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CONCEPTUAL SITE MODEL

CAPTAINS FLAT LEAD MANAGEMENT PLAN

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ABBREVIATIONS

Measures	Description
%	per cent
µg/L	Micrograms per Litre
µg/m^3	Micrograms per Cubic Metre
ha	Hectare
km	Kilometres
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
mg/m^3	Milligrams per Cubic Metre
mm	Millimetre
ppm	Parts Per Million

Contaminant	Description
Al	Aluminium
As	Arsenic
Ba	Barium
Cd	Cadmium
Co	Cobalt
Cr	Chromium (III)
Cu	Copper
Fe	Iron
Hg	Mercury
Pb	Lead
Mn	Manganese
Mo	Molybdenum
Ni	Nickel
Sb	Antimony
Se	Selenium
Ti	Titanium
Zn	Zinc
BTEX	Benzene, toluene, ethylbenzene, xylene
OCP	Organochlorine pesticides
OPP	Organophosphate pesticides
PAH	Polycyclic aromatic hydrocarbons
TRH	Total recoverable hydrocarbons

General	Description
ADWG	Australian Drinking Water Guidelines
AHD	Australian Height Datum
ALS	Australian Laboratory Services
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
BoM	Bureau of Meteorology
C&R	Contaminants and Risk Team, Environment, Energy and Science Branch of DPIE
CEC	Cation exchange capacity
CLM Act	NSW Contaminated Land Management Act 1997
COC	Chain of Custody
Council	Queanbeyan-Palerang Regional Council
CSM	Conceptual Site Model
DGV	Default guideline value
DO	Dissolved oxygen
DoE	Department of Education (NSW)
DPIE	Department of Planning, Industry and Environment (NSW)
DQI	Data Quality Indicator
DQO	Data Quality Objective
EC	Electrical conductivity
EIL	Ecological Investigation Level
EMP	Environmental Management Plan
Envirolab	Envirolab Services Pty Ltd
EPA	Environment Protection Authority (NSW)
fpXRF	Field portable x-ray fluorescence metals analyser
GIL	Groundwater Investigation Level
GME	Groundwater Monitoring Event
HVAS	High volume air sampler
HIL	Health Investigation Level
LCS	Laboratory Control Sample
LEP	Local Environment Plan
LOR	Limit of Reporting
Mercury	Inorganic mercury unless noted otherwise
MS	Matrix Spike
NATA	National Association of Testing Authorities
ND	Not Detected
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NL	Non-Limiting
n	Number of Samples
OEH	Office of Environment and Heritage
pH	A measure of acidity, hydrogen ion activity
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
QPRC	Queanbeyan-Palerang Regional Council

General	Description
RAP	Remediation Action Plan
Regional NSW	NSW Department of Regional NSW
RFS	Rural Fire Service
RPD	Relative Percent Difference
SAQP	Sampling and Analysis Quality Plan
SES	State Emergency Services
SPR	Source-Pathway-Receptor
SWL	Standing Water Level
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total dissolved solids
TfNSW	Transport for NSW
TSP	Total suspended particulates
US EPA	United States Environmental Protection Agency
-	On tables is "not calculated", "no criteria" or "not applicable"

EXECUTIVE SUMMARY

Historic metalliferous mining and landfill activities have contaminated Captains Flat. The NSW Department of Planning, Industry and Environment (DPIE) Contaminants and Risks Team (C&R), Environment, Energy and Science Branch (2021) developed a preliminary Conceptual Site Model (CSM) as a qualitative representation of contaminant sources, migration pathways and potential receptors for potential contaminants from historical metalliferous mining and land-fill activities. The primary data gaps identified were information regarding soil contamination impacts in the Captains Flat residential area, groundwater hydrogeological information and groundwater impacts in the region. Data gaps in relation to potential receptors were also identified, for example, use of groundwater, potential agricultural receptors and potential for home grown produce. Ramboll subsequently undertook a review of available data and has expanded on the preliminary CSM developed by C&R.

From the review of information a Sampling and Analyses Quality Plan (SAQP) was developed to address identified data gaps and to characterise the degree and extent of contamination with sufficient detail to refine the CSM and inform development of the Captains Flat Lead Management Plan.

The extent of the sampling and analytical program was limited to public spaces. The program aimed to assess contaminant exposure risks that may exist for the Captains Flat community and immediate surrounding environment and comprised:

- A total of 675 field portable x-ray fluorescence metals analyser (fpXRF) measurements including 257 surface sample locations, 33 borehole locations and 113 hand augers
- Collection of 15 co-located surface water and sediment samples
- Installation and sampling of 11 groundwater wells
- Collection of a total of 16 swab samples and 11 vacuum samples for lead in dust from four public buildings in Captains Flat (Community Hall, Mens Shed, Fire Station and Sewage Treatment Plant)
- Collection of 15 bulk samples for bioavailability analysis
- Establishment of five air quality monitoring locations and a weather station and completion of bi-monthly monitoring reports

Assessment of contaminant exposure risks was additionally informed by development of:

- Site specific trigger levels (SSTL) for lead in soil based integrating specific bioavailability of lead in Captains Flat soils
- Interim water use guidelines integrating a water usage survey completed within the Captains Flat community
- A site-specific exposure assessment for the Captains Flat Men’s Shed

The scope of works described within this report is considered adequate to inform assessment of contaminant exposure risks within public spaces associated with historic mining practices within Captains Flat.

Potential contaminant exposure risks for human health and the environment have been identified based on assessment against site-specific trigger levels for soil and national criteria for other media relevant to the key exposure risks within the study area.

Relatively high, moderate and low potential risk areas within the Precinct have been determined based on:

- The degree to which lead concentrations in soil exceed the relevant assessment criteria, i.e. the potential consequence of exposure
- Qualitative assessment of anticipated land use type and

- The duration and frequency of land use where elevated lead concentrations were observed, i.e. the likelihood of exposure

Lead concentrations in low risk areas generally exceeded assessment criteria by 1 – 5 times, though in the bushland east of the Molonglo River at the southern end of town (which has lower potential for exposure) exceeded by 5 – 10 times. Moderate and high risk areas exceeded assessment criteria by > 5 times.

Potential human health risks for lead in soil are considered to be high in the following areas:

- The Old Mine Site and rail corridor
- Public spaces south of the Molonglo River including the former preschool, Foxlow Street and the eastern embankment of the Old Mine Site
- Areas where fill appears to have been applied north of the Molonglo River including flood berms adjacent the River and embankments beneath the tennis courts as well as Foxlow Parklet

Potential human health risks for lead in soil are considered to be moderate in the following areas:

- The Southern Smelter Area and Keatings Collapse
- Beneath the southern playing field off Foxlow Street
- The southern end of the school playing fields including the new preschool

Interim water use guidelines have been developed and define measures to mitigate risks from public water related to exposure to contaminants from historical mining and land-fill activities at Captains Flat. These interim guidelines integrate information on current usage based on a survey completed by Regional NSW and it is anticipated they will be reviewed after mine site rehabilitation and abatement measures proposed for public lands within Captains Flat.

The potential risk to human health due to environmental impacts in groundwater is relatively low based on the water use survey where no groundwater users were identified.

Potential human health risks for lead in soil are considered to be low in the following areas:

- In natural soil to depths of greater than five metres beneath the northern end of Foxlow Street
- In shallow soils in bushland hillside east of the Molonglo River near the southern end of town
- At several other locations in surface soils north of the Molonglo River at concentrations which marginally exceed the health investigation levels
- In public buildings

High and moderate potential risks in public space areas are presented on Figures 8a-8c[1].

There is a potential risk to private residents, members of the public and recreational users of the Precinct due to consumption of fish and home grown produce.

Potential contaminant exposure risks for the environment were identified in soil, sediment, surface water and groundwater. Contaminants in soil present exposure risks through direct ecological uptake though would also be expected to contribute to contaminant concentrations in surface water and sediment through run-off. Similarly, groundwater contamination could be expected to contribute to surface water contamination and associated risks. Potential risks associated with contamination in sediment and surface water were observed to extend past the downstream Precinct boundary.

[1] High risk areas on the Old Mine Site are being further considered under a separate scope of works and are not presented on the figures.

A water treatment plant and reticulated watermains provide potable water within Captains Flat. Ramboll understands treated public water quality is managed under the NSW Health Drinking Water Monitoring Program. The quality of treated public water supply is not considered in this assessment.

The following data gaps remain in assessment of exposure risks:

- Assessment of contaminant impacts to the Molonglo River downstream of the Precinct or interactions with the alluvial aquifer and downstream water users
- Sediment contamination assumed to be present in the water supply dam has not been comprehensively assessed. Contaminant exposure risks are assumed to exist for benthic and aquatic ecology in the water supply dam. Comprehensive assessment of sediment in the water supply dam should be considered as part of ongoing surface water monitoring
- Effects of meteorological variability in contaminant mobility via airborne, surface water and groundwater migration pathways remains as a data gap however routine monitoring programs have been established for air quality and surface water and is proposed for groundwater
- Human health effects from contaminant exposure within Captains Flat and the downstream receiving environment. A systematic assessment of community health effects from potential exposure to contaminants associated with historic mining, including blood lead monitoring would likely improve capacity to understand effects historic and current from current exposure scenarios and to assess the effectiveness of management measures once implemented
- Thorough assessment of contaminant concentrations within private properties
- Assessment of risk due to consumption of fish and home grown produce

Addressing these data gaps would further refine assessment of contaminant exposure risks and management approaches.

1. INTRODUCTION

Ramboll Australia Pty Ltd (Ramboll) was retained by the Department of Regional NSW (Regional NSW) to prepare the Captains Flat Lead Management Plan to address exposure risks from lead within the environment and the community that is linked to the historical metalliferous mining and land-fill activities within Captains Flat. This Conceptual Site Model report is a key feature of that process. A process diagram for preparation of the Captains Flat Lead Management Plan is presented as Figure 1-1 below.

The NSW Department of Planning, Industry and Environment (DPIE) Contaminants and Risks Team (C&R), Environment, Energy and Science Branch completed the Literature Review – Nature and extent of contamination in the Captains Flat Region, NSW in April 2021. Ramboll subsequently conducted a review of information available regarding contamination within the Captains Flat region and prepared a preliminary Conceptual Site Model (CSM) and Sampling and Analysis Quality Plan (SAQP) for the assessment of soil, water and air quality (Ramboll Review of Information and SAQP, 2 June 2021).

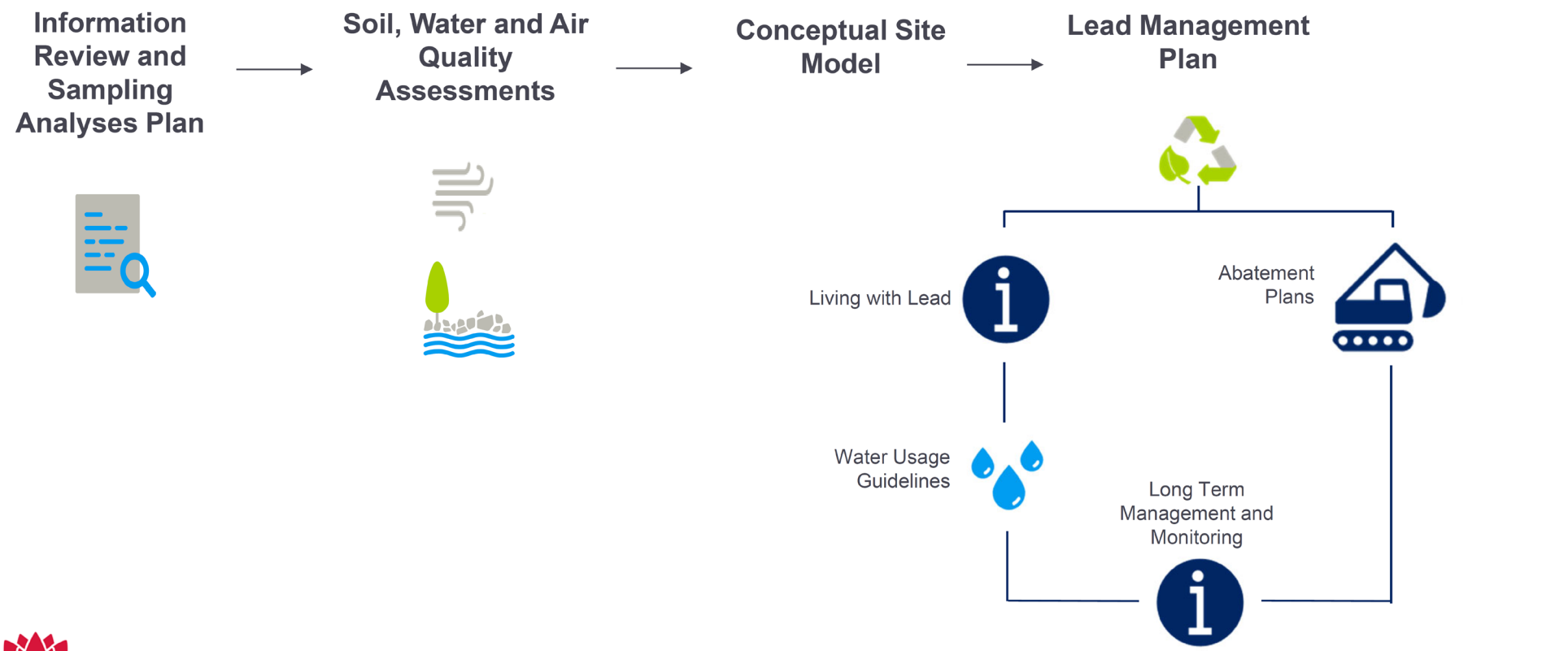

Figure 1-1 Pathway for development of the Captains Flat Lead Management Plan

1.1 Objectives

The objectives of this report are to:

- Describe the results of the soil, water and air quality assessments completed in June 2021
- Present the results of the soil, water and air quality assessments completed in June 2021 integrated with previously available data
- Refine the existing CSM to provide a suitable platform for the development of the Captains Flat Lead Management Plan
- Identify risks to human health and the environment requiring further assessment or management/mitigation

1.2 Scope of Work

The scope of work performed to meet the objectives comprised of the following sampling program:

- A total of 675 field portable x-ray fluorescence metals analyser (fpXRF) measurements including 257 surface sample locations, 33 borehole locations and 113 hand augers
- Collection of 15 co-located surface water and sediment samples
- Installation and sampling of 11 groundwater wells
- Collection of a total of 16 swab samples and 11 vacuum samples for lead in dust from four public buildings in Captains Flat (Community Hall, Men's Shed, Fire Station and Sewage Treatment Plant)
- Collection of 15 bulk samples for bioavailability analysis
- Establishment of five air quality monitoring locations and a weather station and completion of one bi-monthly round of monitoring

All sampling locations undertaken by Ramboll in preparing the CSM are illustrated on Figure 3.

The extent of the sampling and analytical program was limited to public spaces. The program aimed to assess contaminant exposure risks that may exist for the Captains Flat community. Assessment of contaminant exposure risks was additionally informed by development of:

- Site specific trigger levels (SSTL) for lead in soil based integrating specific bioavailability of lead in Captains Flat soils
- Interim water use guidelines integrating a water usage survey completed within the Captains Flat community
- A site specific exposure assessment for the Captains Flat Men's Shed.

The report findings are based on data collected by Ramboll supplemented by previously available data. This includes data from studies within the mine site and within the rail corridor, undertaken on behalf of Regional NSW and Transport for NSW, respectively, as well as data collected by NSW EPA from public spaces in the Captains Flat community and a statistical summary of data collected from private residences within Captains Flat.

2. IDENTIFICATION OF THE CAPTAINS FLAT LEAD MANAGEMENT PLAN PRECINCT

The Captains Flat Lead Management Plan Precinct (the Precinct) was defined in the Ramboll Review of Information and SAQP and encompasses built areas of the Captains Flat community, the legacy Lake George Mine site and the Molonglo River from upstream of the water supply dam to a waterhole approximately 1.5 km downstream of the mine. The Precinct includes roads accessing Captains Flat (to a distance of at least 400 m), the rail corridor (to a distance of 1 km) and bushland areas at the perimeters of the community.

Private property assessments are an important aspect of managing lead exposure risks in Captains Flat though to preserve confidentiality the NSW Environment Protection Authority (EPA) is managing private property assessments (except those within the footprint of the former Lake George Mine). Ramboll has been provided with a statistical summary of data collected from private residences within Captains Flat although more detailed results are available for the private residence on the mine site and are included in this report. The Precinct is presented on Figure 1, Appendix 1. Precinct details are presented in Table 2-1. The key site features are shown on Figure 2.

Table 2-1: Site Identification

Information	Description
Site Area:	Approximately 295 Ha (noting this encompasses numerous private properties that were not assessed)
Local Government Area:	Queanbeyan-Palerang Region
Owners:	Crown Lands (integrating land managed under the Legacy Mines Program), Queanbeyan-Palerang Regional Council (QPRC), Department of Education (DoE), Transport for NSW (TfNSW), Mogo Aboriginal Land Council, numerous private landowners
Current Land Use (by owners):	Current land use within the Precinct includes: • Crown Lands (Legacy Mine areas, preschool, parks, rivers, the water supply dam and bushland)[2] • QPRC (public roads, sewage treatment plant (STP), potable water treatment plant (WTP) and community buildings including the Community Hall, Rural Fire Service (RFS), State Emergency Services (SES) and Men's Shed) • DoE (Captains Flat Public School and the new preschool) • TfNSW (non-operational Captains Flat–Bungendore rail line) • Mogo Local Aboriginal Land Council (areas west of the rail corridor and north of the Northern Tailings Dump) • Numerous discrete private commercial/industrial and residential land parcels. It is noted that large areas of the former Lake George Mine are held in private ownership.

The site environmental setting information was summarised in C&R (2021).

[2] Based on review of Crown Lands as presented on the NSW Resources and Geosciences Minview web mapping application (https://minview.geoscience.nsw.gov.au/#/?lon=149.4471&lat=-35.60473&z=17&bm=bm1&l=wa3:y:100,ad6:y:100) accessed 25 May 2021.

3. REGULATORY REQUIREMENTS

This CSM has been prepared in general accordance with the following guidance documents:

1. Australia and New Zealand Environment and Conservation Council, *Guidelines for Fresh and Marine Water Quality* (ANZECC 2000)
2. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia*. Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG 2018)
3. NSW *Contaminated Land Management Act 1997*
4. National Environment Protection Council (NEPC), *National Environment Protection (Ambient Air Quality) Measure 1998 as amended 2021* (Ambient Air Quality NEPM)
5. National Environment Protection Council (NEPC), *National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013* (NEPM 2013)
6. NSW EPA, *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land* (NSW EPA 2020)
7. NSW EPA, *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (NSW EPA 2017)

4. PREVIOUS INVESTIGATIONS

Ramboll prepared a review of information including the information contained within the C&R Literature Review (2021) which integrated an extensive review of research, guidelines and available geospatial data relevant to contamination associated with the historical mining and land-fill activities at Captains Flat.

Previous assessments relevant to lead exposure risks within Captains Flat that were provided for review are listed below:

- Lake George Captains Flat Mine Review, Assessment of Remediation Options (GHD 2018)
- Sampling data relating to blue water reported in the Molonglo River (NSW EPA 2019)
- Captains Flat Rail Corridor Detailed Site Investigation (Ramboll 2021b)
- Captains Flat Surface Soil Testing Report (NSW EPA 2021)[3]
- Human Health Detailed Site Investigation, Captains Flat Preschool, 27 Foxlow Street, Captains Flat NSW (EnviroScience Solutions 2021a)
- Human Health Detailed Site Investigation, Captains Flat Oval, Foxlow Street, Captains Flat NSW (EnviroScience Solutions 2021b)

Further studies have since been undertaken at Captains Flat and have also been included in the data summary below:

- Captains Flat Water Usage Survey (Regional NSW 2021)
- Captains Flat Private Residence Testing (NSW EPA 2021)[4]

A summary of data relevant to the site is presented in the following sections with further details from review of the above documents provided in the Ramboll Review of Information and SAQP. The available data is presented in summary tables in Appendix 2.

4.1 Data Summary

4.1.1 Soil

Key findings from soil data within the review of information include:

- Elevated metal concentrations (As, Cd, Co, Cu, Pb, Mn, Hg, Ni, Zn)[5] have been identified in mine site soils
- Elevated lead concentrations have been identified in shallow soils within the community. Distribution around the former preschool and at the south end of Foxlow Street appears related to application of mine waste as fill, surficial deposition (potential runoff from the eastern embankment of the mine and/or windborne dust deposition). Distribution at Foxlow Parklet appears related to application of fill

The NSW EPA conducted a residential sampling program in Captains Flat in 2021 which comprised of sampling over 40 properties using a portable XRF to a maximum depth of 5 cm. The data was provided to Ramboll summarised into two datasets – North and South of Molonglo Bridge (Intersection of Foxlow St and Braidwood Rd).

[3] This report contains the results of the NSW EPA sampling in public spaces only.

[4] To maintain confidentiality, NSW EPA only provided a statistical summary of the data and excluded reference to individual properties hence Ramboll has reviewed the information in terms of the broader test results across the community.

[5] Arsenic (As), cadmium (Cd), cobalt (Co), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), zinc (Zn)

Key findings from the NSW EPA private residence testing include:

- The area north of Molonglo Bridge reported a maximum lead concentration of 4,000 mg/kg which is above the NEPM 2013 health-based soil investigation level for residential land use (HIL A) of 300 mg/kg and an average of 243 mg/kg
- The area south of Molonglo Bridge reported a maximum lead concentration of 8,200 mg/kg and an average of 1,559 mg/kg which is above the HIL A
- The area south of Molonglo Bridge reported a maximum arsenic concentration of 230 mg/kg which is above the HIL A of 100 mg/kg and an average concentration of 42 mg/kg
- The area north of Molonglo Bridge reported a maximum zinc concentration of 11,000 mg/kg which is above the HIL A of 8,000 mg/kg and an average concentration of 604 mg/kg

Gaps identified in soil data include:

- The extended period of historic mining infers potential for a wide range of potentially contaminating activities
- The location and number of exceedances in the private residence testing data was not provided for confidentiality reasons therefore these details are unknown. A thorough assessment of contaminant concentrations within private properties remains a data gap
- Elevated lead concentrations in soil within the community have not been vertically delineated
- Bioavailability of metals in soils impacted by dust, ore, mine waste and slag has not been assessed

Sample locations and exceedances interpreted from historic assessments are presented on Figures 3a – 3e, Appendix 1 and results from the rail corridor (reproduced from Ramboll 2021b) are provided in Figures 3f – 3j, Appendix 1.

4.1.2 Surface Water

Key findings from surface water data (mostly total metal concentrations) include:

- Al, Co, Cu, Pb, Ni, Zn in mine leachate exceeded assessment criteria relevant to the receiving environment
- Zn exceeded assessment criteria to the extent sampled within the downstream receiving environment and was considered likely to be the primary driver of toxicity within the Molonglo River

A water usage survey and a fishing survey open to all landholders in the Precinct was conducted by Regional NSW in 2021. The following summarises the results of the survey with respect to surface water usage and fishing:

- There were a total of 23 responses to the water usage survey
- There were a total of six responses to the fishing survey

Household Water Supply

- Twenty respondents described their property as 'private residential', two described their property as 'agricultural' and one described their property as 'commercial/industrial'
- Eighteen of the respondents reported being connected to town water supply and the usage of town water included mostly drinking, cooking, gardening, other domestic use (toilets, laundry, bathing), pets drinking water and watering non-edible and edible plants. The other five participants were not connected to town water supply
- Eleven of the respondents reported having a rainwater supply at their property and the usage of rainwater included mostly drinking, cooking, gardening, other domestic use (toilets, laundry, bathing), pets drinking water, and watering non-edible and edible plants. Three of these participants reported topping up their water tanks with town water supply occasionally
- Five respondents reported using dam water at the property for a mix of uses including stock watering, domestic produce and crop irrigation

Town Water Supply Dam

- Five respondents reported using the town water supply dam for swimming, five reported using it for drinking water, one reported using it for washing pets, one reported using it for watering livestock and one for fishing
- Six respondents reported swimming at the town water supply dam less than 10 times per month, of which two reported for more than 60 minutes, two for 21-30 minutes, one for 11-20 minutes and one for less than 10 minutes in total each month
- Two respondents to the water usage survey reported fishing at the town water supply dam less than 10 times per month, of which two reported for more than 60 minutes, three for 21-30 minutes, and one for 11-20 minutes in total each month. All six respondents to the fishing survey reported fishing at the town water supply dam. Respondents reported fishing from once a week to once every three months. One respondent reported always eating fish caught within the Precinct three respondents reported sometimes eating the fish caught and two respondents reported never eating the fish caught. Responses regarding frequency of fishing and consumption of fish were not specific to the town water supply dam (ie: included the Molonglo River)

Molonglo River

- Five respondents reported using the Molonglo River for fishing, two reported using it for swimming, two reported using it for washing pets
- Two respondents reported swimming at the Molonglo River less than 10 times per month and a total of 21-30 minutes per month each, one participant reported swimming at Molonglo River in total for 31-45 minutes per month
- Five respondents reported fishing at the Molonglo River less than 10 times, one reported fishing between 11-20 times and one reported fishing between 21-30 times per month
- Four respondents reported fishing at the Molonglo River more than 60 minutes per month, one reported fishing for 31-45 minutes per month, one reported fishing for 21-30 minutes per month and one reported fishing for less than 10 minutes per month. Three respondents to the fishing survey reported fishing in the Molonglo River downstream of the town water supply dam and four respondents reported fishing upstream of the town water supply dam from once a week to once every three months

Based on the survey it is considered that surface water throughout the Precinct is generally used for recreational purposes particularly within the Molonglo River and the water supply dam. Responses indicate that surface water from the Molonglo River and the town water supply dam are also relied upon within the Precinct for stockwater and some domestic purposes.

Gaps identified in surface water data include:

- The effect of rainfall variability on the degree and distribution of surface water contamination
- Assessment of dissolved metals (relevant to assessing ecological risks) is limited

4.1.3 Sediment

Three incidents of tailings slumps are known to have occurred within Captains Flat. The first slump occurred from the southern tailings dump into the water supply dam in 1939. The second and third slumps occurred in 1942 and 1945 from the northern tailing dump into the Molonglo River. Risks to benthic and aquatic ecology in the town water supply dam and the Molonglo River are assumed to exist and this assumption will inform the Captains Flat Lead Management Plan.

