From: Rebecca McIntyre [Rebecca.McIntyre@csdtin.com.au]
Sent: Wednesday, 23 December 2015 2:12 PM
To: DAVIS Geraldine
CC: Rod West; James Allchurch
Subject: Baal Gammon T&R monitoring report
Attachments: CSD Baal Gammon T&R Results 2015 Report_FINAL.pdf

Hi Geraldine in accordance with F3-5 of the Baal Gammon EA, please find attached the T&R monitoring report.

Kind regards

Bec McIntyre
Manager - Environment

Consolidated Tin Mines Limited
395 Lake St, Cairns North, QLD 4870
PO Box 4, Mt Garnet, QLD 4872
Mob: s47F(6) Personal information
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16 December 2015

Geraldine Davis
Senior Environmental Officer
North Queensland Compliance – Environmental Services and Regulation
Department of Environment and Heritage Protection
PO Box 7230, Cairns QLD 4870

Dear Geraldine

SUBJECT: Water Quality Results – Baal Gammon Water Treatment and Release Program 2015

In accordance with Condition F3-5 of the Baal Gammon mine site Environmental Authority (EA) (EPML00792513, dated 7 May 2013) held by Baal Gammon Copper Pty Ltd (BGC), Consolidated Tin Mines Ltd (CSD) provides water quality results[1] for the 2015 Baal Gammon Water Treatment and Release (T&R) Program. Condition F3-5 requires that the EA holder must notify EHP in the event of a release event, and provide a report of results including assessment of potential impacts within two months of undertaking the release monitoring. The Department of Environment and Heritage Protection (EHP) was informed of the commencement of the controlled treated water releases and EHP officers inspected the mine site on 30 October and 16 November 2015. The T&R program has been conducted in accordance with the EA, from the authorised release point to Jamie Creek. Releases occurred from the 23 October 2015, with a total release volume to-date of approximately 22 ML.

The released waters for the T&R program were sampled and analysed in accordance with the EA. The sample analysis data is provided in **Table 1**, in comparison with the default EA trigger levels (Table F3 of the EA) and contaminant limits (Table F4 of the EA). The default EA trigger levels are largely based on guideline values for the protection of aquatic ecosystem values, while the contaminant limits are largely based on guideline values for the protection of stock and drinking water guidelines. It is noted that these values are already not protected by the baseline condition in the Jamie Creek catchment, as previously investigated and reported to EHP (NRA 2011, 2012).[2]

As can be seen from **Table 1**, all release samples complied with the default EA contaminant limits. Exceedance of the default EA trigger level for total zinc and for total and filtered copper occurred on 23 October 2015, but results were well within the 80th percentiles of reference site data (**Table 1**). Therefore released water was of quality suitable for protection of stock and drinking water values, and protection of aquatic ecosystem values. Water quality results at monitoring site SW4 on Jamie Creek immediately (~100m) downstream of the release point prior (21 October 2015) to the commencement of releases to the latest available finalised QA-

[1] Finalised and QA/QC-checked laboratory reports received to 16 December 2015.

[2] NRA 2011. Baal Gammon Receiving Environment Monitoring Program, Prepared by NRA for Kagara Ltd, July 2011.
NRA 2012. Baal Gammon Mine Environmental Investigation 2012 – Receiving Environment Assessment, Prepared by NRA for Kagara Ltd, August 2012.

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QC-checked data (23 November 2015) are graphed in **Figure 1**. The following is noted from **Figure 1**:

- Concentrations of aluminium, arsenic, cadmium, cobalt, copper, EC, fluoride, indium, manganese, nickel, sulphate and zinc declined immediately at site SW4 after commencement of the controlled releases on 23 October 2015 and have remained low since.
- Turbidity, and bismuth and tin concentrations have remained close to or below their respective laboratory limits of reporting (LoRs) at site SW4 throughout the period.
- Total lead concentrations showed a slight increase (24 to 26 µg/L) at the commencement of the program, but has remained low since. As lead has remained <LoR in the release waters (**Table 1**), the initial result is not attributed to the T&R program.
- Total and filtered iron concentrations spiked initially at site SW4. However total iron in the release waters remained below those recorded at site SW4 prior to commencement of the program, while filtered iron has remained <LoR (**Table 1**) therefore the result is not attributed to the T&R program.
- Silver concentrations fluctuated initially, but have remained low since 29 October 2015. As silver has remained <LoR in the release waters (**Table 1**), this fluctuation is not attributed to the T&R program.
- pH has shown little variation at site SW4 during the period.

The above results demonstrate that the T&R program has led to an observable positive impact on water quality in the immediate receiving environment of Jamie Creek.

Monitoring of the release point and receiving environment has not indicated any observable 'slick, or other visible or odourous evidence of oil, grease or petrochemicals' nor any 'visible floating oil, grease, scum, litter or other objectionable matter'(EA Condition F1-4), nor any observable erosion of bed or banks, or sediment deposition (EA Condition F1-6), attributable to the release waters.

CSD will continue to conduct the T&R program and monitor the release waters and receiving environment in accordance with the EA. Final laboratory reports are available upon request. The forthcoming 2015-2016 wet season Receiving Environment Monitoring Program (REMP) limnology and fish surveys will further consider and evaluate potential impacts of the T&R program on the receiving environment.

Yours sincerely,

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Bec McIntyre
Manager – Environment
Consolidated Tin Mines Limited

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Table 1: Water quality results – Baal Gammon 2015 Water Treatment and Release Program

