carbon
Inorganic Carbon (%)
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Inorganic Carbon, %
PC003 SOLID Inorganic Carbon, %

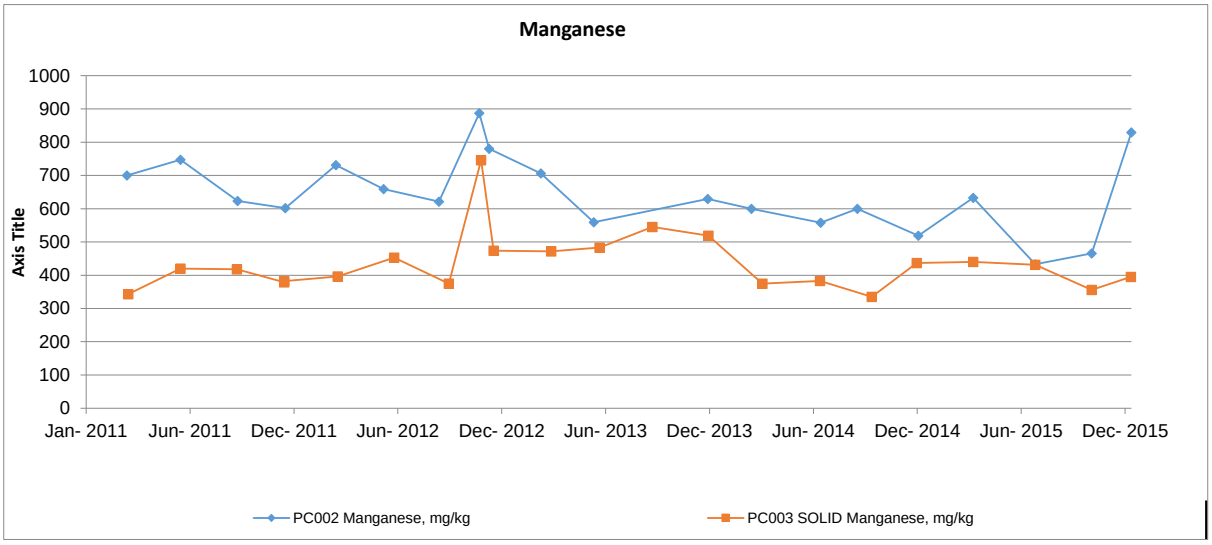

Iron
Axis Title
60000
50000
40000
30000
20000
10000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Iron, (mg/kg)
PC003 SOLID Iron, (mg/kg)

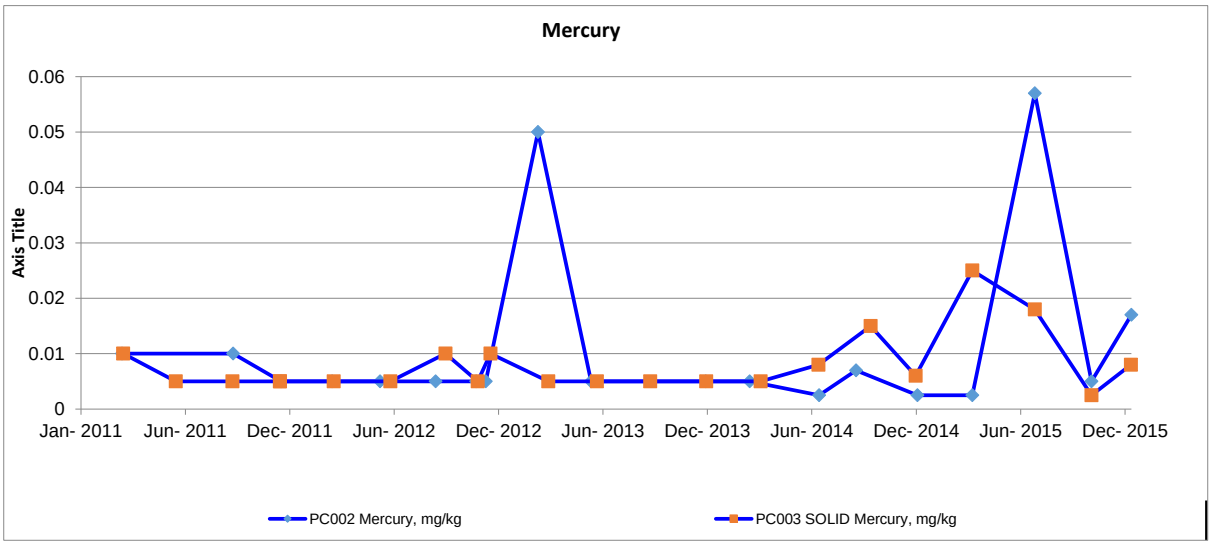

Lanthanum
Axis Title
70
60
50
40
30
20
10
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Lanthanum, Total, mg/kg
PC003 SOLID Lanthanum, Total, mg/kg

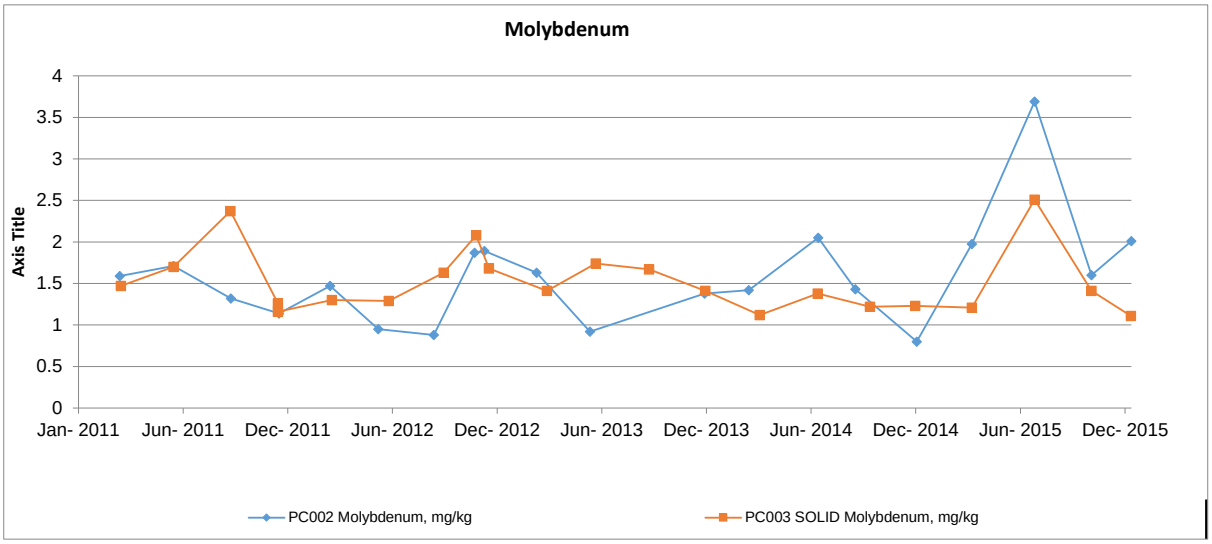

Lead
Axis Title
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Lead, mg/kg
PC003 SOLID Lead, mg/kg

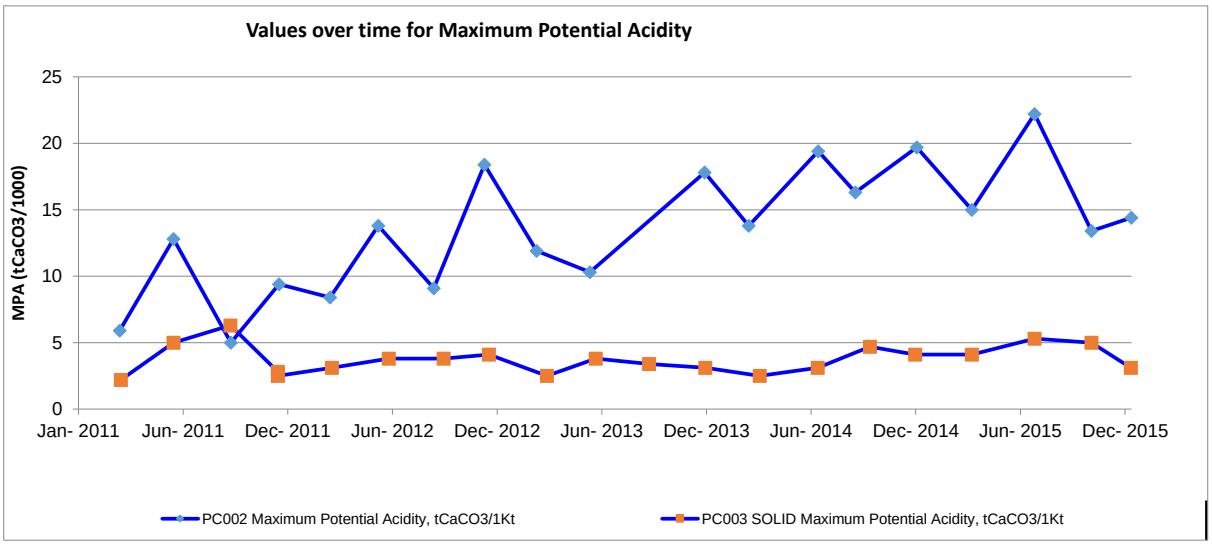

Lithium
Axis Title
35
30
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Lithium, mg/kg
PC003 SOLID Lithium, mg/kg

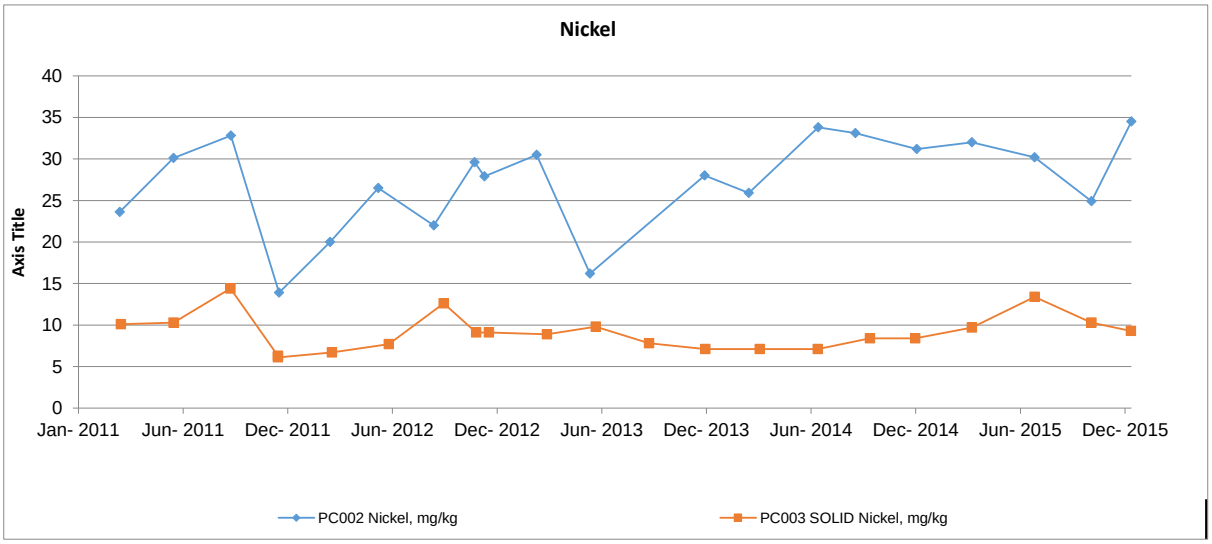

Magnesium
25000
20000
15000
10000
5000
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Magnesium, (mg/kg)
PC003 SOLID Magnesium, (mg/kg)

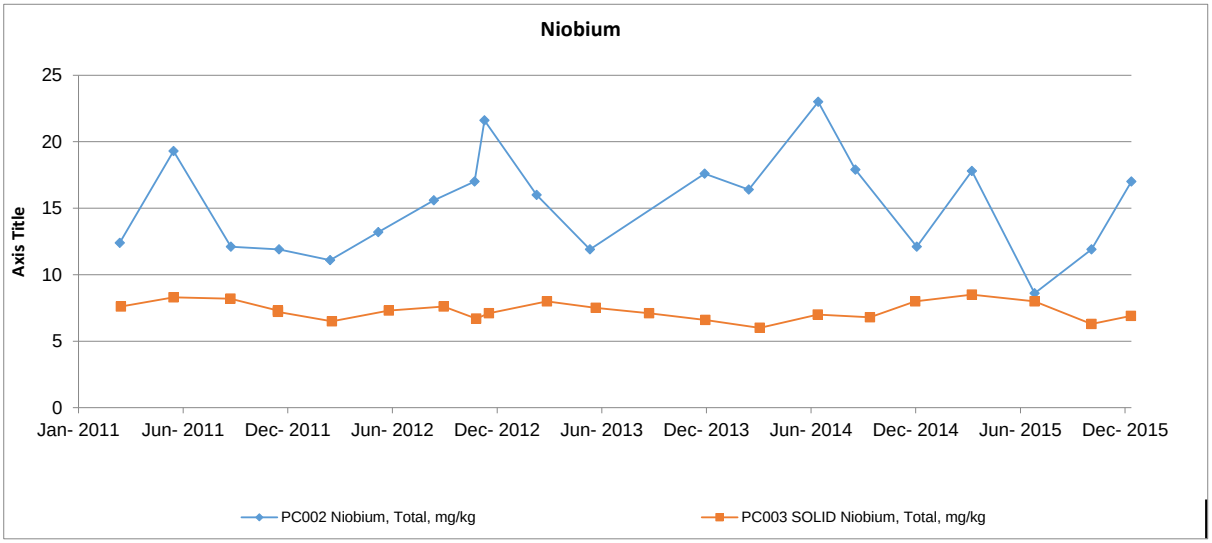

Manganese
1000
900
800
700
600
500
400
300
200
100
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Manganese, mg/kg
PC003 SOLID Manganese, mg/kg

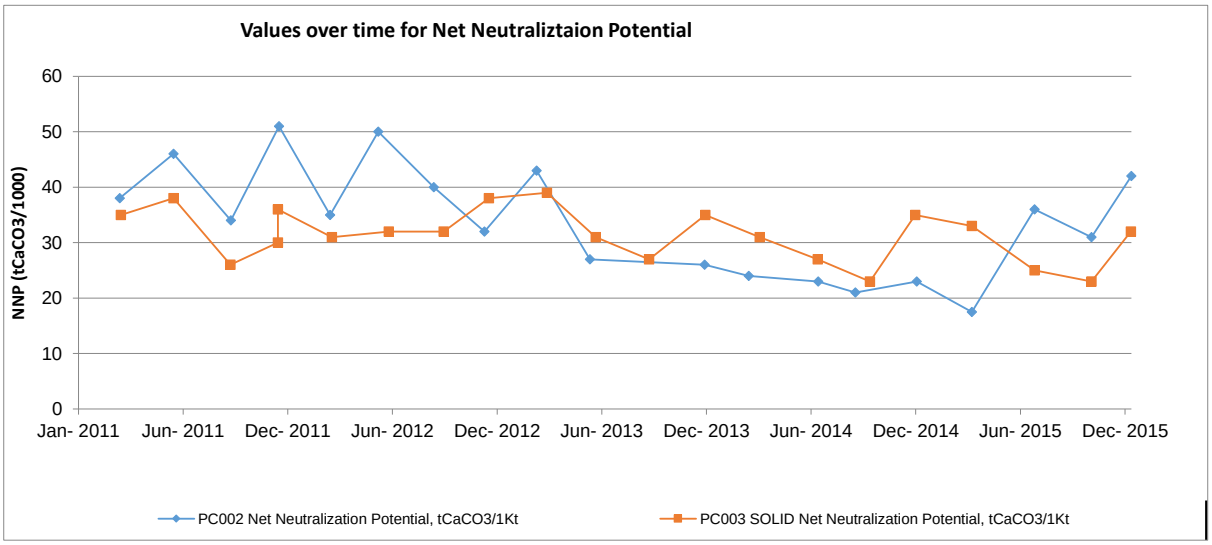

Mercury
0.06
0.05
0.04
0.03
0.02
0.01
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Mercury, mg/kg
PC003 SOLID Mercury, mg/kg

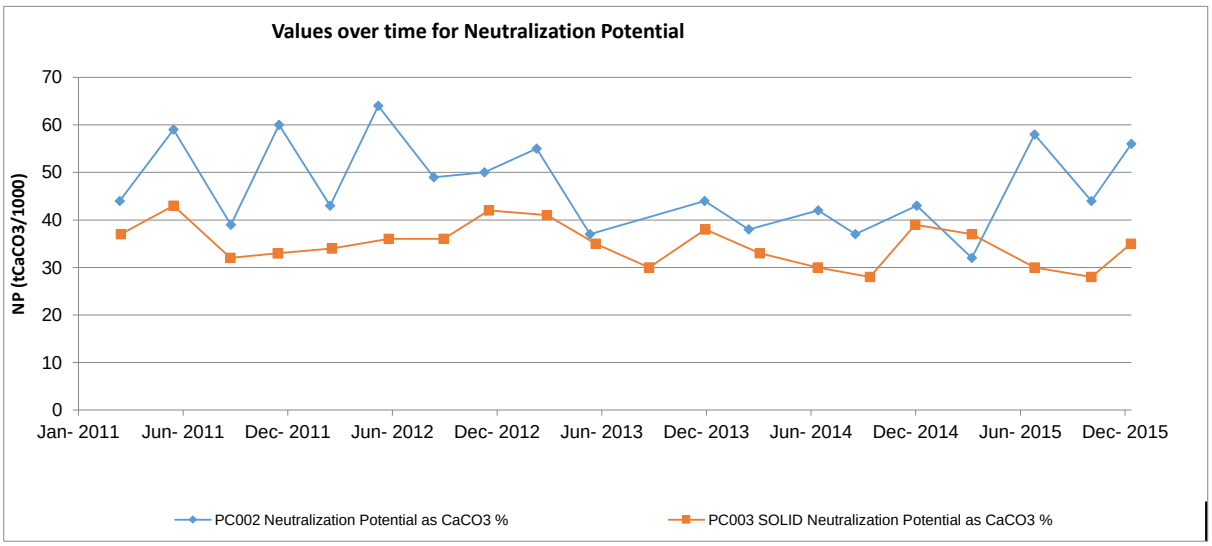

Molybdenum
Axis Title
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Molybdenum, mg/kg
PC003 SOLID Molybdenum, mg/kg

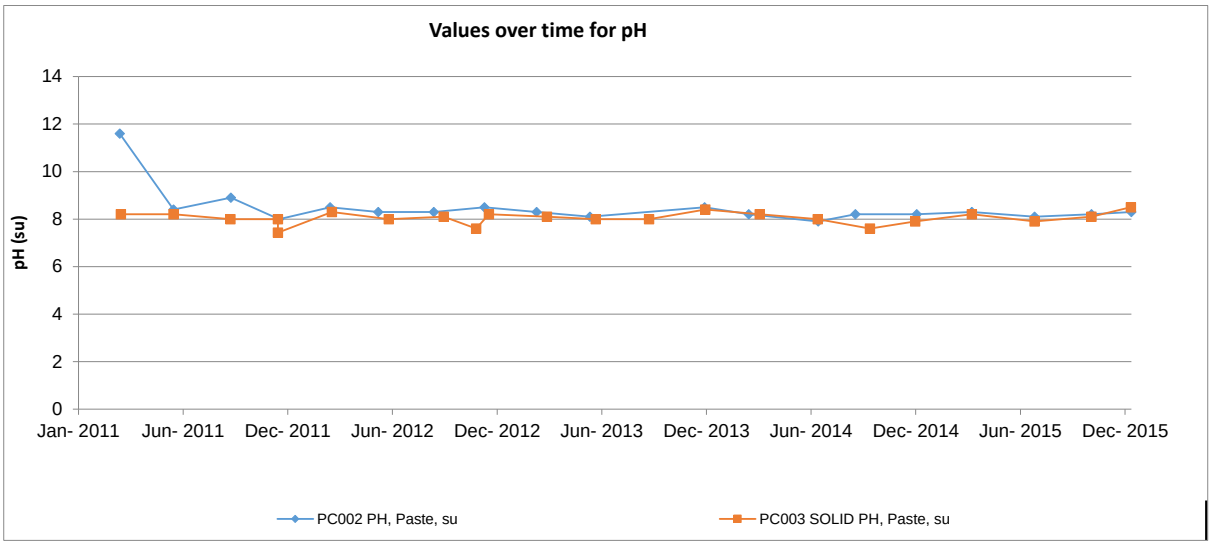

Values over time for Maximum Potential Acidity
MPA (tCaCO3/1000)
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Maximum Potential Acidity, tCaCO3/1Kt
PC003 SOLID Maximum Potential Acidity, tCaCO3/1Kt