The key findings from sediment data include:

- Metals in sediment (As, Cd, Cu, Ni, Sb, Zn) were observed above adopted assessment criteria. Additionally, Al and Mn were elevated though assessment criteria were not identified

Gaps identified in sediment data include:

- The current distribution of contaminated sediments within the Precinct
- Potential for sediment to act as an ongoing source of impact to surface water

4.1.4 Air Quality

No known ambient air quality data was available for review in the vicinity of Captains Flat. GHD 2018 provided a high-level commentary of historic meteorological conditions which is of relevance to air quality in the region, where meteorology is a primary driver of atmospheric dispersion.

The GHD hydrology and climate review describes rainfall data collected in Captains Flat (Foxlow Street) from 1898 to 2017. Average monthly rainfall collected for the period did not show an annual seasonal trend. Average monthly rainfall varied from approximately 50 mm average in July to just over 70 mm average in November for the period reviewed.

Data from the Tuggeranong Bureau of Meteorology (BoM) station was reviewed by GHD, a station located approximately 36 km to the northwest of Captains Flat. The GHD report presents the BoM-produced 3 pm average wind rose, which indicates a prevailing north-westerly at 10 – 30 km/h. The data collected at Tuggeranong is unlikely to be representative of Captains Flat given the differences in terrain, where Tuggeranong is a relatively flat urban environment compared to Captains Flat which has distinctive valley terrain orientated roughly from north to south. The terrain is likely to steer winds through the valley and influence dispersion of particulate matter. It is also noted that the 3 pm average wind conditions at Tuggeranong only consider an hourly average, where dispersion conditions are likely to change throughout a diurnal period.

The nearest BoM station to Captains Flat is located in Braidwood, approximately 34.5 km to the northeast of Captains Flat, a considerable distance to be considered representative. Braidwood may be more representative of the conditions at Captains Flat than Tuggeranong, but again the terrain differs. The absence of known meteorology data in the vicinity of Captains Flat presents a data gap for the air quality monitoring program, where these conditions will influence source to receptor movement of air pollutants in the local airshed.

4.1.5 Internal Dust

Limited assessment of internal dust within public buildings has occurred. Data from the Captains Flat SES (assessed by Ramboll 2021b) indicates lead loadings exceeded the adopted assessment criteria however an exposure assessment integrating limited use of the building supported the conclusion that risks were acceptable.

It is understood that assessment of internal dust has occurred at the former preschool and the RFS building however this data has not been provided for review to date.

4.1.6 Groundwater

Based on a search of the DR NSW Geoscience MinView GIS portal conducted by Ramboll on 25/11/2021 there are no registered groundwater bores within the Precinct. This data appears current to November 2018 and further confirmation of groundwater extraction within the Precinct is recommended.

A water usage survey was conducted by Regional NSW in 2021. The following summarises the results of the survey with respect to groundwater usage:

- A total of 23 residents of Captains Flat responded to the survey
- Twenty participants described their property as ‘private residential’, two described their property as ‘agricultural’ and one described their property as ‘commercial/industrial’
- Eighteen of the participants reported being connected to town water supply and the usage of town water included mostly drinking, cooking, gardening, other domestic use (toilets, laundry, bathing), pets drinking water and watering non-edible and edible plants. The other five participants were not connected to town water supply
- None of participants reported having a groundwater bore supply

Based on the survey, the groundwater usage in the town appears to be limited with none of the survey participants reporting any groundwater supply to their property.

5. PRELIMINARY CONCEPTUAL SITE MODEL

Contaminants of potential concern (CoPC) identified by C&R in the Literature Review include As, Cd, Cu, Pb, Hg, Mn, Ni, and Zn. The review found that the mine site's unvegetated areas could be a source of significant contaminant transport to surrounding areas due to increased chance of erosion, dissolved and solid run-off, and contamination via wind-borne dust. Contamination from the mine site has been recorded in sediments of the Molonglo River extending up to 63 km downstream to Lake Burleigh Griffin in the north (C&R 2021). Along with metalliferous contamination, other contributing factors to environmental degradation in off-site surface waters include suspended particulates and the formation of thick iron oxide precipitates in the Molonglo River from mine seeps, and the ongoing issues of acid mine drainage/ seepage from sources on the mine site.

C&R developed a preliminary CSM as a qualitative representation of contaminant sources, migration pathways and potential receptors for CoPC linked to historical mining and land-fill activities within Captains Flat.

C&R identified the following knowledge/information gaps when undertaking the Literature Review. Answering the data gaps will better define Source-Pathway-Receptor (SPR) relationships in the CSM. The data gaps identified by C&R were as follows:

- Soil contamination impacts in the Captains Flat residential area: there was no literature/ investigations identified which provide information on the extent of soil contamination in the Captains Flat residential area. C&R is aware that the EPA has recently undertaken soil survey/sampling for lead in the area. However, these data were not available at the time of preparing this literature review. The soil survey and sampling results may be useful to address this gap
- Groundwater hydrogeological information: groundwater flow is inferred towards the east/north-east, in line with Copper Creek flowing into the Molonglo River. However, no supporting groundwater surveys are available to confirm this information
- Groundwater impacts in the region: there was no literature/ investigations identified during the review which address groundwater impacts in the area
- Groundwater use in the area: there is no information on the use of groundwater within the Captains Flat residential area. C&R's bore search identified the closest groundwater bore is within 5 km of the area for domestic purposes. However, it is not clear whether this is representative of the Captains Flat region
- Agricultural receptors in the area: it is not clear in the literature/ reports collected by C&R as to whether agricultural or horticultural activities are undertaken in the area
- Home grown produce in the area: it is not clear whether residents in the Captains Flat area grow home-grown vegetables/ produce

A tabulated summary of the preliminary CSM is presented in the Ramboll Review of Information and SAQP report which integrates the Literature Review (C&R 2021) with Ramboll's review of data. Ramboll identified the following additional data gaps to supplement those identified by C&R:

- Systematic assessment of metals concentrations in soils within the community and vertical delineation of elevated lead concentrations in soil within the community. Specific areas requiring assessment and/or vertical delineation were identified in the Review of Information and SAQP report
- Bioavailability of metals in soils impacted by dust, ore, mine waste and slag, relevant to assessing human health risks
- Details of surface water and groundwater usage within the Precinct and the alluvial flats some kilometres downstream

- The effect of meteorological variability on the degree and distribution of surface water contamination
- Assessment of dissolved metals concentrations in surface water, relevant to assessing ecological risks
- The current distribution of contaminated sediments and exposure risks within the receiving environment
- Potential for sediment to act as an ongoing source of impact to surface water
- Meteorology data in the vicinity of Captains Flat to inform assessment of source to receptor movement of air pollutants in the local airshed
- Assessment of internal dust within public buildings

This assessment program has been designed to address these data gaps and refine the CSM. This in turn will inform preparation of the Captains Flat Lead Management Plan, as outlined in Figure 1-1**.**

It was acknowledged that the following data gaps would not be resolved under the proposed sampling and analyses (now completed):

- Assessment of contaminant impacts to the Molonglo River downstream of the Precinct or interactions with the alluvial aquifer and downstream water users
- Sediment contamination assumed to be present in the water supply dam will not be comprehensively assessed under the proposed sampling and analyses. The Captains Flat Lead Management Plan will be developed under the assumption that contaminant exposure risks exist for benthic and aquatic ecology in the water supply dam. Comprehensive assessment of sediment in the water supply dam should be considered as part of ongoing surface water monitoring
- Effects of meteorological variability in contaminant mobility via airborne, surface water and groundwater migration pathways will remain as a data gap and require ongoing monitoring
- Human health effects from contaminant exposure within Captains Flat and the downstream receiving environment. A systematic assessment of community health effects is recommended as a basis for understanding effects from current exposure scenarios and for validating the Captains Flat Lead Management Plan once implemented

It was further noted that site-specific risk assessment considering bioavailability of metals may be warranted depending on the results of the assessment and the identified risks to human health and ecology. Inclusion of bioavailability analyses was subsequently added to the sampling program based on the initial results to assist in addressing this data gap.

A water treatment plant and reticulated watermains provide potable water within Captains Flat. Ramboll understands treated public water quality is managed under the NSW Health Drinking Water Monitoring Program. The quality of treated public water supply is not considered further in this assessment.

6. ASSESSMENT CRITERIA

Tier 1 assessment criteria relevant to each environmental media are presented in sub sections below. Tier 2 (site-specific) assessment criteria are also considered for soil.

6.1 Soil

6.1.1 Tier 1 Human Health and Ecological Assessment Criteria

The NEPM (2013) provides health-based soil investigation levels (HILs) and ecological investigation levels (EILs) for various land uses. The assessment criteria to be adopted will depend on the local land use, as follows:

- HIL A – HIL for residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools. Within the scope of this assessment HIL A has been applied to the new preschool, the school and the school playing fields
- HIL C – HIL for public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. Within the scope of this assessment HIL C has been applied to all areas except the new preschool, the school, the school playing fields and the rail corridor
- HIL D – HIL for commercial / industrial such as shops, offices, factories and industrial sites. Within the scope of this assessment HIL D has been applied to the rail corridor
- The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a depth of 3 metres below ground level (mbgl)

If the above exposure assumptions are not applicable (e.g. poultry), site-specific risk assessment may be required:

- EILs for Urban Residential and Public Open Space or Commercial/Industrial land use. EILs depend on specific soil physio-chemical properties such as pH, clay content, cation exchange capacity (CEC) and background concentrations. Site-specific EILs were calculated based on collected pH, clay content, CEC and background contaminant concentrations. The EILs are presented in Table 6-1 and the calculation of EILs is presented in Appendix 3.

6.1.2 Tier 2 Human Health Assessment Criteria

Site-specific trigger levels (SSTLs) were developed for lead in soil. The bio-accessibility of lead assumed in the HILs was replaced with site-specific bio-accessibility determined through representative sampling and analyses of Captains Flat soils. All other parameters used in the HIL models were retained. The resulting lead in soil concentrations were adopted as SSTLs for human health risk assessment. A technical note describing the development of these SSTLs is presented as Appendix 7. SSTLs are presented alongside HILs in Table 6-1.

Table 6-1: Soil Assessment Criteria (mg/kg)

Contaminant	HIL A	HIL C	HIL D	EIL (Urban residential/ public open space)	EIL (Commercial/ Industrial)
Arsenic	100	300	3,000	100	160
Barium	-	-	-	-	-
Cadmium	20	90	900	-	-
Chromium	100[a]	300[a]	3,600[a]	300	500
Cobalt	100	300	4,000	-	-
Copper	6,000	17,000	240,000	220	320
Iron	-	-	-	-	-
Mercury	40	80	730	-	
Lead	300 / 400[b]	600 / 700[b]	1,500 / 4,000[b]	1,100	1,800
Manganese	3,800	19,000	60,000	-	-
Molybdenum	-	-	-	-	-
Nickel	400	1,200	6,000	200	350
Selenium	-	-	-	-	-
Titanium	-	-	-	-	-
Zinc	7,400	30,000	400,000	570	850

- Indicates no criteria available

[a] HIL for chromium (VI)

[b] Site-Specific Trigger Level

6.2 Surface Water and Groundwater

The site receptors that can be exposed to mine discharges, seepages, surface runoff and waters within Copper Creek and Molonglo River may potentially include humans, ecology (aquatic and terrestrial), plants (via irrigation and direct absorption from surface water and groundwater) and livestock.

The water usage survey described in Section 4.1 did not identify any extraction of groundwater and assessment criteria are applied to groundwater to inform consideration of potential contribution from groundwater to surface water contaminant exposure risks and risks for potential future uses of groundwater.

The tier 1 assessment criteria adopted for different receptor groups are shown in Table 6-2. Note that:

- Australian Drinking Water Guidelines (ADWG) Section 6.3.1 (2011) states that guideline values refer to the total amount of the substance present, regardless of its form (e.g. in solution or attached to suspended matter) and so analytical results from unfiltered samples should be assessed against human health criteria. Similar reasoning is also applicable to irrigation and livestock guideline values. Irrigation and livestock guidelines have been applied to total concentration analyses for surface water however groundwater samples were field filtered, in accordance with Australian Standards
- ANZG (2018) guidelines for metals in freshwater states that the major toxic effect of metals comes from the dissolved fraction, so it is valid to filter samples (e.g. to 0.45 µm) and compare the filtered concentration against the respective guideline values

Table 6-2: Surface Water and Groundwater Assessment Criteria (mg/L)

Total Metals	Assessment Criteria – ADWG or (USEPA RSL)	Assessment Criteria - recreation	Assessment Criteria - Irrigation	Assessment Criteria – Stock Water	Assessment Criteria – ANZG (2018) 95% Protection - Freshwater
Total or dissolved Criteria	**Total**	**Total**	**Total**	**Total**	**Dissolved**
Aluminium	20	200	5	20	0.055
Arsenic	0.01	0.1	0.5	2	0.024
Barium	2	20	-	-	-
Cadmium	0.002	0.06	0.01	0.05	0.0002
Chromium	0.05	0.5	1	1	0.001
Cobalt	0.006	0.03	1	0.1	0.09
Copper	2	20	0.5	0.1	0.014
Iron	(1.4)	119	-	10	0.3
Lead	0.01	0.2	0.1	5	0.0034
Manganese	0.5	12	10	2.5	1.9
Mercury	0.001	0.01	0.002	0.002	0.00006
Molybdenum	0.05	-	-	-	0.034
Nickel	0.02	0.2	1	2	0.011
Selenium	0.01	-	-	-	0.011
Titanium	-	-	-	-	-
Zinc	(0.6)	26	20	5	0.008

blank cell denoted with – indicates no criterion available.

** Values based on site-specific exposures will be used in final assessment*

**** Recreational exposure guidelines values for Cd, Co, Pb, Mn and Zn were estimated based on water intake from estimated frequency of exposure. This is based on an approach applied by the National Health and Medical Research Council Guidance on Per and Polyfluoroalkyl substances (PFAS) in Recreational Water (2019)*

[a] *Aluminium guidelines for pH > 6.5 and pH <6.5 based on variable (acidic-neutral-alkaline) pH measured previously in various surface waters, seeps and runoffs.*

[b] *Guideline value for total arsenic.*

[c] *Guideline value for chromium (VI).*

[d] *Guideline value for inorganic mercury.*

[e] *99% species protection level DGV has been adopted to account for the bioaccumulating nature of this contaminant.*

The water quality criteria protective of human health adopted for assessment were primarily adopted from ADWG; however, US EPA RSLs for tap water were adopted for analytes where no ADWG was available. It is considered likely that primary human health exposures will occur via recreational activities. The National Health and Medical Research Council (NHMRC) (2008) suggests that 10-times the ADWG values may provide a conservative estimate of acceptable recreational exposure guidelines values. This approach is based on the assumption that recreational activities contribute to 10% of drinking water consumption, which is equivalent to a daily lifetime consumption of about 0.2 L of water. NHMRC (2019) suggests that this approach may not provide realistic site-specific recreational exposure estimate as:

- The method makes no allowance for other exposure routes, such as inhalation and dermal absorption, which may be significant for some chemicals. In the case of heavy metals at the site these exposure routes may be considered to be negligible
- The method does not apply explicit assumptions for rates of accidental water ingestion during recreational water use

- The method does not provide explicit assumptions regarding patterns of recreational water use. Therefore, it is not possible for communities to assess whether the assumptions apply to realistic patterns of recreational activity at specific sites, which may vary according to location, availability of alternative recreational facilities, and cultural practices.

NHMRC (2019) provides an approach for estimating recreational exposure guidelines values based on water intake from estimated frequency of exposure. The NHMRC (2019) approach has been used to calculate recreational exposure guideline values based on estimated exposure frequencies or events for Cd, Co, Pb, Mn and Zn and may be applied to other analytes in the final assessment and development of water use guidelines. The applied exposure frequency to derive the site-specific guideline values was based on the water usage survey and included an assumption of up to 150 days/year of recreational activities at surface water within the Precinct.

6.3 Sediment

Currently, no human health-based sediment guideline values are available. Background sediment concentrations will be used in the assessment, although any exceedances may not indicate risks to human health, as background values are not based on health effects.

The ecological criteria proposed for the assessment of sediment contamination are sourced from the default guideline values (DGVs) for sediment quality in ANZG (2018). The adopted assessment criteria for sediment are summarised in Table 6-3.

Table 6-3: Sediment Assessment Criteria (mg/kg)

Contaminant	Sediment DGV	GV-High
Aluminium	-	-
Arsenic	20	70
Barium	-	-
Beryllium	-	-
Cadmium	1.5	10
Chromium	80	370
Cobalt	-	-
Copper	65	270
Iron	-	-
Lead	50	220
Manganese	-	-
Mercury	0.15	1.0
Nickel	21	52
Zinc	200	410

The DGV was derived using a ranking of both observed field and laboratory ecotoxicity-effects and represents the 10th percentiles of that data distribution.

GV-high represents the median of that data distribution to provide an upper guideline value. Effects on sediment biota are rarely seen for concentrations below the DGV, while effects are more frequently evident above the GV-high value.

6.4 Air Quality

Relevant ambient air quality criteria for NSW are defined in Table 6-4 from the following sources:

- NEPC (1998). Ambient Air – National Environment Protection Measure for Ambient Air Quality, National Environment Protection Council, Canberra
- NHMRC (1996). Ambient Air Quality Goals Recommended by the National Health and Medical Research Council, National Health and Medical Research Council, Canberra

Table 6-4: Air Quality Assessment Criteria

Pollutant	Averaging period	Criteria	Source
Lead	Annual	0.5 µg/m³	NEPC (1998)
Total suspended particulates (TSP)	Annual	90 µg/m³	NHMRC (1996)

6.5 Internal Dust

The preliminary screening criteria proposed for the assessment of dust contamination are sourced from the following references:

- USEPA (2020) Protect your family from lead in your home. US Environmental Protection Agency – January 2020
- AS 4361.2-1998 Guide to lead paint management - Residential and commercial buildings

The dust results are to be presented as lead loadings (µg lead/m^2). Where dust samples are collected by vacuum, the lead loading is calculated using the following equation:

$$\textit{Lead loading } (\mu g/m^2) = \frac{\textit{lead concentration (mg/kg) x dust sample mass (g)}}{\textit{sample area } (m^2)}$$

Where samples are collected by swab, the lead loading is calculated using the following equation:

$$\textit{Lead loading } (\mu g/m^2) = \frac{\textit{total lead } (\mu g)}{\textit{sample area } (m^2)}$$

Assessment criteria adopted for lead dust contamination within public buildings are summarised in Table 6-5.

Table 6-5: Lead Dust Assessment Criteria (µg/m^2)

	Assessment Criteria - Commercial Property (µg/m^2)
Dust interior – hard floors	1,000
Dust interior – windowsills and shelves	5,000

7. DATA QUALITY OBJECTIVES

To refine the preliminary CSM to appropriately represent lead exposure risks within Captains Flat, both the field and laboratory programs must result in data that is representative of the conditions at the site. Data Quality Objectives (DQOs) were developed for the tasks completed to address data gaps identified in the preliminary CSM. The DQO process is a systematic, seven-step process that defines the criteria that the sampling should satisfy in accordance with the *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (NSW EPA 2017).

The seven step DQOs process comprises:

1. Step 1: State the problem
2. Step 2: Identify the decisions/ goal of the study
3. Step 3: Identify the information inputs
4. Step 4: Define the boundaries of the study
5. Step 5: Develop the decision rules or analytical approach
6. Step 6: Specify the performance or acceptance criteria
7. Step 7: Develop the plan for obtaining data

7.1 Step 1: State the problem

Historic metalliferous mining has contaminated Captains Flat. Previous assessments define some of the impacts however further assessment was required to characterise the degree and extent of contamination with sufficient detail to inform development of the Captains Flat Lead Management Plan.

7.2 Step 2: Identify the decisions/ goal of the study

Goals of the study were:

- To determine the lateral and vertical extent of lead contamination in soil in the Precinct with sufficient detail to inform a refined CSM and development of the Captains Flat Lead Management Plan
- To identify whether other metal contamination exists within the Precinct soils
- To determine the degree and extent of metals contamination in surface water and groundwater
- To determine the current distribution of contaminated sediments within the Precinct
- To determine the degree and extent of lead contamination in ambient air and indoor dust in public buildings
- To complete a Tier 1 risk assessment for human health and ecology within the area of assessment

7.3 Step 3: Identify the information inputs

Inputs to the decisions were sourced from:

- Historical soil and surface water data from previous investigations completed within the Precinct
- Additional analyses of soils by fpXRF and laboratory analysis of soils for lead for correlation to fpXRF samples
- Laboratory analysis for CoPC in sediment, surface water and groundwater
- Meteorological data from a weather station established within the Precinct

- Analysis for lead in internal dust in public buildings and for lead and Total Suspended Particulates (TSP) in ambient air
- Site-specific meteorological data
- Surveyed groundwater levels from installed groundwater monitoring wells

7.4 Step 4: Definition of the Study Boundary

The lateral boundaries for the assessment were the Precinct boundaries as defined in Figure 1, Appendix 1.

The assessment was limited vertically to a depth of 5 mbgl in soil but generally to a depth of 1 mbgl to assess potential risks to maintenance workers and groundwater well installation was undertaken to a maximum depth of 15 mbgl. The shallowest aquifer was targeted at all locations and at one location an additional well was installed to target a deeper aquifer.

Assessment occurred from 31st May to 30th June 2021 with the exception of air quality monitoring which continues.

7.5 Step 5: Develop the decision rules or analytical approach

1. Do contaminant concentrations exceed Tier 1 assessment criteria?
2. Is the extent of contamination defined?
3. Does the degree and extent of exceedances warrant further assessment (e.g. Tier 2 assessment) or remediation/management?
4. Have all identified data gaps been addressed?
5. If not, what further assessment is required to assess data gaps and determine remediation/management requirements?

7.6 Step 6: Specify the performance or acceptance criteria

Performance criteria were defined to assess potential for a false positive or false negative in data. Data quality indicators (DQIs) and performance criteria for fpXRF measurements of lead in soil, and sampling for laboratory analyses of sediment, internal dust, groundwater, surface water and airborne dust are presented in Table 7-1. Further details of the sampling and QA/QC procedures undertaken are provided in the subsequent sections.

Decision Error Protocol

If the data received is not in accordance with the defined acceptable limits outlined in Steps 5 and 6, it may be considered to be an estimate or be rejected. Determination of whether this data may be used or if re-sampling is required will be based on the following considerations:

- Closeness of the result to the guideline concentrations
- Specific contaminant of concern (e.g. response to carcinogens may be more conservative)
- The area of site and the potential lateral and vertical extent of questionable information
- Whether the uncertainty can be effectively incorporated into site management controls

Table 7-1: Performance Criteria

Data quality indicator	Performance Criteria			
	Soil	**Sediment, Groundwater, Surface Water**	**Internal Dust**	**Air Quality**
Field Quality Control Samples	5% of soil fpXRF samples laboratory analysed to establish a correlation Intra- and inter-laboratory duplicate sampling density of 5% (1 in 20 samples) 1 rinsate sample per day	Intra- and inter-laboratory duplicate sampling density of 5% (1 in 20 samples) 1 rinsate sample per day	Intra- and inter-laboratory duplicate sampling density of 5% (1 in 20 samples) 1 rinsate sample (cleaned barrel swab) per day for vacuum sampling	-
Field Quality Control Results	Relative Percentage Differences (RPDs) should be below 30% for inorganic analytes. No detections in rinsate samples The correlation coefficient (R^2) should be above 0.7.	RPDs below 30% for inorganic analytes. No detections in rinsate samples	RPDs below 30% for inorganic analytes. No detections in rinsate samples	-
NATA Registered Laboratory and NATA Endorsed Methods	Laboratories used should be NATA accredited and laboratory certificates should be NATA stamped.			
Analytical Methods	fpXRF measurement of metals in soil completed in accordance with US EPA Method 6200 (2007), As stated in US EPA Method 6200 (2007), to increase accuracy of the results, complete digestion of soil and sediment samples is valuable to ensure accurate correlation. Ideally, Method 3052 should be adopted for analysis of soil and sediment, however, this method is not available at the NATA accredited laboratories considered for this project and Method 3040 should be used. To reduce dilution errors in reported results, the laboratory will be advised a likely metals concentration range based on fpXRF readings for each sample sent for laboratory analysis.	Method 3040 – Metals in Waters, Soils and Sediments by ICP-MS should be completed.		
Holding Times	Holding times for all analytes should be met.			

Data quality indicator	Performance Criteria			
	Soil	**Sediment, Groundwater, Surface Water**	**Internal Dust**	**Air Quality**
Practical Quantitation Limit (PQL)	PQLs should be below the adopted assessment criteria.			
Laboratory Quality Control Samples	Laboratory quality assurance testing should be undertaken at appropriate frequencies.			
Laboratory Quality Control Results	Laboratory Quality Control Results should meet laboratory acceptance limits.			

7.7 Step 7: Develop the Plan for Obtaining Data

The sampling plan that was implemented is summarised in Table 7-2 and discussed in detail in Section 8.

Table 7-2: Sampling Plan Summary

Media		Sampling Locations	Number of Samples	Analytes
Soil	Surface only	114	**683**	fpXRF measurement of heavy metals (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn). Surficial soil samples were collected and submitted for analyses to determine lead bioavailability. Soil samples were analysed for % clay, cation exchange capacity and pH to inform development of site-specific EILs.
	Shallow Borehole (approx. 0.3 mbgl)	114		
	Pushtube only (approx. 1 mbgl)	22		
	Deep Borehole (up to 15 mbgl)	11		
	Total	**261**		
Surface Water		15	15	Heavy metals (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
Sediment		15	15	
Air Quality		5	5 to date (Ongoing)	Heavy metals (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
Internal Dust		4	16 (swab) 16 (vacuum)	Lead[1]
Groundwater		11	9	Heavy metals (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)

[1]Analyses of vacuum samples was limited to locations where lead loadings from swab samples exceeded criteria. This occurred in three floor samples at the Men's Shed.

Sampling locations are shown on Figures 3a – 3e, and Figures 4 – 7, Appendix 1.