Parameter	Unit	EA Default Trigger Level[1]	EA Default Contaminant Limit[2]	Release Sample[4]							
				23/10/2015	24/10/2015	25/10/2015	26/10/2015	28/10/2015	29/10/2015	18/11/2015	23/11/2015
pH	pH units	6-7.5	5-9	6.13	7.45	6.38	6.21	6.19	6.12	6.81	6.00
Electrical Conductivity	µS/cm	250	5970	46.2	102.9	63.2	31.5	48.8	56.2	69	57.4
Turbidity	NTU	15	-	4.0	5.8	5.5	5.0	0.5	<0.5	<0.5	<0.5
Fluoride	µg/L	- (1700)[3]	2000	880	670	890	910	1100	730	1000	660
Sulphate	mg/L	- (29.8)[3]	1000	4.6	2.4	9.6	1.4	6.2	7.2	7.1	6.6
Aluminium – filtered	mg/L	0.055	5	0.019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminium – total	mg/L	0.055	5	0.037	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic – filtered	µg/L	13	500	<3	<3	<3	<3	<3	<3	<3	<3
Arsenic – total	µg/L	13	500	<3	<3	<3	<3	<3	<3	<3	<3
Bismuth – filtered	µg/L	0.7	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bismuth – total	µg/L	0.7	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium – filtered	µg/L	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium – total	µg/L	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt – filtered	µg/L	2.8	1000	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt – total	µg/L	2.8	1000	<1	<1	<1	<1	<1	<1	<1	<1
Copper – filtered	µg/L	1.4 (350)[3]	1000	14	<1	<1	1	<1	<1	<1	<1
Copper – total	µg/L	1.4 (360)[3]	1000	25	<1	<1	<1	<1	<1	<1	<1
Indium – filtered	µg/L	- (<50)[3]	-	<50	<50	<50	<50	<50	<50	<50	<50
Indium – total	µg/L	- (<50)[3]	-	<50	<50	<50	<50	<50	<50	<50	<50
Iron – filtered	mg/L	0.3	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Iron – total	mg/L	0.3	-	0.032	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
Lead – filtered	µg/L	3.4	10	<1	<1	<1	<1	<1	<1	<1	<1
Lead – total	µg/L	3.4	10	<1	<1	<1	<1	<1	<1	<1	<1
Manganese – filtered	mg/L	1.9	-	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Manganese – total	mg/L	1.9	-	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel – filtered	µg/L	11	20	<1	<1	<1	<1	<1	<1	<1	<1
Nickel – total	µg/L	11	20	<1	<1	<1	<1	<1	<1	<1	<1
Silver – filtered	µg/L	0.05	100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver – total	µg/L	0.05	100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tin – filtered	µg/L	3	-	<2	<2	<2	<2	<2	<2	<2	<2
Tin – total	µg/L	3	-	<2	<2	<2	<2	<2	<2	<2	<2
Zinc – filtered	µg/L	8	3000	7	<5	<5	<5	<5	<5	<5	<5
Zinc – total	µg/L	8 (276)[3]	3000	9	<5	<5	<5	<5	<5	<5	<5

[1] Table F3 – Receiving water contaminant trigger levels of EA EPML00792513 (dated 7 May 2013).
[2] Table F4 – Receiving water contaminant limits of EA EPML00792513 (dated 7 May 2013).
[3] 80th percentile of Jamie Creek reference site data (sites SW0.1, SW2, SW5) from last 24 sample points.
[4] Finalised and QA/QC-checked laboratory reports received to 16 December 2015.
- no default value listed in the EA.

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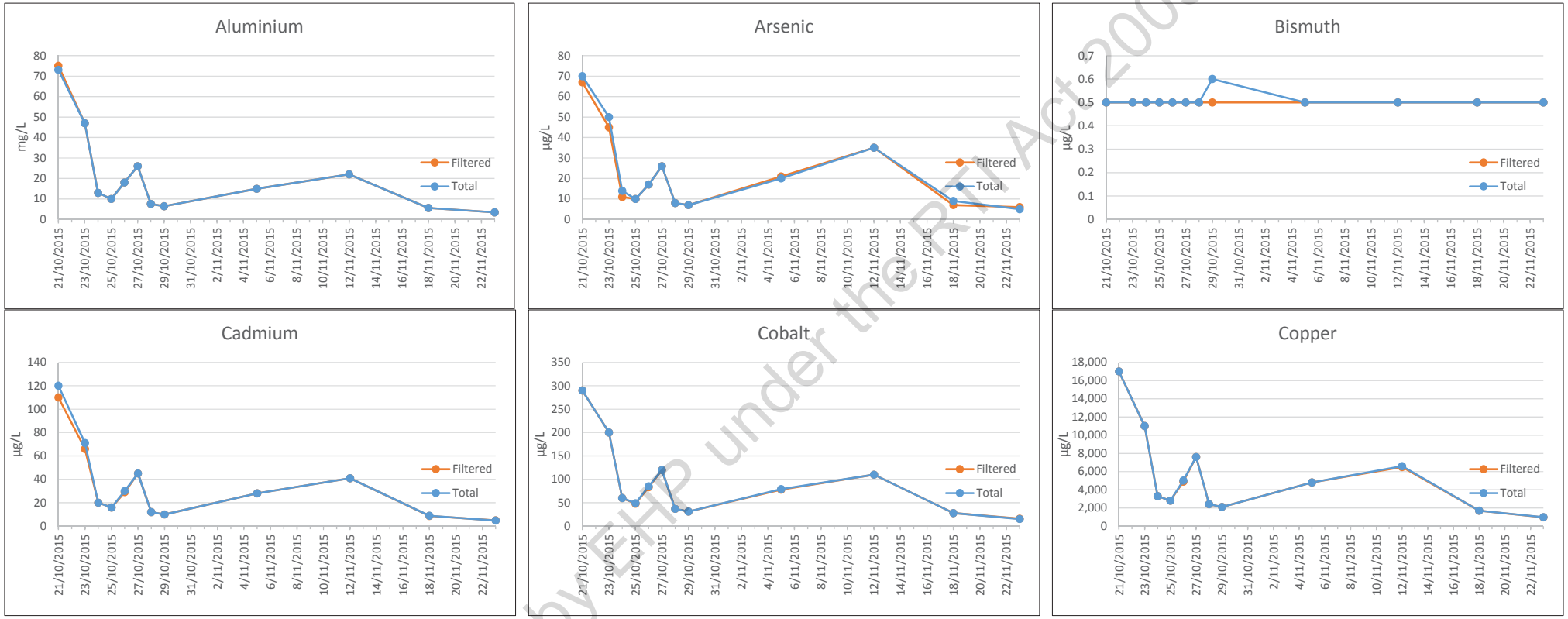
Figure 1: Water quality results – routine monitoring site SW4



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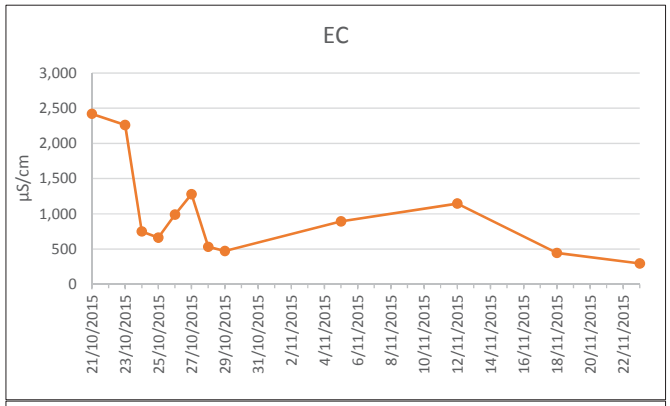