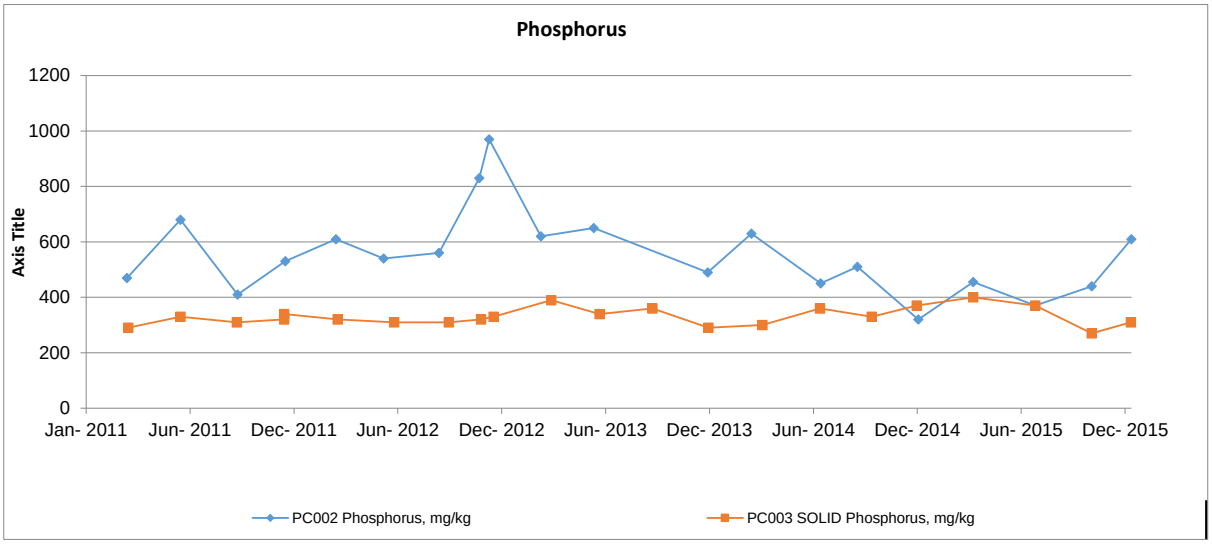

Nickel
Axis Title
40
35
30
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Nickel, mg/kg
PC003 SOLID Nickel, mg/kg

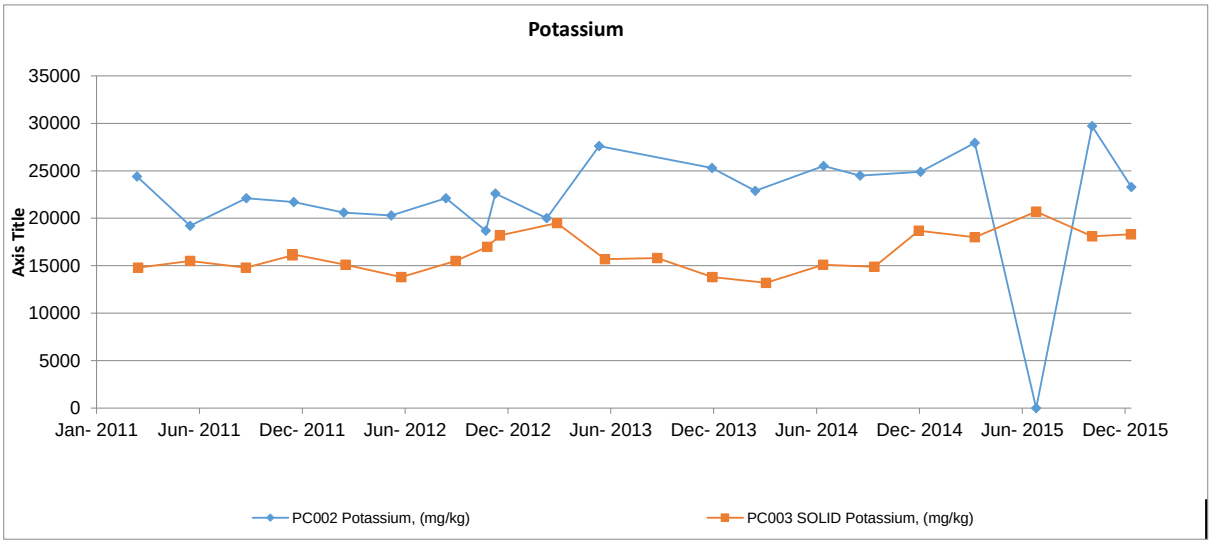

Niobium
Axis Title
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Niobium, Total, mg/kg
PC003 SOLID Niobium, Total, mg/kg

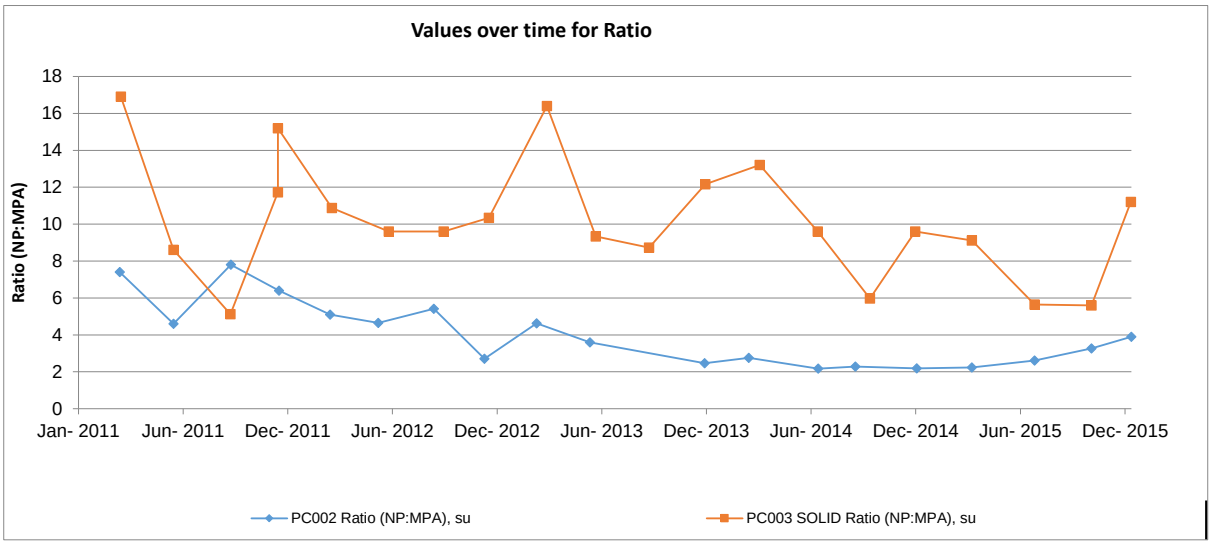

Values over time for Net Neutraliztaion Potential
NNP (tCaCO3/1000)
60
50
40
30
20
10
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Net Neutralization Potential, tCaCO3/1Kt
PC003 SOLID Net Neutralization Potential, tCaCO3/1Kt

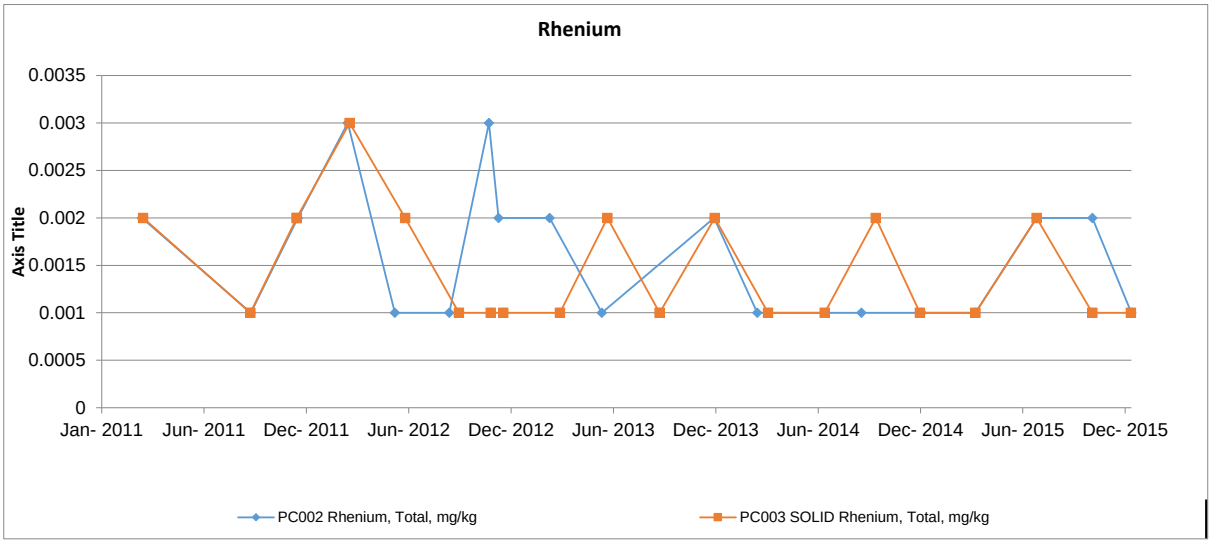

Values over time for Neutralization Potential
NP (tCaCO3/1000)
70
60
50
40
30
20
10
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Neutralization Potential as CaCO3 %
PC003 SOLID Neutralization Potential as CaCO3 %

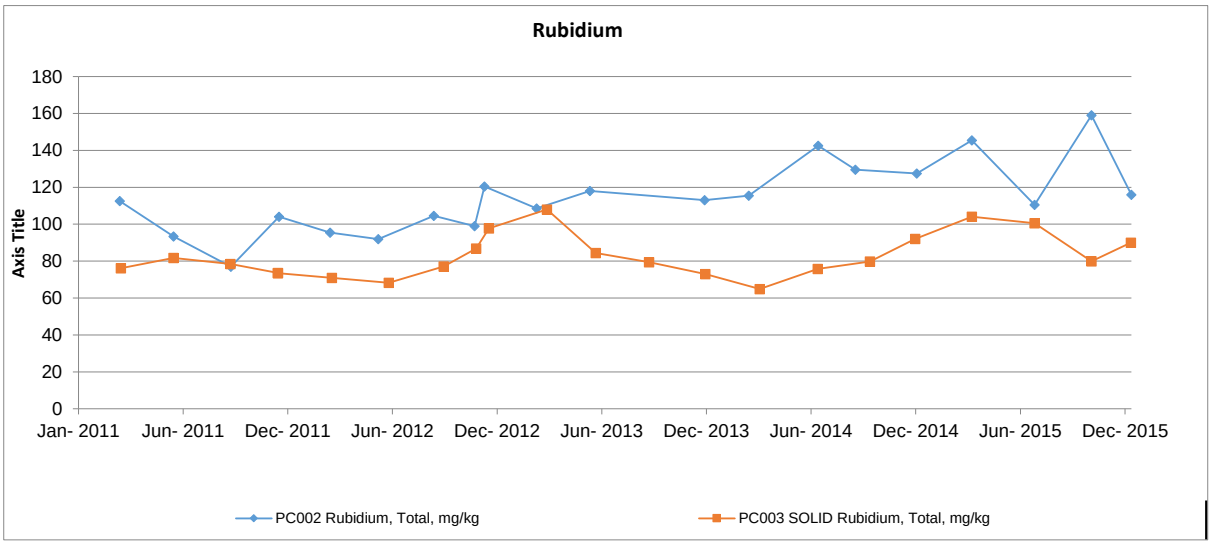

Values over time for pH
pH (su)
14
12
10
8
6
4
2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 PH, Paste, su
PC003 SOLID PH, Paste, su

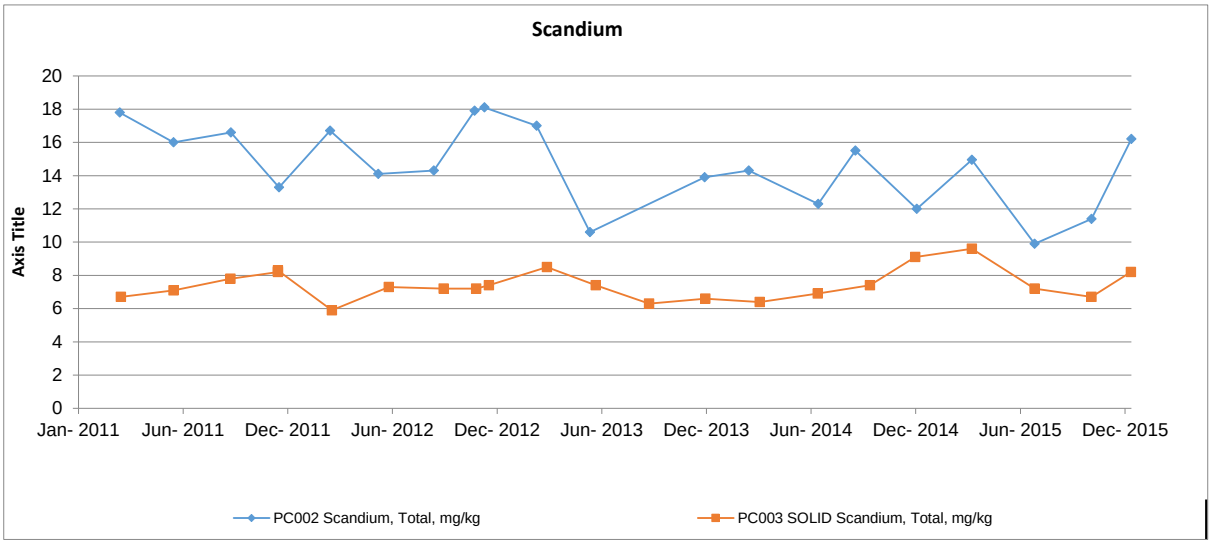

Phosphorus
Axis Title
1200
1000
800
600
400
200
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Phosphorus, mg/kg
PC003 SOLID Phosphorus, mg/kg

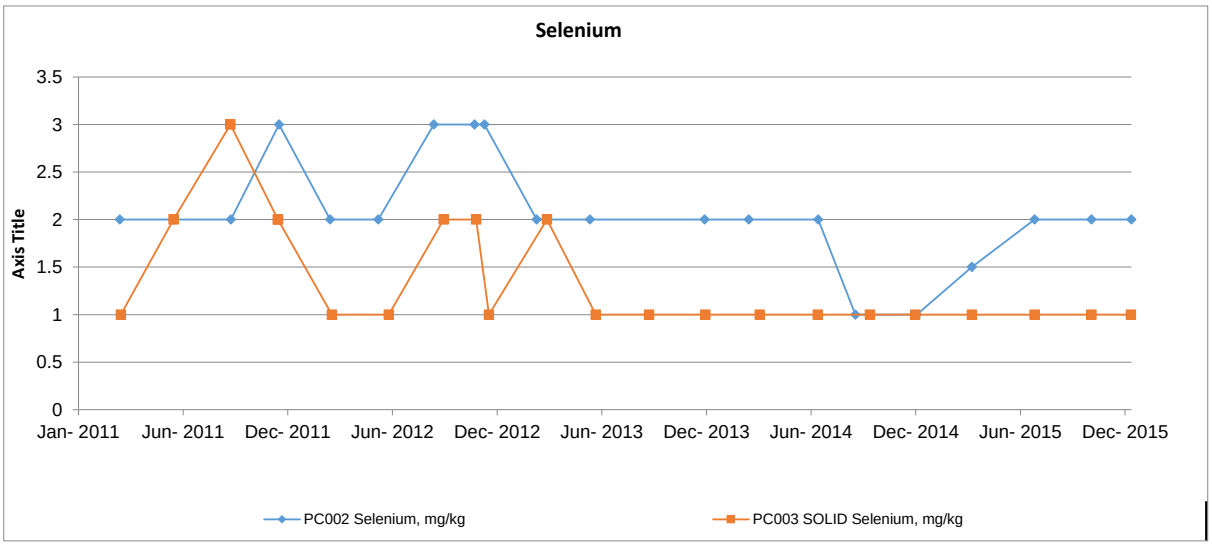

Potassium
Axis Title
35000
30000
25000
20000
15000
10000
5000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Potassium, (mg/kg)
PC003 SOLID Potassium, (mg/kg)

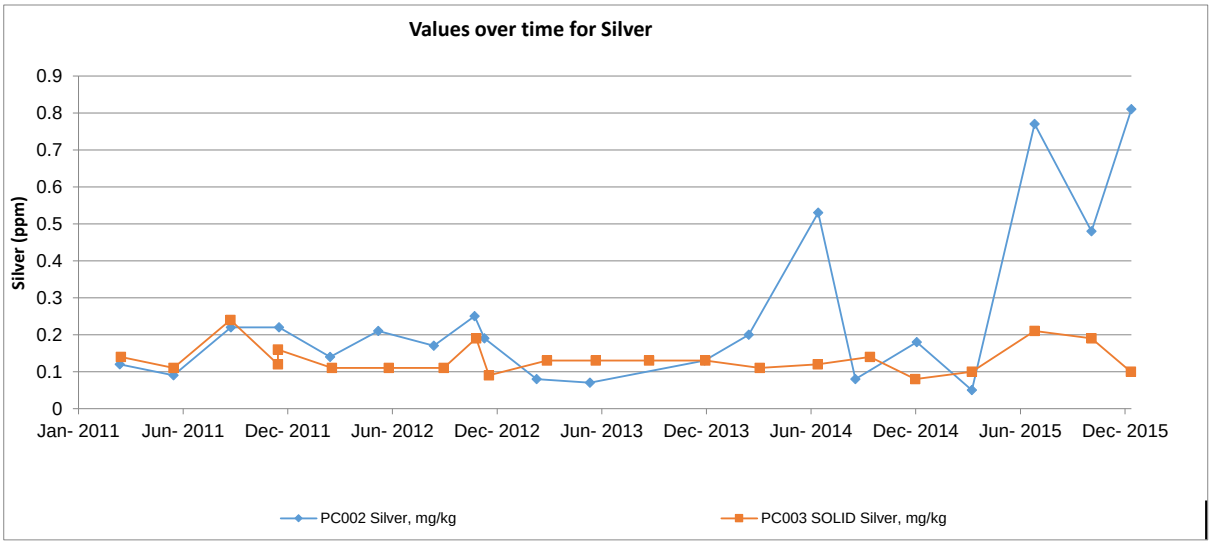

Values over time for Ratio
Ratio (NP:MPA)
18
16
14
12
10
8
6
4
2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Ratio (NP:MPA), su
PC003 SOLID Ratio (NP:MPA), su