8. QUALITY ASSURANCE AND QUALITY CONTROL

Assessment of quality assurance/quality control (QA/QC) for the field investigation is presented as follows:

- Table 8-3 presents a summary of correlations between fpXRF measurements and laboratory analyes
- Section 8.1 describes sampling methodologies (field QA) and Table 8-5 presents an assessment of the field QA
- Table 8-6 presents a summary of field and laboratory QC and laboratory QA
- Table 8-7 presents an overall assessment of field and laboratory QA/QC as the basis of informing assessment of data quality

8.1 Sampling Methodologies

Ramboll completed the assessment works at the site in general accordance with the NEPM (2013). Guidance that was adopted specific to sampling of each media is described below:

- fpXRF soil measurements were completed in general accordance with *Method 6200 Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment* (US EPA 2007)
- Soil sampling was completed in general accordance with AS 4482-2005 *Guide to the investigation and sampling of sites with potentially contaminated soil Part 1 - Non-volatile and Semi-Volatile Compounds* and *Part 2 – Volatile Compounds* (Standards Australia 2005).
- Vacuum sampling of internal dust was completed in general accordance with the *Guidance for the sampling and analysis of lead in indoor residential dust for use in the integrated exposure uptake biokinetic (IEUBK) model* (US EPA 2008)
- Swab sampling of internal dust sampling was completed in general accordance with US EPA 2009 *Lead Dust Sampling Technician Field Guide* (US EPA 2009)
- Surface Water and Sediment Sampling was completed in general accordance with AS 5667.6-1998 Guidance on Sampling of Rivers and Streams (Standards Australia, 1998) and *Handbook for Sediment Quality Assessment (Simpson et al 2005)*
- Groundwater Sampling was completed in accordance with the AS 5667.11-1998 Guidance on Sampling of Groundwaters (Standards Australia 1998)

All samples were transported to the relevant laboratories under chain of custody conditions.

8.1.1 Soil Sampling

The soil assessment comprised a total of 683 surface XRF measurements, including 33 boreholes (11 of which were converted into monitoring wells) and 114 hand augers. All samples were collected using disposable nitrile rubber gloves changed between locations.

Sample locations are presented on Figures 3a – 3e, Appendix 1.

The drilling methodology included use of push tubes through upper soil horizons (generally to 1 mbgl) with solid flight auger and air hammer used through deeper soils.

Bore logs are included in Appendix E while sample descriptions for remaining soil samples are included in the results tables.

The assessment of soil was completed over the period 31st May 2021 to 30th June 2021 using ThermoFisher Scientific NitonTM XL3t portable XRF metal analyser or similar. The instrument in soil mode and data was collected using 60 second dwell. The analyser uses a 50kV x-ray tube which provides sufficient flux to enable separation of spectra lines for highly accurate quantification of elements of interest. Lead, arsenic, cobalt, copper, iron, molybdenum, mercury, nickel and selenium were measured at all locations. Barium, cadmium, chromium, titanium and zinc were measured at up to 617 locations.

FpXRF measurements were completed by a suitably experienced scientist holding a NSW EPA license required for field based XRF testing. Testing was completed in accordance with relevant provisions described in US EPA method 6200 (USEPA 2007).

The fpXRF was used in-situ and measurements were taken to a maximum depth of 0.3 mbgl by placing the XRF directly on the soil surface. The soil surface to be measured was cleared of debris and grass prior to taking the measurement. This was to ensure that there was no obstruction, the analyser window was protected and maintained the required contact with the sample surface during measurements. As moisture is known to affect measured concentrations, visually dry surfaces were chosen for measurement where practical.

Measurements were collected to assess metal concentrations in at surface, and depth intervals below surface of 0.1 m, 0.25 m, 0.5 m, 0.75 m, 1 m and then at 1 m depth intervals until elevated lead concentrations had been vertically delineated. Measurements from 0.5 mbgl and deeper were taken from push tube cores or drill cuttings. Samples were also collected where visual or olfactory evidence of potential contamination were observed.

Readings were recorded digitally on the XRF unit and are reported as a wet weight and are not directly comparable with the dry weight guideline concentration. Soil samples were collected at 5% of the locations as laboratory check samples to assess the comparability of the XRF reading with laboratory results. Comparability was assessed through development of correlation coefficients for XRF and laboratory data pairs for lead and other metals. Moisture content was analysed in laboratory check samples to inform correction of fpXRF from wet weight to dry weight measurements. Samples were corrected for moisture according to the following formula:

Moisture Corrected fpXRF = Uncorrected fpXRF / (100 % – % moisture content)

Where laboratory check samples were collected the specific moisture contents were applied to fpXRF corrections. The average moisture content of all check samples was applied to all other fpXRF corrections.

Intra- and inter-laboratory field duplicates were collected with 5% of the laboratory check samples for laboratory analyses.

8.1.2 Surface Water and Sediment Sampling

Sampling locations are shown on Figure 5, Appendix 1.

The following procedures were undertaken for the surface water sampling program:

- Surface water samples were collected from 15 locations (SW01-SW15)
- All samples were collected using disposable nitrile rubber gloves changed between locations
- At each sampling location, surface water was collected from a depth of approximately 0.1 m below the water surface using a clean container and placed into clean laboratory-supplied sample bottles, containing the appropriate preservative for the analysis required
- Chemical and physical parameters, including temperature, pH, EC, DO and redox potential was measured in the field. A filtered and non-filtered sample for metals analysis were collected from each surface water location, the filtered sample was filtered through a 0.45 µm syringe filter
- Each sample bottle was clearly labelled with a unique sample name, date and location
- Samples were analysed for total and dissolved metal(loid)s (Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni and Zn)

The following procedures were undertaken for the sediment sampling program:

- Sediment samples were collected from 15 locations (SED01-SED15)
- All samples were collected using disposable nitrile rubber gloves changed between locations
- Samples were collected by hand, using a 32 mm push-tube sampler from an approximate depth of surface to 0.1 mbgl
- Sediment samples were placed into laboratory-supplied glass sample containers with minimal to no headspace. Each sample container was clearly labelled with a unique sample name, date and location
- Between sample locations the sediment corer was washed in a solution of Decon 90 and then rinsed with potable water and/or a new sampler was used
- Samples were analysed for total metal(loid)s (Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni and Zn)

8.1.3 Groundwater Well Installation and Sampling

Groundwater monitoring well locations are shown on Figure 4a, Appendix 1.

Groundwater monitoring wells were constructed by Stratcore Pty Ltd, a licensed drilling contractor and per the Minimum Construction Requirements for Water Bores in Australia, Fourth Edition, 2020. Construction included:

- 50 mm PVC class 18 factory slotted (0.5mm) well screen
- 50 mm PVC class 18 blank casing
- A push-on end cap at the base of each well
- A top cap suitable for suspension of groundwater level data loggers
- A graded 2 mm gravel pack installed from the base, generally to 0.5 m above the top of the well screen in the annulus between the well screen/casing and the borehole wall. The gravel pack was installed to a depth of 4 mbgl at GW07 and GW08 where water strike was not observed
- An annular seal consisting of at least 0.5 m of 3/8” bentonite chips installed on top of the gravel pack
- A cementitious grout slurry installed on top of the bentonite annular seal to near surface
- Wells were completed on the surface with a surface bentonite seal and a concrete plinth in which a flush mount well cover or monument was set

Wells were generally installed to screen the top of shallowest aquifer determined based on water strike observed during drilling. One exception to this was GW09_D which was installed to screen a deeper aquifer.

Following installation, the wells were developed/purged to remove disturbed fines toward re-establishing the natural hydraulic flow conditions of the formations which may have been disturbed by well construction, around the immediate vicinity of each well. The wells were left for a minimum of 48 hours to equilibrate prior to collection of groundwater samples. Completed monitoring wells were surveyed by an accredited land surveyor, recording easting, northing, ground elevation and top of casing elevation for all wells.

Groundwater well logs are included in Appendix 5.

The following procedures were undertaken for the groundwater sampling program:

- All groundwater monitoring wells were gauged prior to sampling, two monitoring wells (GW7 and GW8) were dry at the time of sampling
- All samples were collected using disposable nitrile rubber gloves changed between locations
- Groundwater was purged using a low-flow peristaltic pump targeting the middle of the screened portion of the aquifer
- Chemical and physical parameters, including temperature, pH, EC, DO and redox potential was measured in the field. Once parameters had stabilised a filtered sample for metals analysis was collected from each location, the sample was filtered through a 0.45 µm syringe filter
- Each sample bottle was clearly labelled with a unique sample name, date and location
- Samples were analysed for total and dissolved metal(loid)s (Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni and Zn)

8.1.4 Air Quality

Air quality monitoring locations are shown on Figure 6, Appendix 1.

Five locations in Captains Flat were selected for monitoring heavy metals in airborne particulate matter. The five monitoring locations are summarised in Table 8-1. The air quality criteria are relevant at sensitive receptors, so it is preferable to monitor in community locations such as residences and schools rather than industrial locations such as the sewage treatment plant or SES. Meteorological conditions were monitored through establishment of a weather station located at AQM2 given the elevated terrain in this location which would be representative of prevailing regional conditions.

Table 8-1: Air Quality Monitoring Locations

ID	Location	Reason for selection	Monitoring Technique	Parameters measured
AQM1	Adjacent Residential property south-east of the mine	Representative of potential impacts to the south-west. Elevated terrain may provide a less localised, regional measure of lead in particulate compared to other locations	High-volume air sampler (HVAS) with total suspended particulate (TSP) size selective inlet, measuring for 24-hours every 1 day in 6	Heavy metals in TSP (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
AQM2	Residence, 2 Copper Creek Road	Identified as the nearest sensitive receptor to identified mining areas to the north-west	Weather station. HVAS with TSP inlet, measuring for 24-hours every 1 day in 6	Heavy metals in TSP (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
AQM3	Captains Flat former Preschool, 27 Foxlow Street	Identified as a sensitive receptor of interest and representative of potential impacts to the south-east	HVAS with TSP inlet, measuring for 24-hours every 1 day in 6	Heavy metals in TSP (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
AQM4	Captains Flat Public School, Montgomery Street	Representative of potentials impacts of the largest community to the north-east	HVAS with TSP inlet, measuring for 24-hours every 1 day in 6	Heavy metals in TSP (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)
AQM5	Residence, 2 Braidwood Road	Representative impacts to residents east of the mine	HVAS with TSP inlet, measuring for 24-hours every 1 day in 6	Heavy metals in TSP (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn)

The air quality monitoring program is being completed in the following steps:

- Selection of five suitable monitoring locations in Captains Flat with consideration of potential source locations, prevailing meteorology, accessible power source, appropriate security, and the recommendations of *AS/NZS 3580.1.1 – Methods for sampling and analysis of ambient air – Part 1.1: Guide to siting air monitoring equipment*
- Commissioning of five high-volume air samplers with size selective inlets for TSP. The instruments were calibrated and are being maintained consistent with *AS/NZS 3580.9.3 – Method 9.3 – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method.* Sampling will be configured for a 24-hour period every 1 day in 6
- Mobilisation of experienced field staff to replace filters, complete instrument checks and clean the equipment every 1 day in 6. Calibration will be completed on a 2-monthly basis consistent with *AS/NZS 3580.9.3*
- Submission of samples to a NATA accredited laboratory and analysed for 15 metals (As, Ba, Cd, Cr, Co, Cu, Fe, Hg, Pb, Mn, Mo, Ni, Se, Ti, Zn) in accordance with *AS/NZS 3580.9.15 – Method 9.15: Determination of suspended particulate matter – Particulate metals high or low volume sampler gravimetric collection – Inductively coupled plasma (ICP) spectrometric method*. TSP concentration will be calculated through filter weighing before and after sampling and flow volume
- A report will be prepared on a 2-monthly basis outlining the methodology and summarising the sampling results with comparison to publicly available meteorology data and relevant air quality criteria. All reports will be peer reviewed by a senior air quality specialist prior to submission

8.1.5 Interior Dust

Sampling locations are shown on Figures 7a – 7d, Appendix 1.

Internal dust sampling was completed within four public buildings in Captains Flat including:

- Men's Shed on Foxlow Street, Captains Flat
- Fire Station on Foxlow Street, Captains Flat
- Community Hall on Foxlow Street, Captains Flat
- Sewage Treatment Plant on Miners Road, Captains Flat

Swab sampling included:

- Targeted swab sampling of windowsills and hard surface floors
- Mark-out of sampling areas using masking tape. Sampling areas of 0.09 m^2 were targeted where feasible. Some exceptions occurred where available surface area was less than 0.09 m^2 (e.g.: window sills). In these instances the maximum available area was sampled
- Dust sampling was completed wearing single use disposable nitrile gloves and using single use sanitary wipes. Dust was collected by making S-shaped motions through the sampling area, folding the wipe in half and repeating the process at least three times and until all visible dust was removed

The vacuum sampling included:

- Mark-out of sampling areas using masking tape. Sampling areas of 2 m^2 were targeted where feasible
- Sampling areas were further divided into 0.5 m^2 sub-sample areas
- A high-flow cyclonic vacuum was used with plastic barrel and reduced shaft length
- Sampling occurred by running the vacuum in strips to cover each sub-sample area four times back and forth

All dust sampling occurred wearing disposable nitrile rubber gloves. Samples were stored in single use zip lock bags labelled with unique identifiers which were cross-referenced with site plans and submitted to the laboratory under chain of custody.

8.2 Comparability of fpXRF and Laboratory Analyses

FpXRF measurements reported in parts per million (ppm) were corrected for the % moisture content reported in laboratory check samples to inform assessment of dry weight (mg/kg) contaminant concentrations. The moisture correction which was applied to fpXRF measurements is described by the following fomula:

Moisture corrected FPXRF = Uncorrected FPXRF/(100% – % moisture content)

The average moisture content was generally applied to uncorrected fpXRF measurements however where laboratory check samples were collected, the specific moisture content reported in these samples was applied to the corresponding fpXRF data. Soil moisture content in laboratory check samples varied however from 1.8 – 40% and this variability attributes some uncertainty to the representativeness of average moisture content for fpXRF corrections across the sampling program. To explore the implications of this uncertainty Ramboll completed a sensitivity analyses based on:

- Calculation of the 95% UCL of the average moisture content
- Correction of fpXRF measurements based on the 95% UCL
- Assessment of the lead concentrations corrected based on these moisture content statistics
- Comparison of the comparative risk distributions determined through the fpXRF based on average moisture content and the 95% UCL

The 95% UCL of the average (arithmetic mean) moisture content was calculated at 20.2%[6]. This represents an increase in moisture content of 3.2% from the average and an increase of 3.3% in the dry weight lead concentrations compared to concentrations determined through average moisture correction. The effect on risk assessment of recorrecting for moisture using the 95% UCL compared to the average moisture content is informed by the total number of samples where lead in soil exceeds the SSTL (700 mg/kg). Moisture correction based on each option is presented in Table 14, Appendix 2. Five samples exceed the SSTL under 95% UCL moisture correction that otherwise would not under average moisture correction. These five samples are presented in Table 8-2.

Table 8-2: Effect of moisture correction on risk assessment

Sample ID	Average moisture correction	95% UCL moisture correction	Comment
R_S57_0.25	683.78	711.20	Lead at R_S57_0.0 reported at 3023 mg/kg
R_62B_0.1	678.70	705.91	Lead at R_62B_0.15 reported at 4442 mg/kg
R_S6a	678.57	705.78	Public space in southern part of town. Lead in surrounding areas exceeds criteria.
R_S5a	673.55	700.56	
R_S27a	697.14	725.10	Miners Road verge adjacent SES compound. Lead in adjacent areas exceeds criteria.

Based on review of Table 8-2 the effect of adjusting the moisture correction to be based on 95% UCL is considered negligible, and this supports moisture correction based on the average moisture content.

[6] Calculation parameters are presented as Table 15, Appendix 2.

Correlation coefficients (R^2) (also known as the coefficient of determination) between moisture corrected fpXRF and laboratory samples were then calculated for CoPC. Data sets, scatter plots and R^2 values are presented as figures embedded in Table 9, Appendix 2. Correlation coefficients are summarised in Table 8-3.

Table 8-3: fpXRF and Laboratory Correlation Summary

Metal	Correlation Coefficient (R^2)
Arsenic	0.34
Barium	N/A
Cadmium	N/A
Chromium	N/A
Cobalt	N/A
Copper	0.87
Iron	0.56
Lead	0.84
Manganese	0.75
Mercury	N/A
Molybdenum	N/A
Nickel	N/A
Selenium	N/A
Titanium	N/A
Zinc	0.53

Correlation coefficients for copper, lead and manganese exceed the performance criteria of 0.7 adopted as a DQI for comparability with laboratory analyses.

Correlation coefficients were not calculated for nine of 15 metals where half or more of the fpXRF concentrations were reported below limit of detection (LOD). This imparts some uncertainty on fpXRF measurement of these metals however laboratory check sample results are also low and together fpXRF and laboratory results support the conclusion that barium, cadmium, cobalt, mercury, molybdenum, nickel, selenium and titanium are not contaminants of concern in soil.

Correlation coefficients were calculated for arsenic, iron and zinc were lower than the comparability DQI of 0.7. This imparts some uncertainty on fpXRF measurement of these metals. Further, arsenic and to a lesser extent zinc are contaminants of concern. XRF wavelength responses for lead and arsenic are similar and, where lead concentrations are significantly greater than arsenic concentrations (eg: > 10 times), arsenic fpXRF measurements can be erroneously elevated (US EPA 2007). The potential for arsenic measurements to be erroneously elevated due to co-located lead was examined by comparing elevated arsenic measurements (as indicated by exceedance of HIL C – 300 mg/kg) against co-located lead concentrations. A summary of this assessment is presented as Table 8-4.

Table 8-4: Summary of Arsenic HIL C Exceedances and Co-Located Lead in Soil

Heavy Metal	Count	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)
Lead	30	1884	252560	22971
Arsenic	30	301	8418	1085

The average elevated arsenic concentration is observed to be approximately 21 times lower than the average elevated lead concentration. Additionally, review of fpXRF and laboratory data pairs for arsenic identifies two fpXRF measurements were above HIL C (300 mg/kg) but that no laboratory reported concentrations were above HIL C. These lines of evidence indicate potential for fpXRF arsenic measurements to be erroneously elevated and this is identified as a potential contributor to poor correlation with laboratory data described in Table 8-3.

The effect of this uncertainty is considered further in discussion of soil results in Section 9.1.3 where elevated arsenic is observed to be consistently co-located with lead and lead is identified as the primary risk driver in soil.

8.3 QA/QC Assessment

The sampling and analysis methodology assessment is presented in Table 8-5 and the field and laboratory QC assessment is presented in Table 8-6. An overall QA/QC assessment was made of data completeness, comparability, representativeness, precision and accuracy based on field and laboratory considerations and a summary is provided in Table 8-7.

Since the air quality results are not discussed in this report, details of the air quality QA/QC are not presented.

Table 8-5 Sampling and Analysis Methodology Assessment

Sampling Methodology	Ramboll's Assessment				
	Surface Water	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
Details of Sampling Team	All sampling was completed by qualified environmental scientists / engineers suitably experienced in the sampling works they were completing.				
Sampling Pattern, Density and Locations	Surface water sampling and analyses occurred in accordance with the SAQP. Analysis of total and dissolved heavy metals was conducted at 15 sampling locations. The data is considered adequate to determine the extent of contaminant migration via surface water within the Precinct at the time of sampling with the exception of the Water Supply Dam. Contaminants in the Water Supply Dam may be vertically stratified.	Sediment sampling and analyses occurred in accordance with the SAQP. Analysis of 15 sediment sampled for metals along Molonglo River and surrounding Creeks, drainage lines and the reservoir. Due to saturated sediments, fpXRF measurements were not conducted. Samples targeted the transportation of sediment via surface water flow within the Precinct. The data is considered adequate to assess the degree and extent of sediment contamination within the Precinct with the exception of the Water Supply Dam where sediment contamination related to historic slumping of the Southern Tailings Dump may remain at depth.	Field portable XRF measurements were collected at 250 surface locations. At 114 locations boreholes were advanced using hand augers and at 33 locations boreholes were advanced using push tube, solid flight auger and air hammer. Lead, arsenic, cobalt, copper, iron, molybdenum, mercury, nickel and selenium were measured at all locations. Barium, cadmium, chromium, titanium and zinc were measured at up to 617 locations. This differs from the sampling density proposed in the SAQP though provides comparable coverage and is considered adequately complete to address identified objectives. This is considered adequate to assess the extent of contamination within the Precinct to inform the CSM.	Targeted sampling plans were developed in accordance with the *Guidance for the sampling and analysis of lead in indoor residential dust for use in the integrated exposure uptake biokinetic (IEUBK) model* (US EPA 2008) and generally included samples from the main entry and meeting area floors as well as a windowsill or bookshelf. A total of 16 dust swab and 11 vacuum samples were collected from the four buildings. Vacuum samples were only submitted for analyses where lead loading from swab samples exceeded assessment criteria (ie: in 3 floor samples from the Men's Shed). This is considered adequate to assess risks associated with internal dust in the public buildings.	Sampling locations met the proposed number of samples in the SAQP and monitoring wells were spaced around the Precinct to cover a wide range of groundwater conditions across the site. A total of 11 monitoring wells were considered sufficient to assess the contamination of groundwater in the Precinct.

Sampling Methodology	Ramboll's Assessment				
	Surface Water	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
Sample Depths	Surface water samples were collected from a minimum depth of 0.1 m below the water surface where feasible. Sampling occurred at less than 0.1 m at SW5, SW8, SW9, SW12 and SW13 as water was shallow at these locations.	Sediment samples were collected at the surface between approximately 0.0-0.1 mbgl.	Field portable XRF measurements were collected from soils at various depths until the target depth. Samples were collected in-situ where possible however, samples greater than half a metre in depth were collected from push tubes (generally to 1 mbgl) or from spoil removed from the solid flight auger at greater depths.	-	Groundwater samples were collected from the middle of the screened portion of the monitoring well.
Decontamination Procedures	Field parameters were recorded after analytical samples had been collected to minimise disturbance of sediments. Non disposable sampling equipment was decontaminated between sampling locations by rinsing with Decon®90 solution and potable water.	Analytical samples were collected into laboratory supplied sampling containers using dedicated disposable sampling equipment or a pond sampler. The pond sampler was decontaminated between sampling locations by rinsing with Decon®90 solution and potable water.	Measurement of blank reference material (silicon dioxide, SiO_2) was completed prior to the commencement of fieldwork and repeated every 10 samples. This ensured that cross-contamination of samples was not occurring. The analyser window was cleaned regularly to prevent cross contamination.	The vacuum was decontaminated using swabs to wipe out the barrel, cyclone and accessible sections of the wand.	Reusable tubing was decontaminated between sampling locations by rinsing with Decon®90 solution and potable water.
Sample Storage and Handling	Samples were collected into laboratory supplied bottles dosed with the correct preservative (where applicable). The samples were stored in an ice filled cooler in the field and during transit to the laboratory.				
Chain of Custody	All analytical samples were submitted to the laboratory under chain of custody conditions.				
Calibration of Field Equipment	The water quality meter was rented from an equipment hire company. The water quality meter was calibrated prior to hire and the calibration certificate is provided in Appendix 4.	-	Field portable XRF measurements were collected using a calibrated instrument (calibration certificates provided in Appendix 4). Field calibration occurred using blank/certified reference materials.	-	The water quality meter was rented from an equipment hire company. The water quality meter was calibrated prior to hire and the calibration certificate is provided in Appendix 4.

Table 8-6 Quality Control and Laboratory Quality Assurance

Data quality indicator	Ramboll's Assessment				
	Surface Water	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
Field Quality Control Samples	One intra-laboratory and one inter-laboratory duplicate sample were collected as part of the surface water sampling for a total of 15 primary samples equaling a rate of 6.67% for both intra and inter laboratory duplicates. This exceeds minimum targeted intra and inter-laboratory duplicate densities of 5% and so is considered appropriate.	One intra-laboratory and one inter-laboratory duplicate sample were collected as part of the sediment sampling for a total of 15 primary samples equaling a rate of 6.67% for both intra and inter laboratory duplicates. This exceeds minimum targeted intra and inter-laboratory duplicate densities of 5% and so is considered appropriate.	A total of 34 confirmatory laboratory samples were analysed for the 683 fpXRF measurements meeting target of 5%. Out of a total of 34 primary laboratory samples four intra-laboratory and two inter-laboratory duplicate sample were collected equaling a rate of 11.76% intra and 5.88% inter laboratory duplicates. This exceeds minimum targeted intra and inter-laboratory duplicate densities of 5% and so is considered appropriate.	One intra-laboratory and one inter-laboratory duplicate sample were collected as part of the swab sampling for a total of 16 primary samples equaling a rate of 6.25% for both intra and inter laboratory duplicates. This exceeds minimum targeted intra and inter-laboratory duplicate densities of 5% and so is considered appropriate.	One intra-laboratory and one inter-laboratory duplicate sample were collected as part of the groundwater sampling for a total of nine primary samples equaling a rate of 11.11% for both intra and inter laboratory duplicates. This exceeds minimum targeted intra and inter-laboratory duplicate densities of 5% and so is considered appropriate.
Field Quality Control Results	For the assessment of Relative Percentage Differences (RPDs), it is noted that concentrations close to the laboratory limit of reporting (LOR) will have higher RPDs. As such, RPDs where concentrations were < 10 x LOR were discounted from assessment. The acceptance criteria for RPDs of sample pairs > 10 x LOR was 30%. For the assessment of XRF / laboratory correlations an acceptance criterion of 0.7 was adopted for data to be considered screening level. Where a higher contaminant concentration was reported in a duplicate sample, that concentration was adopted in the assessment as a conservative approach.				
	Intra-laboratory and inter-laboratory duplicate results are presented in Table 11, Appendix 5. RPDs were below the criterion except for: • SW5/QA35 RPD for Cr, Cu (filtered), Ni, Ni (filtered), Se Variability in surface water contaminant concentrations can occur through if dust	Intra-laboratory and inter-laboratory duplicate results are presented in Table 10, Appendix 2. RPDs were below the criterion except for: • SED5/QA35_SED RPD for Al, Cu and Pb. • SED5/QA36_SED RPD for Al, As, Ba, Cu, Fe, Pb, Mn, Ti and Zn. The high RPD values are likely the result of sample	The performance of XRF samples was assessed through correlation of XRF results against laboratory duplicates separately for arsenic, lead, copper, iron, manganese and zinc. Correlation curves are presented as Figure 1 – 3, Appendix 2. As discussed in Section 8.2, the correlation coefficient or coefficient of	Intra-laboratory and inter-laboratory duplicate results are presented in Table 13, Appendix 2. RPDs exceeded the criteria for: • STP_SWAB1/SWAB_QA01/SWAB_QA02 RPD for lead. The high RPD values are likely the result of sample heterogeneity. Higher duplicate values were adopted as a conservative approach.	Intra-laboratory and inter-laboratory duplicate results are presented in Table 12, Appendix 2. RPDs were all below the above criterion.