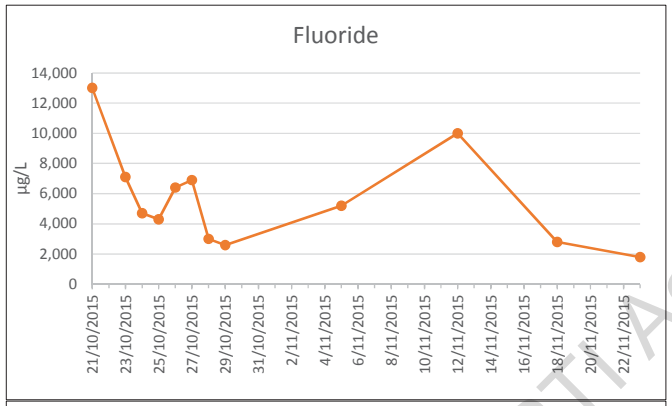

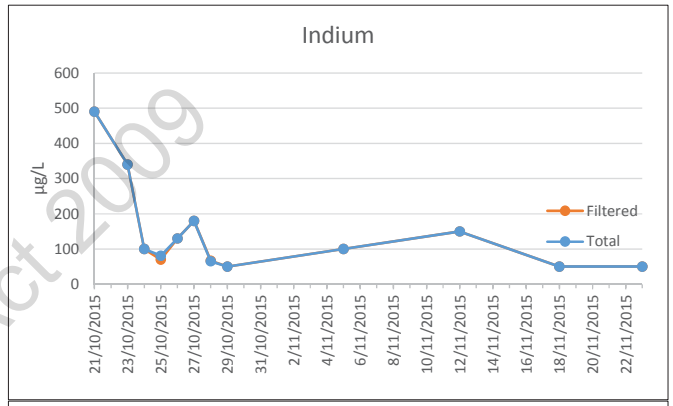

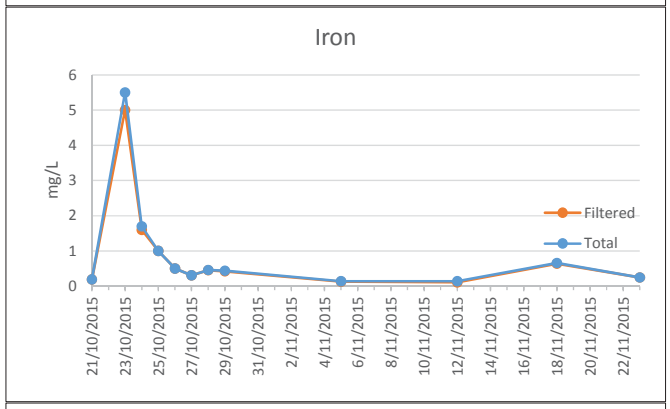

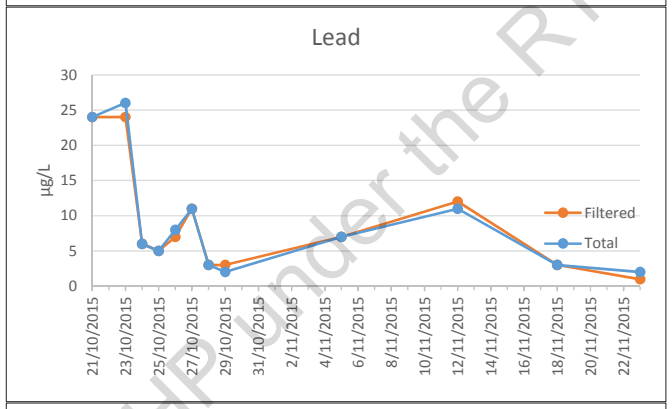

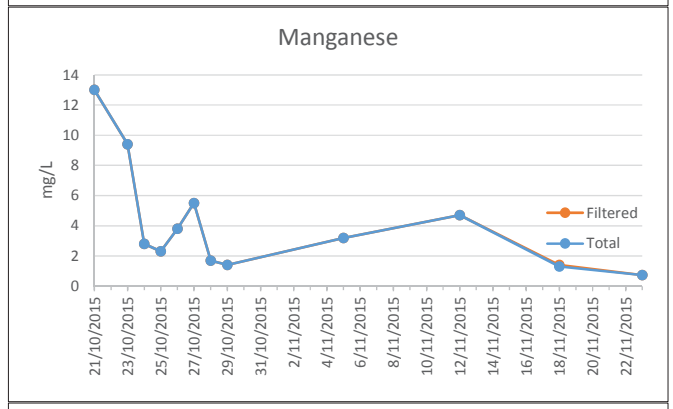

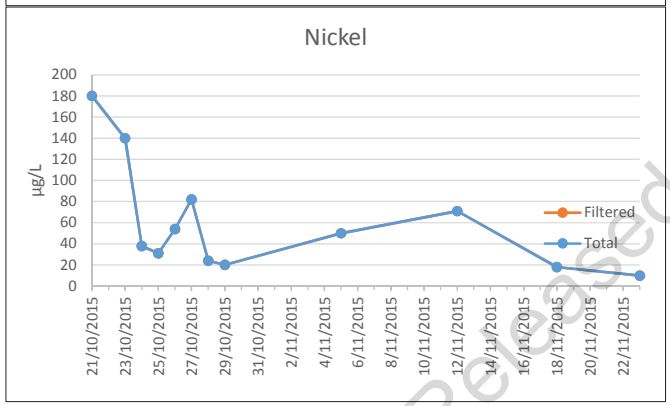

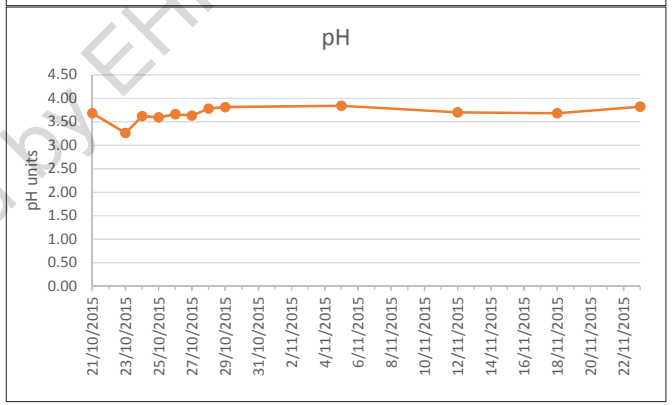

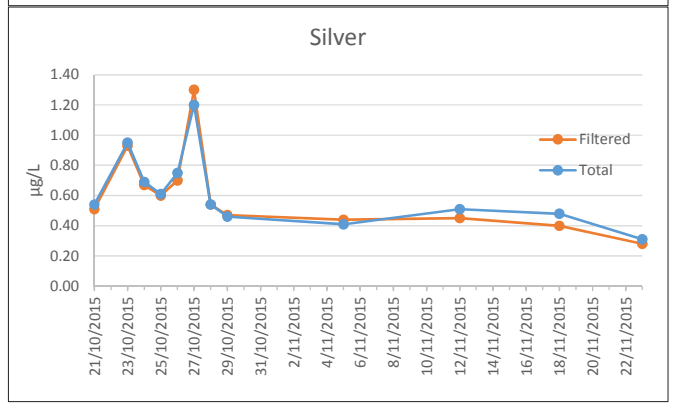

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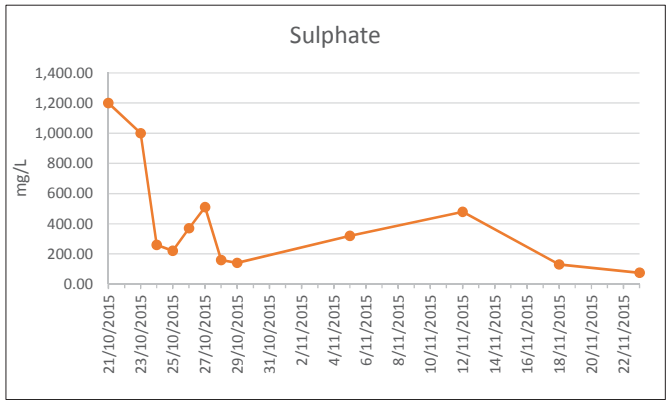