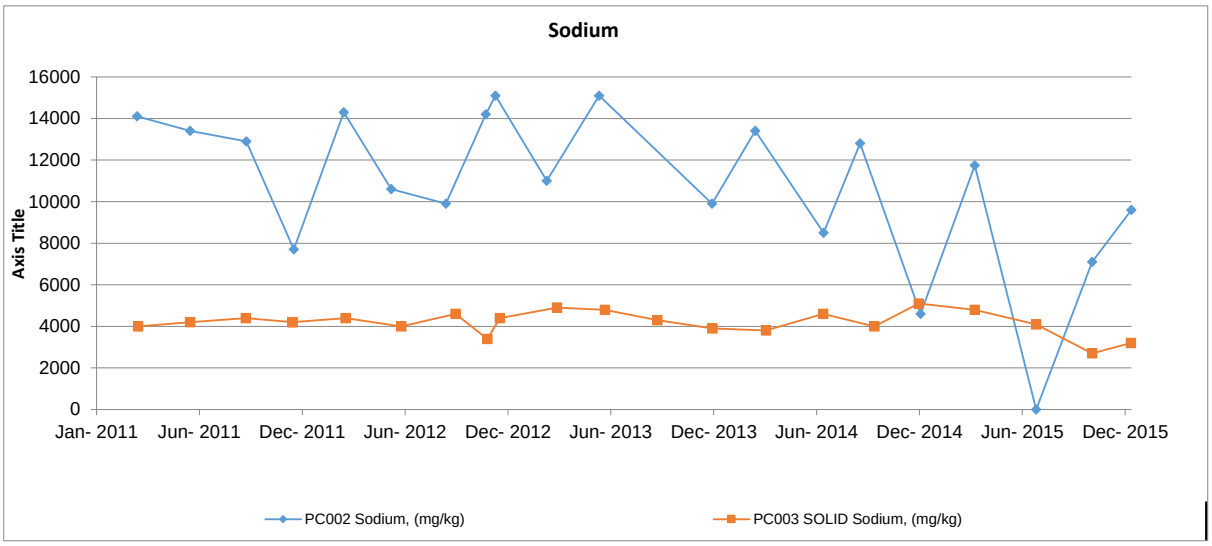

Rhenium
Axis Title
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Rhenium, Total, mg/kg
PC003 SOLID Rhenium, Total, mg/kg

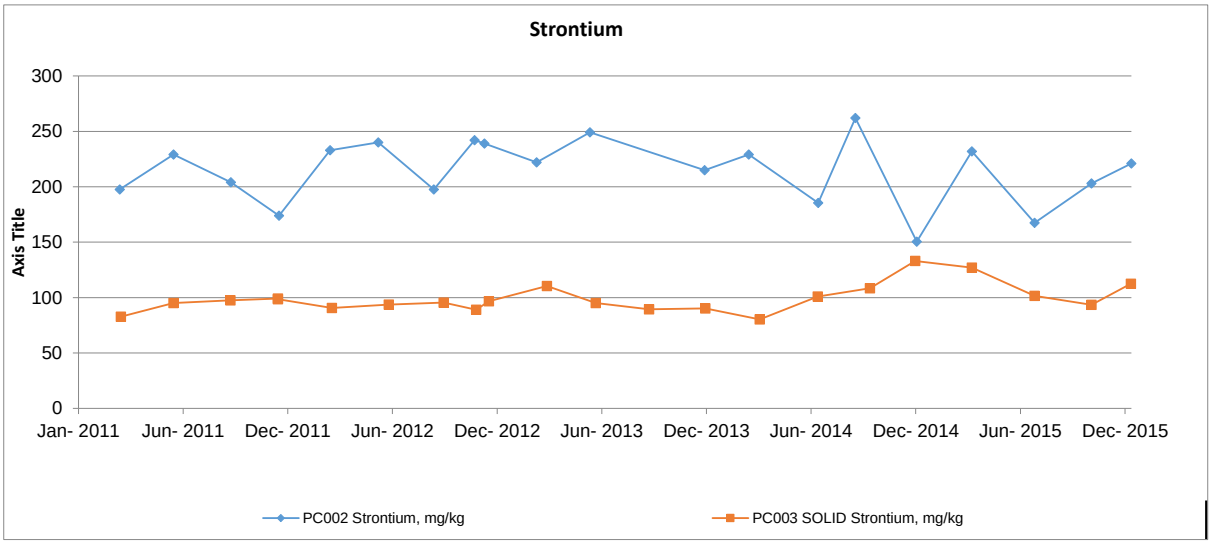

Rubidium
Axis Title
180
160
140
120
100
80
60
40
20
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Rubidium, Total, mg/kg
PC003 SOLID Rubidium, Total, mg/kg

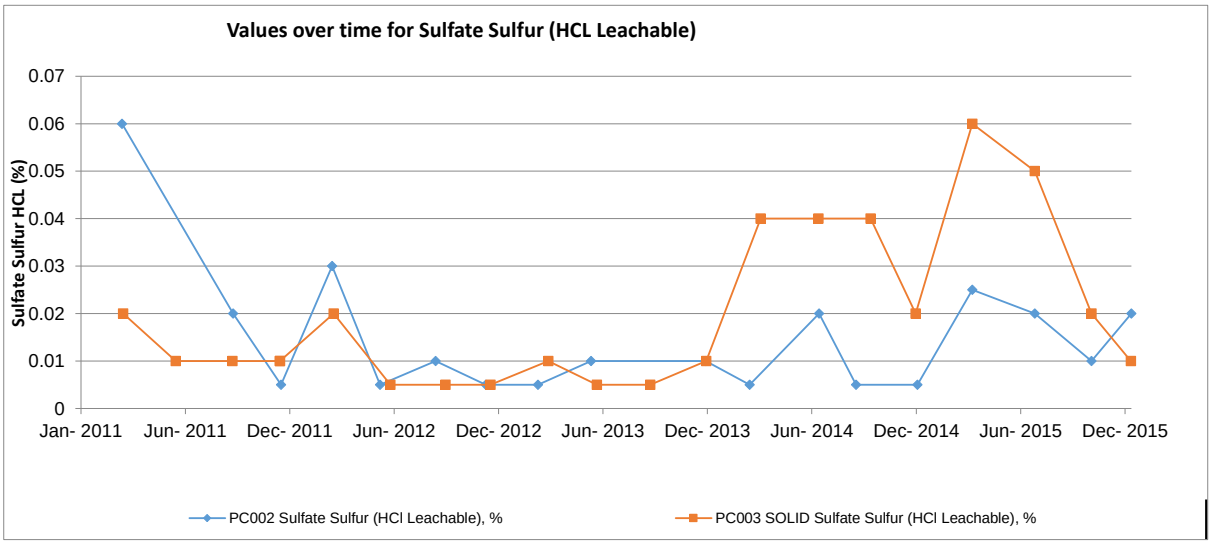

Scandium
Axis Title
20
18
16
14
12
10
8
6
4
2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Scandium, Total, mg/kg
PC003 SOLID Scandium, Total, mg/kg

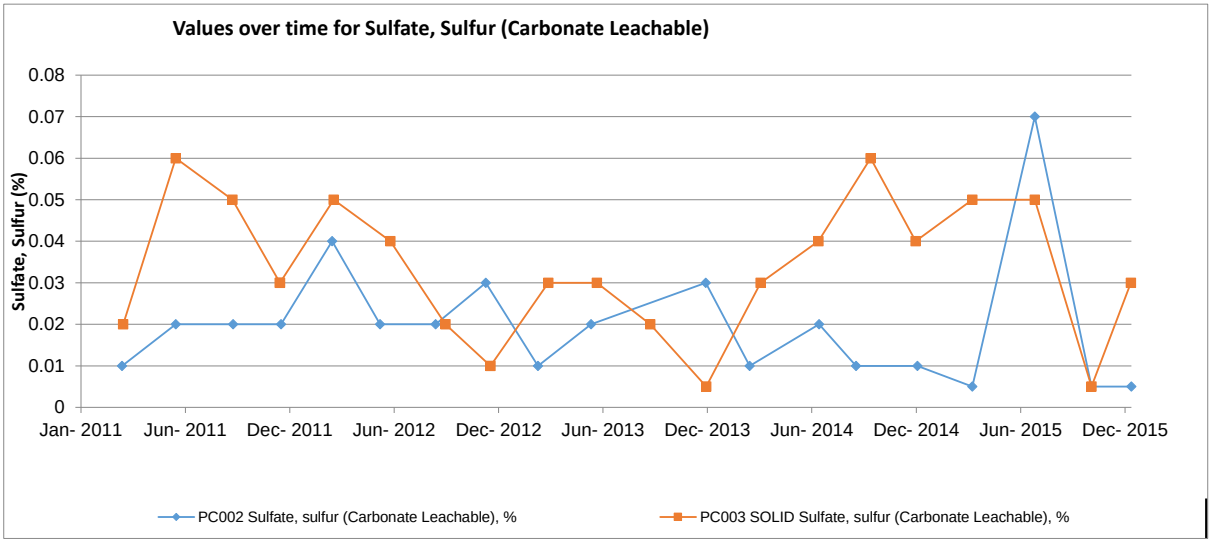

Selenium
Axis Title
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Selenium, mg/kg
PC003 SOLID Selenium, mg/kg

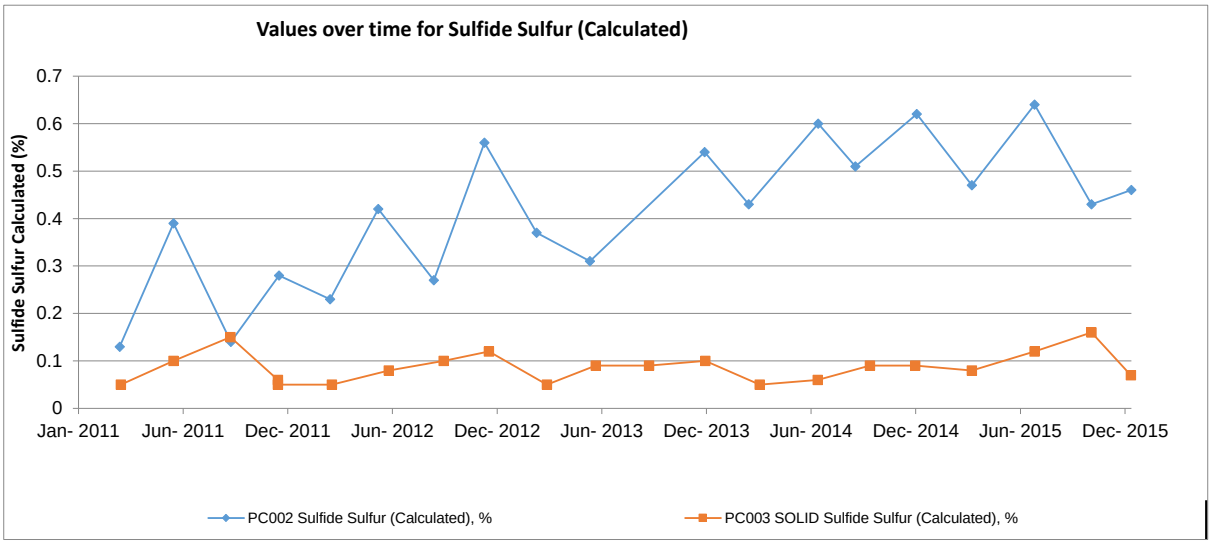

Values over time for Silver
Silver (ppm)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Silver, mg/kg
PC003 SOLID Silver, mg/kg

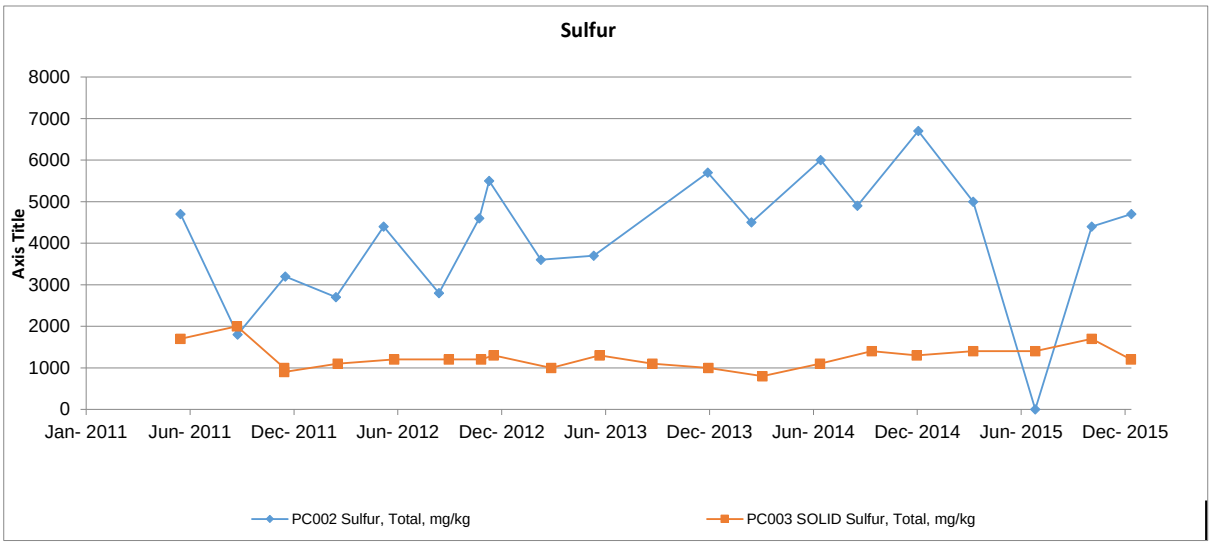

Sodium
16000
14000
12000
10000
8000
6000
4000
2000
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sodium, (mg/kg)
PC003 SOLID Sodium, (mg/kg)

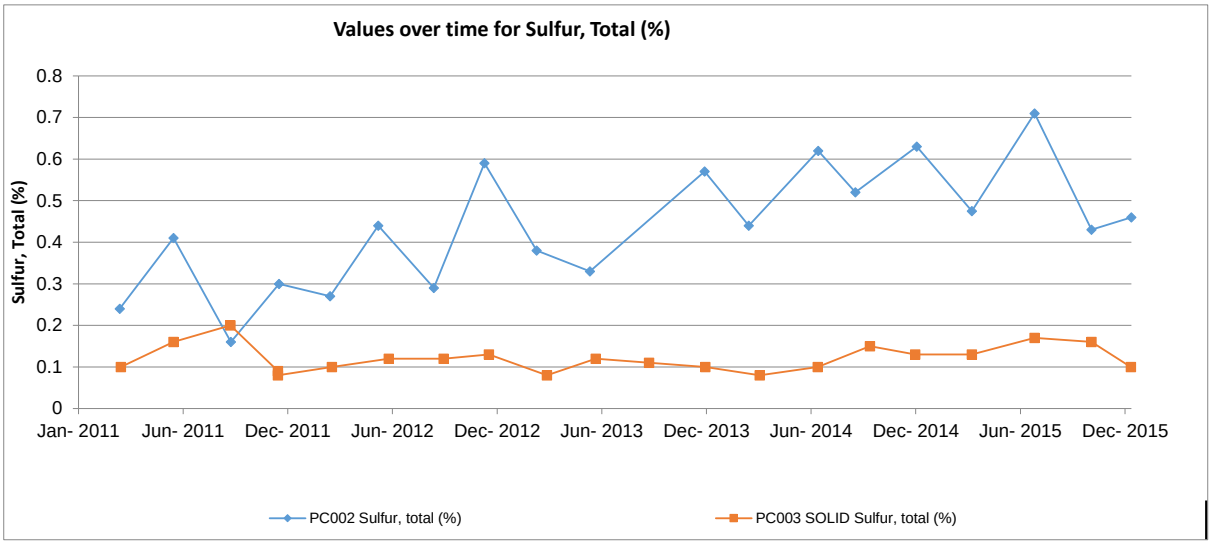

Strontium
300
250
200
150
100
50
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Strontium, mg/kg
PC003 SOLID Strontium, mg/kg

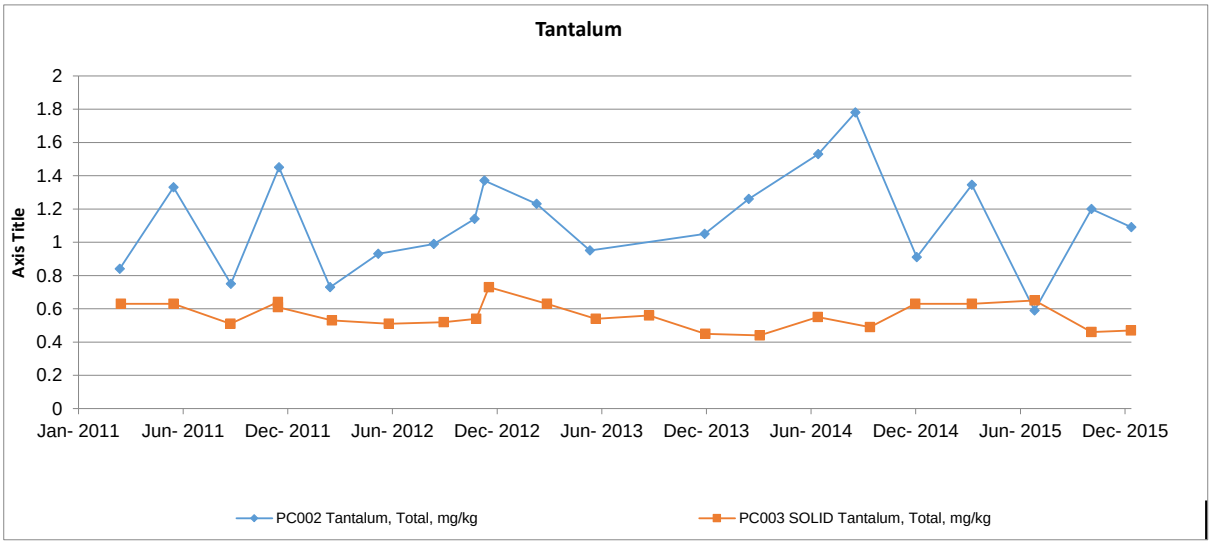

Values over time for Sulfate Sulfur (HCL Leachable)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Sulfate Sulfur HCL (%)
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sulfate Sulfur (HCl Leachable), %
PC003 SOLID Sulfate Sulfur (HCl Leachable), %

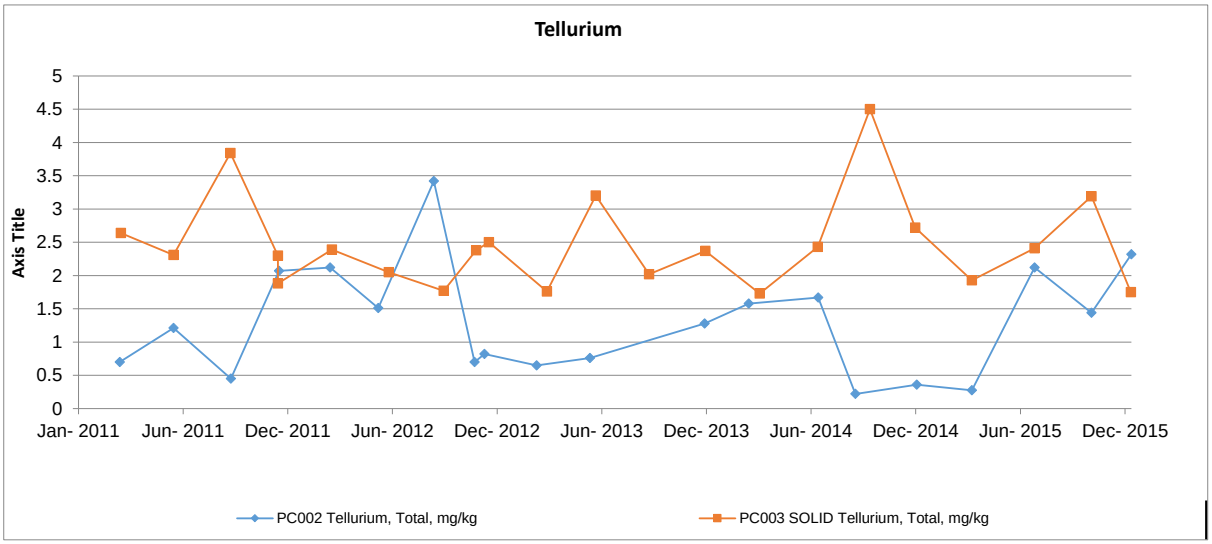

Values over time for Sulfate, Sulfur (Carbonate Leachable)
Sulfate, Sulfur (%)
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sulfate, sulfur (Carbonate Leachable), %
PC003 SOLID Sulfate, sulfur (Carbonate Leachable), %