Data quality indicator	Ramboll's Assessment				
	Surface Water	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
	deposited on the surface of water bodies targeted for sampling is captured in the samples. This may have occurred at SW5 where the water was too shallow to sample 0.1 m below the water surface as targeted in the sampling methodology. This could account for the observed RPDs.	heterogeneity. Higher duplicate values were adopted as a conservative approach however, guideline value exceedances were generally reported in both the primary and duplicate sample.	determination (R^2)[7] were reported above the adopted assessment criterion for lead, copper and manganese indicating pfXRF measurements for these metals are comparable with laboratory data however arsenic, iron and zinc correlations were < 0.7. fpXRF measurement of arsenic is known to be disrupted by co-located lead and a likely cause of the low correlation is due to lead interference.		
NATA Registered Laboratory and NATA Endorsed Methods	Eurofins and Envirolab were the primary and secondary analytical laboratories, respectively. Laboratory certificates are NATA stamped.				
Analytical Methods	A summary of analytical methods was included in the laboratory certificates. As stated in US EPA Method 6200 (2007), to increase accuracy of the results, the labs were given an indication of likely concentration (0-5000 mg/kg, 5000-10,000 mg/kg and >10,000 mg/kg) to ensure complete digestion could be undertaken.				
Holding Times	Review of the chain of custody (COC) forms and laboratory certificates indicate that holding times were met.				
Practical Quantitation Limit (PQL)	PQLs for all analytes were below the adopted guideline values.				
Laboratory Quality Control Samples	Laboratory quality assurance testing was undertaken at appropriate frequencies.				

[7] Moisture content may affect the accuracy of XRF measurement particularly where moisture is > 20% (US EPA 2007). XRF analyses of lead was corrected for moisture for soil samples using average moisture content across the site.

Data quality indicator	Ramboll's Assessment				
	Surface Water	Sediment	Soil	Internal Dust	Groundwater
Laboratory Quality Control Results	Results are contained within the laboratory certificates attached in Appendix 2.				

Table 8-7: QA/QC Assessment

Ramboll's Comments					
Data Quality Indicator	**Surface Water**	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
Completeness: The completeness of the data set was judged by	Co-located sampling of surface water and sediment occurred upstream and downstream of the Precinct in Molonglo River and surrounding creeks and drainage lines, reservoirs in accordance with the SAQP.		Field portable XRF measurements occurred in general accordance with the sampling plan.	All locations sampled as per the SAQP.	All locations sampled as per the SAQP.
Comparability: Comparability to was assessed through	The field investigation was completed by experienced Ramboll personnel using standard operating procedures. Laboratory analysis was undertaken by NATA registered laboratories using accredited analytical methods.		The investigation was completed by experience Ramboll personnel. Field portable XRF measurements were completed using a calibrated instrument.	The field investigation was completed by experienced Ramboll personnel using standard operating procedures. Laboratory analysis was undertaken by NATA registered laboratories using accredited analytical methods.	The field investigation was completed by experienced Ramboll personnel using standard operating procedures. Laboratory analysis was undertaken by NATA registered laboratories using accredited analytical methods.
Representativeness: The representativeness of the field data was judged by	In the field, representativeness was achieved by completing the sampling plans described in Section 7.7				
Precision: The degree to which data generated from replicate or repetitive measurements differ from one another due to random ss. Precision of field data was maintained by	In the field, Ramboll achieved precision by using standard operating procedures for the collection of analytical samples and by collecting duplicate and triplicate samples for analysis. Laboratory quality control results indicate precision was achieved at the primary and secondary laboratory.		Field portable XRF measurements were collected by an environmental scientist holding a NSW EPA licence required for field based XRF testing. Field portable XRF measurements were collected from soil in-situ (where possible) and measurements were taken	Samples were collected by suitably experienced Ramboll personnel.	Samples were collected by suitably experienced Ramboll personnel. Laboratory quality control results indicate precision was achieved at the primary and secondary laboratory.

Ramboll's Comments					
Data Quality Indicator	**Surface Water**	**Sediment**	**Soil**	**Internal Dust**	**Groundwater**
			by placing the field portable XRF directly on to the soil. As moisture is known to effect measured concentrations, visibly dry surfaces were chosen for measurement where practical.		
Accuracy: Accuracy in the collection of field data was controlled by	In the field, Ramboll achieved accuracy by using Ramboll's standard operating procedures for the collection of surface water and sediment samples. Laboratory quality control results indicate accuracy was achieved at the primary and secondary laboratory. Samples were transported to the laboratory under chain of custody conditions.		Appropriate sampling methodologies utilised and complied with. Works completed in accordance with US EPA 2007, Method 6200, Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment.	Appropriate sampling methodologies utilised and complied with. Works completed in accordance with the *Guidance for the sampling and analysis of lead in indoor residential dust for use in the integrated exposure uptake biokinetic (IEUBK) model* (US EPA 2008). Samples were transported to the laboratory under chain of custody conditions.	In the field, Ramboll achieved accuracy by using Ramboll's standard operating procedures for the collection of groundwater samples. Laboratory quality control results indicate accuracy was achieved at the primary and secondary laboratory. Samples were transported to the laboratory under chain of custody conditions.

In general, the DQIs outlined above have been met and Ramboll considers that the data is of suitable quality to meet the project objectives.

9. RESULTS

9.1 Soil Field and Analytical Results

9.1.1 Soil Field Observations

The soil lithology varied across the site however two distinct soil lithologies were encountered within the Precinct which included residual and alluvial soil profiles. Alluvial soils were typically encountered around Molonglo River and surrounding drainage lines. Further details are provided below.

9.1.1.1 Captains Flat Township

Soils around the Captains Flat Township comprised gravelly clay and sandy clay soils (alluvial) overlying residual clay formed from weathered bedrock. Typically, alluvium was found close to the Molonglo River. Fill was encountered at multiple locations and comprised a mix of mining waste (ore, waste rock, quartz) with clay, silt, sand and gravel. Underlying conglomerate and shale were observed in groundwater wells on hills east and west of the Molonglo River (GW1 – GW10). This is consistent with regional lithology and geology consolidated in the Literature Review (C&R 2021)

9.1.1.2 Southern Smelter Area

The Southern Smelter area was highly disturbed and large fill stockpiles were present adjacent steep rock outcrops:

- Silty SAND/Sandy SILT with gravel/Sandy CLAY: moist, fine sand, orange-brown with shale gravel. Encountered from the surface. overlying
- SHALE: Grey-orange-brown, dry, fine grained sand. Encountered from 0.05-0.3 mbgl

9.1.1.3 Surrounding Bushland

Bushland surrounding the Precinct comprised of rocky outcrops and steep terrain, the soil lithology in the area generally comprised the following:

- Gravelly SAND/Silty SAND with GRAVEL: moist, fine sand, orange-brown with shale gravel and cobbles present. Encountered from the surface

9.1.1.4 Rail Corridor

The soil lithology within the corridor comprised:

- FILL: Sandy CLAY/Gravelly CLAY: dry, firm, high plasticity, with mining waste including shale gravel and cobbles

9.1.2 Soil Analytical Results

A tabulated assessment of soil concentrations against Tier 1 assessment criteria (and SSTLs for lead) is presented in Table 1, Appendix 2. A summary of contaminant concentrations that exceeded Tier 1 assessment criteria is summarised in Table 9-1. For the tabulated summary, the human health assessment criteria relevant to recreational land use (HIL C) have been applied as the most applicable to the public spaces within Captains Flat and are conservative when applied to commercial/industrial premises. It is noted that criteria relevant to residential land use (HIL A) are applicable to preschool and primary school usage and this data was screened separately as discussed in the sections following. The adopted ecological assessment criteria are site-specific (SS) criteria for Urban Residential and Public Open Space.

Table 9-1: Summary of Soil Exceedances

Heavy Metals	Assessment Criteria – HIL C	Assessment Criteria – SS EIL	No. of Measurements	Min	Max	Average	No. > HIL	No. > EIL
Lead	600 / 700[a]	**1100**	683	4	252560	2146	237 / 219[b]	176
Arsenic	300	**50**	683	5	8418	136	30	170
Barium	-	-	348	297	9753	1647	NA	NA
Cadmium	90	-	348	0	0	--	0	NA
Cobalt	-	-	683	3	13585	284	NA	NA
Chromium	-	**300**	617	7	297	56	NA	0
Copper	17000	**220**	683	1	7270	207	0	125
Iron	-	-	683	3	454638	30007	NA	NA
Molybdenum	-	-	683	3	69	7	NA	NA
Manganese	19000	-	683	4	43737	506	1	NA
Mercury	80	-	683	13	80	44	1	NA
Nickel	1200	**200**	683	1	792	81	0	11
Selenium	-	-	683	0	127	16	NA	NA
Titanium	-	-	616	83	6816	2775	NA	NA
Zinc	30000	**570**	590	1	39726	761	1	209

All concentrations in mg/kg

- no criteria

-- concentrations were at or near the level of detection and statistics were not able to be calculated for these analytes. [a] *Recreational SSTL*

[b] *219 fpXRF lead measurement were reported above the Recreational SSTL*

The distribution of contaminant concentrations exceeding the adopted assessment criteria are presented below.

9.1.3 Discussion

9.1.3.1 Tier 1 Human Health Risk Assessment

Out of a total of 683 fpXRF measurements in soil, 237 exceeded the health-based criteria for lead, 30 for arsenic and one for manganese, mercury and zinc. At all locations where arsenic concentrations exceeded human health criteria lead also exceeded. At locations where arsenic exceeded the HIL-C (300 mg/kg) it was on average 3.6 times greater (i.e. 1085 mg/kg). At locations where arsenic exceeded the HIL-C the average lead concentration (22,971 mg/kg) was 38.3 times greater than the HIL-C (600 mg/kg). Considering the data in this way supports the conclusion that, where potential risks to human health associated with arsenic in soil exist, lead presents a far greater potential risk. Within this context lead is considered to be the primary driver for potential risks to human health and addressing the risk associated with elevated lead will also address the risk associated with elevated arsenic.

Out of the total 683 surface samples, 237 samples exceeded the HIL C for lead in soil. 219 of the exceedances were reported at < 0.5 m bgl of the total 601 measurements. The remaining 18 exceedances were reported > 0.5 m bgl out of a total of 76 measurements. This indicates the contamination is generally limited to the surface and immediate subsurface soils consistent with surficial deposition. Exceptions to this trend occur in natural soils in one location (GW07) and in areas where fill appears to have been applied.

9.1.3.2 Tier 2 Human Health Risk Assessment

SSTLs were developed by modifying the bioaccessibility of lead in soils in the models underpinning the NEPM HILs with measurements of bioaccessibility in soil from public areas of Captains Flat. Further information is presented in Section 6.1.2 and Appendix 7. SSTLs development excluded the mine site (where HIL C was applied) and the rail corridor (where HIL D was applied).

Figures 3a-3j, Appendix 1 present a summary of the distribution of lead in soil exceeding Tier 2 human health assessment criteria throughout the Precinct based on all available data. The occurrence of lead in soil above HILs / SSTLs as relevant is described through circles around sampling locations. The lateral distribution of lead in public spaces is defined wherever a circle is present. Larger concentric circles indicate lead above human health criteria at increasing depths (surface soils, 0.05-0.5 m and > 0.5 m).

Lead contamination in soil was observed above adopted human health assessment criteria in the following areas:

- The Southern Smelter Area and Keatings Collapse (Recreational SSTL)
- The Old Mine Site (Recreational HIL - HIL C)
- The rail corridor (Industrial HIL – HIL D)
- Public spaces south of the Molonglo River including Foxlow Street and the eastern embankment of the Old Mine Site (Recreational SSTL)
- In shallow soils in bushland hillside east of the Molonglo River near the southern end of town (Recreational SSTL)
- Areas where fill appears to have been applied north of the Molonglo River including flood berms adjacent the River and embankments beneath the tennis courts as well as Foxlow Parklet (Recreational SSTL)
- Southern end of the school playing field (in the vicinity of the new preschool) and accessway to the school playing field off Foxlow Lane (Residential SSTL)
- Beneath the southern playing field off Foxlow Street (Recreational SSTL)
- In natural soils to depths of greater than five metres beneath the northern end of Foxlow Street (Recreational SSTL)
- At several other locations in surface soils north of the Molonglo River at concentrations which marginally exceed the health investigation levels (Recreational SSTL)

9.1.3.3 Tier 1 Ecological Risk Assessment

Out of a total of 683 fpXRF measurements in soil, 176 sampling locations exceeded the site-specific ecological-based criteria for lead, 170 for arsenic, 125 for copper, 11 for nickel and 209 for zinc. The primary drivers for ecological risk in soil are considered to be lead, arsenic and zinc.

9.2 Groundwater

9.2.1 Groundwater Gauging Data

Eleven groundwater wells were gauged on 18 June 2021. The groundwater gauging data is presented in Table 6, Appendix 2 and summarised below:

- Standing water level of the groundwater wells generally ranged between 0.3 to 2 mbgl except for GW10 located in the rail corridor which had a standing water level of 6 mbgl
- Groundwater elevations generally ranged from approximately 842 to 847 metres Australian Height Datum (mAHD) except for GW10 which had an elevation of 860 mAHD

- Two monitoring wells (GW7 and GW8) were dry at the time of sampling. The base elevation for these wells was approximately 842.5 and 856 mAHD which is consistent with the wells potentially being screened above the local water table
- Water strike at a pair of wells (GW9_S and GW9_D) north of the northern tailing dump was reported at 2 and 10 mbgl respectively. The standing water level following well development in GW9_D was reported at 0.8 mbgl. These observations indicate shallow and deep aquifers are present and that the deep aquifer is confined. Identification of a confined deeper aquifer is consistent with groundwater arising from the Main Adit Spring approximately 300 m to the south-east

Bore logs are presented as Appendix 5.

Figure 4b, Appendix 1 presents groundwater contours based on the reduced water levels. Based on the contoured water levels, the groundwater flow direction is inferred towards Molonglo River. This flow direction generally correlates with expected groundwater flow conditions based on the topography of the surrounding area.

9.2.2 Water Quality Parameters

Groundwater quality parameters were measured in the field prior to sampling to ensure collection of water that is representative of the groundwater conditions. The groundwater quality parameters are presented in Table 4, Appendix 1 and summarised below:

- pH measurements ranged from 4.63-7.04 pH with a mean proton activity pH of 5.55 indicating slightly acidic conditions
- Electrical conductivity (EC) measurements ranged from 423 µS/cm to 2925 µS/cm, and reported an average of 1388 µS/cm, indicating fresh groundwater conditions
- Dissolved oxygen ranged from 1.13 mg/L to 4.18 mg/L, with an average of 2.08 mg/L indicating slightly aerobic conditions
- Redox potential measurements varied between -111.2 mV to 194.8 mV. Negative redox potential in wells GW1 and GW9_S indicate reducing conditions while positive redox potential in the other wells indicates oxidising conditions. Low or negative Eh correlated with reduced dissolved oxygen indicating the groundwater is slightly anaerobic at these locations

The water quality parameters generally reported a freshwater system with slightly acidic to neutral pH, and mostly aerobic conditions.

9.2.3 Groundwater Analytical Results

A tabulated assessment of groundwater results against adopted assessment criteria is presented in Table 7, Appendix 2 and in summary as Table 9-2.

Table 9-2: Summary of Groundwater Results

Heavy Metals	No. of Measurements	Min	Max	Average	No. > drinking water criteria	No. > ecological criteria
Aluminium (filtered)	9	0.1300	15.0000	5.1600	3	3
Arsenic (filtered)	9	0.0010	0.0070	0.0019	0	0
Barium (filtered)	9	0.0200	0.0700	0.0433	0	9
Cadmium (filtered)	9	0.0003	0.1700	0.0457	4	7
Chromium (filtered)	9	0.0010	0.0070	0.0033	0	2
Cobalt (filtered)	9	0.0070	0.3200	0.0991	8	8
Copper (filtered)	9	0.0020	2.7000	0.3224	1	9
Iron (filtered)	9	0.3000	7.2000	2.5667	3	0
Lead (filtered)	9	0.0010	0.4100	0.1193	3	3
Manganese (filtered)	9	0.0950	20.0000	6.7628	8	5
Mercury (filtered)	9	--	--	--	0	0
Molybdenum (filtered)	9	0.0070	0.0070	0.0070	2	2
Nickel (filtered)	9	0.0030	0.1800	0.0657	4	6
Selenium (filtered)	9	0.0010	0.0090	0.0045	0	8
Titanium (filtered)	9	--	--	--	0	0
Zinc (filtered)	9	0.0670	47.0000	12.1509	9	9

All concentrations in mg/L
--concentrations were at or near the level of detection and statistics were not able to be calculated for these analytes.

9.2.4 Discussion

Figure 4a, Appendix 1 presents a summary of the distribution of contaminants in groundwater exceeding the adopted criteria throughout the Precinct.

The concentrations of lead in groundwater exceeded the drinking water criteria in wells GW1-GW3 around the central portion of Captains Flat east of the former mining area and south of the Molonglo River. Concentrations of other heavy metals of concern (arsenic, aluminium, cadmium, copper, nickel and zinc) were also reported at higher concentrations at these three wells. Lead in groundwater was reported below all assessment criteria north of the Molonglo River and in groundwater beneath hills north of the Northern Tailings Dump and beneath the rail corridor.

Metals that exceeded the adopted health-based drinking water criteria were aluminium, cadmium, cobalt, copper, iron, lead, manganese, molybdenum, nickel and zinc. Drinking water criteria exceedances were reported in eight of the 11 wells of which six are located south of the Molonglo River.

Metals that exceeded the adopted ecological criteria were aluminium, barium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel and zinc. Ecological criteria exceedances were reported in all wells except GW7.

Metals that exceeded adopted irrigation criteria were cadmium, cobalt and zinc. Irrigation criteria exceedances were reported in wells GW1, GW2, GW3, GW9_S and GW10 all of which are south of the Molonglo River.

Metals that exceeded adopted stock watering guidelines were aluminium, cadmium, copper, lead and zinc. Stock Water criteria exceedances were reported in wells GW1, GW2 and GW3 in the central portion of the Town south of the Molonglo River.

9.3 Surface Water

A tabulated assessment of surface water results against adopted assessment criteria is presented in Table 5, Appendix 2 and in summary as Table 9-3 and Table 9-4.

Table 9-3: Summary of Total Metals in Surface Water

Total Metals	Assessment Criteria - ADWG	Assessment Criteria - recreation	No. of Samples	Min	Max	Average	No > ADWG	No. > Rec
Aluminium	20	200	15	0	24	6	1	0
Arsenic	0.01	0.1	15	0.00	0.01	0.00	0	0
Barium	2	20	15	0	0	0	0	0
Cadmium	0.002	0.06	15	0.000	0.160	0.039	9	3
Chromium	0.05	0.5	15	0.00	0.00	0.00	0	0
Cobalt	0.006	0.03	15	0.001	0.130	0.034	7	4
Copper	2	20	15	0	3	0	1	0
Iron	0.3	119	15	0.7	150.0	28.6	11	1
Lead	0.01	0.2	15	0.00	1.30	0.38	12	5
Manganese	0.5	12	15	0.0	14.0	2.7	6	1
Mercury	0.001	0.01	15	0.000	0.000	-	0	0
Molybdenum	0.05	-	15	0.00	0.00	-	0	-
Nickel	0.02	0.2	15	0.00	0.06	0.02	4	0
Selenium	0.01	-	15	0.00	0.02	0.01	2	-
Titanium	-	-	15	0.006	0.053	0.024	-	-
Zinc	0.6	26	15	0.0	120.0	31.8	12	4

All concentrations in mg/L

Table 9-4: Summary of Dissolved Metals in Surface Water

Dissolved Metals	Assessment Criteria - Ecological	Assessment Criteria - Irrigation	Assessment Criteria - Stock water	No. of Samples	Min	Max	Average	No. > ecological	No. > Irrigation	No. > Stock water
Aluminium (filtered)	0.055	5	20	15	0.060	23.000	5.347	14	4	1
Arsenic (filtered)	0.024	0.5	2	15	0.001	0.008	0.003	0	0	0
Barium (filtered)	-	-	-	15	0.0200	0.0300	0.0244	6	6	6
Cadmium (filtered)	0.0002	0.01	0.05	15	0.0003	0.1800	0.0418	13	2	13
Chromium (filtered)	0.001	1	1	15	0.002	0.004	0.003	3	12	3
Cobalt (filtered)	0.09	1	0.1	15	0.00	0.14	0.04	2	3	2
Copper (filtered)	0.0014	0.5	0.1	15	0.0030	2.7000	0.4043	15	0	15
Iron (filtered)	0.3	-	10	15	0.2	190.0	31.6	14	0	14
Lead (filtered)	0.0034	0.1	5	15	0.0020	1.4000	0.3637	13	0	13
Manganese (filtered)	1.9	10	2.5	15	0.0	15.0	3.1	4	0	4
Mercury (filtered)	0.00006	0.002	0.002	15	0.0000	0.0000	-	0	15	0
Molybdenum (filtered)	-	-	-	15	0.0000	0.0000	-	15	15	15
Nickel (filtered)	0.011	1	2	15	0.002	0.072	0.020	4	0	4
Selenium (filtered)	0.011	-	-	15	0.002	0.003	0.002	0	11	0
Titanium (filtered)	-	-	-	15	0.011	0.012	0.012	13	13	13
Zinc (filtered)	0.008	20	5	15	0.049	140.000	35.514	15	0	15

All concentrations in mg/L

9.3.1 Discussion

Figure 5, Appendix 1 presents a summary of the distribution of contaminants in surface water exceeding the adopted criteria throughout the Precinct. Surface water assessment occurred in June 2021 during a seasonally cool and wet period. Contaminant concentrations in surface water could be expected to vary in response to variable meteorological conditions. The surface water data presented in this report is considered a preliminary indicator of contaminant impacts. Further monitoring to assess the effects of meteorological variability is recommended.

Contaminant concentrations in surface water were observed to be highest in discharge from the Main Adit Spring, overflow from mine dams flowing through the southern end of the rail corridor and to a lesser extent in leachate drainage from the Southern Tailings Dump.

Total metals exceeded drinking water criteria at 12 locations downstream of the water supply dam. Metals that exceeded drinking water criteria included cadmium, chromium, cobalt, iron, lead, nickel and zinc exceed drinking water criteria.

Total metals exceeded recreational criteria at six of 15 locations including Copper Creek, a drainage line downstream of the dams on the mine site and at Main Adit Spring. Metals that exceeded recreational criteria included cadmium, cobalt, iron, lead and zinc.

Total metals exceeded irrigation criteria at five locations (SW3, SW5, SW7, SW8, SW12) including the Molonglo River downstream of the water supply dam and Copper Creek. Metals that exceeded criteria included aluminium, cadmium, copper, lead, manganese and zinc exceed irrigation criteria.

Total metals exceeded stock watering criteria at 14 of 15 locations. Metals that exceeded stock watering criteria included cadmium, copper, iron, manganese and zinc.

Dissolved concentrations of aluminium, cadmium, chromium, copper, iron, lead, manganese, nickel and zinc exceeded ecological criteria.

Further consideration of contaminant concentrations in surface water, associated risks to human health and risk mitigation recommendations are presented in the interim water use guidelines presented as Appendix 8. These guidelines have been prepared as guidance to manage risks associated with exposure to contaminants from historic mining during use of public waters at Captains Flat. It is anticipated that these interim guidelines will be reviewed after mine site rehabilitation and abatement measures proposed for public lands within Captains Flat.

9.4 Sediment

Sediment results are assessed against sediment quality assessment criteria in Table 3, Appendix 2 and in summary in Table 9-5.

Table 9-5: Summary of Sediment Results

Heavy Metals	No. of Measurements	Min	Max	Average	No. > DGV	No. > GV High
Aluminium	15	3600.0	17,000.0	9060.0	-	-
Arsenic	15	2.8	140.0	60.3	11	5
Barium	15	38.0	1400.0	275.7	-	-
Cadmium	15	0.7	22.0	4.3	6	1
Chromium	15	6.6	26.0	14.8	0	0
Cobalt	15	6.0	40.0	14.9	-	-
Copper	15	13.0	1300.0	321.7	12	7
Iron	15	5300.0	230,000.0	52,906.7	-	-
Lead	15	76.0	6700.0	1601.1	15	12
Manganese	15	66.0	1900.0	328.9	-	-
Mercury	15	0.1	0.4	0.3	7	0
Molybdenum	15	19.0	19.0	19.0	-	-
Nickel	15	5.2	37.0	15.9	1	0
Selenium	15	2.3	4.4	3.2	-	-
Titanium	15	94.0	590.0	269.6	-	-
Zinc	15	81.0	21000.0	3236.7	13	12

All concentrations in mg/kg
– no criteria .

9.4.1 Discussion

Figure 5, Appendix 1 presents a summary of the distribution of contaminants in sediment exceeding the adopted criteria throughout the Precinct.

Analytical results from sediment exceeded adopted GV-high criteria for arsenic, cadmium, copper, lead and zinc. Exceedances of the sediment DGV were reported for arsenic, cadmium, copper, lead, mercury, nickel and zinc.

Concentrations of lead in sediment generally increase from south to north however the highest concentrations of lead were reported in the central portion of the Precinct at SED10 (near the southern Smelter) and SED5 (downgradient from the Main Adit Spring).

9.5 Indoor Dust

9.5.1 Men's Shed Indoor Dust Results

A tabulated assessment of dust sampling results against relevant guidelines is presented in Table 2, Appendix 2 and in summary as Table 9-6 below. Concentrations shown in **bold** are above the relevant guideline.

Table 9-6: Summary of Men's Shed Internal Dust Results

Type	Guideline	Result		
Dust Interior – Floor	1000 (µg/m^2)	MS_SWAB1 **7111**	MS_SWAB2 **1078**	MS_SWAB3 **2333**
Dust Interior – Window Sills and Shelves	5000 (µg/m^2)	MS_SWAB4 244		

Exceedance of the adopted health-based (commercial building) criteria for dust samples were reported at all three floor swab sampling locations within the Men's Shed. The sampling locations and exceedances of adopted criteria are presented as Figure 7b, Appendix 1.