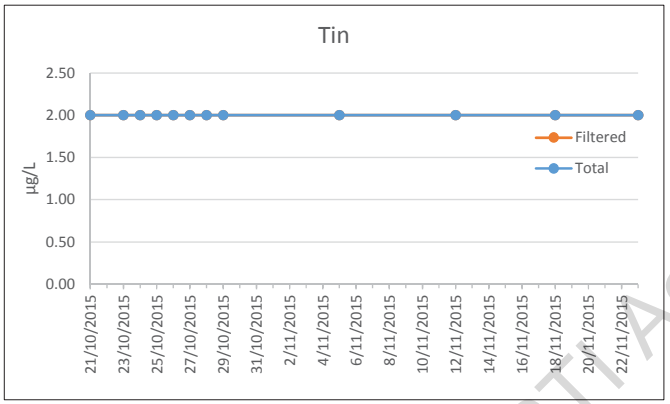

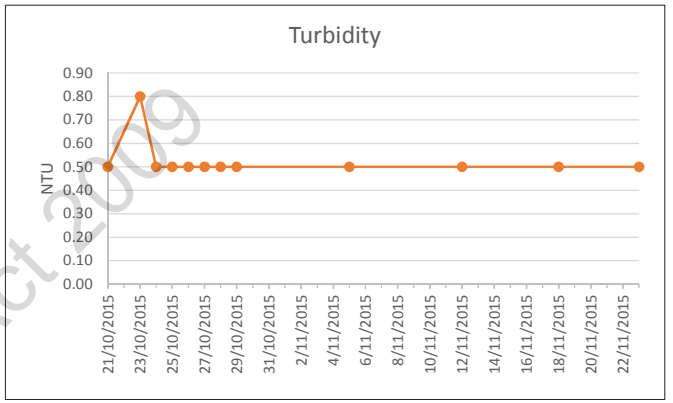

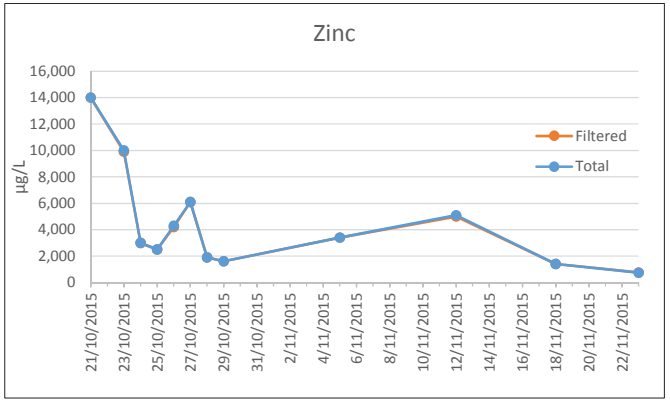

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From: Rebecca McIntyre [Rebecca.McIntyre@csdtin.com.au]
Sent: Wednesday, 23 December 2015 2:33 PM
To: BASKARAN Arun
CC: EHP-Northern_Cairns_Pollution_Alerts
Subject: Baal Gammon treat & release program

Hi Arun,

As discussed on the phone today, the most recent preliminary lab results for the Baal Gammon treat and release program has shown an exceedance for fluoride – result of 2.2mg/L. I have asked SGS to check the preliminary result, and the test has returned the same.

The crew on-site continue to conduct in-situ readings for fluoride using a calibrated meter, and current results are well below 1mg/L. The meter is being re-calibrated by CSD today.

Another treat and release program water sample is being collected today by CSD, and will be submitted to SGS Cairns for analysis.

Kind regards

Bec McIntyre
Manager - Environment

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From: DAVIS Geraldine [Geraldine.Davis@ehp.qld.gov.au]
Sent: Monday, 18 January 2016 10:04 AM
To: 'Jeff Moore'
CC: OFFNER Sarah
Subject: RE: Baal Gammon

Hi Jeff,

Thanks for you enquiry about the wastewater treat and release activities being conducted at the Baal Gammon Mine.

I can confirm that the reagents you listed below were present at the time I observed the treatment of contaminated waters at the site in November 2015.

Please be aware that due to privacy issues, any further information being sought in relation to this will need to be made under the *Right to Information Act 2009* (RTI).

I don't recall there being a written proposal made to EHP regarding the planned treatment process as it was stated to EHP that the activity was able to be carried out under the existing conditions of Baal Gammon Copper's environmental authority (in regard to the activity being able to meet the water quality release limits). Conversations which I had with site representatives about the treatment process were formally recorded and would be a document available under the RTI process.

Information about the RTI application process is available at :
http://www.rti.qld.gov.au/

Kind regards,

Geraldine Davis
Senior Environmental Officer
North Queensland Compliance | Environmental Services and Regulation
Department of Environment and Heritage Protection
P 07 4222 5384
Level 3, 5B Sheridan Street, Cairns QLD 4870
PO Box 7230, Cairns QLD 4870

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From: Jeff Moore [mailto:j.moore@virtualcurtain.com.au]
Sent: Friday, 15 January 2016 3:12 PM
To: DAVIS Geraldine
Subject: Baal Gammon

Hi Geraldine,

Thank you for taking my phone call today on behalf of Virtual Curtain Limited (VCL).

You may be aware that VCL/CSIRO introduced patented "hydrotalcite" technology to the Baal Gammon mine site in late 2013 for the purpose of pre-treating contaminated in-pit wastewater, prior to final polishing by RO and release into Jamie Creek. The job was very successful and Snow Peak Mining (SPM) were able to subsequently re-commence mining. All targets for wastewater release were met.

This "hydrotalcite" technology is patented by CSIRO and commercialised by VCL. Australian patents are in force and the intellectual property covered by the patents is of significant commercial value to CSIRO and VCL. The key reagents used at Baal Gammon to create the hydrotalcite mineral in-situ, to remove toxicity and neutralise acidity in wastewaters at Baal Gammon, are magnesium in the form of magnesium chloride and caustic in the form of sodium

hydroxide. The use of these reagents in acid wastewaters to form hydrotalcite is patented technology.

Would you please confirm that your observations and/or discussions with SPM are that these reagents are being introduced into the Baal Gammon pit wastewater for the purpose of remediating the wastewater for eventual discharge. I understand that reverse osmosis equipment may be being used at Baal Gammon to polish the wastewater prior to release in a similar fashion to the remediation work previously carried out in late 2013 .

I look forward to any response or comments/feedback that you may have on this matter as soon as possible. The matter is of significant importance to both VCL and CSIRO in Australia.