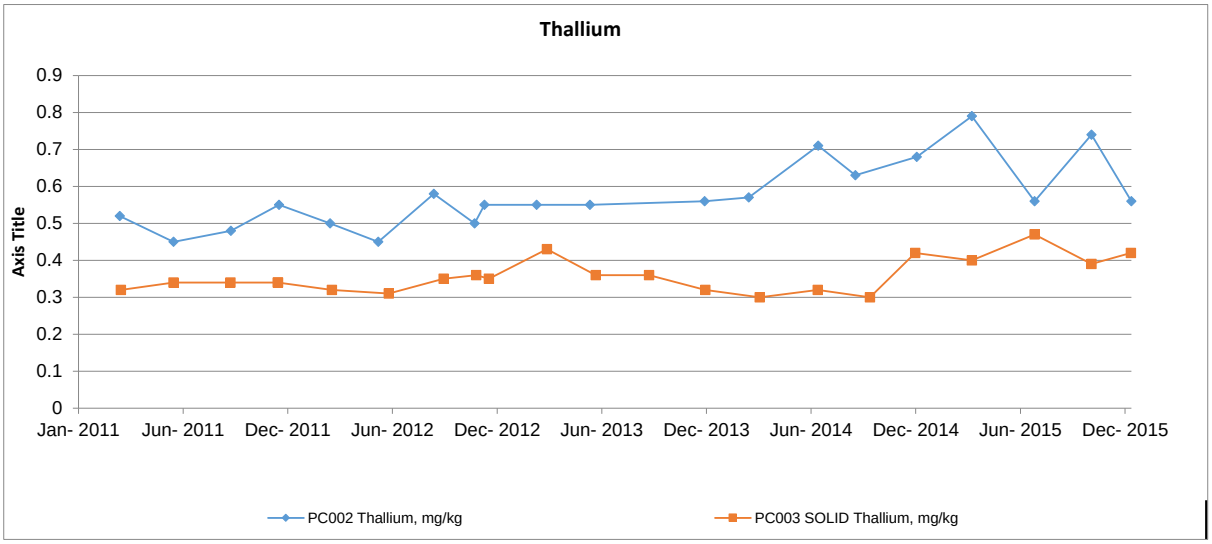

Values over time for Sulfide Sulfur (Calculated)
Sulfide Sulfur Calculated (%)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sulfide Sulfur (Calculated), %
PC003 SOLID Sulfide Sulfur (Calculated), %

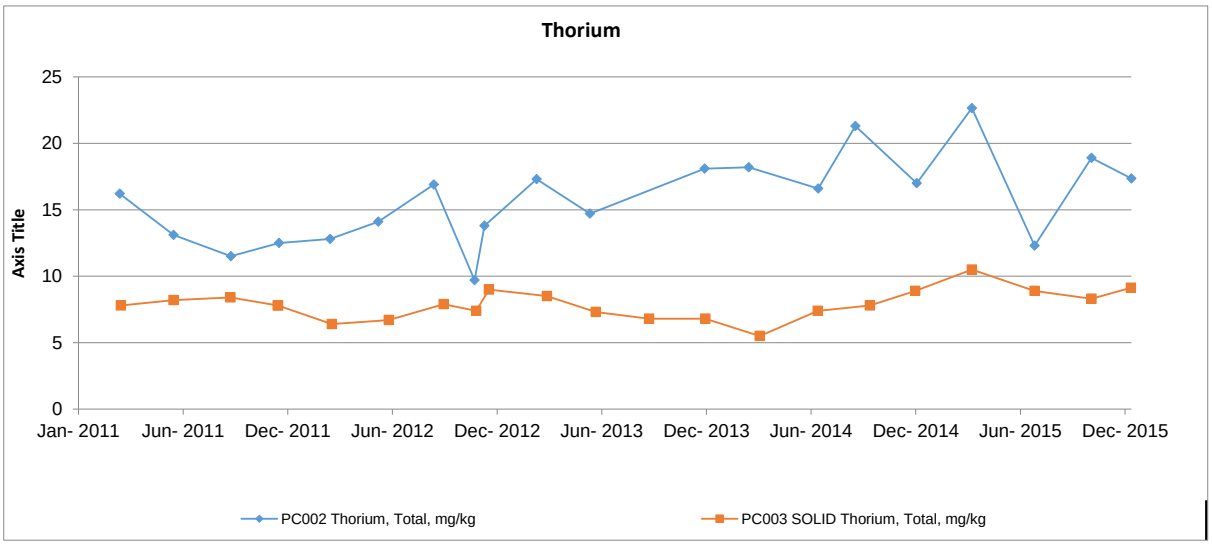

Sulfur
Axis Title
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sulfur, Total, mg/kg
PC003 SOLID Sulfur, Total, mg/kg

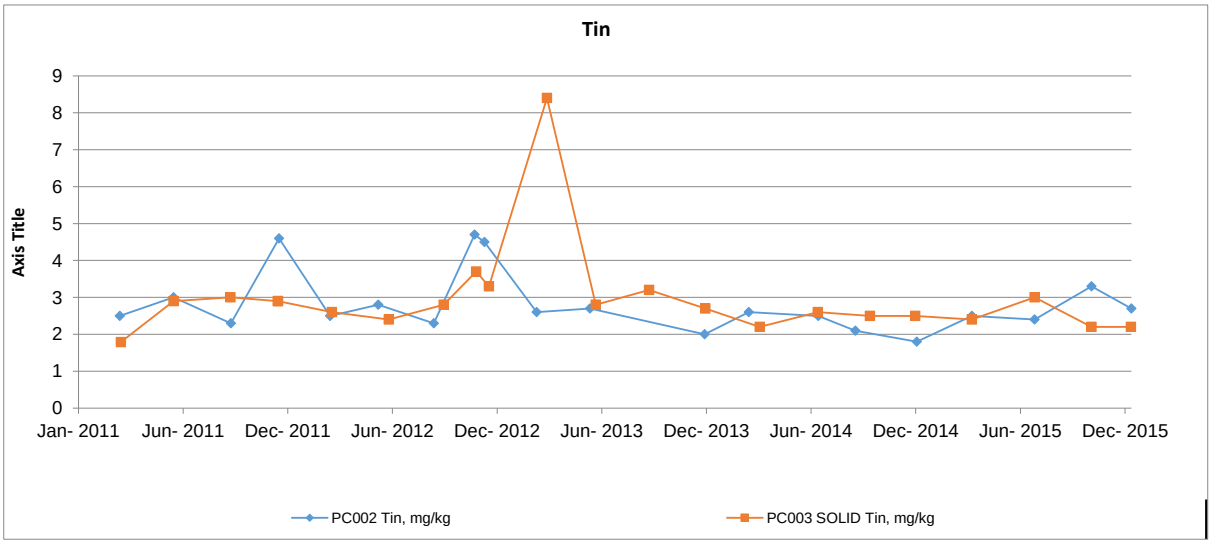

Values over time for Sulfur, Total (%)
Sulfur, Total (%)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Sulfur, total (%)
PC003 SOLID Sulfur, total (%)

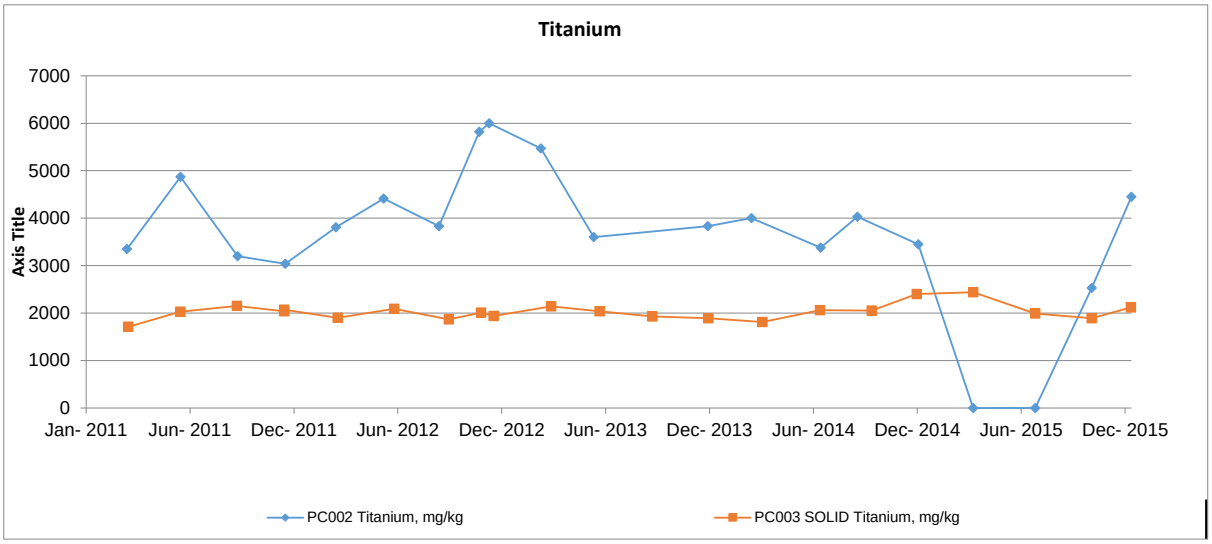

Tantalum
Axis Title
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Tantalum, Total, mg/kg
PC003 SOLID Tantalum, Total, mg/kg

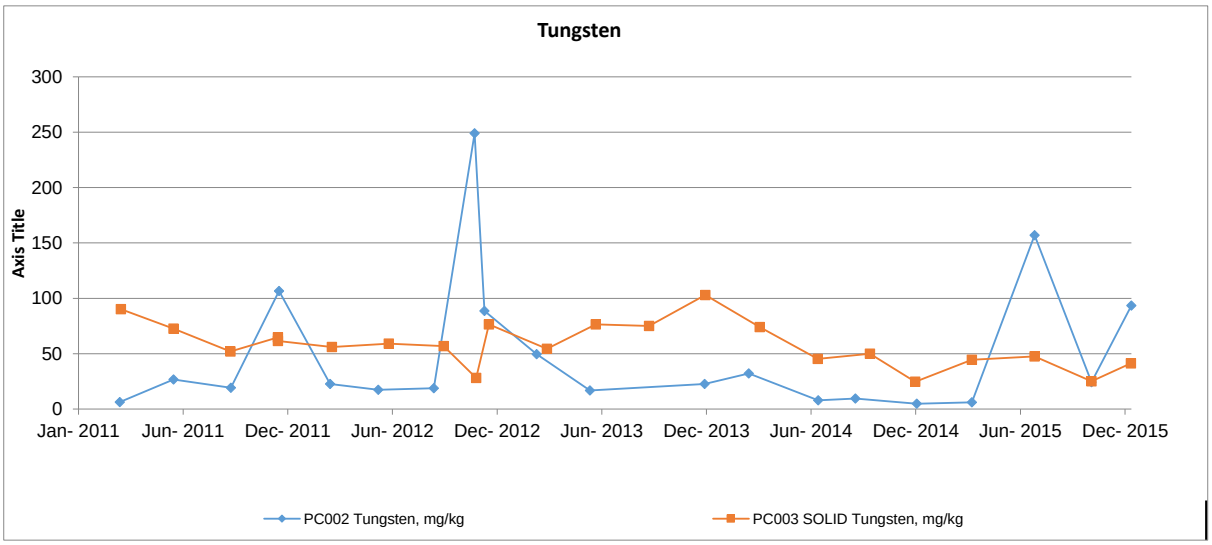

Tellurium
Axis Title
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Tellurium, Total, mg/kg
PC003 SOLID Tellurium, Total, mg/kg

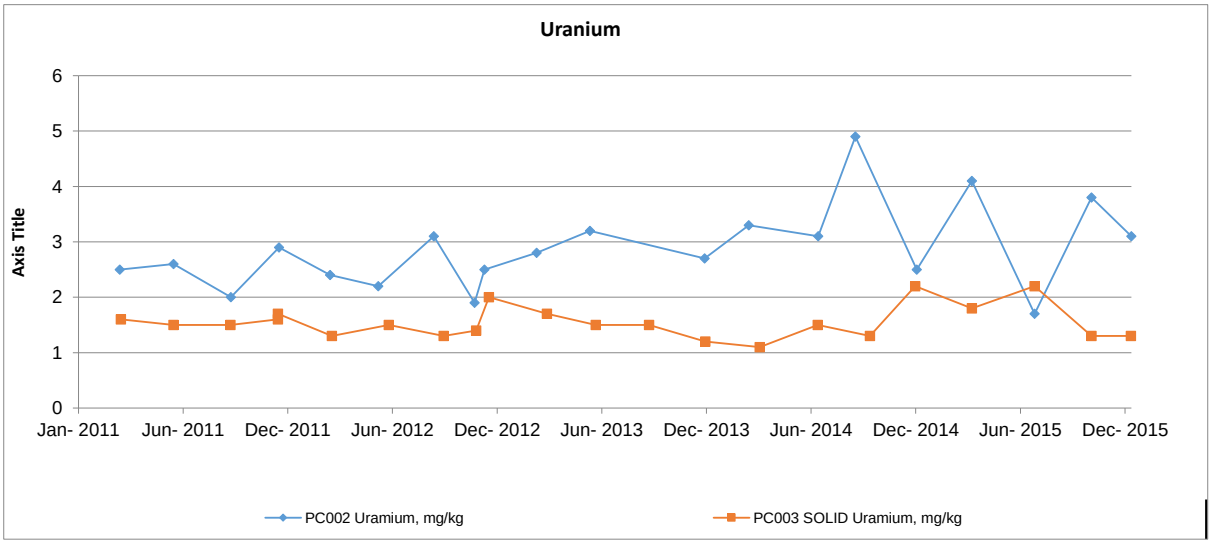

Thallium
Axis Title
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Thallium, mg/kg
PC003 SOLID Thallium, mg/kg

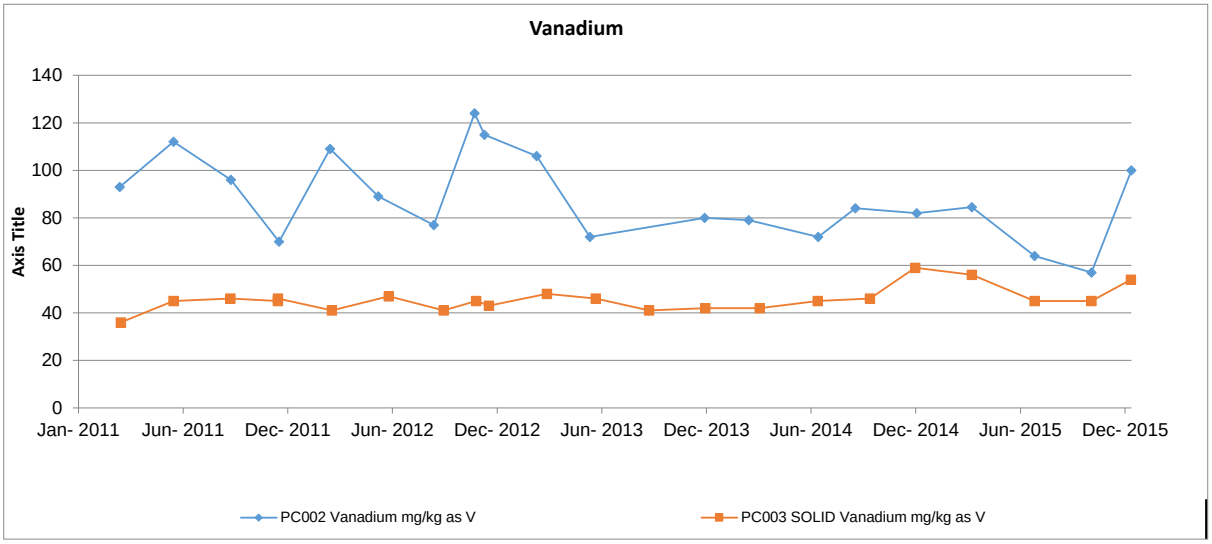

Thorium
Axis Title
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Thorium, Total, mg/kg
PC003 SOLID Thorium, Total, mg/kg

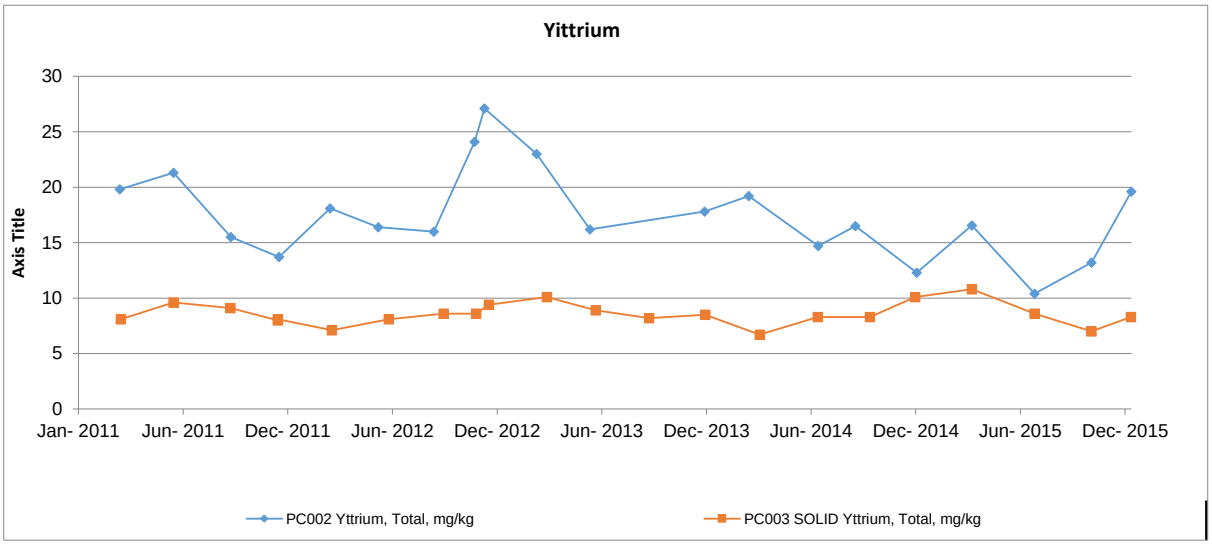

Tin
Axis Title
9
8
7
6
5
4
3
2
1
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Tin, mg/kg
PC003 SOLID Tin, mg/kg

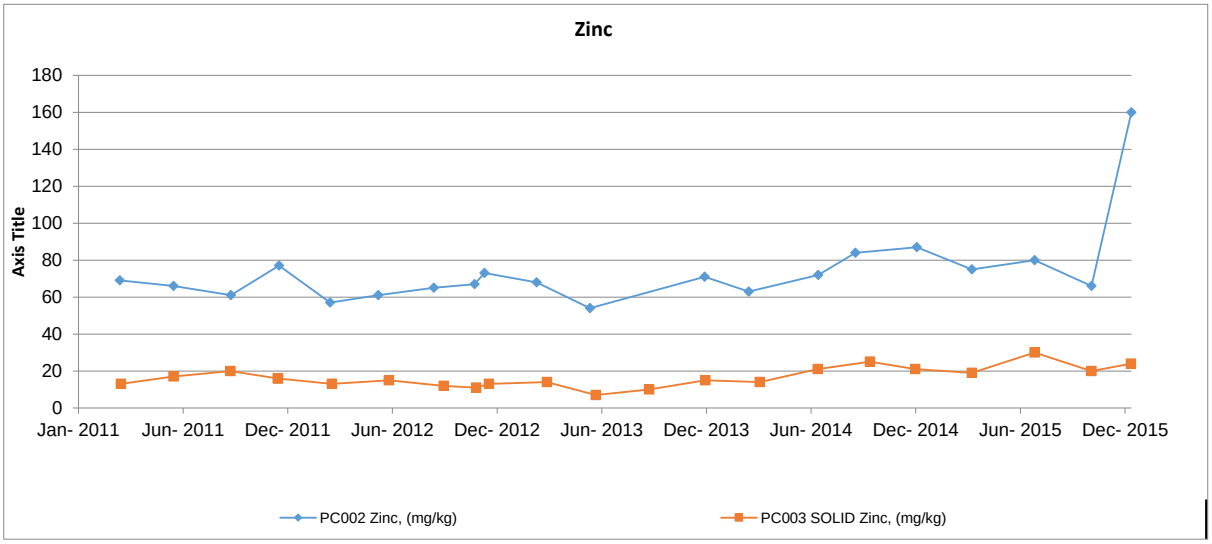

Titanium
7000
6000
5000
4000
3000
2000
1000
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Titanium, mg/kg
PC003 SOLID Titanium, mg/kg