9.5.2 Community Hall Indoor Dust Results

A tabulated assessment of dust sampling results against relevant guidelines is presented in Table 2, Appendix 2 and in summary as Table 9-7 below. Concentrations shown in **bold** are above the relevant guideline.

Table 9-7: Summary of Community Hall Internal Dust Results

Type	Guideline	Result		
Dust Interior – Floor	1000 (µg/m^2)	CH_SWAB1 97	CH_SWAB2 27	CH_SWAB3 511
Dust Interior – Window Sills and Shelves	5000 (µg/m^2)	CH_SWAB4 2333		

No exceedances to the adopted health-based criteria were reported. The sampling locations are presented as Figure 7a, Appendix 1.

9.5.3 Rural Fire Service Indoor Dust Results

A tabulated assessment of dust sampling results against relevant guidelines is presented in Table 2, Appendix 2 and in summary as Table 9-8 below. Concentrations shown in **bold** are above the relevant guideline.

Table 9-8: Summary of RFS Internal Dust Results

Type	Guideline	Result		
Dust Interior – Floor	1000 (µg/m²)	RFS_SWAB1 478	RFS_SWAB2 300	RFS_SWAB3 200
Dust Interior – Window Sills and Shelves	5000 (µg/m²)	RFS_SWAB4 97		

No exceedances to the adopted health-based criteria were reported. The sampling locations are presented as Figure 7c, Appendix 1.

9.5.4 Sewage Treatment Plant Indoor Dust Results

A tabulated assessment of dust sampling results against relevant guidelines is presented in Table 2, Appendix 2 and in summary as Table 9-9 below. Concentrations shown in **bold** are above the relevant guideline.

Table 9-9: Summary of STP Internal Dust Results

Type	Guideline	Result		
Dust Interior – Floor	1000 (µg/m²)	STP_SWAB1 111	STP_SWAB2 200	STP_SWAB3 76
Dust Interior – Window Sills and Shelves	5000 (µg/m²)	STP_SWAB4 <11		

No exceedances to the adopted health-based criteria were reported. The sampling locations and are presented as Figure 7d, Appendix 1.

9.5.5 Discussion

Elevated lead loadings in internal dust at the Men's Shed are inconsistent with lead loadings at other public buildings where lead concentrations in surrounding public soils were comparatively higher than in the public soils surrounding the Men's Shed. Plausible reasons for the comparative difference in lead loadings include the age of the building, the frequency of cleaning and the type of activities that occur or have occurred at the Men's Shed compared to other buildings. Comparison of activities has not been considered further however both the Men's Shed (former RFS station) and Community Hall appear to have been built before 1972 (Pryke 2014) while the STP and new RFS appear to have been built after 2018 (Google Earth Pro 2021). The age difference of public buildings limits the period over which dust may have built up in the STP and the RFS compared to the Men's Shed and the Community Hall. This may account for the difference in lead loadings between the Men's Shed and other public buildings. Potential risks associated with exposure to lead in internal dust at the Men's Shed are considered further in a Lead Investigation Report and exposure assessment specific to this site which are presented as Appendix 9.

9.6 Air Quality

The air quality monitoring program for TSP and heavy metals was commissioned at five locations with sampling commencing on 22 June 2021. Results are considered below for the first two months of monitoring (to 20 August 2021). Further detail is presented separately in the Captains Flat Air Quality Monitoring Report June to August 2021 (Ramboll 2021c).

All 24-hour TSP concentrations were below the annual average TSP air quality criteria. Similarly all 24-hour lead concentrations were below the annual average lead air quality criteria. The monitoring shows spatial and temporal variations in concentrations of arsenic, barium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, titanium and zinc around Captains Flat. No selenium was measured above LOR since commencement of the program. Mercury was measured above LOR in one sample and cadmium was measured above LOR in three samples.

Bivariate polar plots were generated with the concentration data and average wind conditions measured at 10 m height at 2 Copper Creek Road. Winds prevailed from the north with southwesterlies occurring during night time periods. Winds during sample days prevailed from the north. The polar plots provide some indications of potential source direction, but current data is limited by wind directions on sampling days. Data from subsequent monitoring months will be added to these plots for future reports.

Correlations between heavy metals and TSP show some strong relationships between pollutants with limited consistency between monitoring location. There was a low correlation between TSP and heavy metals at all locations, with the exception of lead ($R^2 = 0.90$), arsenic ($R^2 = 0.73$) and titanium ($R^2 = 0.96$) at AQM4 – Captains Flat Public School.

The monitoring program is ongoing with review planned at six months to determine if the locations and analysis parameters remain suitable for the aims of the monitoring. Ambient air quality criteria for lead and TSP are based on an annual averages and air quality is influenced by seasonal variations with potential for distinct annual patterns, so at least an annual period of monitoring is recommended.

10. REFINED CONCEPTUAL SITE MODEL

The CSM was refined from the preliminary CSM presented in Section 5. A CSM is a qualitative description of the source(s) of contamination, the pathway(s) by which contaminants may migrate through the environmental media, and the populations (human and / or ecological) that may be potentially exposed. This relationship is commonly known as a Source-Pathway-Receptor (SPR) linkage. Where one or more elements of the SPR linkage are missing, the exposure pathway is incomplete, and no further assessment is required.

10.1 Environmental Setting

The Precinct contains a mix of residential, recreational and commercial/industrial areas surrounded by cleared agricultural land and natural bushland. The western portion of the Precinct is located within the Googong Dam Catchment and the southern portion of the Precinct around the Southern Smelter is located within the Captains Flat Dam Catchment.

10.2 Contaminant Sources

The primary source of contamination within the Precinct was from mining activities including loading, processing and transport of ore. Naturally occurring mineralised geology appears to be a lesser source of contamination.

10.3 Transport Mechanisms

Transport mechanisms identified include filling with mine waste, as well as airborne dust, erosion and sediment transport where contamination from the mine is present in surficial soils as well as potential dissolved metal transport through surface water and groundwater.

10.4 Exposure Pathways

In order for a receptor to be exposed to a contaminant derived from a site, there should be an exposure pathway linking the source of contamination and the exposed population. An exposure pathway describes the course a chemical or physical agent takes from the source to the exposed individual.

The main exposure pathways for each matrix are summarised below:

- Soil - incidental ingestion, direct contact, inhalation and root uptake by terrestrial ecology
- Sediment - root uptake by aquatic ecology, direct contact with recreational users
- Surface Water – dermal contact, potable use, incidental ingestion, extraction for stock watering and irrigation, uptake by aquatic organisms and ingestion of seafood
- Groundwater – extraction for potable use, extraction for stock watering and irrigation, root uptake by terrestrial and/or aquatic ecology
- Indoor dust – incidental ingestion, dermal contact, inhalation

10.5 Human and Ecological Receptors

Human receptors are considered to include:

- Members of the public within the Precinct
- Workers within the community including mine rehabilitation workers, rail workers, road maintenance workers, sewage treatment plant operators, emergency services workers including the RFS, SES, Police Station, park maintenance and workers maintaining above ground and underground services throughout the Precinct
- Recreational users of the Captains Flat Heritage Trail, Captains Flat Park, Foxlow Street Parklet, recreational users of Copper Creek, Fosters Creek, Molonglo River and the water supply dam which pass through the Precinct
- Livestock and crops that rely on the use of surface water for stock watering and irrigation

Ecological receptors are considered to include terrestrial ecology within the Precinct, in particular within bushland, and aquatic ecology in the Water Supply Dam, the Molonglo River and its tributaries (Copper Creek and Fosters Creek).

10.6 Risk Characterisation

An assessment of the SPR linkages for the Precinct is summarised in Table 10-1 and cross sections showing the graphical interpretation of the CSM are presented in Figures 9a - 9c, Appendix 1. Table 10-1 assesses the presence of a complete SPR (Y - yes, N – no, P – potential). Relative high, moderate and low potential risk areas within the Precinct have been determined based on:

- The degree to which lead concentrations in soil exceed the relevant assessment criteria, i.e. the potential consequence of exposure
- Qualitative assessment of anticipated land use type and
- The duration and frequency of land use where elevated lead concentrations were observed, i.e. the likelihood of exposure

Lead concentrations in low risk areas generally exceeded assessment criteria by 1 – 5 times, though in the bushland east of the Molonglo River at the southern end of town (which has lower potential for exposure) exceeded by 5 – 10 times. Moderate and high risk areas exceeded assessment criteria by > 5 times.

Table 10-1: Exposure Assessment Summary and Risk Characterisation

Exposure Route	Complete SPR? (Y / N / P)						Justification and Assessed Level of Risk
	Residents on private property	Workers within the community	Recreational users ofthe Precinct	Terrestrial ecology	Aquatic ecology	Livestock and crops relying on irrigation	
Soil							
Direct Contact	P	Y	Y	N/A	N/A	N/A	Concentrations of lead and arsenic exceeded the adopted health and ecological criteria at multiple locations throughout the Precinct. Zinc concentrations also exceeded ecological criteria. Risk assessed as high in the following areas: • The Old Mine Site and rail corridor • Public spaces south of the Molonglo River including the former preschool, Foxlow Street and the eastern embankment of the Old Mine Site • Areas where fill appears to have been applied north of the Molonglo River including flood berms adjacent the River and embankments beneath the tennis courts as well as Foxlow Parklet Risk assessed as moderate in the following areas: • The Southern Smelter Area and Keatings Collapse, noting likely limited usage/access of these areas • Beneath the southern playing field off Foxlow Street, noting the presence of grass cover which reduces the risk of exposure • The southern end of the school playing fields including the new preschool, noting that the building footprint, carpark and footpaths have reduced accessibility to contaminated soil however the potential receptors are sensitive Risk assessed as low in the following areas: • In natural soil to depths of greater than five metres beneath the northern end of Foxlow Street, noting the absence of exceedance in surface material
Incidental Ingestion	P	Y	Y	N/A	N/A	N/A	• In shallow soils in bushland hillside east of the Molonglo River near the southern end of town, noting likely limited usage/access of these areas
Inhalation	P	P	P	N/A	N/A	N/A	• At several other locations in surface soils north of the Molonglo River at concentrations which marginally exceed the health investigation levels, noting the marginal degree of exceedance and generally isolated locations The level of risk to residents on private property cannot be assessed based on the available data.
Ecological Uptake	P	N/A	N/A	Y	N/A	N/A	Risks in soil present exposure risks through direct ecological uptake though can also be expected to contribute to contaminant concentrations in surface water and sediment through run-off.
Sediment							
Ecological Uptake	P	N/A	N/A	N/A	Y	N/A	Sediment is present in Creeks and drainage lines throughout the Precinct and Molonglo River. The concentrations of heavy metals including lead and zinc exceed the adopted GV-high criteria which indicates a potential risk to ecological receptors. These concentrations were observed to extend past the downstream Precinct boundary. The relative level of risk has not been assessed in this tier 1 assessment.
Surface Water							
Direct Contact	P	Y	Y	N/A	N/A	N/A	Elevated concentrations of lead and zinc as well as other heavy metals were observed exceeding the health based and ecological criteria. Surface water exists throughout the Precinct in drainage channels, Creeks and Molonglo River and exposure to human and ecological receptors is likely. Consideration of contaminant concentrations in surface water, associated risks to human health and risk mitigation recommendations are presented in the interim water use guidelines presented as Appendix 8. A potential linkage for terrestrial ecology is identified based on potential for foraging around surface waters or feeding on aquatic ecology. These concentrations were observed to extend past the downstream Precinct boundary. The relative level of risk to ecological receptors has not been assessed in this tier 1 assessment.
Potable use	P	P	P	N/A	N/A	N/A	
Incidental Ingestion	P	Y	Y	N/A	N/A	N/A	
Extraction for stock water and irrigation	P	N/A	N/A	N/A	N/A	Y	
Ecological Uptake	P	N/A	N/A	P	Y	N/A	
Groundwater							
Potable use	N/A	P	P	N/A	N/A	N/A	Elevated concentrations of lead, zinc and other heavy metals were observed exceeding the health based and ecological criteria. The highest concentrations, including the only detections of lead exceeding the laboratory limit of reporting, were made in wells GW1-GW3 around the central portion of Captains Flat, east of the former mining area and south of the Molonglo River. Groundwater is found in a shallow alluvial aquifer in the Precinct near the Molonglo River and at greater depth in surrounding hills. The Molonglo River receives groundwater from the Main Adit Spring therefore the identified groundwater contamination could be expected to contribute to surface water contamination. As a result human receptors may be and ecological receptors are likely to be exposed to contaminated groundwater. The significance of identified environmental impacts on risk to human health is relatively low based on the water use survey where no groundwater users were identified. The relative level of risk to ecological receptors has not been assessed in this tier 1 assessment.
Incidental ingestion	N/A	P	P	N/A	N/A	N/A	
Extraction for stock water and irrigation	N/A	N/A	N/A	N/A	N/A	P	
Ecological Uptake	N/A	N/A	N/A	Y	Y	N/A	

Exposure Route	Complete SPR? (Y / N / P)						Justification and Assessed Level of Risk
	Residents on private property	Workers within the community	Recreational users ofthe Precinct	Terrestrial ecology	Aquatic ecology	Livestock and crops relying on irrigation	
Indoor Dust							
Direct Contact	P	P	P	N/A	N/A	N/A	Lead loading concentrations exceeded the health-based criteria for a commercial building at one public building (Men's Shed). Site specific exposure assessment integrating consideration of cumulative risks from lead in indoor dust and outdoor soil is presented as Appendix 9 and indicates lead exposure risks at the Men's Shed are low.
Inhalation	P	P	P	N/A	N/A	N/A	
Incidental Ingestion	P	P	P	N/A	N/A	N/A	
Food							
Consumption of fish caught in the Precinct	P	N/A	P	P	N/A	N/A	Elevated concentrations of lead, zinc and other heavy metals may have accumulated in fish and/or home grown produce and may present a risk to human and ecological consumers. The relative level of risk has not been assessed in this tier 1 assessment.
Consumption of home grown produce	P	N/A	N/A	P	N/A	N/A	

11. CONCLUSION

The scope of works described within this report is considered adequate to inform assessment of contaminant exposure risks within public spaces associated with historic mining practices within Captains Flat.

Potential contaminant exposure risks for human health and the environment have been identified based on assessment against site-specific trigger levels for soil and national criteria for other media relevant to the key exposure risks within the Precinct.

Relative high, moderate and low potential risk areas within the Precinct have been determined based on:

- The degree to which lead concentrations in soil exceed the relevant assessment criteria, i.e. the potential consequence of exposure
- Qualitative assessment of anticipated land use type and
- The duration and frequency of land use where elevated lead concentrations were observed, i.e. the likelihood of exposure.

Lead concentrations in low risk areas generally exceeded assessment criteria by 1 – 5 times, though in the bushland east of the Molonglo River at the southern end of town (which has lower potential for exposure) exceeded by 5 – 10 times. Moderate and high risk areas exceeded assessment criteria by > 5 times.

Potential human health risks for lead in soil are considered to be high in the following areas:

- The Old Mine Site and rail corridor
- Public spaces south of the Molonglo River including the former preschool, Foxlow Street and the eastern embankment of the Old Mine Site
- Areas where fill appears to have been applied north of the Molonglo River including flood berms adjacent the River and embankments beneath the tennis courts as well as Foxlow Parklet

Potential human health risks for lead in soil are considered to be moderate in the following areas:

- The Southern Smelter Area and Keatings Collapse
- Beneath the southern playing field off Foxlow Street
- The southern end of the school playing fields including the new preschool

Interim water use guidelines have been developed and define measures to mitigate risks from public water related to exposure to contaminants from historical mining and land-fill activities at Captains Flat. These interim guidelines integrate information on current usage based on a survey completed by Regional NSW and it is anticipated they will be reviewed after mine site rehabilitation and abatement measures proposed for public lands within Captains Flat.

The potential risk to human health due to environmental impacts in groundwater is relatively low based on the water use survey where no groundwater users were identified.

Potential human health risks for lead in soil are considered to be low in the following areas:

- In natural soil to depths of greater than five metres beneath the northern end of Foxlow Street
- In shallow soils in bushland hillside east of the Molonglo River near the southern end of town
- At several other locations in surface soils north of the Molonglo River at concentrations which marginally exceed the health investigation levels
- In public buildings

High and moderate potential risks in public space areas are presented on Figures 8a-8c[8].

There is a potential risk to private residents, members of the public and recreational users of the Precinct due to consumption of fish and home grown produce.

Potential contaminant exposure risks for the environment were identified in soil, sediment, surface water and groundwater. Contaminants in soil present exposure risks through direct ecological uptake though would also be expected to contribute to contaminant concentrations in surface water and sediment through run-off. Similarly, groundwater contamination could be expected to contribute to surface water contamination and associated risks. Potential risks associated with contamination in sediment and surface water were observed to extend past the downstream Precinct boundary.

A water treatment plant and reticulated watermains provide potable water within Captains Flat. Ramboll understands treated public water quality is managed under the NSW Health Drinking Water Monitoring Program. The quality of treated public water supply is not considered in this assessment.

The following data gaps remain in assessment of exposure risks:

- Assessment of contaminant impacts to the Molonglo River downstream of the Precinct or interactions with the alluvial aquifer and downstream water users
- Sediment contamination assumed to be present in the water supply dam has not been comprehensively assessed. Contaminant exposure risks are assumed to exist for benthic and aquatic ecology in the water supply dam. Comprehensive assessment of sediment in the water supply dam should be considered as part of ongoing surface water monitoring
- Effects of meteorological variability in contaminant mobility via airborne, surface water and groundwater migration pathways remains as a data gap however and routine monitoring programs have been established for air quality and surface water and are proposed for groundwater
- Human health effects from contaminant exposure within Captains Flat and the downstream receiving environment. A systematic assessment of community health effects from potential exposure to contaminants associated with historic mining, including blood lead monitoring would likely improve capacity to understand effects historic and current from current exposure scenarios and to assess the effectiveness of management measures once implemented
- Thorough assessment of contaminant concentrations within private properties
- Assessment of risk due to consumption of fish and home grown produce.

Addressing these data gaps would further refine assessment of contaminant exposure risks and management approaches.

[8] High risk areas on the Old Mine Site are being further considered under a separate scope of works and are not presented on the figures.

12. REFERENCES

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US EPA Regional Screening Levels (RSL) for tap water https://www.epa.gov/risk/regional-screening-levels-rsls

13. LIMITATIONS

Ramboll Australia Pty Ltd prepared this report in accordance with the scope of work as outlined in our proposal to Regional NSW and in accordance with our understanding and interpretation of current regulatory standards.

A representative program of sampling and laboratory analyses is proposed as part of this investigation, based on past and present known uses of the Precinct. While every care has been taken, concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. We cannot therefore preclude the presence of materials that may be hazardous.

Site conditions may change over time. This report is based on conditions encountered at the Site at the time of the report and Ramboll disclaims responsibility for any changes that may have occurred after this time.

The conclusions presented in this report represent Ramboll's professional judgment based on information made available during the course of this assignment and are true and correct to the best of Ramboll's knowledge as at the date of the assessment.

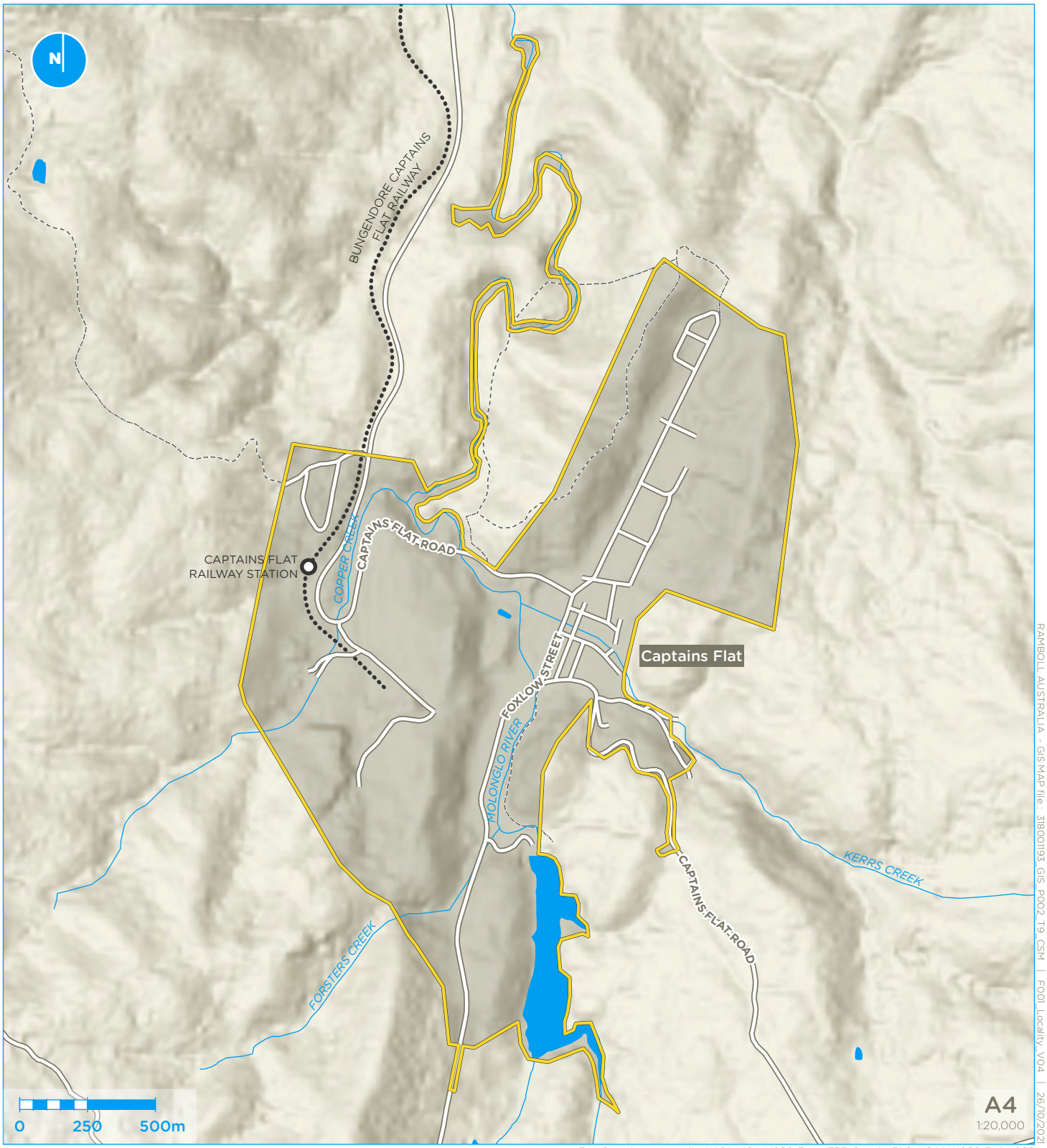
Ramboll did not independently verify all of the written or oral information provided to Ramboll during the course of this investigation. While Ramboll has no reason to doubt the accuracy of the information provided to it, the report is complete and accurate only to the extent that the information provided to Ramboll was itself complete and accurate.

This report does not purport to give legal advice. This advice can only be given by qualified legal advisors.

13.1 User Reliance

This report has been prepared exclusively for Regional NSW and may not be relied upon by any other person or entity without Ramboll's express written permission.