Best regards

Jeff Moore

Jeff Moore
Executive Director
Virtual Curtain Limited
ACN 129 687 029

photo 1

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6 May 2015

Ingrid Fomiatti Minnesma
Director Minerals – Minerals and North Queensland Compliance
Department of Environment and Heritage Protection
5b Sheridan Street, Cairns QLD 4870

Dear Ingrid

SUBJECT: Baal Gammon Mine Site 2015 Rehabilitation and Closure

Post-Mine Land Use Plan

Please find attached the Post-Mine Land Use Plan (PMLUP) for Baal Gammon mine site (on ML20388 and part ML20568), submitted by Consolidated Tin Mines Ltd (CSD) on behalf of Baal Gammon Copper Pty Ltd (BGC). The PMLUP addresses conditions C2-1, C3-1, C3-2, C3-3, C8-1, and C8-2 of the Environmental Authority (EA) EPML00792513, dated 7 May 2013.

As discussed previously with the Department of Environment and Heritage Protection (EHP) on 21 February 2014 and 9 April 2014, rehabilitation planning for the Baal Gammon site must necessarily reflect the legacy position of the site including the naturally mineralized province, and the landforms and materials balance that has eventuated. The PMLUP submitted presents a tailored approach to rehabilitate the site, and will be supported by detailed engineering closure designs to the required standards.

The main challenge for Baal Gammon site remains management of PAF waste rock. Reclassification of significant quantities of waste rock from non-acid forming (NAF) to potentially acid-forming (PAF) under previous operators Kagara Ltd, as well as pit development not proceeding to full planned development, has meant that backfilling the pit (*ie* EA condition D7-3) with the large PAF volumes that have resulted is not possible. As detailed in the PMLUP, completion and capping of the existing PAF Waste Rock Dump (WRD) is the remaining option, with additional benefits including:

- seepage from the Stage 2 area cannot be eliminated, as this area naturally seeps to the pit, such that storage for Stage 2 seepage, will continue to be required after closure, and a pit void is the most suitable destination for this seepage.
- seepage from the rehabilitated WRD will continue to require capture, and gravity feed to the existing pit void as the most suitable destination for this seepage.
- the current WRD is stable, and has been prepared with a NAF mattress layer, such that the benefits for leaving the WRD in place outweigh those of re-disturbance and translocation.

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To direct rehabilitation activities, CSD will commission engineering closure designs to support the conceptual designs provided in the PMLUP. The closure designs will also be supported by the final site water balance modelling, which has been recently commissioned to be completed by ATC Williams.

Water Treatment and Release Program

Subject to final economic evaluation, CSD proposes to undertake a short mining campaign in the Stage 1 pit in mid-2015. Waste rock generated by this campaign will be negligible, and retained in the pit void. This mining campaign would benefit the mine closure strategy for a neutral to negative site water balance through the creation of additional capacity in the Baal Gammon pit. To enable this campaign, as well as the rehabilitation and closure plans for the Baal Gammon mine site, CSD propose to conduct a water treatment and release program to Jamie Creek of stored site water.

Snow Peak Mining Pty Ltd (SPM) conducted a water treatment and release program at Baal Gammon between November 2013 and March 2014, under Transitional Environmental Program (TEP) MAN17000. The site successfully treated and released 92 ML of excess stored site water, permitting the re-commencement of mining at the site.

CSD propose to utilise the same treatment and monitoring methods employed by SPM for TEP MAN17000. It is expected that the final water quality to be released in the 2015 program will be similar to that achieved in the 2013-2014 program. The previous program indicated, however, that the default contaminant limit for fluoride was not consistently achievable for the treated waters, therefore a site-specific contaminant limit should be applied. As detailed in the attached Baal Gammon PMLUP, the site-specific contaminant limit for fluoride is 14 mg/L, based on baseline data (2008-September 2011) for the Jamie Creek catchment.

It is expected that between 60-100 ML of water will be treated and released from the Baal Gammon site between now and December 2015. The exact volume required to be released will depend upon the commissioning date of the program, intervening and subsequent rainfall, and advice from ATC Williams regarding the findings of final water balance modelling that has been commissioned for the site.

Rehabilitation activities are proposed to commence on-site as soon as practicable. We look forward to outlining the PMLUP and rehabilitation schedule with EHP at our forthcoming meeting. If you have any questions regarding the information provided, please contact the undersigned.

Yours sincerely

sch4p4(6) Personal information

Dr Bec McIntyre
Manager - Environment
Consolidated Tin Mines Limited

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16 December 2015

Geraldine Davis
Senior Environmental Officer
North Queensland Compliance – Environmental Services and Regulation
Department of Environment and Heritage Protection
PO Box 7230, Cairns QLD 4870

Dear Geraldine

SUBJECT: Water Quality Results – Baal Gammon Water Treatment and Release Program 2015

In accordance with Condition F3-5 of the Baal Gammon mine site Environmental Authority (EA) (EPML00792513, dated 7 May 2013) held by Baal Gammon Copper Pty Ltd (BGC), Consolidated Tin Mines Ltd (CSD) provides water quality results[1] for the 2015 Baal Gammon Water Treatment and Release (T&R) Program. Condition F3-5 requires that the EA holder must notify EHP in the event of a release event, and provide a report of results including assessment of potential impacts within two months of undertaking the release monitoring. The Department of Environment and Heritage Protection (EHP) was informed of the commencement of the controlled treated water releases and EHP officers inspected the mine site on 30 October and 16 November 2015. The T&R program has been conducted in accordance with the EA, from the authorised release point to Jamie Creek. Releases occurred from the 23 October 2015, with a total release volume to-date of approximately 22 ML.

The released waters for the T&R program were sampled and analysed in accordance with the EA. The sample analysis data is provided in **Table 1**, in comparison with the default EA trigger levels (Table F3 of the EA) and contaminant limits (Table F4 of the EA). The default EA trigger levels are largely based on guideline values for the protection of aquatic ecosystem values, while the contaminant limits are largely based on guideline values for the protection of stock and drinking water guidelines. It is noted that these values are already not protected by the baseline condition in the Jamie Creek catchment, as previously investigated and reported to EHP (NRA 2011, 2012).[2]

As can be seen from **Table 1**, all release samples complied with the default EA contaminant limits. Exceedance of the default EA trigger level for total zinc and for total and filtered copper occurred on 23 October 2015, but results were well within the 80th percentiles of reference site data (**Table 1**). Therefore released water was of quality suitable for protection of stock and drinking water values, and protection of aquatic ecosystem values. Water quality results at monitoring site SW4 on Jamie Creek immediately (~100m) downstream of the release point prior (21 October 2015) to the commencement of releases to the latest available finalised QA-

[1] Finalised and QA/QC-checked laboratory reports received to 16 December 2015.

[2] NRA 2011. Baal Gammon Receiving Environment Monitoring Program, Prepared by NRA for Kagara Ltd, July 2011.
NRA 2012. Baal Gammon Mine Environmental Investigation 2012 – Receiving Environment Assessment, Prepared by NRA for Kagara Ltd, August 2012.