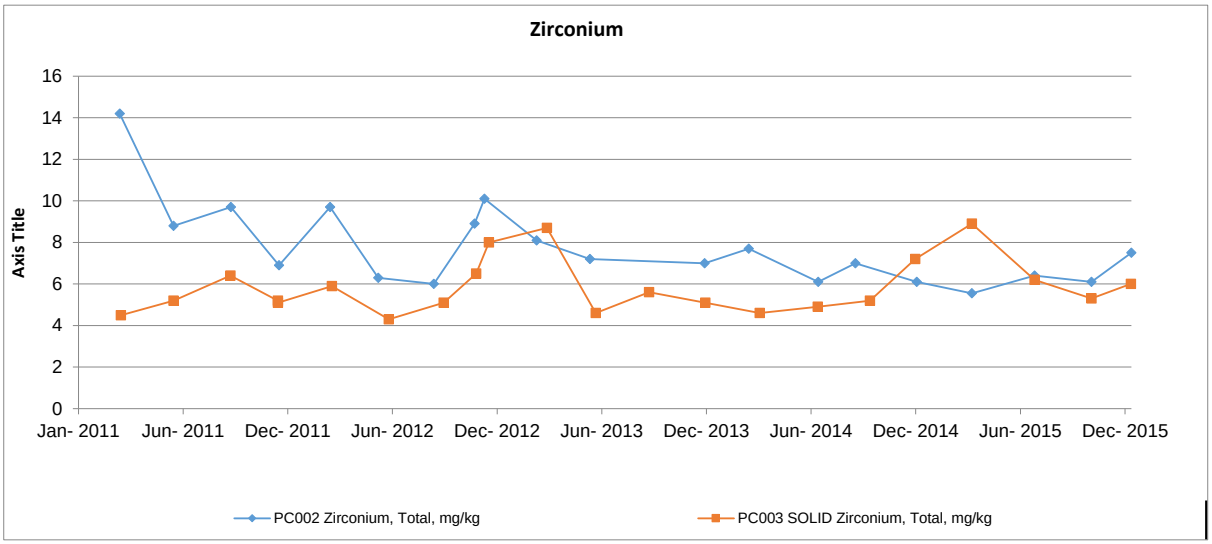

Tungsten
300
250
200
150
100
50
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Tungsten, mg/kg
PC003 SOLID Tungsten, mg/kg

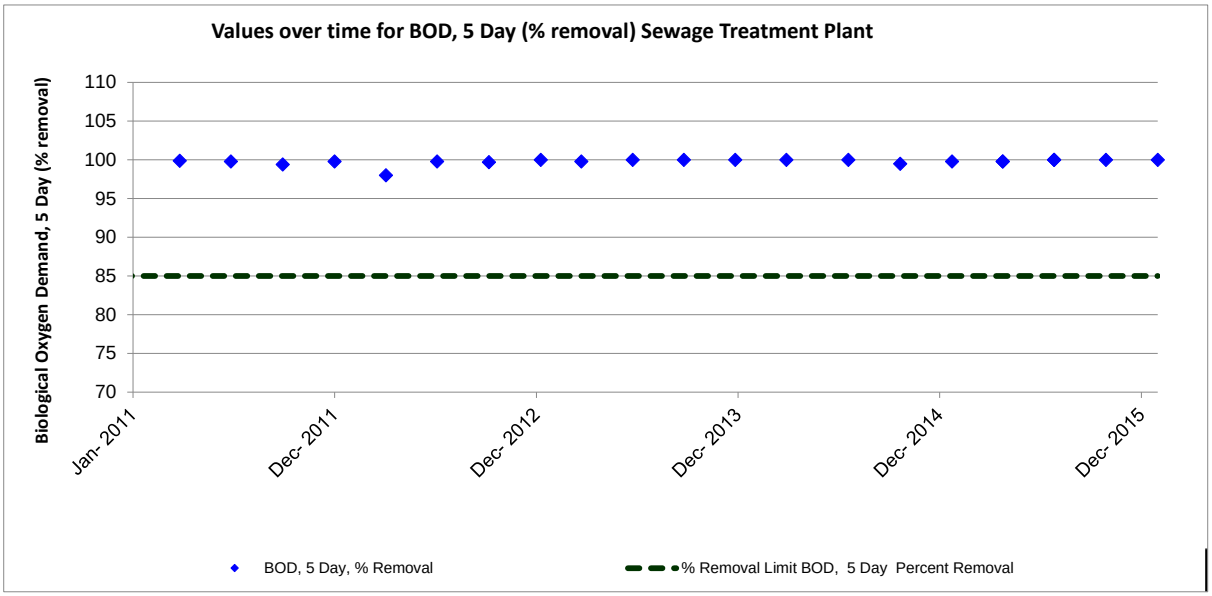

Uranium
6
5
4
3
2
1
0
Axis Title
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Uramium, mg/kg
PC003 SOLID Uramium, mg/kg

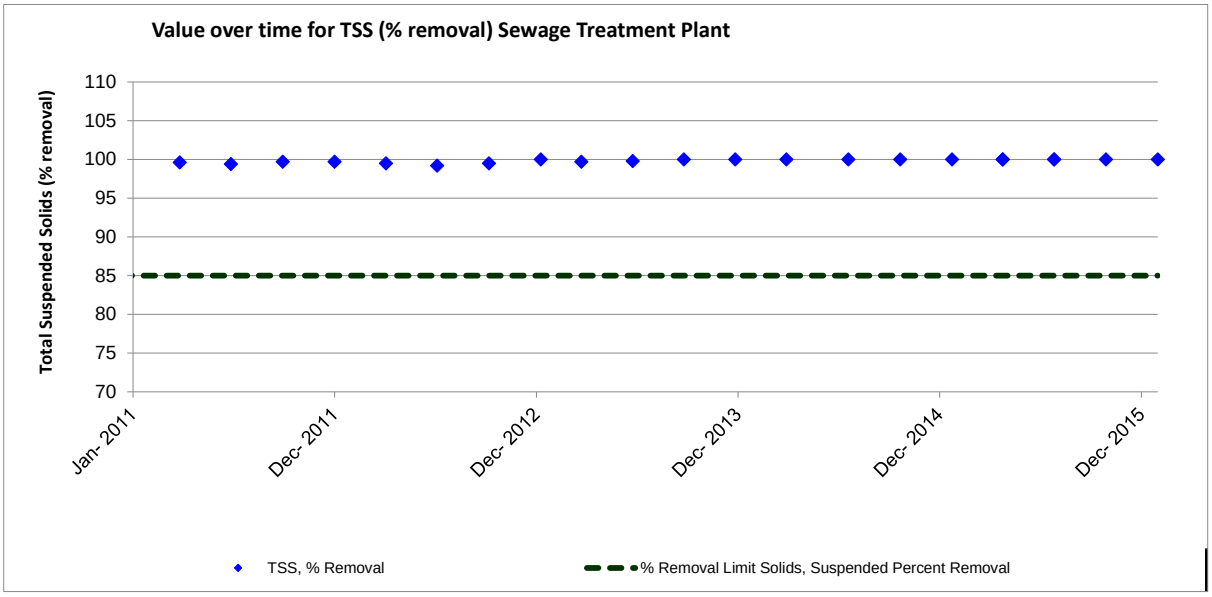

Vanadium
Axis Title
140
120
100
80
60
40
20
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Vanadium mg/kg as V
PC003 SOLID Vanadium mg/kg as V

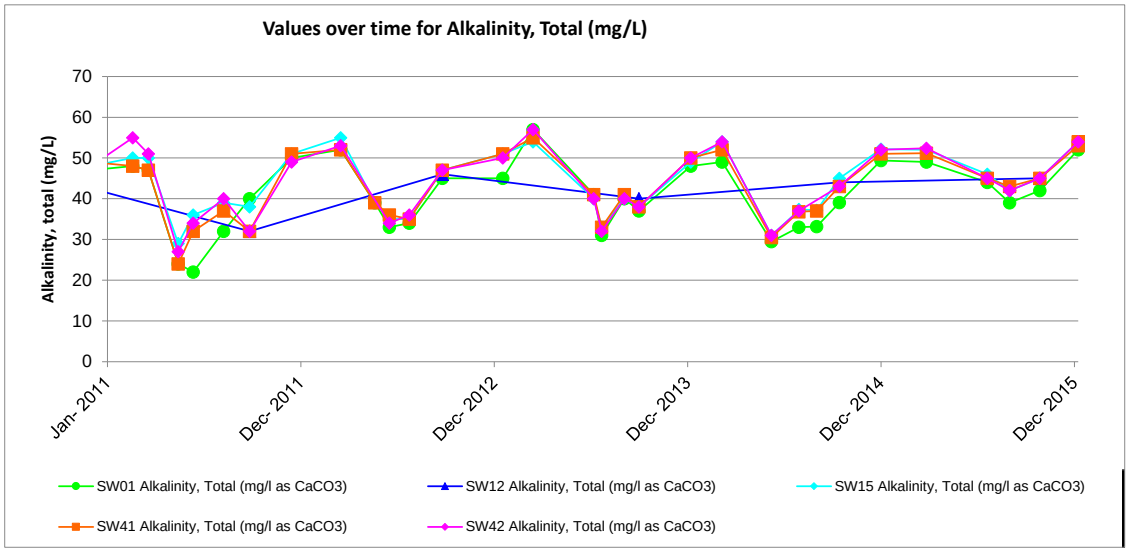

Yittrium
Axis Title
30
25
20
15
10
5
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Yttrium, Total, mg/kg
PC003 SOLID Yttrium, Total, mg/kg

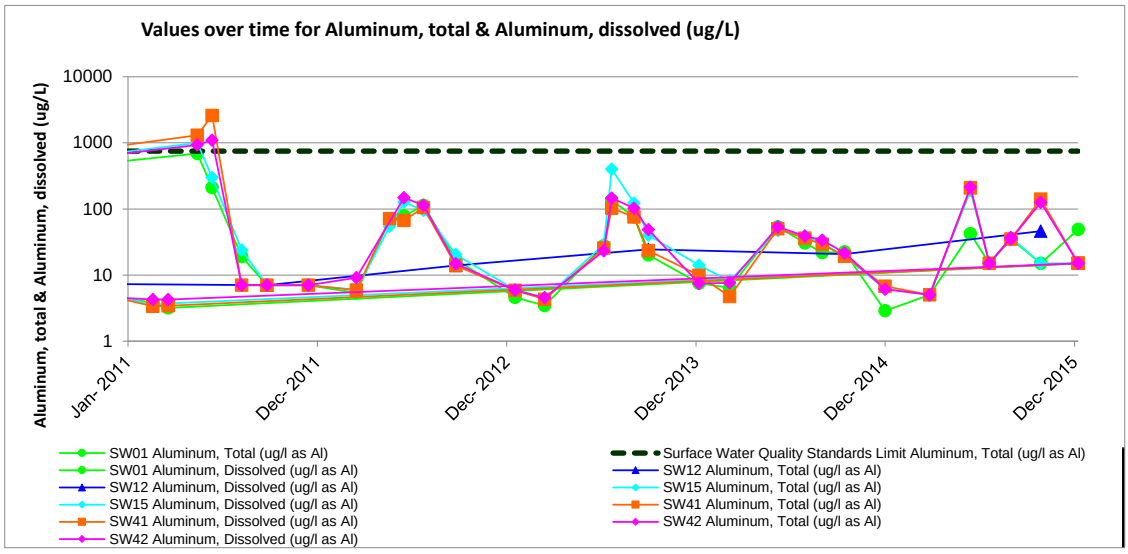

Zinc
Axis Title
180
160
140
120
100
80
60
40
20
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Zinc, (mg/kg)
PC003 SOLID Zinc, (mg/kg)

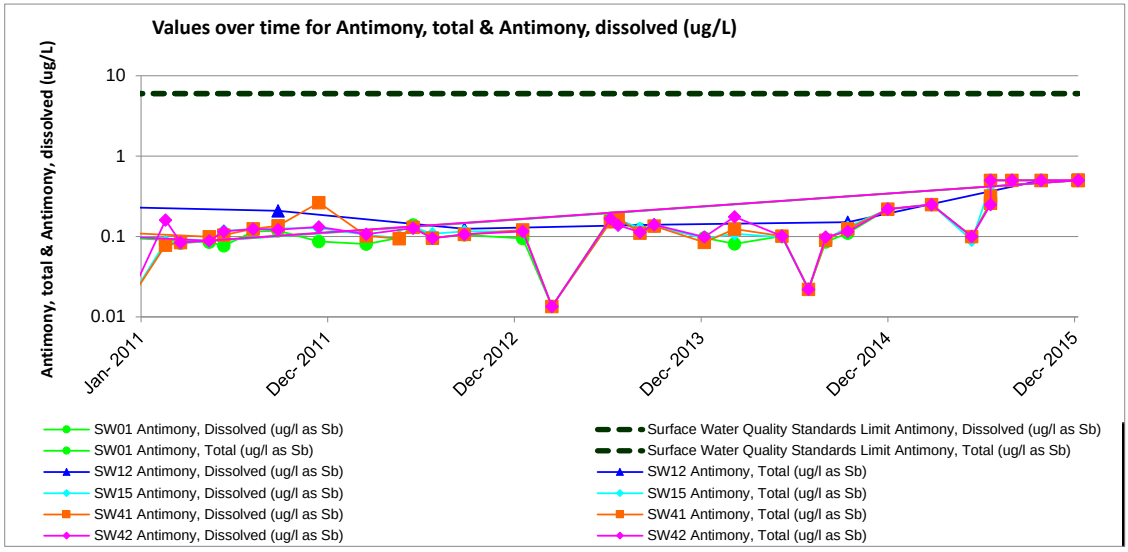

Zirconium
Axis Title
16
14
12
10
8
6
4
2
0
Jan- 2011
Jun- 2011
Dec- 2011
Jun- 2012
Dec- 2012
Jun- 2013
Dec- 2013
Jun- 2014
Dec- 2014
Jun- 2015
Dec- 2015
PC002 Zirconium, Total, mg/kg
PC003 SOLID Zirconium, Total, mg/kg

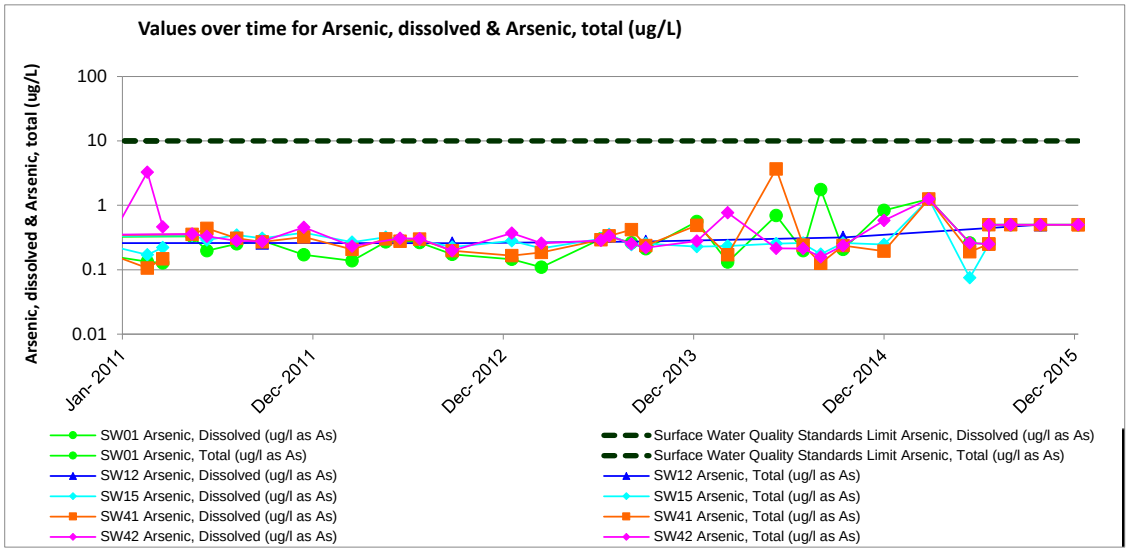

Values over time for BOD, 5 Day (% removal) Sewage Treatment Plant
Biological Oxygen Demand, 5 Day (% removal)
110
105
100
95
90
85
80
75
70
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
BOD, 5 Day, % Removal
% Removal Limit BOD, 5 Day Percent Removal

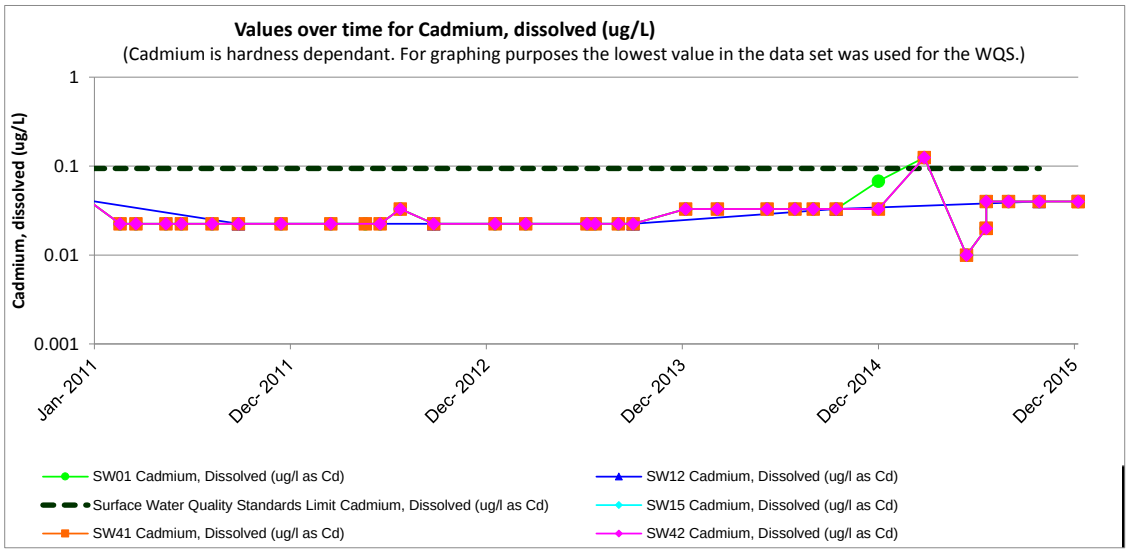

Value over time for TSS (% removal) Sewage Treatment Plant
Total Suspended Solids (% removal)
110
105
100
95
90
85
80
75
70
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
TSS, % Removal
% Removal Limit Solids, Suspended Percent Removal