APPENDIX 1
FIGURES

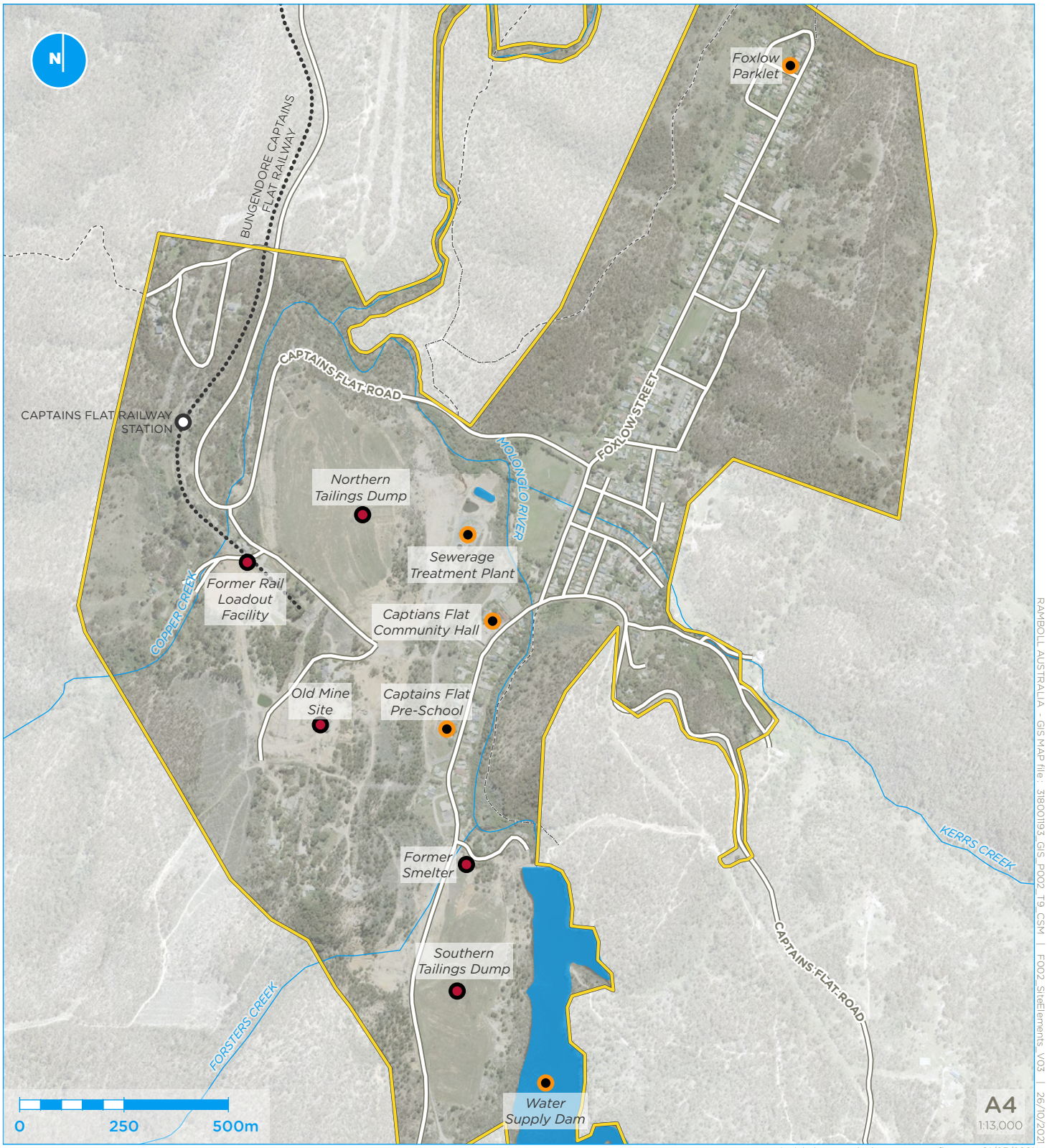


Legend

Precinct boundary

Figure 1 : Site location

Captains Flat Lead Management Plan - CSM



Legend

- Precinct boundary

Receptors and source areas

- Receptor
- Source area

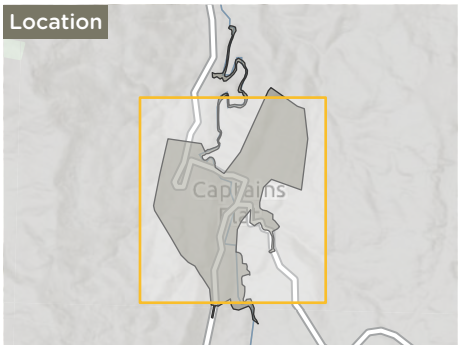
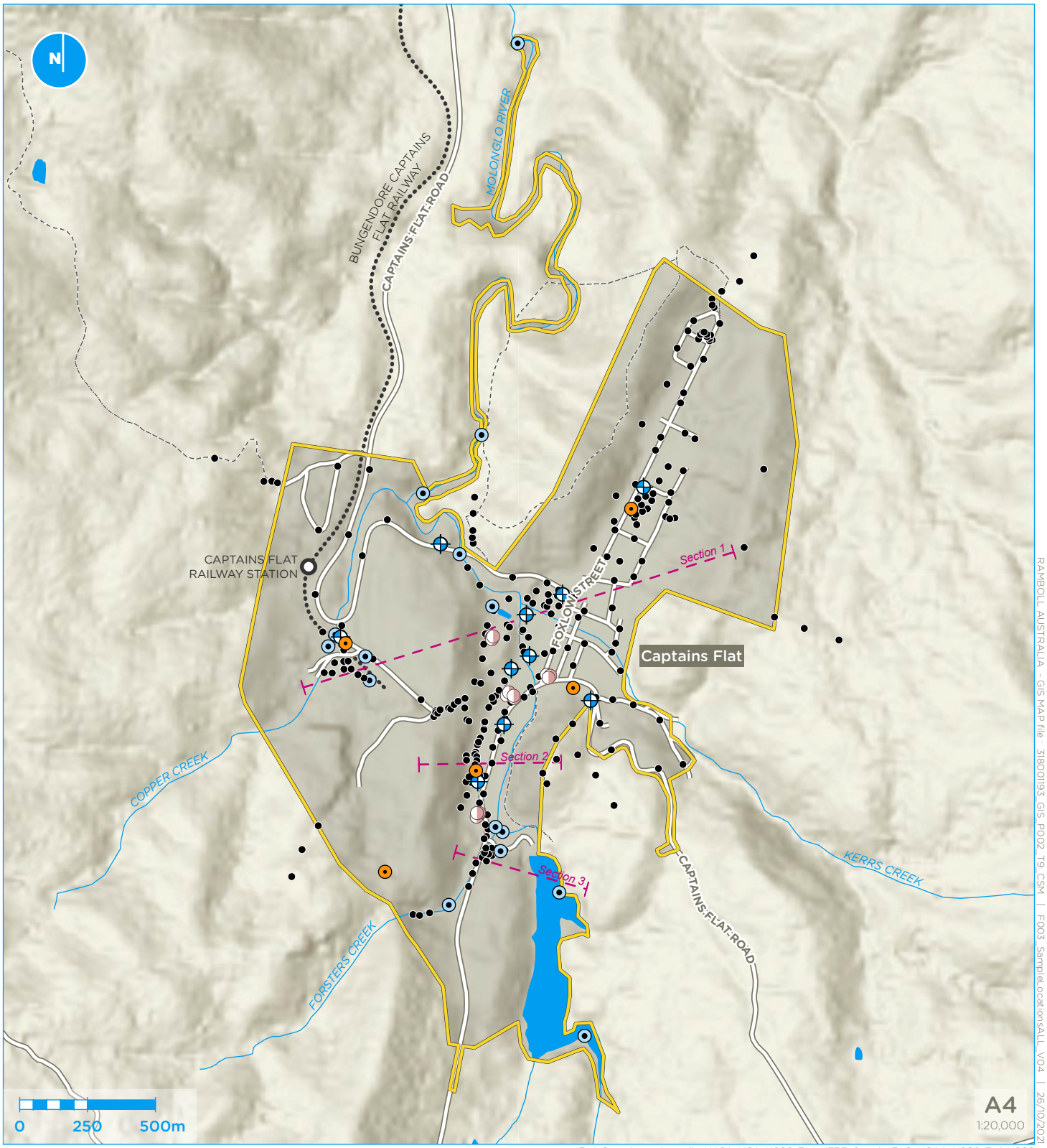


Figure 2 : Site elements

Captains Flat Lead Management Plan - CSM



Legend

- Precinct boundary
- Conceptual site model cross section

Sample type

- Dust interior
- Soil
- Surface water
- Groundwater well
- High Volume Air Sampler (HVAS) location

Figure 3 : Sample locations

Captains Flat Lead Management Plan - CSM

To determine exceedances, lead concentrations have been screened against the following site specific trigger levels:
EnviroScience data from the Preschool - 400 mg/kg (low density residential land use)
GHD (mine site) - 700 mg/kg (recreational land use)
Rail Corridor – 1,500 mg/kg (HIL D - commercial/industrial land use)
All other data - 700 mg/kg (public space and recreational land use)

0 250 500m

A3
1:10,000

Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file : 318001193_GIS_P002_T9_CSM | F004_SoilLocations_V05 | 12/11/2021

Legend

- Precinct boundary
- Previous Ramboll sampling area*

**Captains Flat Rail Corridor sampling conducted by Ramboll for John Holland Rail 2020-2021. Refer to figures from DSI in 3f to 3j for sample locations and assessment criteria exceedance locations.*

Samples (Ramboll 2021)
- Soil sample

Lead exceedance at depth
- Surface (<0.05 m)
- 0.05 m-0.5 m
- >0.5 m

Previous soil samples
- EnviroScience (2021)
- GHD (2017)
- EPA

Lead exceedance at depth
- Surface
- 0.4-0.5 m

Location

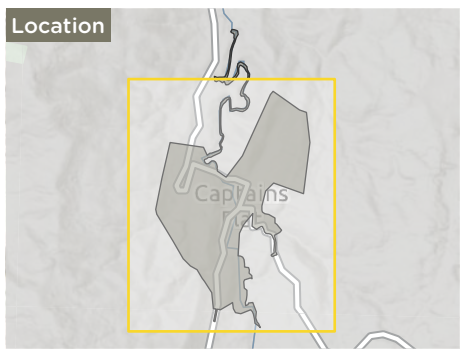


Figure 3a : Soil sample locations and exceedances
Captains Flat Lead Management Plan - CSM

Legend

Precinct boundary

Samples (Ramboll 2021)
- Soil sample

Lead exceedance at depth
- Surface (<0.05 m)
- 0.05 m-0.5 m
- >0.5 m

Previous soil samples
- EPA

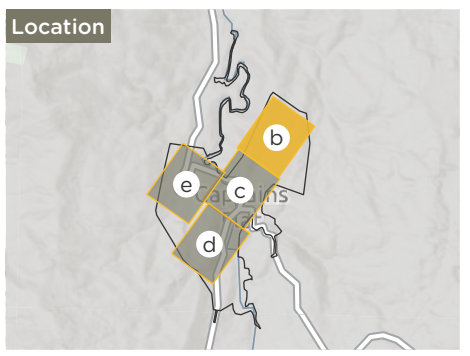


Figure 3b : Soil sample locations and exceedances

Captains Flat Lead Management Plan - CSM

To determine exceedances, lead concentrations have been screened against the following site specific trigger levels:
EnviroScience data from the Preschool - 400 mg/kg (low density residential land use)
GHD (mine site) - 700 mg/kg (recreational land use)
Rail Corridor – 1,500 mg/kg (HIL D - commercial/industrial land use)
All other data - 700 mg/kg (public space and recreational land use)

Legend

- Precinct boundary

Samples (Ramboll 2021)
- Soil sample

Lead exceedance at depth
- Surface (<0.05 m)
- 0.05 m-0.5 m
- >0.5 m

Previous soil samples
- EnviroScience (2021)
- GHD (2017)
- EPA

Lead exceedance at depth
- Surface

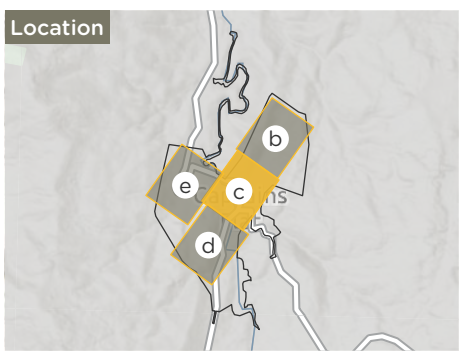
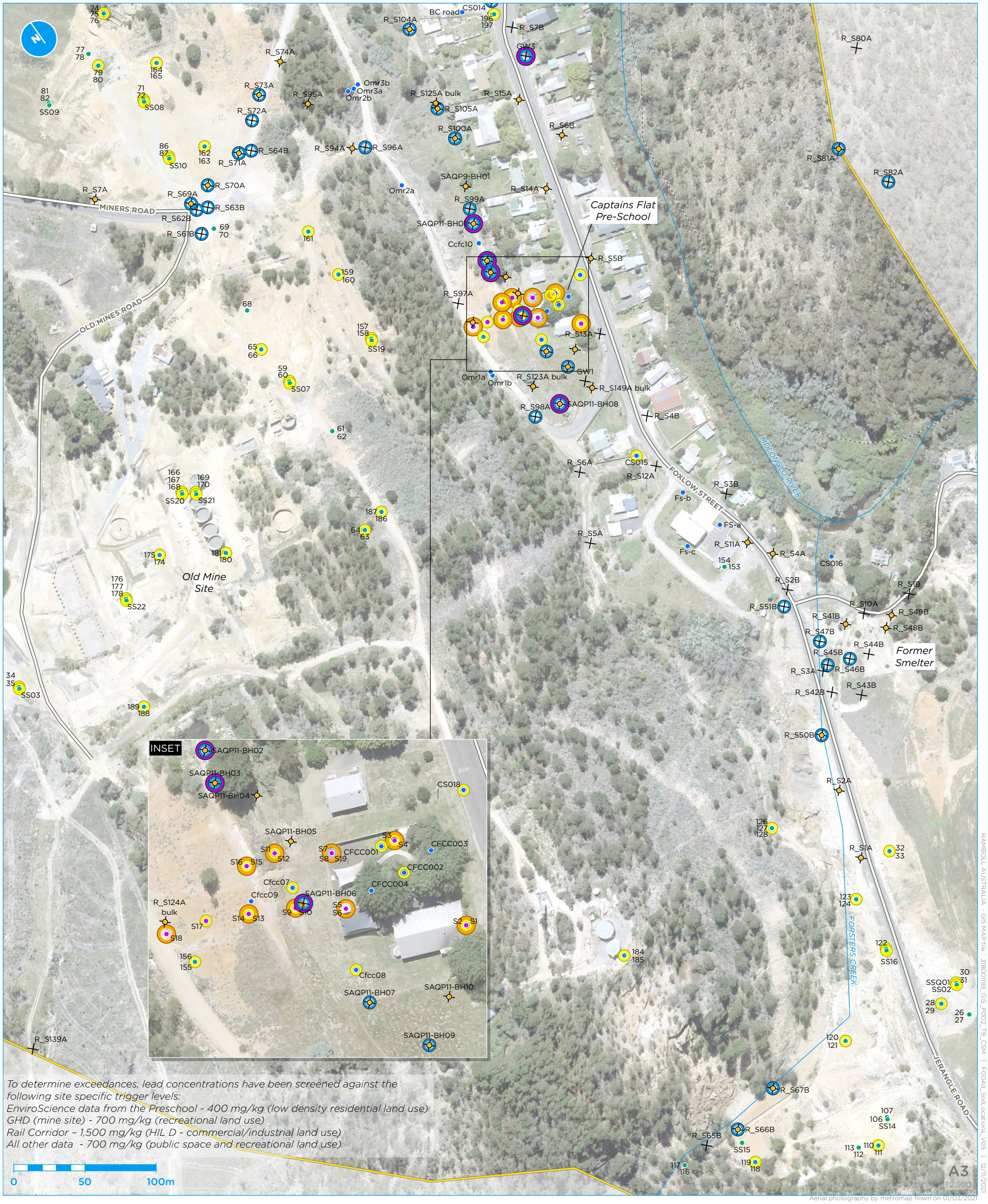


Figure 3c : Soil sample locations and exceedances
Captains Flat Lead Management Plan - CSM



Legend

- Precinct boundary

Samples (Ramboll 2021)
- Soil sample

Lead exceedance at depth
- Surface (<0.05 m)
- 0.05 m-0.5 m
- >0.5 m

Previous soil samples
- EnviroScience (2021)
- GHD (2017)
- EPA

Lead exceedance at depth
- Surface
- 0.4-0.5 m

Location

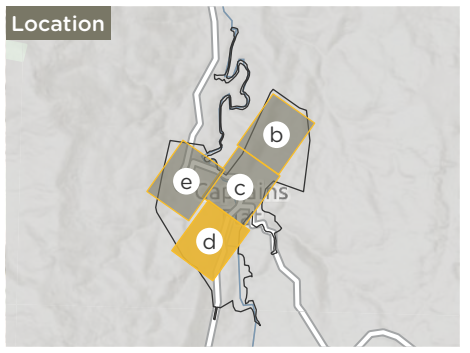
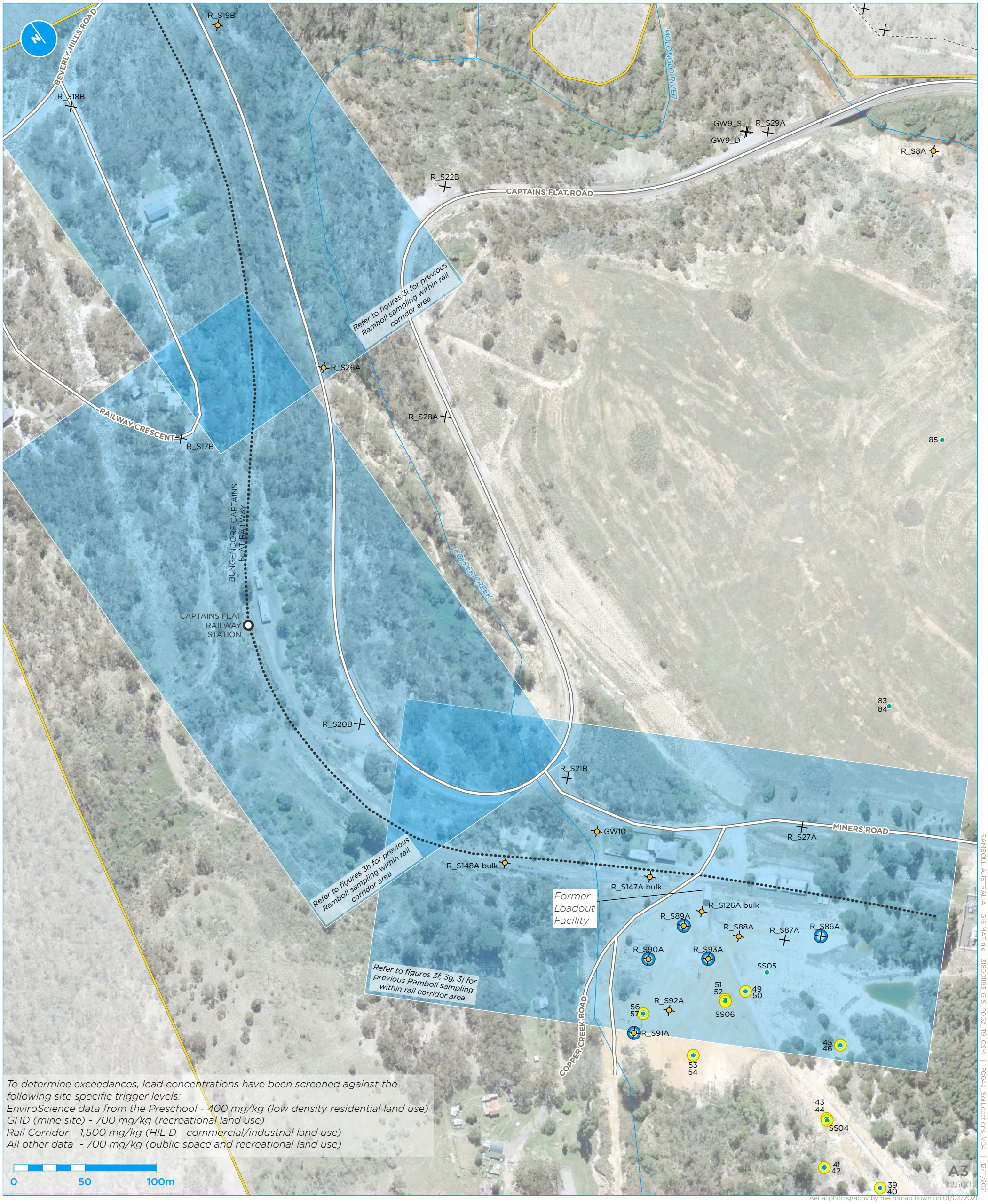


Figure 3d : Soil sample locations and exceedances

Captains Flat Lead Management Plan - CSM



Legend

- Precinct boundary
- Previous Ramboll sampling area*

**Captains Flat Rail Corridor sampling conducted by Ramboll for John Holland Rail 2020-2021. Refer to figures from DSI in 3f to 3j for sample locations and assessment criteria exceedance locations.*

Samples (Ramboll 2021)
- Soil sample

Lead exceedance at depth
- Surface (<0.05 m)
- 0.05 m-0.5 m

Previous soil samples
- GHD (2017)

Lead exceedance at depth
- Surface

Location

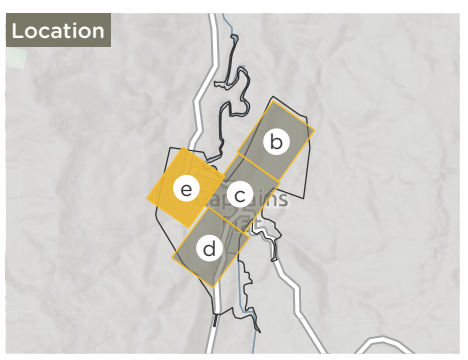
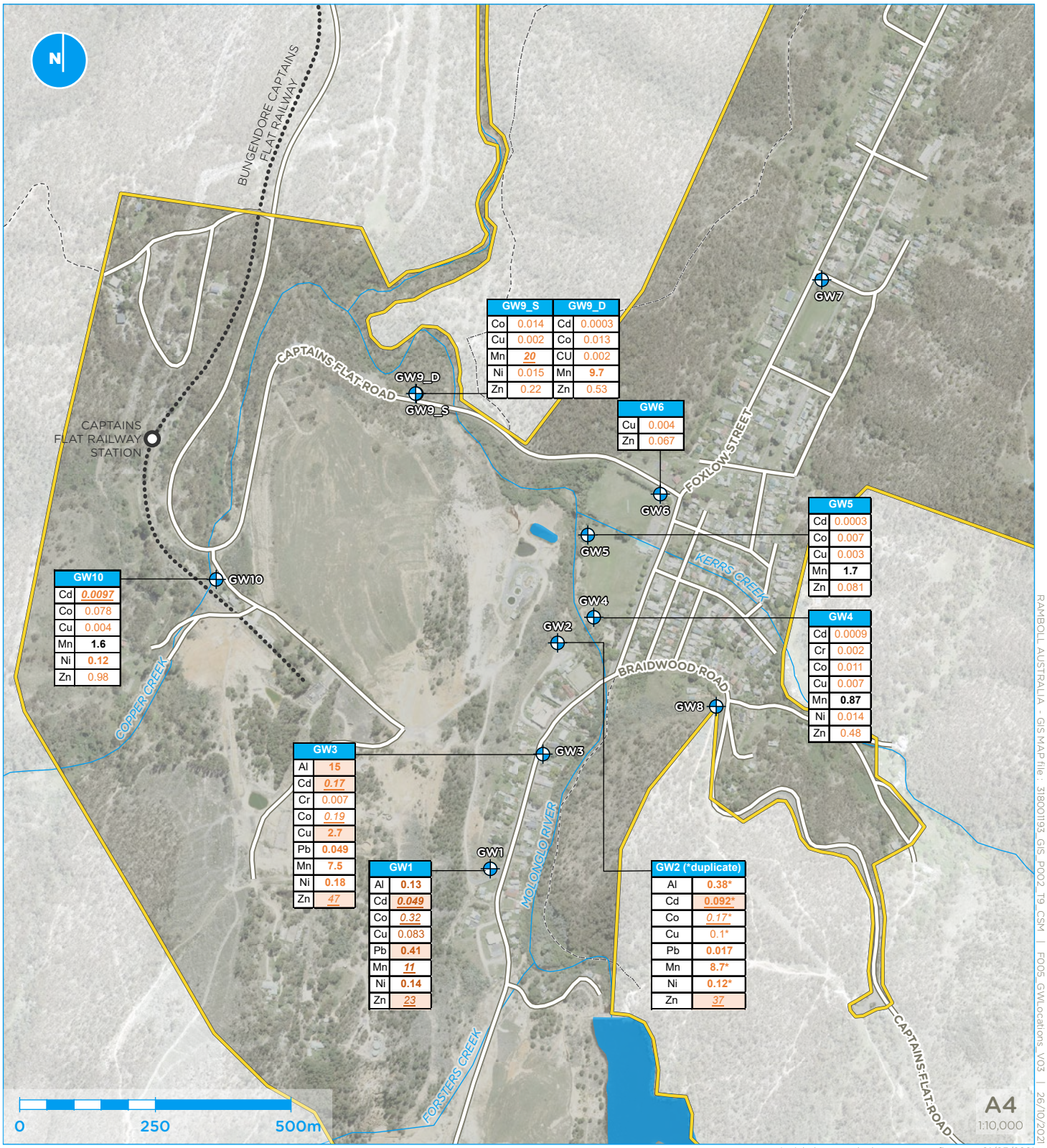


Figure 3e : Soil sample locations and exceedances

Captains Flat Lead Management Plan - CSM



Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file - 318001193_GIS_P002_T9_CSM | F005_GWLocations_V03 | 26/10/2021

Legend

- Precinct boundary
- Groundwater well

Exceedance criteria

Groundwater (mg/L)	Health Based Drinking Criteria	95% Species Protection	Irrigation	Stock Water
Al	**0.01**	0.055	*20*	5
Cd	**0.002**	0.0002	*0.002*	0.01
Cr	**0.05**	0.001	*0.05*	1
Co		0.0014	*0.1*	1
Cu	**2**	0.0014	*5*	0.4
Pb	**0.01**	0.0034	*5*	0.1
Mn	**0.5**	1.9	*10*	
Ni	**0.02**	0.011	*2*	1
Zn		0.008	*5*	20

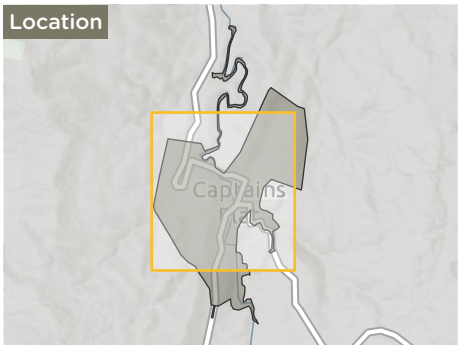
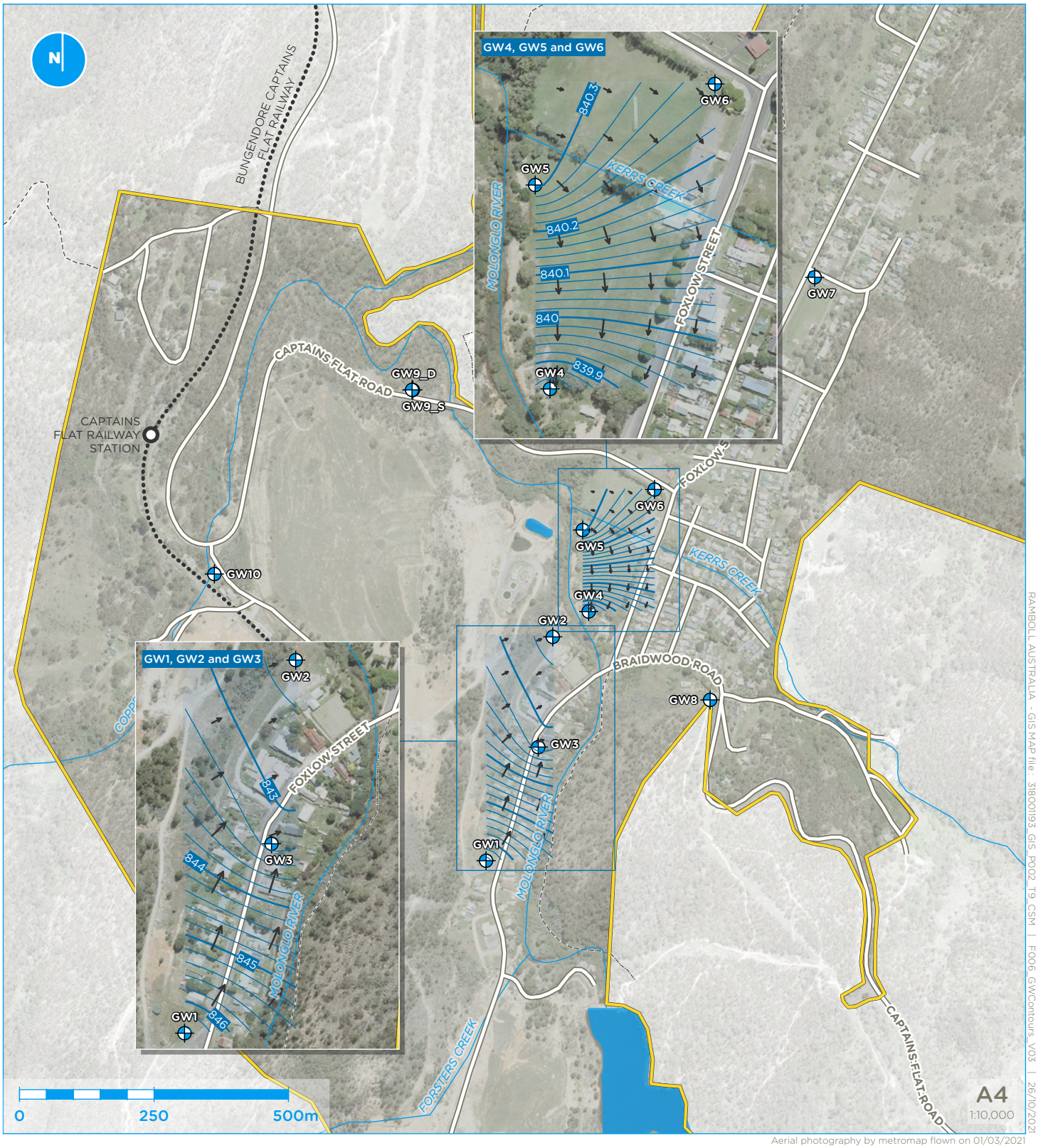