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QC-checked data (23 November 2015) are graphed in **Figure 1**. The following is noted from **Figure 1**:

- Concentrations of aluminium, arsenic, cadmium, cobalt, copper, EC, fluoride, indium, manganese, nickel, sulphate and zinc declined immediately at site SW4 after commencement of the controlled releases on 23 October 2015 and have remained low since.
- Turbidity, and bismuth and tin concentrations have remained close to or below their respective laboratory limits of reporting (LoRs) at site SW4 throughout the period.
- Total lead concentrations showed a slight increase (24 to 26 µg/L) at the commencement of the program, but has remained low since. As lead has remained <LoR in the release waters (**Table 1**), the initial result is not attributed to the T&R program.
- Total and filtered iron concentrations spiked initially at site SW4. However total iron in the release waters remained below those recorded at site SW4 prior to commencement of the program, while filtered iron has remained <LoR (**Table 1**) therefore the result is not attributed to the T&R program.
- Silver concentrations fluctuated initially, but have remained low since 29 October 2015. As silver has remained <LoR in the release waters (**Table 1**), this fluctuation is not attributed to the T&R program.
- pH has shown little variation at site SW4 during the period.

The above results demonstrate that the T&R program has led to an observable positive impact on water quality in the immediate receiving environment of Jamie Creek.

Monitoring of the release point and receiving environment has not indicated any observable 'slick, or other visible or odourous evidence of oil, grease or petrochemicals' nor any 'visible floating oil, grease, scum, litter or other objectionable matter'(EA Condition F1-4), nor any observable erosion of bed or banks, or sediment deposition (EA Condition F1-6), attributable to the release waters.

CSD will continue to conduct the T&R program and monitor the release waters and receiving environment in accordance with the EA. Final laboratory reports are available upon request. The forthcoming 2015-2016 wet season Receiving Environment Monitoring Program (REMP) limnology and fish surveys will further consider and evaluate potential impacts of the T&R program on the receiving environment.

Yours sincerely,

sch4p4(6) Personal information

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Table 1: Water quality results – Baal Gammon 2015 Water Treatment and Release Program

Parameter	Unit	EA Default Trigger Level[1]	EA Default Contaminant Limit[2]	Release Sample[4]							
				23/10/2015	24/10/2015	25/10/2015	26/10/2015	28/10/2015	29/10/2015	18/11/2015	23/11/2015
pH	pH units	6-7.5	5-9	6.13	7.45	6.38	6.21	6.19	6.12	6.81	6.00
Electrical Conductivity	µS/cm	250	5970	46.2	102.9	63.2	31.5	48.8	56.2	69	57.4
Turbidity	NTU	15	-	4.0	5.8	5.5	5.0	0.5	<0.5	<0.5	<0.5
Fluoride	µg/L	- (1700)[3]	2000	880	670	890	910	1100	730	1000	660
Sulphate	mg/L	- (29.8)[3]	1000	4.6	2.4	9.6	1.4	6.2	7.2	7.1	6.6
Aluminium – filtered	mg/L	0.055	5	0.019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminium – total	mg/L	0.055	5	0.037	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic – filtered	µg/L	13	500	<3	<3	<3	<3	<3	<3	<3	<3
Arsenic – total	µg/L	13	500	<3	<3	<3	<3	<3	<3	<3	<3
Bismuth – filtered	µg/L	0.7	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bismuth – total	µg/L	0.7	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium – filtered	µg/L	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium – total	µg/L	0.2	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt – filtered	µg/L	2.8	1000	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt – total	µg/L	2.8	1000	<1	<1	<1	<1	<1	<1	<1	<1
Copper – filtered	µg/L	1.4 (350)[3]	1000	14	<1	<1	1	<1	<1	<1	<1
Copper – total	µg/L	1.4 (360)[3]	1000	25	<1	<1	<1	<1	<1	<1	<1
Indium – filtered	µg/L	- (<50)[3]	-	<50	<50	<50	<50	<50	<50	<50	<50
Indium – total	µg/L	- (<50)[3]	-	<50	<50	<50	<50	<50	<50	<50	<50
Iron – filtered	mg/L	0.3	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Iron – total	mg/L	0.3	-	0.032	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
Lead – filtered	µg/L	3.4	10	<1	<1	<1	<1	<1	<1	<1	<1
Lead – total	µg/L	3.4	10	<1	<1	<1	<1	<1	<1	<1	<1
Manganese – filtered	mg/L	1.9	-	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Manganese – total	mg/L	1.9	-	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel – filtered	µg/L	11	20	<1	<1	<1	<1	<1	<1	<1	<1
Nickel – total	µg/L	11	20	<1	<1	<1	<1	<1	<1	<1	<1
Silver – filtered	µg/L	0.05	100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver – total	µg/L	0.05	100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tin – filtered	µg/L	3	-	<2	<2	<2	<2	<2	<2	<2	<2
Tin – total	µg/L	3	-	<2	<2	<2	<2	<2	<2	<2	<2
Zinc – filtered	µg/L	8	3000	7	<5	<5	<5	<5	<5	<5	<5
Zinc – total	µg/L	8 (276)[3]	3000	9	<5	<5	<5	<5	<5	<5	<5

[1] Table F3 – Receiving water contaminant trigger levels of EA EPML00792513 (dated 7 May 2013).
[2] Table F4 – Receiving water contaminant limits of EA EPML00792513 (dated 7 May 2013).
[3] 80th percentile of Jamie Creek reference site data (sites SW0.1, SW2, SW5) from last 24 sample points.
[4] Finalised and QA/QC-checked laboratory reports received to 16 December 2015.
- no default value listed in the EA.