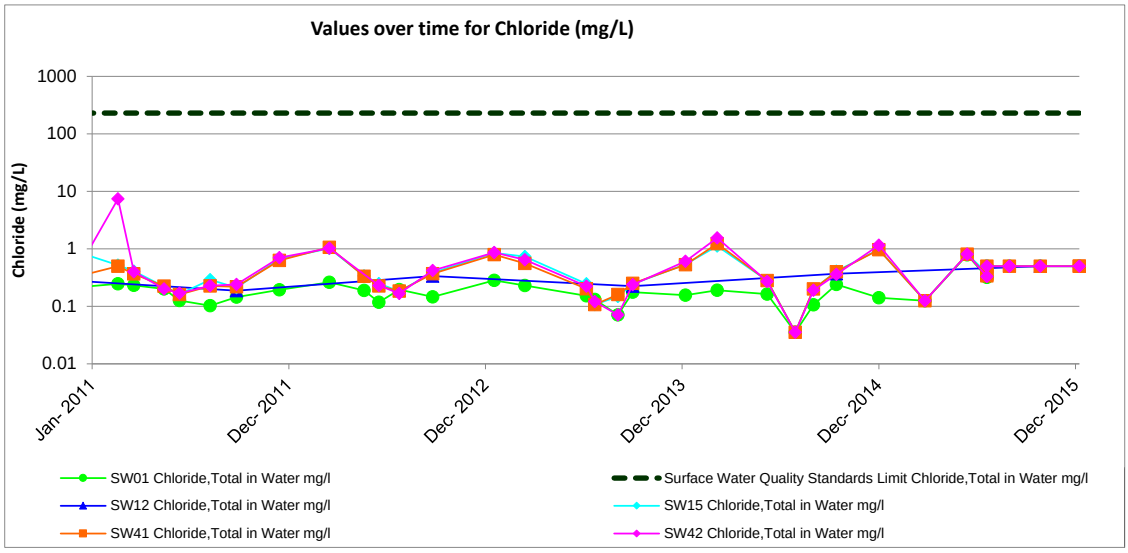

Values over time for Alkalinity, Total (mg/L)
Alkalinity, total (mg/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Alkalinity, Total (mg/l as CaCO3)
SW12 Alkalinity, Total (mg/l as CaCO3)
SW15 Alkalinity, Total (mg/l as CaCO3)
SW41 Alkalinity, Total (mg/l as CaCO3)
SW42 Alkalinity, Total (mg/l as CaCO3)

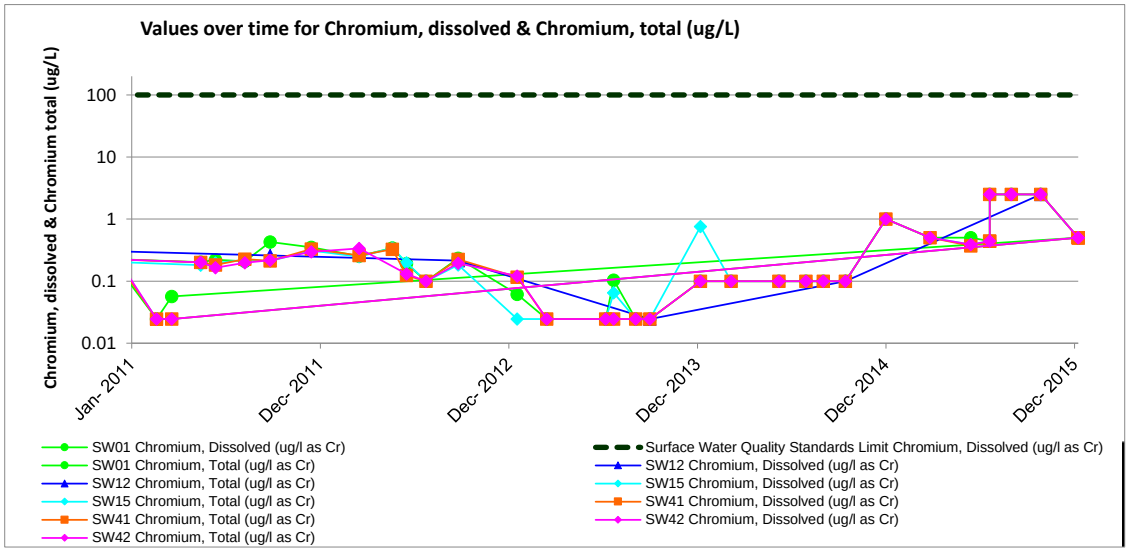

Values over time for Aluminum, total & Aluminum, dissolved (ug/L)
Aluminum, total & Aluminum, dissolved (ug/L)
10000
1000
100
10
1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Aluminum, Total (ug/l as Al)
SW01 Aluminum, Dissolved (ug/l as Al)
SW12 Aluminum, Dissolved (ug/l as Al)
SW15 Aluminum, Dissolved (ug/l as Al)
SW41 Aluminum, Dissolved (ug/l as Al)
SW42 Aluminum, Dissolved (ug/l as Al)
Surface Water Quality Standards Limit 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)

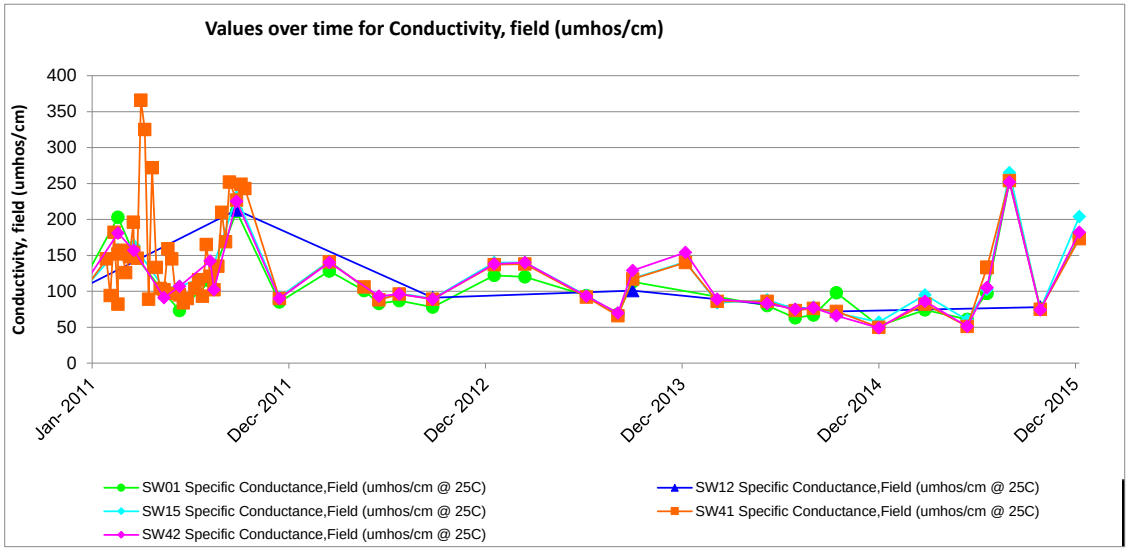

Values over time for Antimony, total & Antimony, dissolved (ug/L)
Antimony, total & Antimony, dissolved (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Antimony, Dissolved (ug/l as Sb)
SW01 Antimony, Total (ug/l as Sb)
SW12 Antimony, Dissolved (ug/l as Sb)
SW15 Antimony, Dissolved (ug/l as Sb)
SW41 Antimony, Dissolved (ug/l as Sb)
SW42 Antimony, Dissolved (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)
SW12 Antimony, Total (ug/l as Sb)
SW15 Antimony, Total (ug/l as Sb)
SW41 Antimony, Total (ug/l as Sb)
SW42 Antimony, Total (ug/l as Sb)

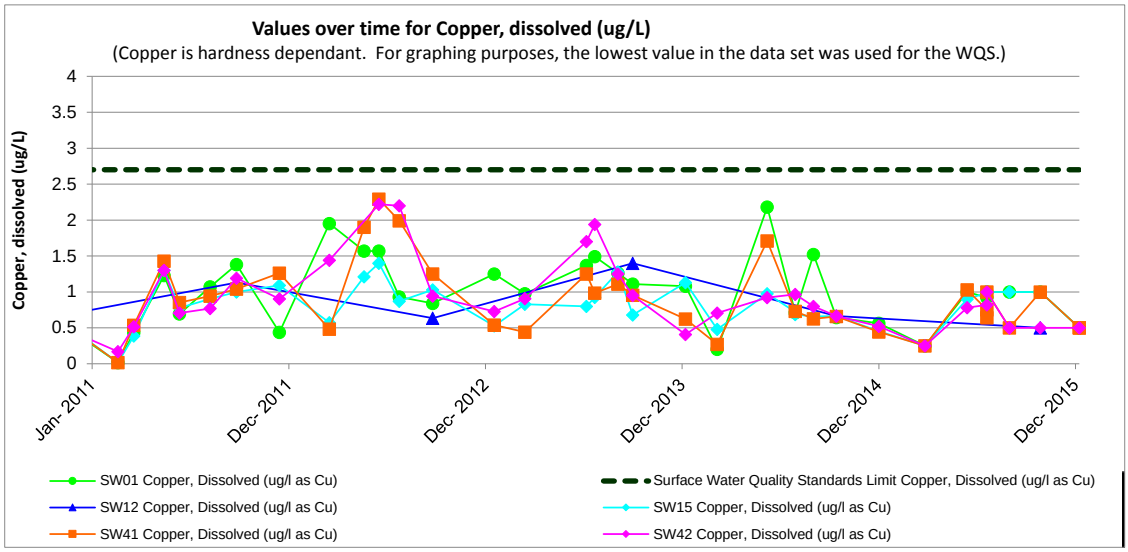

Values over time for Arsenic, dissolved & Arsenic, total (ug/L)
Arsenic, dissolved & Arsenic, total (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Arsenic, Dissolved (ug/l as As)
SW01 Arsenic, Total (ug/l as As)
SW12 Arsenic, Dissolved (ug/l as As)
SW15 Arsenic, Dissolved (ug/l as As)
SW41 Arsenic, Dissolved (ug/l as As)
SW42 Arsenic, Dissolved (ug/l as As)
Surface Water Quality Standards Limit Arsenic, Dissolved (ug/l as As)
Surface Water Quality Standards Limit Arsenic, Total (ug/l as As)
SW12 Arsenic, Total (ug/l as As)
SW15 Arsenic, Total (ug/l as As)
SW41 Arsenic, Total (ug/l as As)
SW42 Arsenic, Total (ug/l as As)

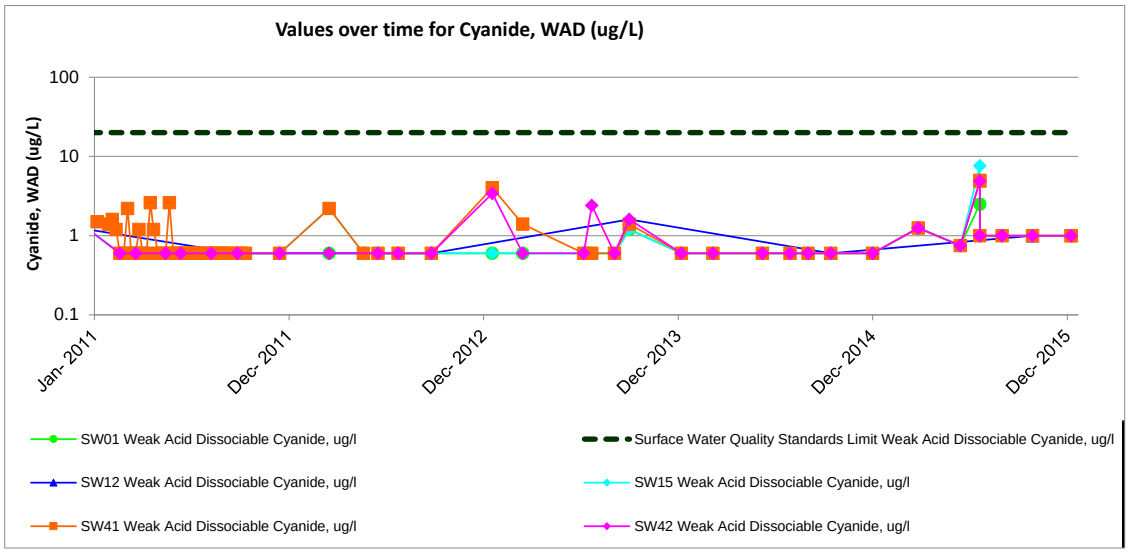

Values over time for Cadmium, dissolved (ug/L)
(Cadmium is hardness dependant. For graphing purposes the lowest value in the data set was used for the WQS.)
Cadmium, dissolved (ug/L)
1
0.1
0.01
0.001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Cadmium, Dissolved (ug/l as Cd)
Surface Water Quality Standards Limit Cadmium, Dissolved (ug/l as Cd)
SW41 Cadmium, Dissolved (ug/l as Cd)
SW12 Cadmium, Dissolved (ug/l as Cd)
SW15 Cadmium, Dissolved (ug/l as Cd)
SW42 Cadmium, Dissolved (ug/l as Cd)

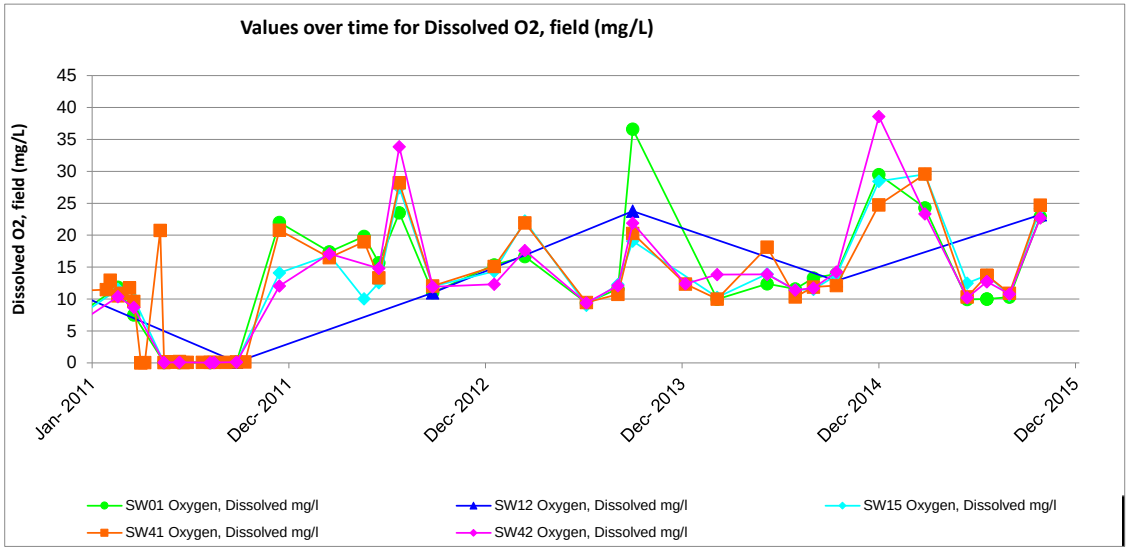

Values over time for Chloride (mg/L)
Chloride (mg/L)
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Chloride,Total in Water mg/l
SW12 Chloride,Total in Water mg/l
SW41 Chloride,Total in Water mg/l
Surface Water Quality Standards Limit Chloride,Total in Water mg/l
SW15 Chloride,Total in Water mg/l
SW42 Chloride,Total in Water mg/l

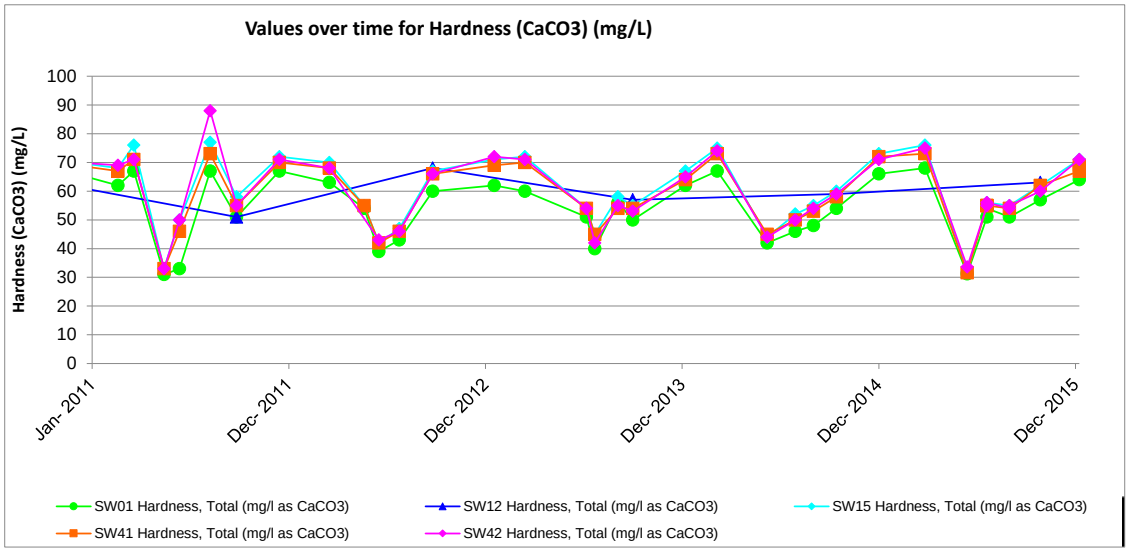

Values over time for Chromium, dissolved & Chromium, total (ug/L)
Chromium, dissolved & Chromium total (ug/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Chromium, Dissolved (ug/l as Cr)
SW01 Chromium, Total (ug/l as Cr)
SW12 Chromium, Total (ug/l as Cr)
SW15 Chromium, Total (ug/l as Cr)
SW41 Chromium, Total (ug/l as Cr)
SW42 Chromium, Total (ug/l as Cr)
Surface Water Quality Standards Limit 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)

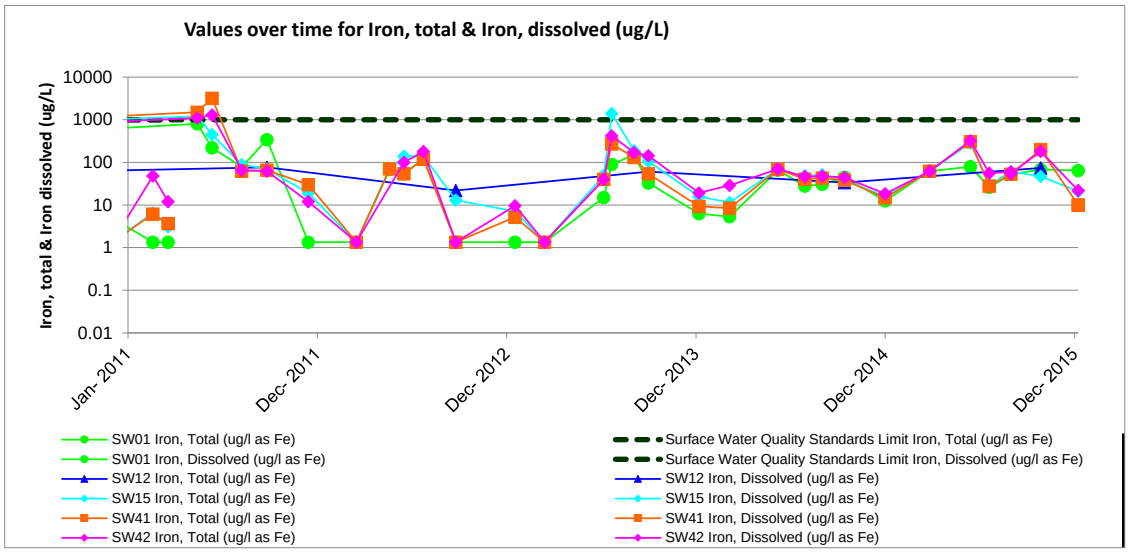

Values over time for Conductivity, field (umhos/cm)
Conductivity, field (umhos/cm)
400
350
300
250
200
150
100
50
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Specific Conductance,Field (umhos/cm @ 25C)
SW12 Specific Conductance,Field (umhos/cm @ 25C)
SW15 Specific Conductance,Field (umhos/cm @ 25C)
SW41 Specific Conductance,Field (umhos/cm @ 25C)
SW42 Specific Conductance,Field (umhos/cm @ 25C)