Figure 4a : Groundwater sample locations and exceedances

Captains Flat Lead Management Plan - CSM



Legend

- Precinct boundary
- Groundwater well
- Inferred groundwater direction

Groundwater contours

GW1, GW2 and GW3 contours (mAHD)
- 1m contour line
- 0.2m contour line

GW4, GW5 and GW6 contours (mAHD)
- 0.1m contour line
- 0.02m contour line

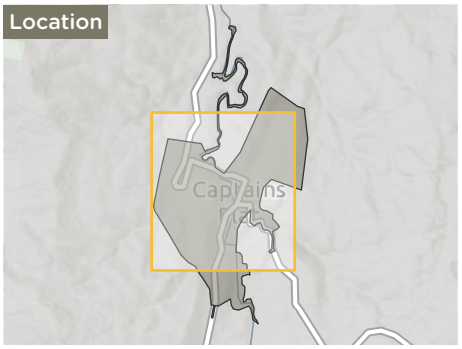
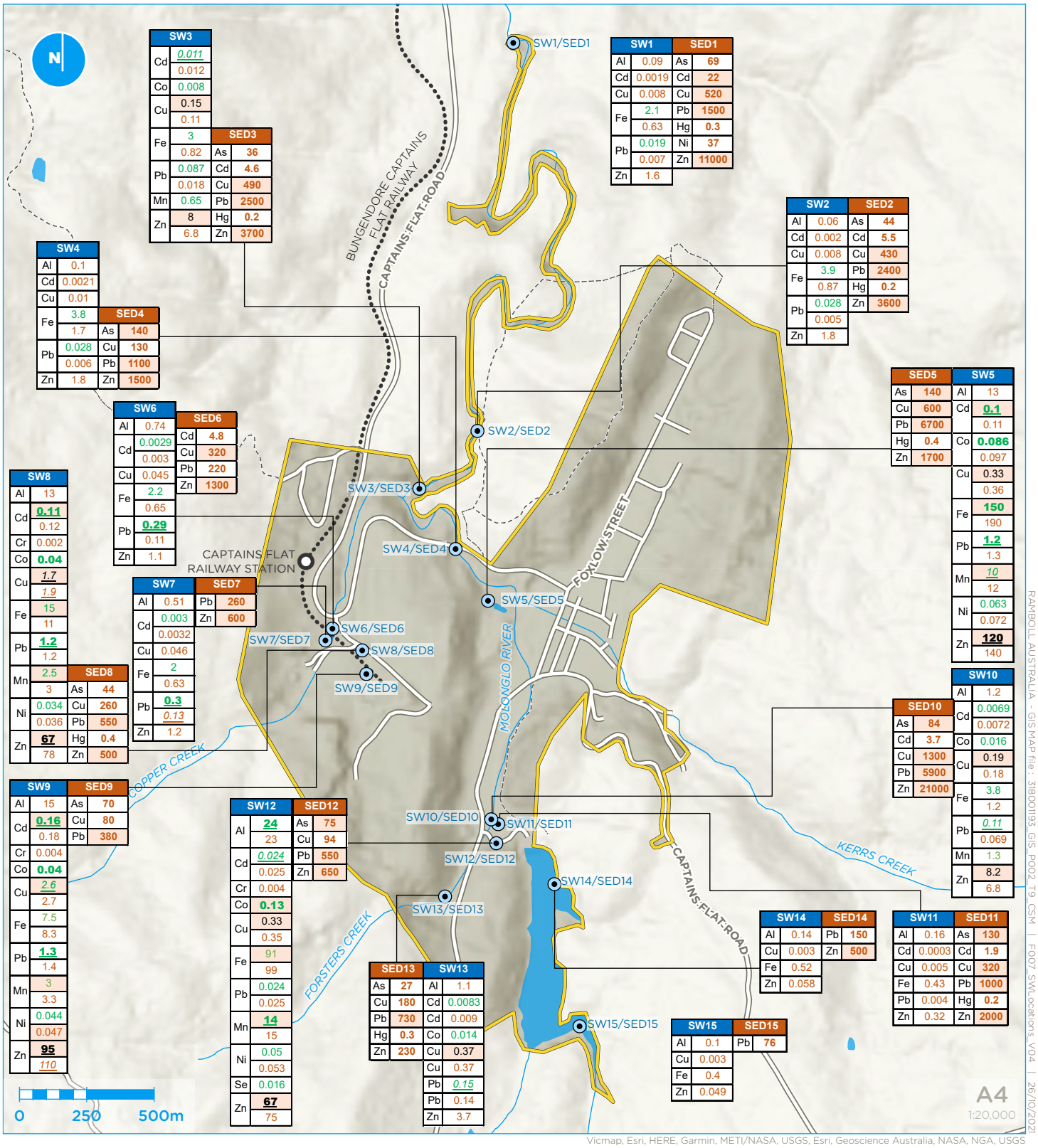


Figure 4b : Groundwater contours

Captains Flat Lead Management Plan - CSM



SW3	
Cd	0.011
	0.012
Co	0.008
Cu	0.15
	0.11
Fe	3
	0.82
Pb	0.087
	0.018
Mn	0.65
Zn	8
	6.8

SED3	
As	36
Cd	4.6
Cu	490
Pb	2500
Hg	0.2
Zn	3700

SW1	
Al	0.09
Cd	0.0019
Cu	0.008
Fe	2.1
	0.63
Pb	0.019
	0.007
Zn	1.6

SED1	
As	69
Cd	22
Cu	520
Pb	1500
Hg	0.3
Ni	37
Zn	11000

SW2	
Al	0.06
Cd	0.002
Cu	0.008
Fe	3.9
	0.87
Pb	0.028
	0.005
Zn	1.8

SED2	
As	44
Cd	5.5
Cu	430
Pb	2400
Hg	0.2
Zn	3600

SW4	
Al	0.1
Cd	0.0021
Cu	0.01
Fe	3.8
	1.7
Pb	0.028
	0.006
Zn	1.8

SED4	
As	140
Cu	130
Pb	1100
Zn	1500

SW6	
Al	0.74
Cd	0.0029
	0.003
Cu	0.045
Fe	2.2
	0.65
Pb	0.29
	0.11
Zn	1.1

SED6	
Cd	4.8
Cu	320
Pb	220
Zn	1300

SW7	
Al	0.51
Cd	0.003
	0.0032
Cu	0.046
Fe	2
	0.63
Pb	0.3
	0.13
Zn	1.2

SED7	
Pb	260
Zn	600

SW8	
Al	13
Cd	0.11
	0.12
Cr	0.002
Co	0.04
Cu	1.7
	1.9
Fe	15
	11
Pb	1.2
	1.2
Mn	2.5
	3
Ni	0.034
	0.036
Zn	67
	78

SED8	
As	44
Cu	260
Pb	550
Hg	0.4
Zn	500

SW9	
Al	15
Cd	0.16
	0.18
Cr	0.004
Co	0.04
Cu	2.6
	2.7
Fe	7.5
	8.3
Pb	1.3
	1.4
Mn	3
	3.3
Ni	0.044
	0.047
Zn	95
	110

SED9	
As	70
Cu	80
Pb	380

SW12	
Al	24
	23
Cd	0.024
	0.025
Cr	0.004
Co	0.13
Cu	0.33
	0.35
Fe	91
	99
Pb	0.024
	0.025
Mn	14
	15
Ni	0.05
	0.053
Se	0.016
Zn	67
	75

SED12	
As	75
Cu	94
Pb	550
Zn	650

SED13	
As	27
Cu	180
Pb	730
Hg	0.3
Zn	230

SW13	
Al	1.1
Cd	0.0083
Cd	0.009
Co	0.014
Cu	0.37
Cu	0.37
Pb	0.15
Pb	0.14
Zn	3.7

SW14	
Al	0.14
Cu	0.003
Fe	0.52
Zn	0.058

SED14	
Pb	150
Zn	500

SW15	
Al	0.1
Cu	0.003
Fe	0.4
Zn	0.049

SED15	
Pb	76

SED5	
As	140
Cu	600
Pb	6700
Hg	0.4
Zn	1700

SW5	
Al	13
Cd	0.1
	0.11
Co	0.086
	0.097
Cu	0.33
	0.36
Fe	150
	190
Pb	1.2
	1.3
Mn	10
	12
Ni	0.063
	0.072
Zn	120
	140

SED10	
As	84
Cd	3.7
Cu	1300
Pb	5900
Zn	21000

SW10	
Al	1.2
Cd	0.0069
	0.0072
Co	0.016
Cu	0.19
	0.18
Fe	3.8
	1.2
Pb	0.11
	0.069
Mn	1.3
Zn	8.2
	6.8

SW11	
Al	0.16
Cd	0.0003
Cu	0.005
Fe	0.43
Pb	0.004
Zn	0.32

SED11	
As	130
Cd	1.9
Cu	320
Pb	1000
Hg	0.2
Zn	2000

Legend

Precinct boundary

Surface water/sediment sampling location

Exceedance criteria

Dissolved Metals in SW (mg/L)	95% Protection Fresh Water
Al	0.055
Cd	0.0002
Cr	0.001
Co	0.09
Cu	0.0014
Fe	0.3
Pb	0.0034
Mn	1.9
Ni	0.011
Zn	0.008

Total Metals in SW (mg/L)	Drinking Water Guidelines	Recreation (Exposure Adjusted)	Irrigation	Stock Water
Al	20	**200**	5	20
Cd	0.002	**0.06**	0.01	0.05
Co	0.006	**0.03**	1	0.1
Cu	2	**20**	0.5	0.1
Fe	1.4	**119**		10
Pb	0.01	**0.2**	0.1	5
Mn	0.5	**12**	10	2.5
Ni	0.02	**0.2**	1	2
Se	0.01	**0.1**		
Zn	0.6	**26**	20	5

Sediment (mg/kg)	DGV	GV - High
As	20	70
Cd	1.5	10
Cu	65	270
Pb	50	220
Hg	0.15	1
Ni	21	52
Zn	200	410

Figure 5 : Surface water and sediment sampling locations

Captains Flat Lead Management Plan - CSM

Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file - 318001193_GIS_P002_T9_CSM | F008_AQLocations_V03 | 26/10/2021

Legend

- Precinct boundary
- High Volume Air Sampler (HVAS) location

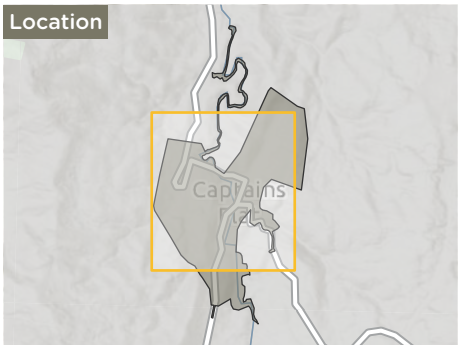


Figure 6 : Air quality monitoring locations

Captains Flat Lead Management Plan - CSM

Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file - 318001193_GIS_P002_T9_CSM | F009_CHDustLocations_V03 | 26/10/2021

Legend

Dust sample

- Floor
- Window sill

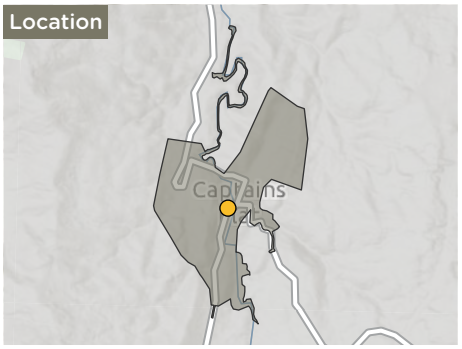


Figure 7a : Dust sample locations - Community Hall

Captains Flat Lead Management Plan - CSM

Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file: 318001193_GIS_F002_T9_CSM | F010_MSDustLocations_V04 | 18/1/2021

Legend

Dust sample

- Floor
- Window sill

Exceedance criteria

Dust swab (µg/m²)	AS 4361.2 (1998) - Hard Floors	AS 4361.2 (1998) - Window Sill
Pb	1,000	5,000

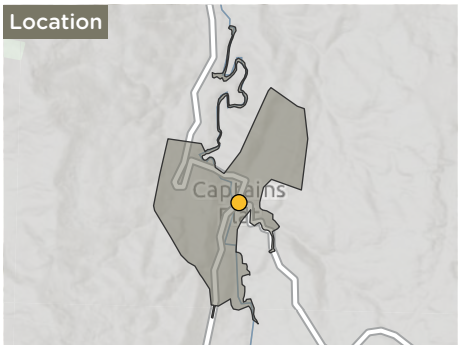
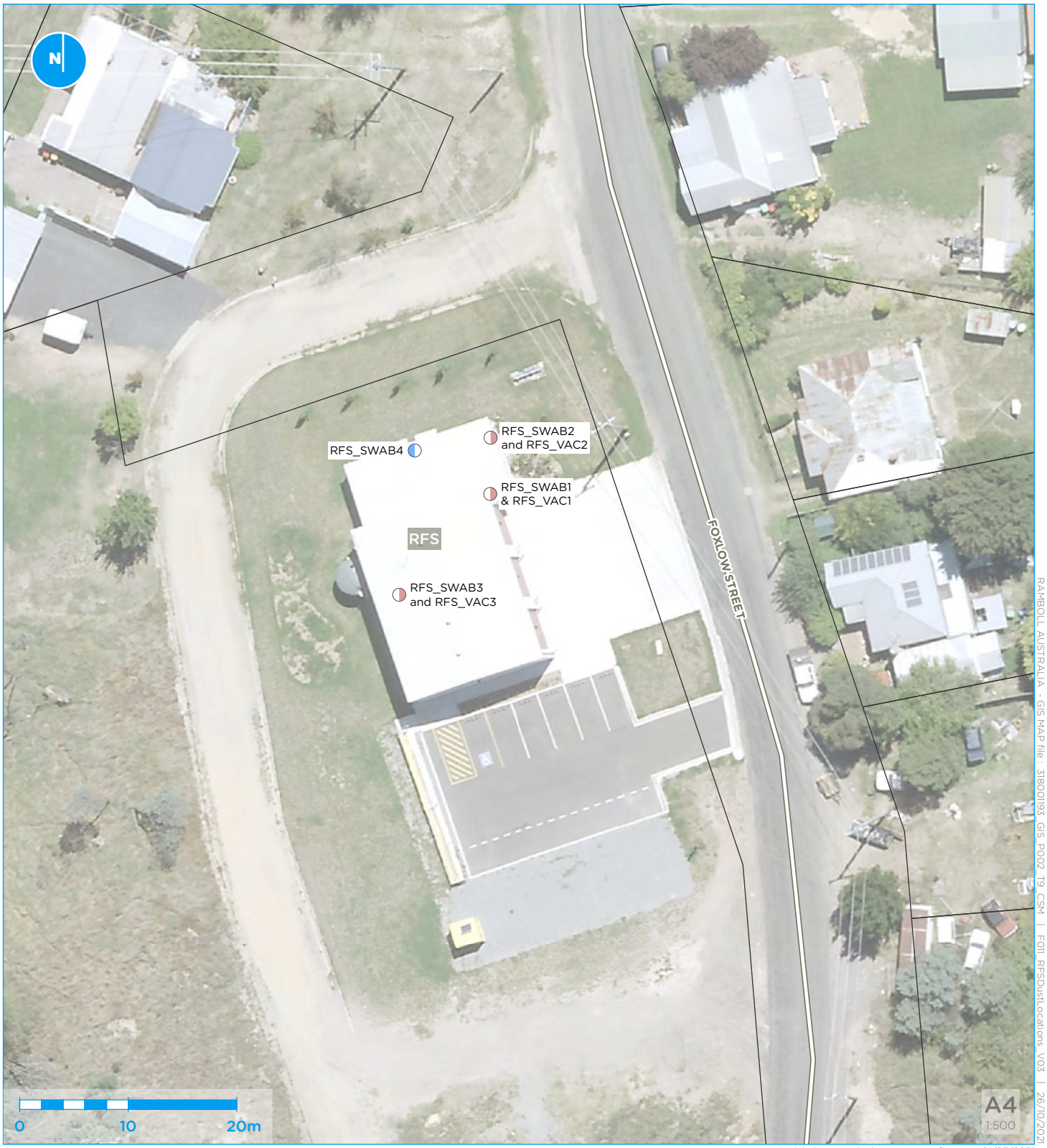


Figure 7b : Dust sample locations - Men's Shed

Captains Flat Lead Management Plan - CSM



Aerial photography by metromap flown on 01/03/2021

RAMBOLL AUSTRALIA - GIS MAP file - 318001193_GIS_P002_T9_CSM | F011_RFSDustLocations_V03 | 26/10/2021

Legend

Dust sample

- Floor
- Window sill

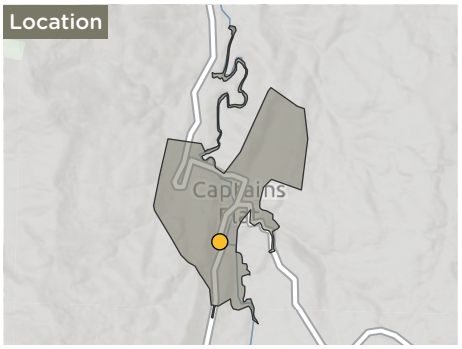
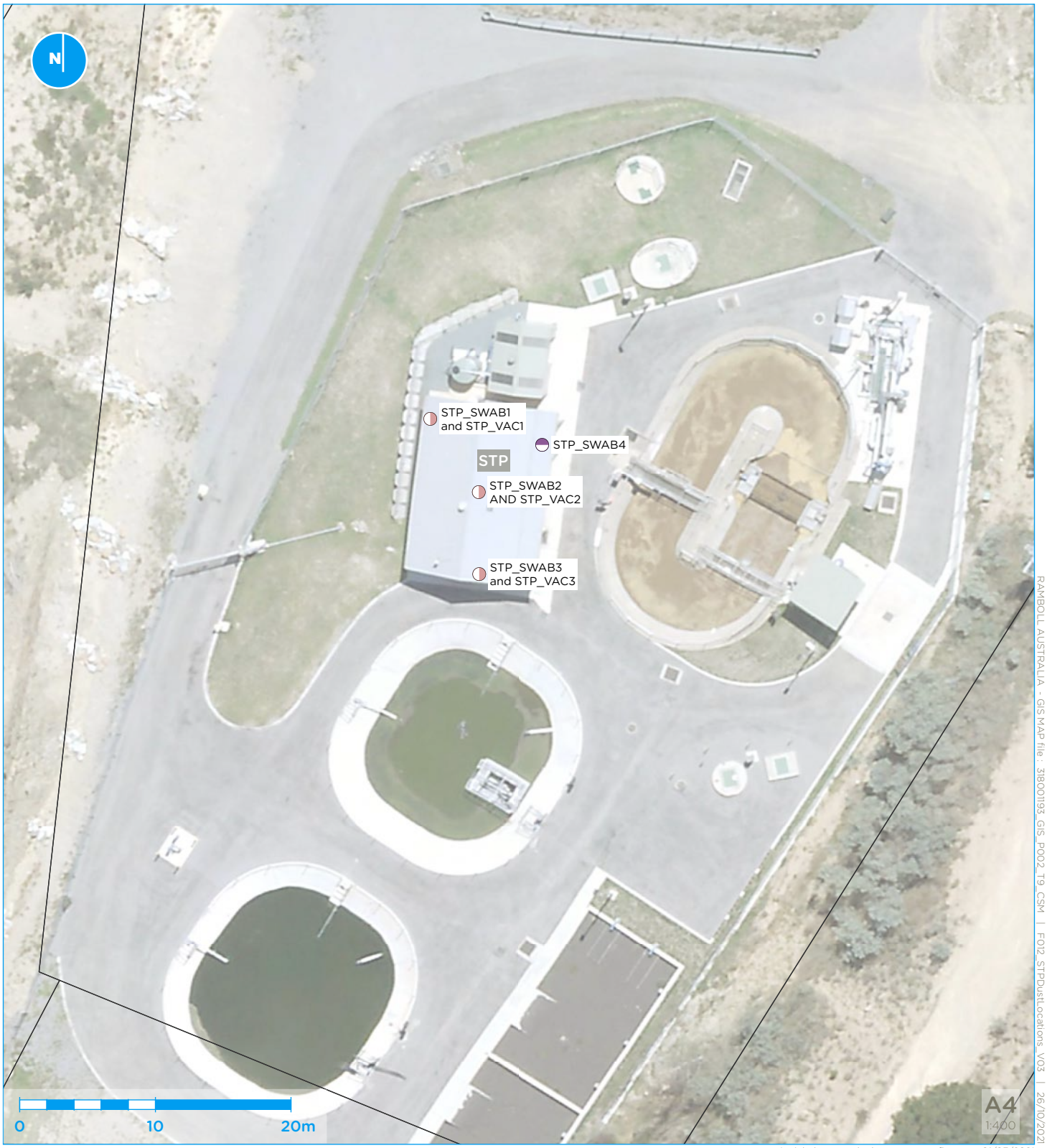


Figure 7c : Dust sample locations - RFS

Captains Flat Lead Management Plan - CSM



Aerial photography by metromap flown on 01/03/2021

Legend

Dust sample

- Floor
- Shelf/bench

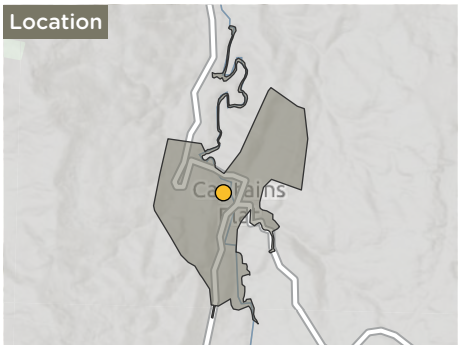
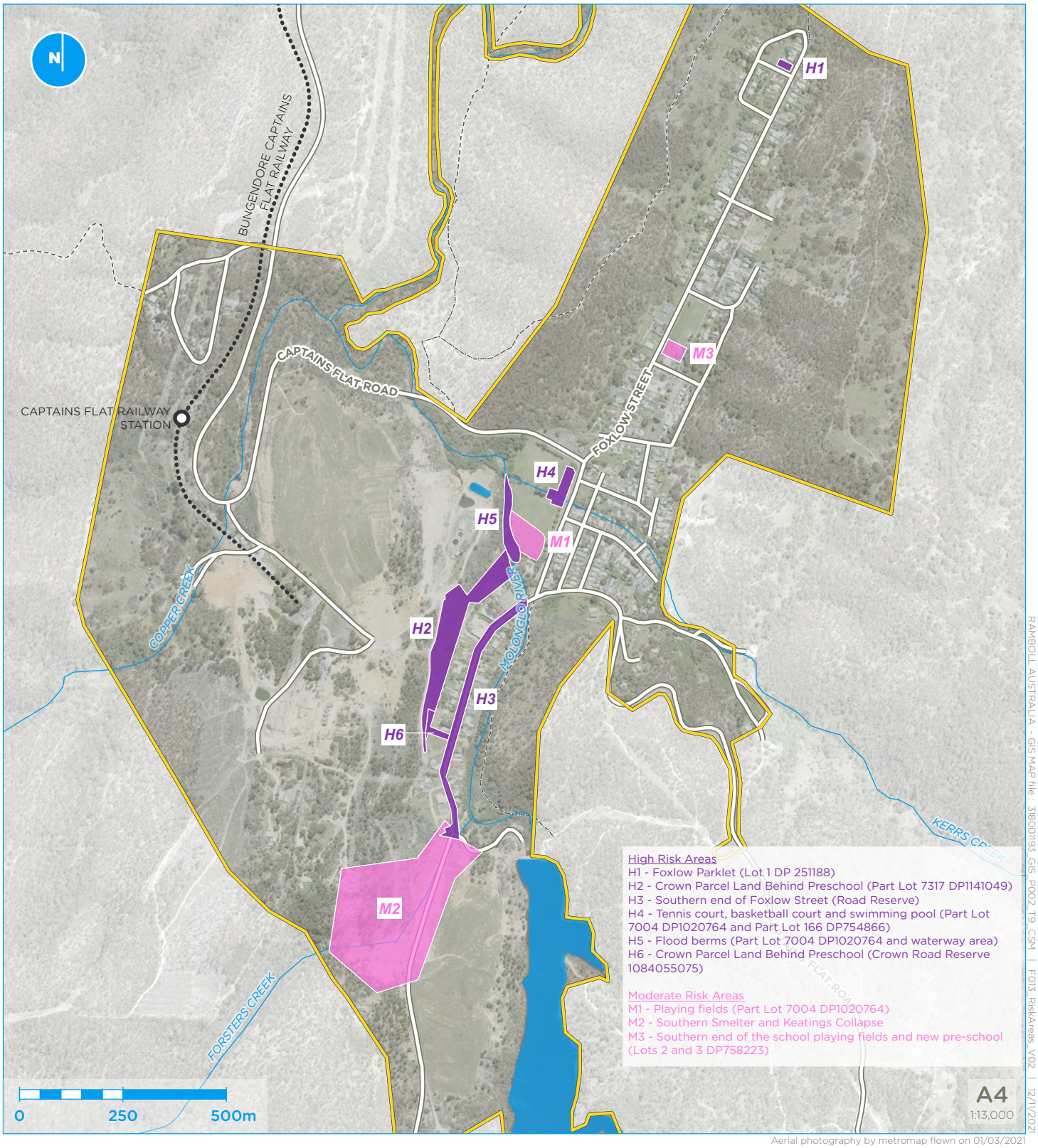