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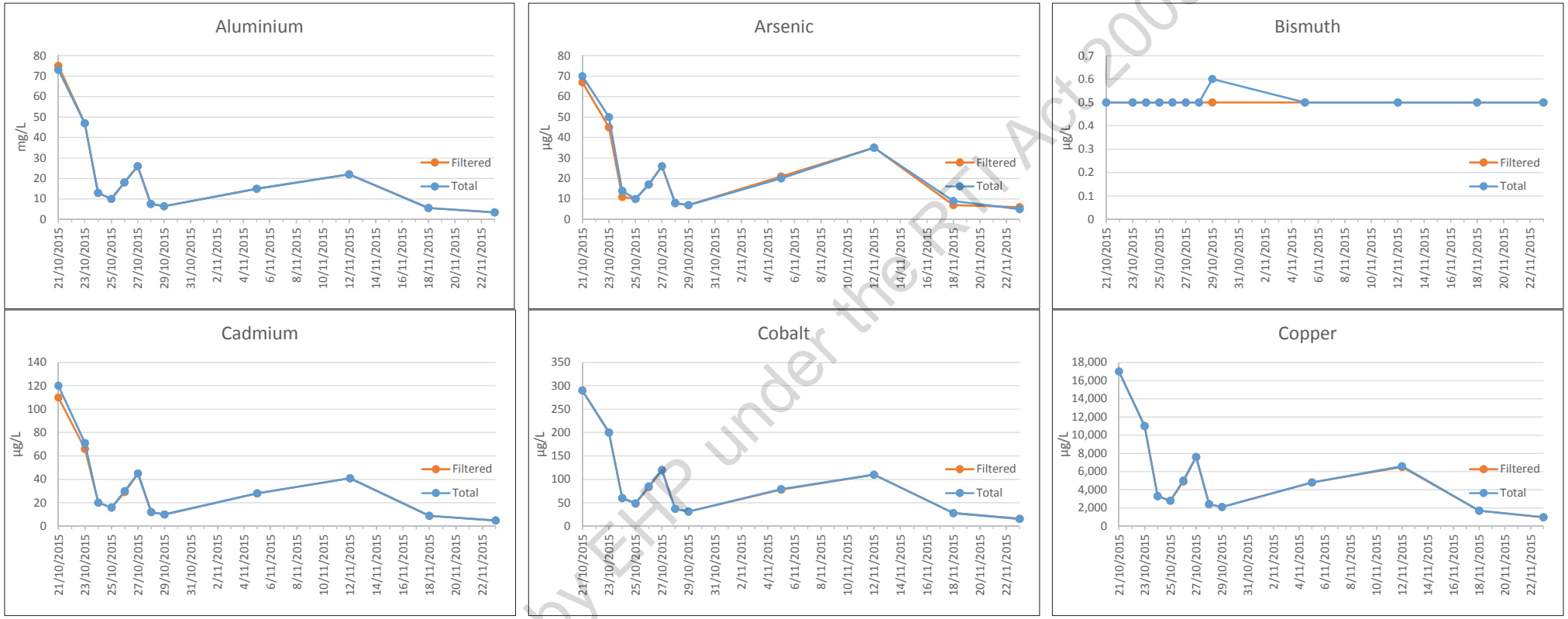
Figure 1: Water quality results – routine monitoring site SW4



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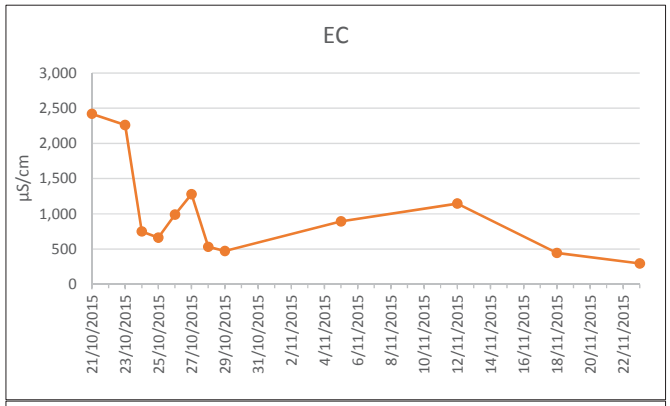