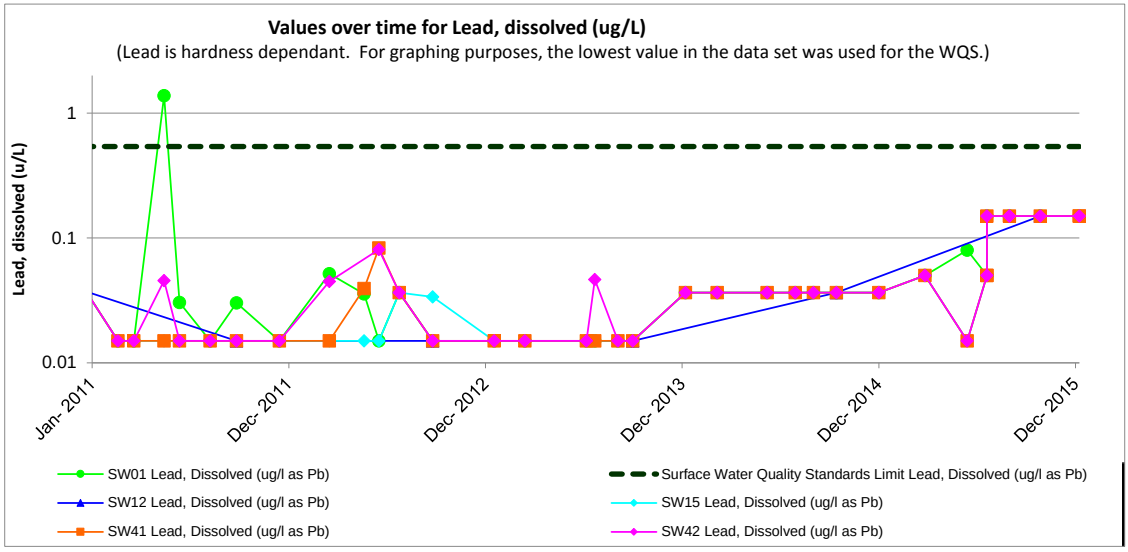

Values over time for Copper, dissolved (ug/L)
(Copper is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Copper, dissolved (ug/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Copper, Dissolved (ug/l as Cu)
SW12 Copper, Dissolved (ug/l as Cu)
SW41 Copper, Dissolved (ug/l as Cu)
Surface Water Quality Standards Limit Copper, Dissolved (ug/l as Cu)
SW15 Copper, Dissolved (ug/l as Cu)
SW42 Copper, Dissolved (ug/l as Cu)

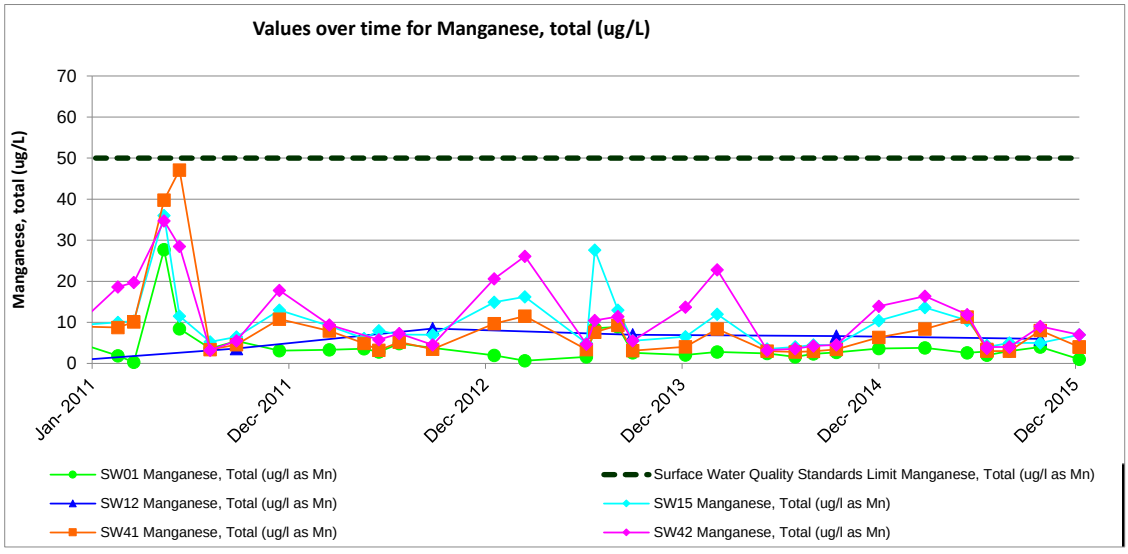

Values over time for Cyanide, WAD (ug/L)
Cyanide, WAD (ug/L)
100
10
1
0.1
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Weak Acid Dissociable Cyanide, ug/l
Surface Water Quality Standards Limit Weak Acid Dissociable Cyanide, ug/l
SW12 Weak Acid Dissociable Cyanide, ug/l
SW15 Weak Acid Dissociable Cyanide, ug/l
SW41 Weak Acid Dissociable Cyanide, ug/l
SW42 Weak Acid Dissociable Cyanide, ug/l

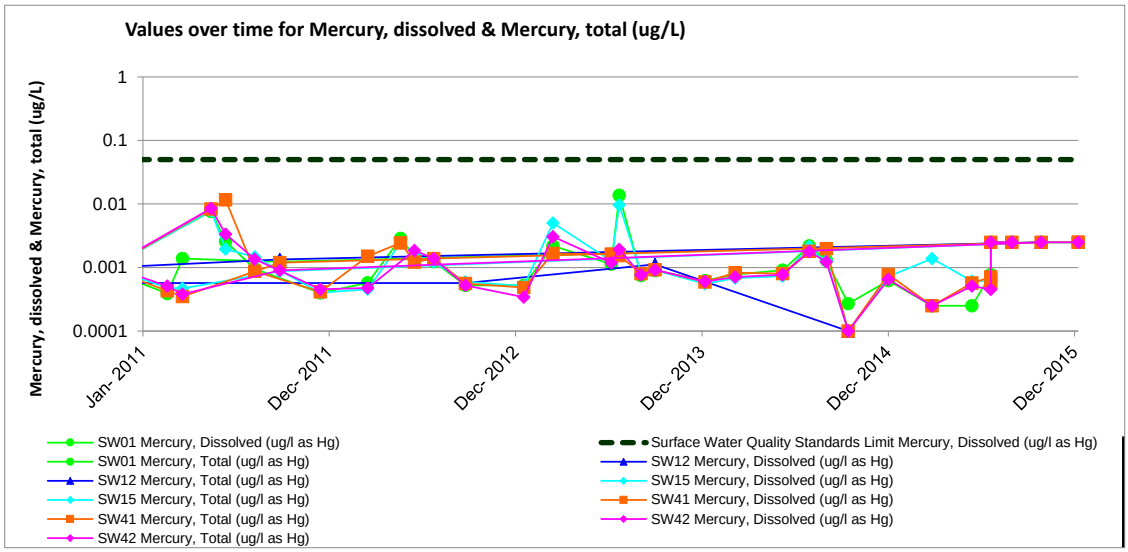

Values over time for Dissolved O2, field (mg/L)
Dissolved O2, field (mg/L)
45
40
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Oxygen, Dissolved mg/l
SW12 Oxygen, Dissolved mg/l
SW15 Oxygen, Dissolved mg/l
SW41 Oxygen, Dissolved mg/l
SW42 Oxygen, Dissolved mg/l

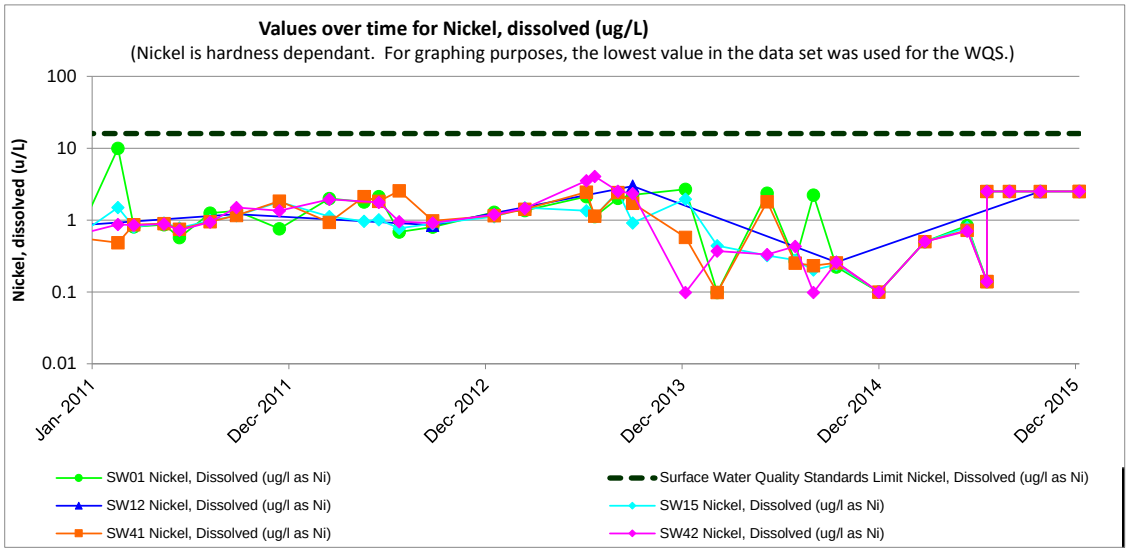

Values over time for Hardness (CaCO3) (mg/L)
Hardness (CaCO3) (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Hardness, Total (mg/l as CaCO3)
SW12 Hardness, Total (mg/l as CaCO3)
SW15 Hardness, Total (mg/l as CaCO3)
SW41 Hardness, Total (mg/l as CaCO3)
SW42 Hardness, Total (mg/l as CaCO3)

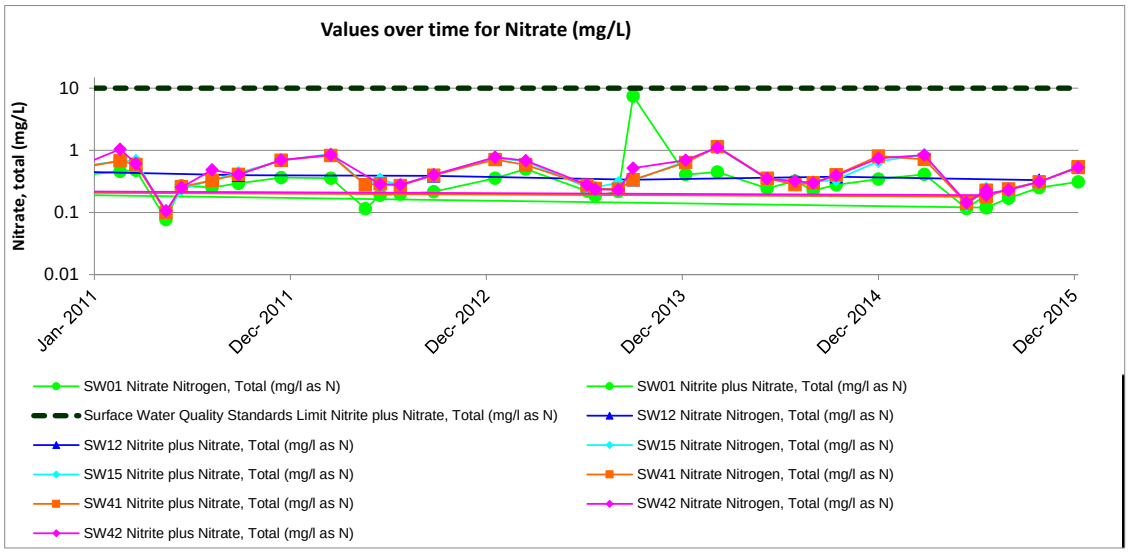

Values over time for Iron, total & Iron, dissolved (ug/L)
Iron, total & Iron dissolved (ug/L)
10000
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Iron, Total (ug/l as Fe)
SW01 Iron, Dissolved (ug/l as Fe)
SW12 Iron, Total (ug/l as Fe)
SW15 Iron, Total (ug/l as Fe)
SW41 Iron, Total (ug/l as Fe)
SW42 Iron, Total (ug/l as Fe)
Surface Water Quality Standards Limit Iron, Total (ug/l as Fe)
Surface Water Quality Standards Limit Iron, Dissolved (ug/l as Fe)
SW12 Iron, Dissolved (ug/l as Fe)
SW15 Iron, Dissolved (ug/l as Fe)
SW41 Iron, Dissolved (ug/l as Fe)
SW42 Iron, Dissolved (ug/l as Fe)

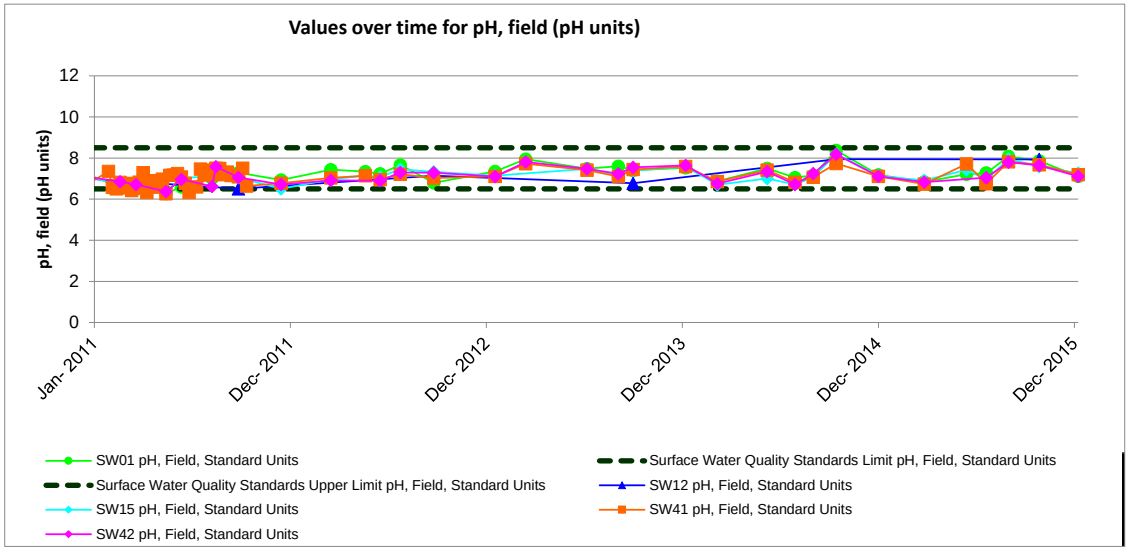

Values over time for Lead, dissolved (ug/L)
(Lead is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Lead, dissolved (u/L)
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Lead, Dissolved (ug/l as Pb)
SW12 Lead, Dissolved (ug/l as Pb)
SW41 Lead, Dissolved (ug/l as Pb)
Surface Water Quality Standards Limit Lead, Dissolved (ug/l as Pb)
SW15 Lead, Dissolved (ug/l as Pb)
SW42 Lead, Dissolved (ug/l as Pb)

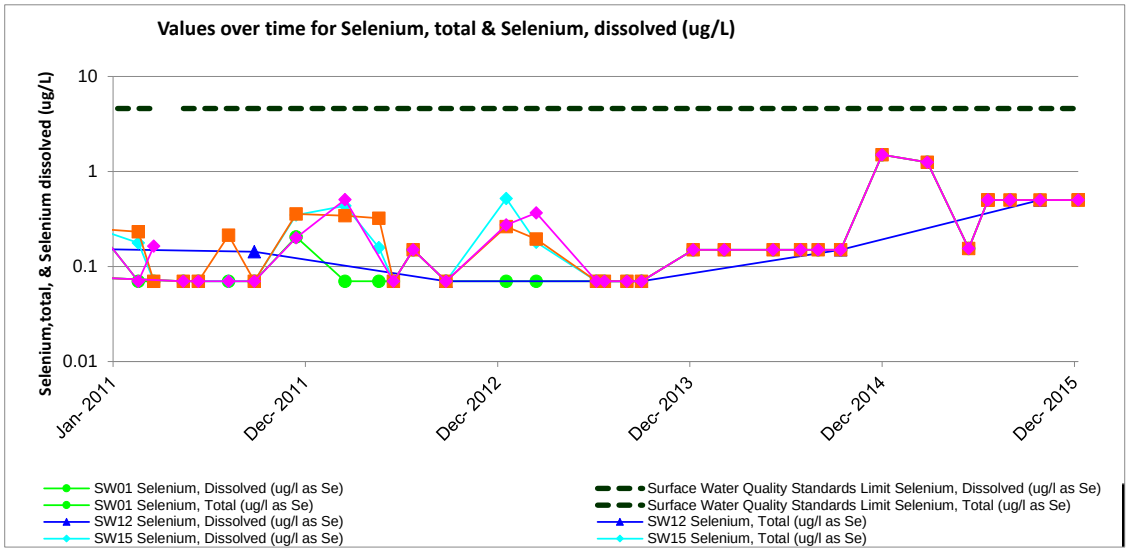

Values over time for Manganese, total (ug/L)
Manganese, total (ug/L)
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Manganese, Total (ug/l as Mn)
SW12 Manganese, Total (ug/l as Mn)
SW41 Manganese, Total (ug/l as Mn)
Surface Water Quality Standards Limit Manganese, Total (ug/l as Mn)
SW15 Manganese, Total (ug/l as Mn)
SW42 Manganese, Total (ug/l as Mn)

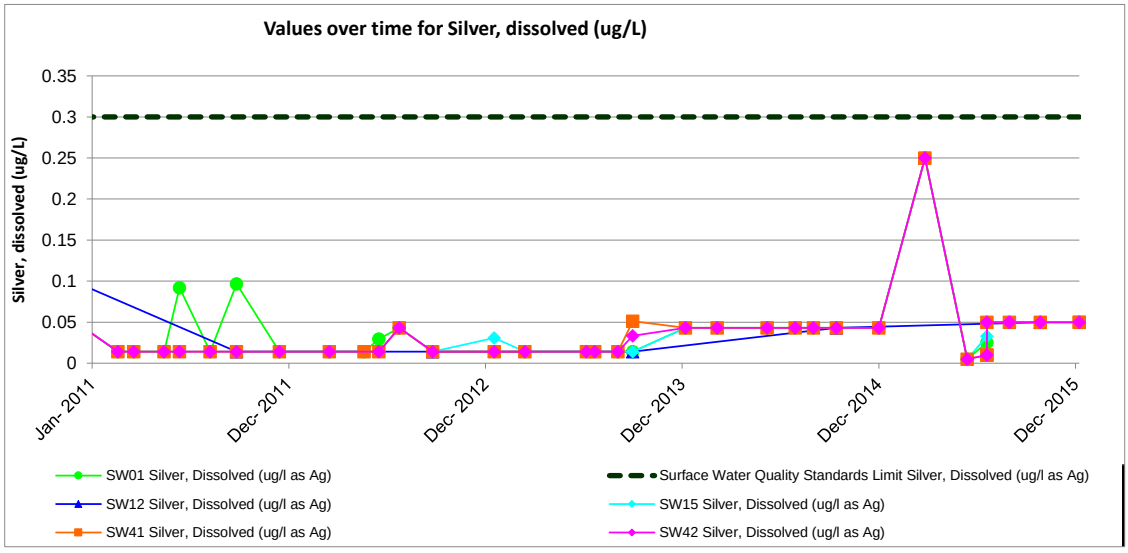

Values over time for Mercury, dissolved & Mercury, total (ug/L)
Mercury, dissolved & Mercury, total (ug/L)
1
0.1
0.01
0.001
0.0001
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Mercury, Dissolved (ug/l as Hg)
SW01 Mercury, Total (ug/l as Hg)
SW12 Mercury, Total (ug/l as Hg)
SW15 Mercury, Total (ug/l as Hg)
SW41 Mercury, Total (ug/l as Hg)
SW42 Mercury, Total (ug/l as Hg)
Surface Water Quality Standards Limit 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)