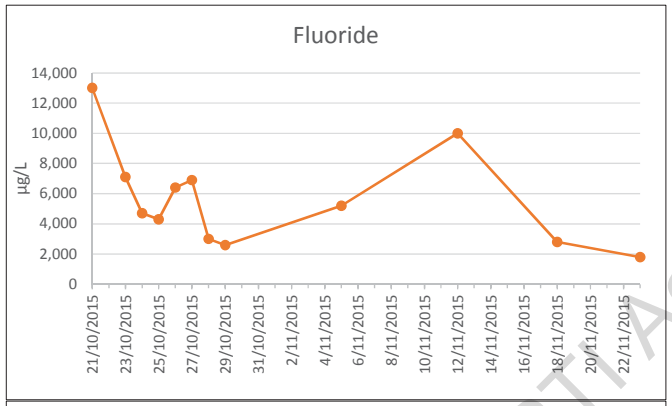

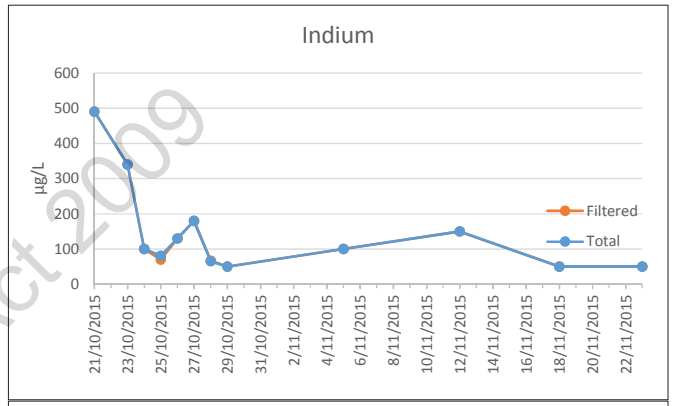

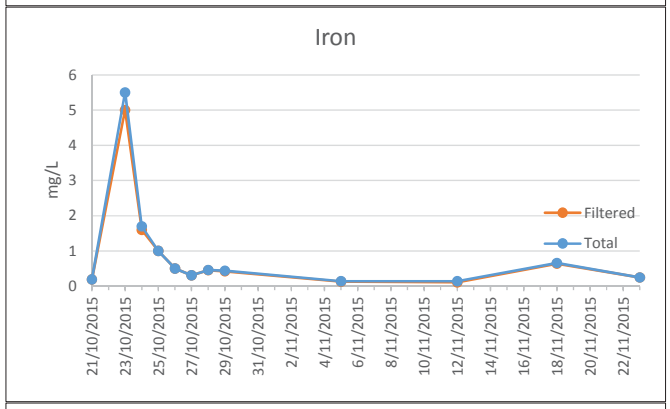

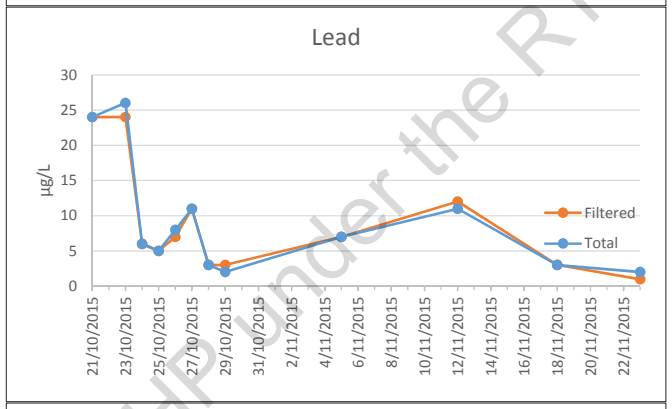

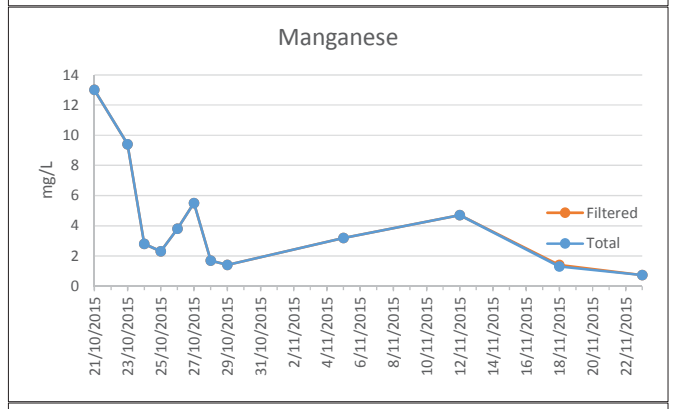

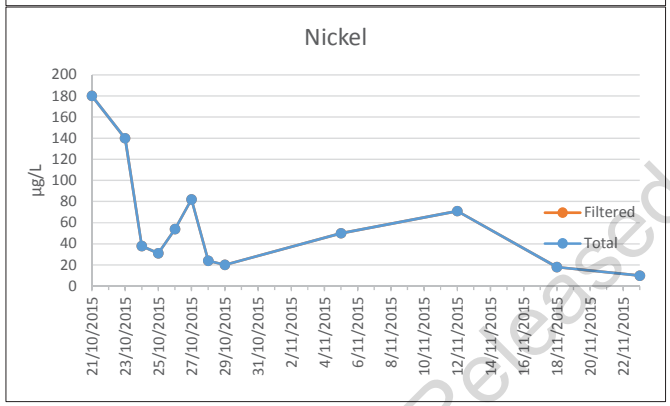

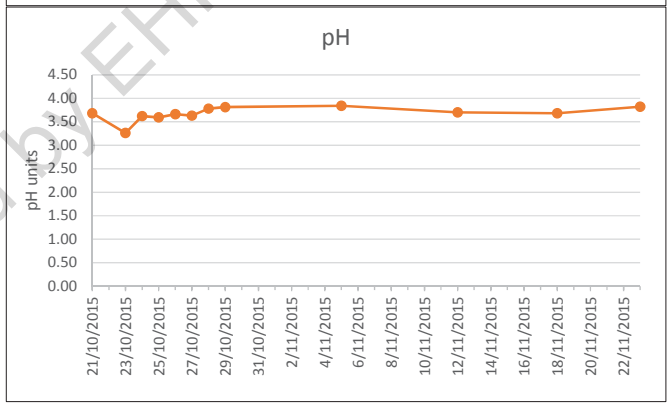

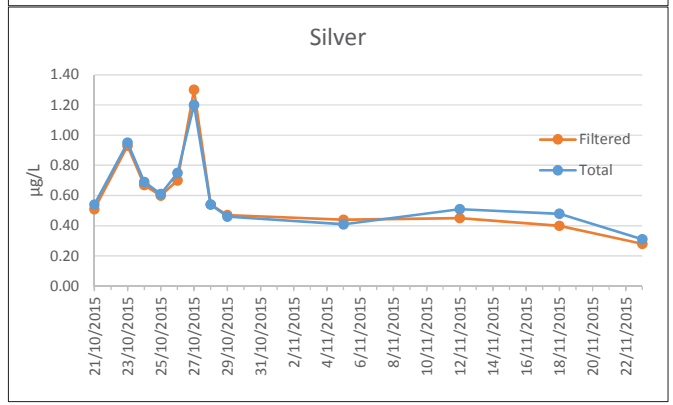

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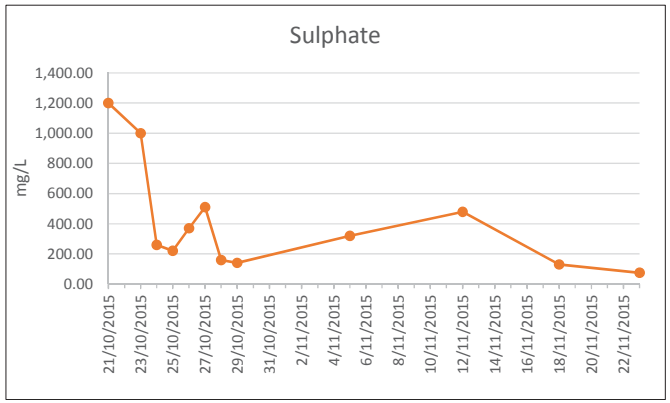

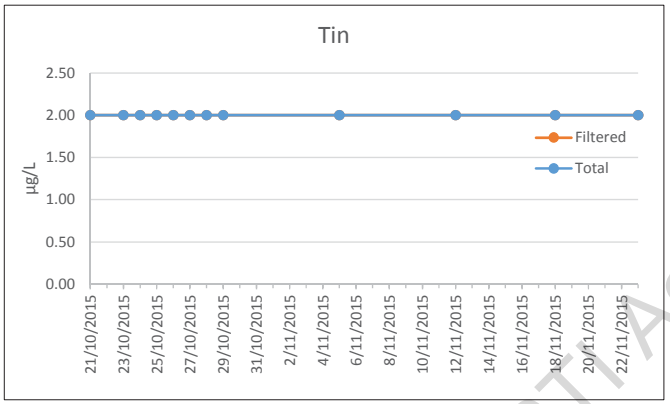

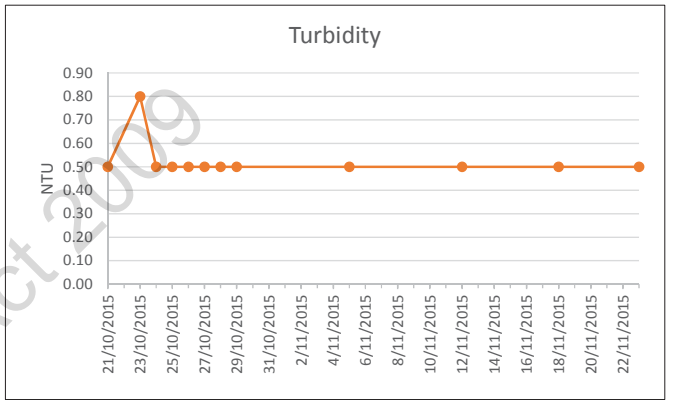

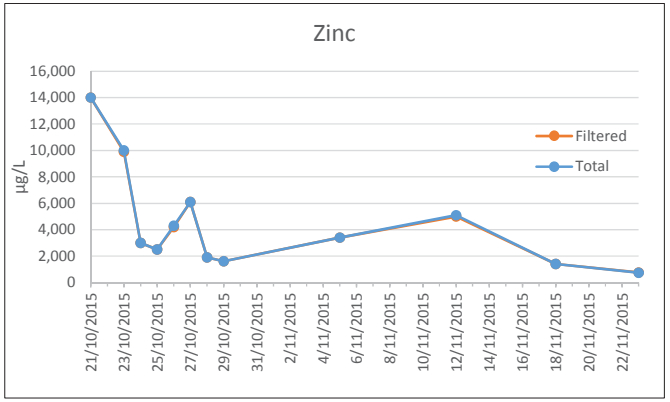

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