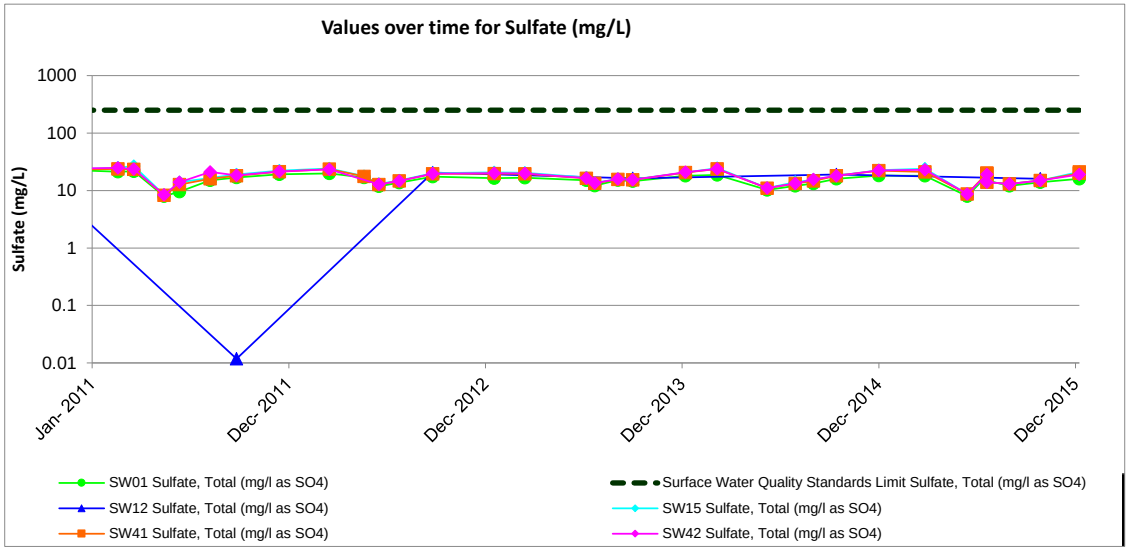

Values over time for Nickel, dissolved (ug/L)
(Nickel is hardness dependant. For graphing purposes, the lowest value in the data set was used for the WQS.)
Nickel, dissolved (u/L)
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Nickel, Dissolved (ug/l as Ni)
SW12 Nickel, Dissolved (ug/l as Ni)
SW41 Nickel, Dissolved (ug/l as Ni)
Surface Water Quality Standards Limit Nickel, Dissolved (ug/l as Ni)
SW15 Nickel, Dissolved (ug/l as Ni)
SW42 Nickel, Dissolved (ug/l as Ni)

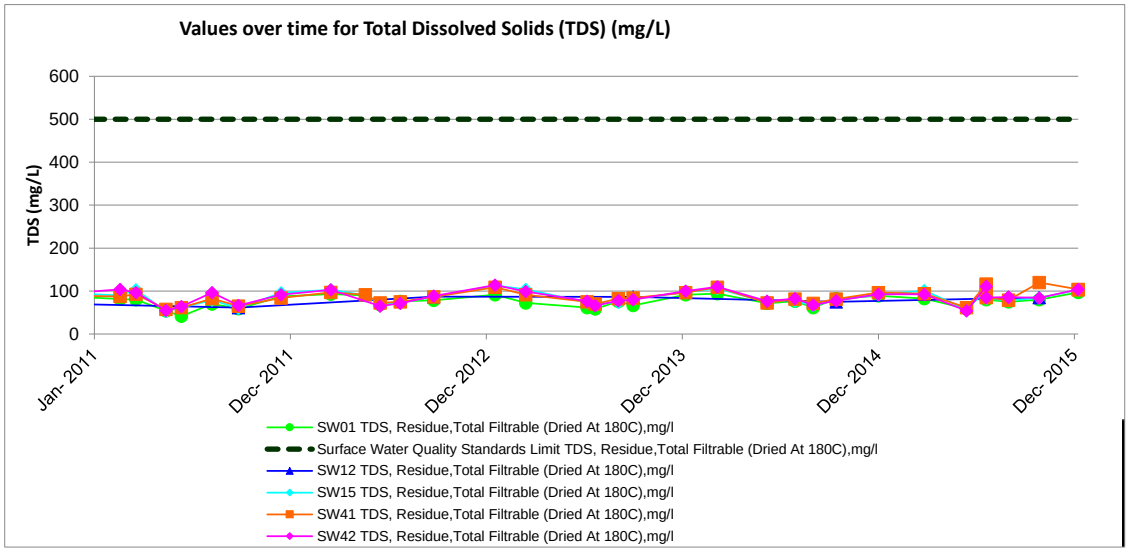

Values over time for Nitrate (mg/L)
Nitrate, total (mg/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Nitrate Nitrogen, Total (mg/l as N)
Surface Water Quality Standards Limit Nitrite plus Nitrate, Total (mg/l as N)
SW12 Nitrite plus Nitrate, Total (mg/l as N)
SW15 Nitrite plus Nitrate, Total (mg/l as N)
SW41 Nitrite plus Nitrate, Total (mg/l as N)
SW42 Nitrite plus Nitrate, Total (mg/l as N)
SW01 Nitrite plus Nitrate, 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)

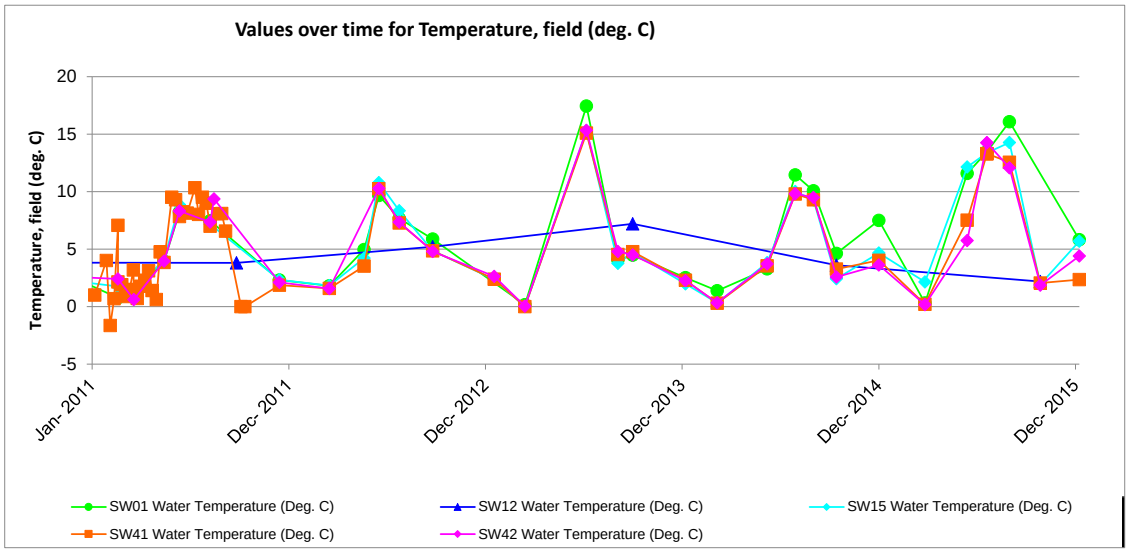

Values over time for pH, field (pH units)
pH, field (pH units)
12
10
8
6
4
2
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 pH, Field, Standard Units
Surface Water Quality Standards Limit pH, Field, Standard Units
Surface Water Quality Standards Upper Limit pH, Field, Standard Units
SW12 pH, Field, Standard Units
SW15 pH, Field, Standard Units
SW41 pH, Field, Standard Units
SW42 pH, Field, Standard Units

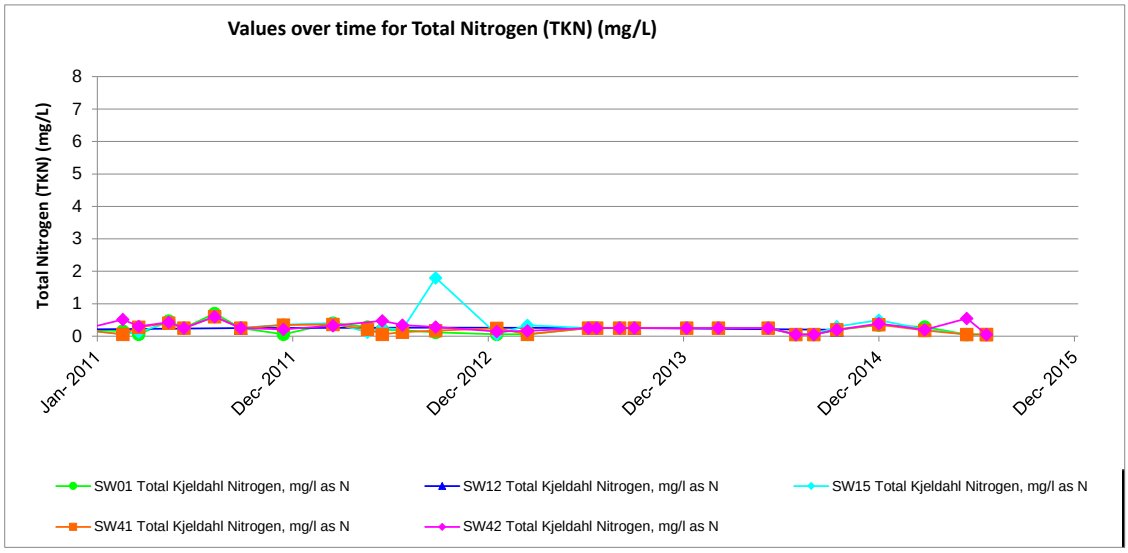

Values over time for Selenium, total & Selenium, dissolved (ug/L)
Selenium,total, & Selenium dissolved (ug/L)
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Selenium, Dissolved (ug/l as Se)
Surface Water Quality Standards Limit Selenium, Dissolved (ug/l as Se)
SW01 Selenium, Total (ug/l as Se)
Surface Water Quality Standards Limit Selenium, Total (ug/l as Se)
SW12 Selenium, Dissolved (ug/l as Se)
SW12 Selenium, Total (ug/l as Se)
SW15 Selenium, Dissolved (ug/l as Se)
SW15 Selenium, Total (ug/l as Se)

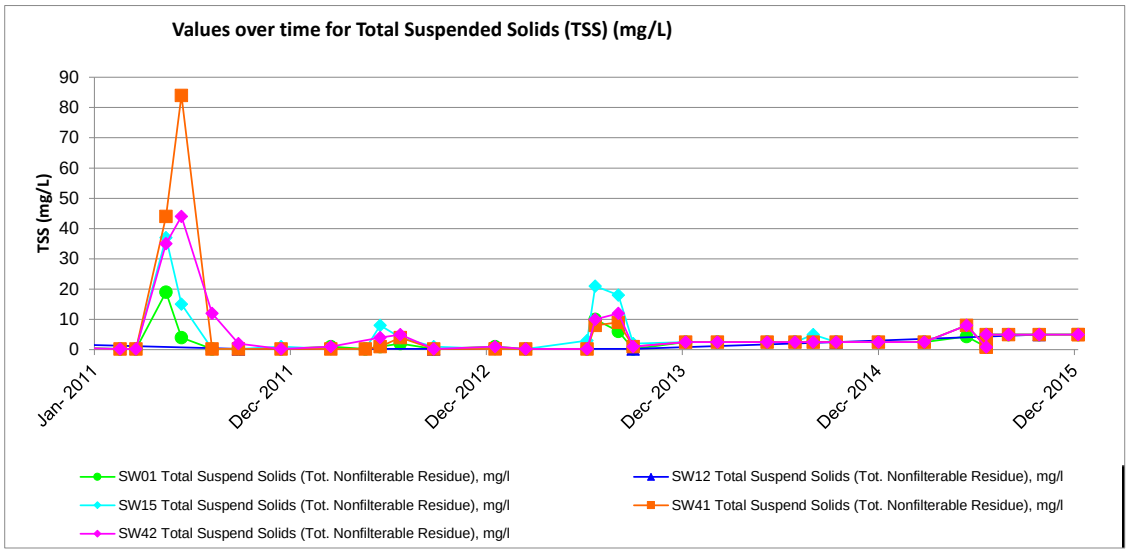

Values over time for Silver, dissolved (ug/L)
Silver, dissolved (ug/L)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Silver, Dissolved (ug/l as Ag)
Surface Water Quality Standards Limit Silver, Dissolved (ug/l as Ag)
SW12 Silver, Dissolved (ug/l as Ag)
SW15 Silver, Dissolved (ug/l as Ag)
SW41 Silver, Dissolved (ug/l as Ag)
SW42 Silver, Dissolved (ug/l as Ag)

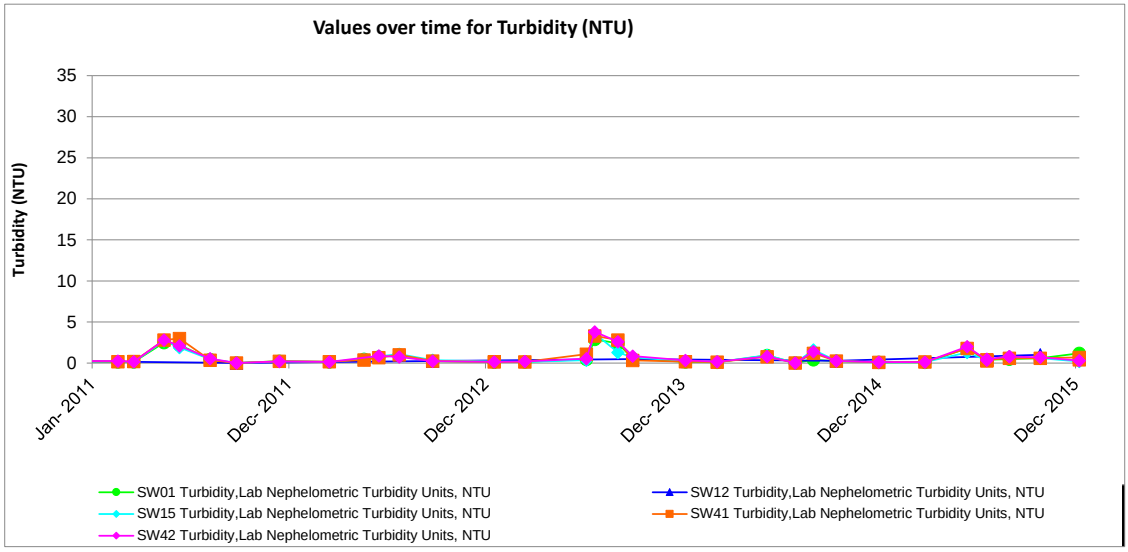

Values over time for Sulfate (mg/L)
Sulfate (mg/L)
1000
100
10
1
0.1
0.01
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Sulfate, Total (mg/l as SO4)
Surface Water Quality Standards Limit Sulfate, Total (mg/l as SO4)
SW12 Sulfate, Total (mg/l as SO4)
SW15 Sulfate, Total (mg/l as SO4)
SW41 Sulfate, Total (mg/l as SO4)
SW42 Sulfate, Total (mg/l as SO4)

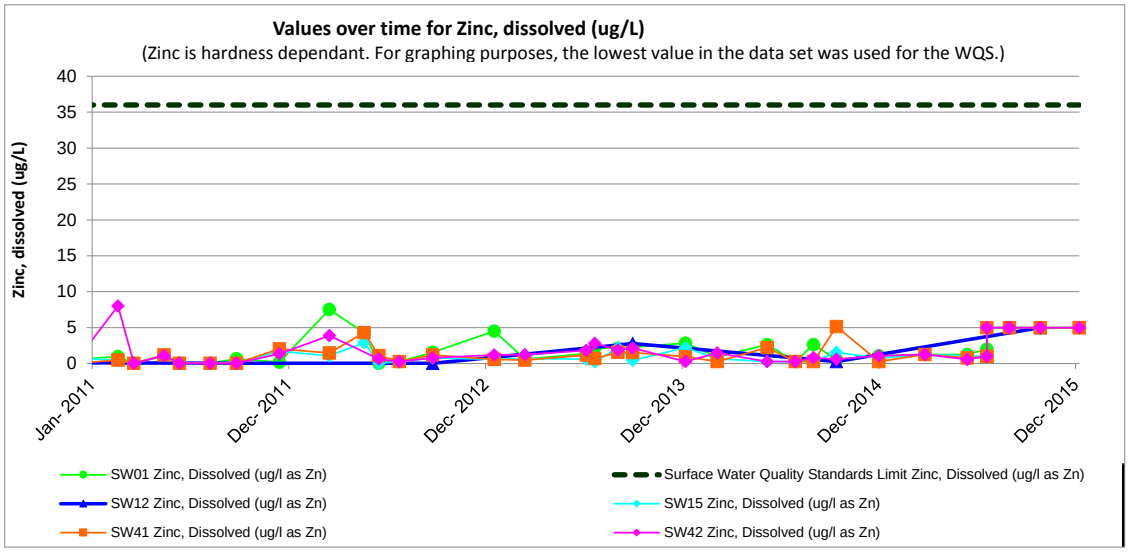

Values over time for Total Dissolved Solids (TDS) (mg/L)
TDS (mg/L)
600
500
400
300
200
100
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
Surface Water Quality Standards Limit TDS, Residue,Total Filtrable (Dried At 180C),mg/l
SW12 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
SW15 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
SW41 TDS, Residue,Total Filtrable (Dried At 180C),mg/l
SW42 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- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Water Temperature (Deg. C)
SW12 Water Temperature (Deg. C)
SW15 Water Temperature (Deg. C)
SW41 Water Temperature (Deg. C)
SW42 Water Temperature (Deg. C)


Values over time for Total Nitrogen (TKN) (mg/L)
Total Nitrogen (TKN) (mg/L)
8
7
6
5
4
3
2
1
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Total Kjeldahl Nitrogen, mg/l as N
SW12 Total Kjeldahl Nitrogen, mg/l as N
SW15 Total Kjeldahl Nitrogen, mg/l as N
SW41 Total Kjeldahl Nitrogen, mg/l as N
SW42 Total Kjeldahl Nitrogen, mg/l as N


Values over time for Total Suspended Solids (TSS) (mg/L)
TSS (mg/L)
90
80
70
60
50
40
30
20
10
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Total Suspend Solids (Tot. Nonfilterable Residue), mg/l
SW12 Total Suspend Solids (Tot. Nonfilterable Residue), mg/l
SW15 Total Suspend Solids (Tot. Nonfilterable Residue), mg/l
SW41 Total Suspend Solids (Tot. Nonfilterable Residue), mg/l
SW42 Total Suspend Solids (Tot. Nonfilterable Residue), mg/l


Values over time for Turbidity (NTU)
Turbidity (NTU)
35
30
25
20
15
10
5
0
Jan- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Turbidity,Lab Nephelometric Turbidity Units, NTU
SW12 Turbidity,Lab Nephelometric Turbidity Units, NTU
SW15 Turbidity,Lab Nephelometric Turbidity Units, NTU
SW41 Turbidity,Lab Nephelometric Turbidity Units, NTU
SW42 Turbidity,Lab Nephelometric Turbidity Units, NTU


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- 2011
Dec- 2011
Dec- 2012
Dec- 2013
Dec- 2014
Dec- 2015
SW01 Zinc, Dissolved (ug/l as Zn)
Surface Water Quality Standards Limit Zinc, Dissolved (ug/l as Zn)
SW12 Zinc, Dissolved (ug/l as Zn)
SW15 Zinc, Dissolved (ug/l as Zn)
SW41 Zinc, Dissolved (ug/l as Zn)
SW42 Zinc, Dissolved (ug/l as Zn)