Figure 7d : Dust sample locations - STP

Captains Flat Lead Management Plan - CSM



Aerial photography by metromap flown on 01/03/2021

Legend

- Precinct boundary

Risk areas

- High risk area
- Moderate risk area

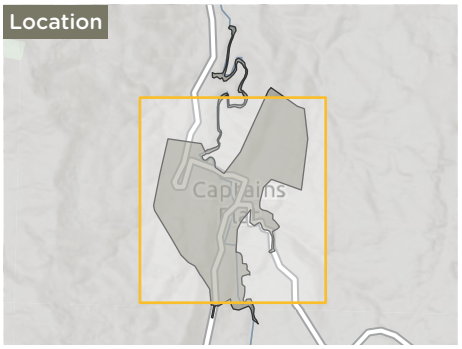


Figure 8 : Risk areas

Captains Flat Lead Management Plan - CSM

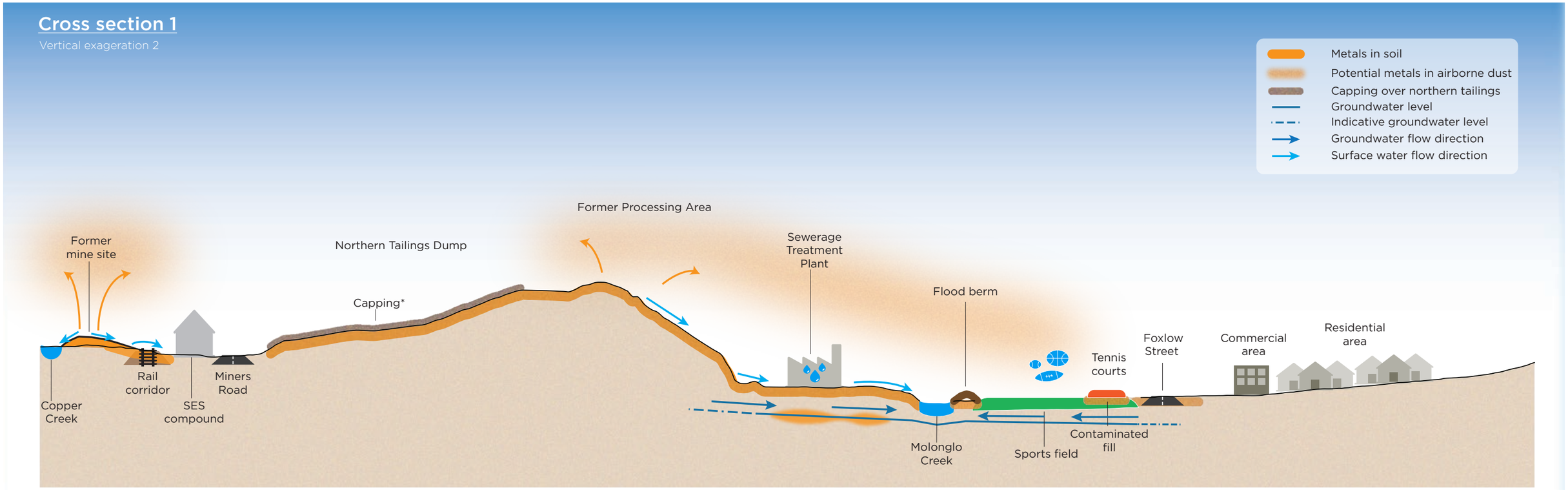


Figure 9a : CSM Cross Section 1
Captains Flat Lead Management Plan - CSM

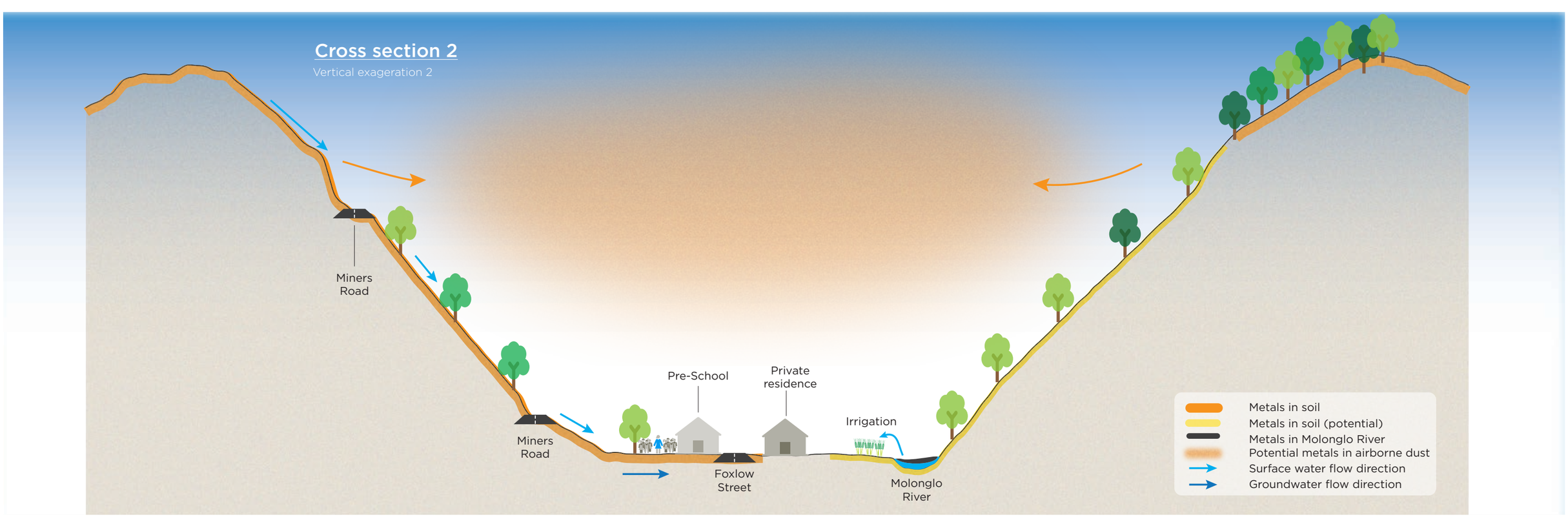


Figure 9b : CSM Cross Section 2
Captains Flat Lead Management Plan - CSM

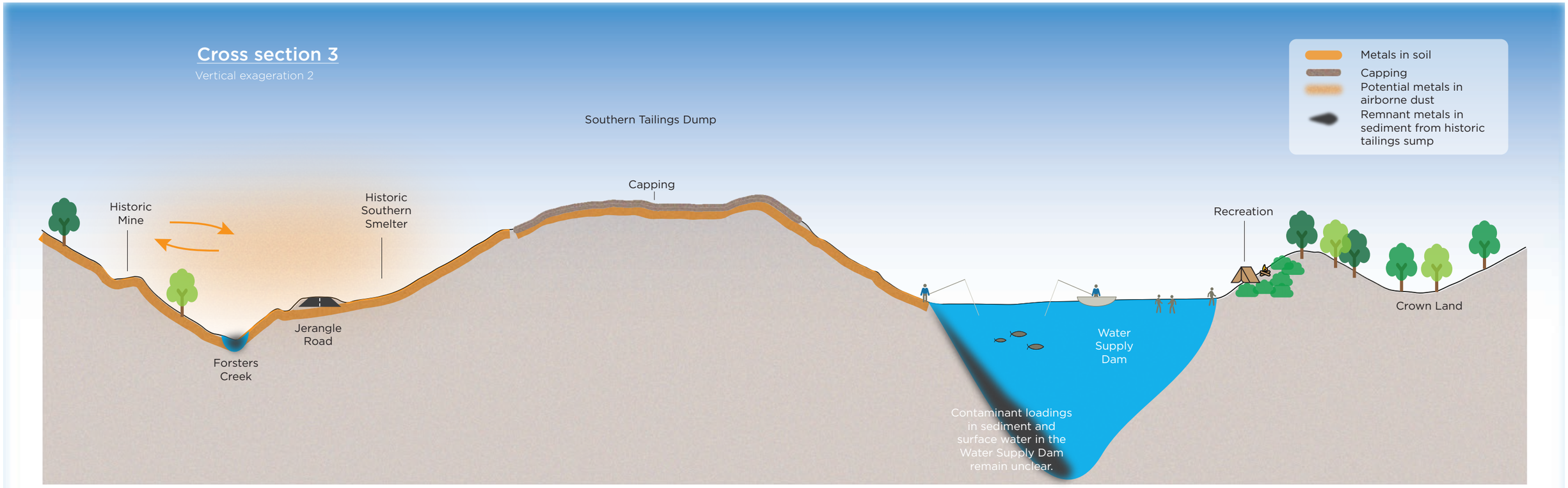


Figure 9c : CSM Cross Section 3
Captains Flat Lead Management Plan - CSM

APPENDIX 2
ANALYTICAL SUMMARY TABLES

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial												
Sample Type:						**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:						CFX16	CFX17	CFX18	CFX19	CFX20	CFX21	CFX01	CFX02	CFX03	CFX04	CFX05
Sample date:						13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Project Name:						Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:						XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte					**Units**											
Moisure Content																
Moisure Content					%	--	--	--	--	38	--	--	--	--	--	19
Heavy Metals - Moisture corrected FPXRF																
Arsenic	100	3000	100	160	mg/kg	26	42	< LOD	< LOD	**463**	64	10	9	37	< LOD	< LOD
Cadmium		900			mg/kg	< LOD	< LOD	< LOD	< LOD	25	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Chromium	100	3600	*540*	*800*	mg/kg	20	< LOD	< LOD	< LOD	< LOD	31	< LOD	39	46	< LOD	41
Copper	6000	240000	*250*	*290*	mg/kg	52	113	235	97	1730	185	< LOD	45	203	84	79
Iron					mg/kg	18895	13291	16463	13205	54556	16231	19506	7115	15224	12209	15695
Lead	300	1500	1100	1800	mg/kg	**399**	**809**	**2074**	**970**	**25867**	**2510**	49	19	734	834	790
Nickel		6000	*340*	*480*	mg/kg	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	7400	400000	*360*	*480*	mg/kg	297	895	485	801	4724	1553	129	25	682	361	373
						Residential Boundary - HIL A										

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial												
Sample Type:						**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:						CFX16	CFMX06	CFX07	CFX08	CFX09	CFX10	CFX11	CFX12	CFX13	CFX14	CFX15
Sample date:						13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Project Name:						Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:						XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte					**Units**											
Moisure Content																
Moisure Content					%	--	--	--	--	12	14	--	--	--	--	7.4
Heavy Metals - Moisture corrected FPXRF																
Arsenic	100	3000	100	160	mg/kg	26	< LOD	< LOD	< LOD	< LOD	< LOD	42	103	23	78	< LOD
Cadmium		900			mg/kg	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	26	41	< LOD	< LOD
Chromium	100	3600	*540*	*800*	mg/kg	20	15	< LOD	12	18	< LOD	< LOD	31	< LOD	37	20
Copper	6000	240000	*250*	*290*	mg/kg	52	< LOD	< LOD	< LOD	12	21	108	111	57	162	< LOD
Iron					mg/kg	18895	9008	7737	8096	32901	13231	30742	32944	21430	31381	7763
Lead	300	1500	1100	1800	mg/kg	**399**	26	68	610	**12492**	160	**1716**	1108	304	1342	98
Nickel		6000	*340*	*480*	mg/kg	< LOD	101	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	69	< LOD	< LOD
Zinc	7400	400000	*360*	*480*	mg/kg	297	361	55	185	1592	94	485	267	331	1432	233

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial												
Sample Type:						**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:						CFX16	CFX22	CFX23	CFX24	CFX25	CFX26	CFX27	CFX28	CFX29	CFX30	CFX31
Sample date:						13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Project Name:						Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:						XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte					**Units**											
Moisure Content																
Moisure Content					%	--	--	--	16	--	--	--	--	--	11	--
Heavy Metals - Moisture corrected FPXRF																
Arsenic	100	3000	100	160	mg/kg	26	38	47	**3654**	45	**3515**	< LOD	161	< LOD	< LOD	64
Cadmium		900			mg/kg	< LOD	< LOD	< LOD	120	< LOD	89	< LOD	30	< LOD	32	51
Chromium	100	3600	*540*	*800*	mg/kg	20	23	19	< LOD	59	< LOD	24	26	19	13	25
Copper	6000	240000	*250*	*290*	mg/kg	52	< LOD	194	5119	58	1966	336	265	122	< LOD	168
Iron					mg/kg	18895	10047	17987	187127	29464	83511	31998	29094	20317	10286	29016
Lead	300	1500	1100	1800	mg/kg	**399**	425	1423	**88663**	229	**80734**	**6300**	**3260**	**1815**	241	940
Nickel		6000	*340*	*480*	mg/kg	< LOD	78	< LOD	< LOD	< LOD	< LOD	87	< LOD	< LOD	< LOD	< LOD
Zinc	7400	400000	*360*	*480*	mg/kg	297	254	791	10647	208	6262	1195	559	757	211	435

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial												
Sample Type:						**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:						CFX16	CFX32	CFX33	CFX34	CFX35	CFX36	CFX37	CFX38	CFX39	CFX40	CFX41
Sample date:						13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Project Name:						Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:						XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte					**Units**											
Moisure Content																
Moisure Content					%	--	--	--	--	24	--	--	--	--	--	--
Heavy Metals - Moisture corrected FPXRF																
Arsenic	100	3000	100	160	mg/kg	26	1079	214	< LOD	1244	112	809	1336	75	2385	446
Cadmium		900			mg/kg	< LOD	43	< LOD	< LOD	< LOD	< LOD	< LOD	31	< LOD	71	< LOD
Chromium	100	3600	*540*	*800*	mg/kg	20	< LOD	44	22	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	6000	240000	*250*	*290*	mg/kg	52	990	373	69	1120	111	339	771	219	860	551
Iron					mg/kg	18895	104928	30475	13493	67315	16111	13923	23324	27855	47879	55789
Lead	300	1500	1100	1800	mg/kg	**399**	**31863**	**5887**	393	**18532**	**2056**	**8713**	**22011**	**2481**	**38927**	**9836**
Nickel		6000	*340*	*480*	mg/kg	< LOD	< LOD	< LOD	123	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	7400	400000	*360*	*480*	mg/kg	297	1567	6018	366	572	530	241	553	255	1007	539

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial												
Sample Type:						**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:						CFX16	CFX42	CFX43	CFX44	CFX45	CFX46	CFX47	CFX48	CFX49	CFX50	CFX51
Sample date:						13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Project Name:						Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:						XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte					**Units**											
Moisure Content																
Moisure Content					%	--	--	--	--	14	--	--	--	--	27	--
Heavy Metals - Moisture corrected FPXRF																
Arsenic	100	3000	100	160	mg/kg	26	805	177	190	416	189	305	< LOD	223	999	971
Cadmium		900			mg/kg	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	34	49	< LOD
Chromium	100	3600	*540*	*800*	mg/kg	20	< LOD	< LOD	19	23	26	< LOD	< LOD	29	41	37
Copper	6000	240000	*250*	*290*	mg/kg	52	1042	246	71	521	800	896	27	2735	1979	914
Iron					mg/kg	18895	90796	17307	11676	38956	29988	34291	1900	62700	94585	67414
Lead	300	1500	1100	1800	mg/kg	**399**	**14579**	**1907**	**2173**	**11562**	**2411**	**5277**	178	**3103**	**15158**	**9031**
Nickel		6000	*340*	*480*	mg/kg	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	7400	400000	*360*	*480*	mg/kg	297	973	690	203	934	12404	16412	1310	66938	35959	21470

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H1: Historic Soil fpXRF Results -
Captains Flat Rail Corridor ESA - Environmental Site Assessment
Ramboll 2021A

	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Residential	Site Specific EIL Commercial / Industrial			Soil	Soil
					Sample ID:		CFX16	CFX52
					Sample date:		13/08/2020	13/08/2020
					Project Name:		Captains Flat	Captains Flat
					Sampling Method:		XRF	XRF
Analyte grouping/Analyte						**Units**		
Moisure Content								
Moisure Content						%	--	--
Heavy Metals - Moisture corrected FPXRF								
Arsenic	100	3000	100	160		mg/kg	26	161
Cadmium		900				mg/kg	< LOD	< LOD
Chromium	100	3600	*540*	*800*		mg/kg	20	< LOD
Copper	6000	240000	*250*	*290*		mg/kg	52	712
Iron						mg/kg	18895	29020
Lead	300	1500	1100	1800		mg/kg	**399**	**2837**
Nickel		6000	*340*	*480*		mg/kg	< LOD	< LOD
Zinc	7400	400000	*360*	*480*		mg/kg	297	4472

Blank Cell indicates no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Copper EIL, based on CEC of 5cmol/kg
Concentrations in green box exceed EIL for Residential use
Concentrations in **green bold font** exceed adopted HIL A for residential use
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
Site specific EILs calculated based on soil pH from a similar location located in the country regional network and is considered low reliability.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H2: Historic fpXRF Soil Results -
GHD 2018

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space													
Sample date:						9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017
Sample ID:						SED04	SED05	SED07	SED08	SED09	SED10	SED11	SED12	SED14	SS01	SS02
Project Name:						GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018
Sample Description						sediment	sediment	sediment	sediment	sediment	sediment	sediment	sediment	sediment	Soil	Soil
Analyte grouping/Analyte				**Units**	**LOR**											
EA001: pH in soil using 0.01M CaCl extract																
pH (CaCl2)				pH units	0.1	8.4	8.6	8.5	8.5	8.6	8.6	8.6	7	2.8	2.5	3.8
EA055: Moisture Content																
Moisture Content (dried @ 103°C)				%	1	96.6	98.5	45.1	45.9	50.8	40.1	67.3	38.1	38.3	10.5	12.2
Electrical Conductivity																
EC (µS/cm)				µS/cm	1	729	686	697	705	611	652	656	35	1360	1820	1990
Cations/anions																
Calcium (filtered)				mg/kg	10	2660	4170	140	120	100	100	190	20	160	120	1130
Magnesium (filtered)				mg/kg	10	1070	1870	60	50	50	40	80	20	440	10	670
Sodium (filtered)				mg/kg	10	18700	41800	1100	1180	1120	980	1810	20	40	<10	20
Potassium (filtered)				mg/kg	10	520	1330	30	30	40	30	50	20	10	<10	<10
TKN				mg/kg												
Nitrate +Nitrite				mg/kg												
total nitrogen				mg/kg												
total phosphorus				mg/kg												
exchangeable calcium				meq/100g												
exchangeable magnesium				meq/100g												
exchangeable potassium				meq/100g												
exchangeable sodium				meq/100g												
CEC				meq/100g												
emerson class				-												
soil type				-												
EG005T: Total Metals by ICP-AES																
Aluminium				mg/kg	50	127000	104000	5660	8620	11800	10900	8510	5400	4220	1600	8130
Antimony				mg/kg	5	54	86	<5	11	15	<5	<5	<5	<5	8	20
Arsenic	300		50	mg/kg	5	24	151	40	50	50	20	16	5	34	17	37
Cadmium	90			mg/kg	1	<12	64	<1	<1	16	<1	5	<1	<1	<1	1
Chromium (III+VI)	300		190	mg/kg	2	24	25	7	7	11	4	10	8	4	<2	12
Copper	17000		25	mg/kg	5	**500**	**1510**	43	**296**	**564**	**107**	50	16	26	17	**207**
Lead	600	700	1100	mg/kg	5	698	**3460**	331	1400	**4700**	1310	149	51	198	1420	**4850**
Manganese	19000			mg/kg	5	95	16600	93	330	142	112	2480	204	144	7	343
Nickel	1200		30	mg/kg	2	24	42	6	<2	4	2	17	5	<2	<2	5
Zinc	30000		50	mg/kg	5	**5280**	**37100**	**244**	**1570**	**4300**	**488**	**3720**	**253**	**272**	26	**1280**

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit <50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there is uncertainty, either
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from other pathways. ASC NEPM HIL-D assumptions including 8 hrs time spent indoors and 1 hr spent outdoors at an industrial/commercial site
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remediation and management guidance for benzo(a)pyrene developed using a species sensitivity distribution (SSD) for eco-toxicity data from five independent studies involving one soil bacteria, three soil invertebrate taxa and four plant taxa (13 endpoints) in pr
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Methyphenol has been reported separately.
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Residential use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentration in **red box** exceed the adopted SSTL for recreational land use.
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H2: Historic fpXRF Soil Results -
GHD 2018

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																
Sample date:						9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	10/08/2017	10/08/2017	10/08/2017
Sample ID:						SS03	SS04	SS05	SS06	SS07	SS08	SS09	SS10	SS11	SS12	SS13	SS14	SS15	SS16
Project Name:						GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018
Sample Description						Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte grouping/Analyte				**Units**	**LOR**														
EA001: pH in soil using 0.01M CaCl extract																			
pH (CaCl2)				pH units	0.1	4.3	4.8	4.6	4.2	3.6	3.9	4.4	3.8	4.8	4.9	6	4.1	3.9	6.2
EA055: Moisture Content																			
Moisture Content (dried @ 103°C)				%	1	10.6	9	11.8	15.7	6.6	11.9	33	9.5	5.3	11.3	9.2	10.6	11.6	5.1
Electrical Conductivity																			
EC (µS/cm)				µS/cm	1	1110	87	89	72	662	196	48	696	29	45	127	51	132	34
Cations/anions																			
Calcium (filtered)				mg/kg	10	310	20	20	<10	270	20	<10	30	<10	<10	30	<10	<10	10
Magnesium (filtered)				mg/kg	10	150	<10	20	<10	100	40	<10	160	<10	<10	20	<10	<10	<10
Sodium (filtered)				mg/kg	10	20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Potassium (filtered)				mg/kg	10	<10	<10	<10	<10	<10	<10	20	<10	<10	<10	<10	<10	<10	<10
TKN				mg/kg															
Nitrate +Nitrite				mg/kg															
total nitrogen				mg/kg															
total phosphorus				mg/kg															
exchangeable calcium				meq/100g															
exchangeable magnesium				meq/100g															
exchangeable potassium				meq/100g															
exchangeable sodium				meq/100g															
CEC				meq/100g															
emerson class				-															
soil type				-															
EG005T: Total Metals by ICP-AES																			
Aluminium				mg/kg	50	8110	3720	8740	17300	3530	6420	12200	7900	8120	6880	14100	4940	12700	5070
Antimony				mg/kg	5	15	106	<5	<5	25	42	<5	32	<5	15	254	12	8	41
Arsenic	300		50	mg/kg	5	46	161	52	110	82	94	17	164	12	12	**314**	55	90	46
Cadmium	90			mg/kg	1	8	3	1	<1	<1	7	<1	1	<1	2	6	<1	<1	6
Chromium (III+VI)	300		190	mg/kg	2	8	8	8	46	3	7	18	7	6	<2	11	3	10	2
Copper	17000		25	mg/kg	5	**701**	**1690**	**131**	**288**	**545**	**428**	**124**	**542**	52	**101**	**5510**	**97**	**165**	**1900**
Lead	600	700	1100	mg/kg	5	**5590**	**16100**	**848**	**6790**	**3670**	**43500**	259	**7390**	511	**796**	**11700**	**752**	1280	**6670**
Manganese	19000			mg/kg	5	141	63	80	97	37	250	313	152	202	127	548	246	126	166
Nickel	1200		30	mg/kg	2	4	<2	<2	4	<2	3	6	4	3	<2	19	<2	2	5
Zinc	30000		50	mg/kg	5	11500	**4290**	**524**	**209**	**1520**	**856**	**199**	**965**	**201**	**416**	7990	75	**210**	**42000**

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with li
fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from other pathw
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not exceed a le
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remediation reference to NEPM low reliability data.
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Methyphen
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Residential use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentration in **red box** exceed the adopted SSTL for recreational land use.
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H2: Historic fpXRF Soil Results -
GHD 2018

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:		10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017
				Sample ID:		SS17	SS18	SS19	SS20	SS21	SS22
				Project Name:		GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018
				Sample Description		Soil	Soil	Soil	Soil	Soil	Soil
Analyte grouping/Analyte				**Units**	**LOR**						
EA001: pH in soil using 0.01M CaCl extract											
pH (CaCl2)				pH units	0.1	5.5	5.4	3.6	2.8	3	4.5
EA055: Moisture Content											
Moisture Content (dried @ 103°C)				%	1	13.4	13.2	5.2	12.5	39	13.5
Electrical Conductivity											
EC (µS/cm)				µS/cm	1	9	18	1900	3390	35200	210
Cations/anions											
Calcium (filtered)				mg/kg	10	<10	<10	1240	3080	980	50
Magnesium (filtered)				mg/kg	10	<10	<10	320	160	17900	50
Sodium (filtered)				mg/kg	10	20	30	<10	<10	<10	10
Potassium (filtered)				mg/kg	10	10	10	<10	<10	<10	<10
TKN				mg/kg		340	620				
Nitrate +Nitrite				mg/kg		1.1	0.8				
total nitrogen				mg/kg		340	620				
total phosphorus				mg/kg		88	136				
exchangeable calcium				meq/100g		<0.1	<0.1				
exchangeable magnesium				meq/100g		<0.1	0.1				
exchangeable potassium				meq/100g		<0.1	0.2				
exchangeable sodium				meq/100g		<0.1	<0.1				
CEC				meq/100g		0.1	0.4				
emerson class				-		4	4				
soil type				-		1	1				
EG005T: Total Metals by ICP-AES											
Aluminium				mg/kg	50	12800	14400	6720	2570	37400	14200
Antimony				mg/kg	5	<5	<5	84	84	<5	<5
Arsenic	300		50	mg/kg	5	20	47	**312**	**351**	14	25
Cadmium	90			mg/kg	1	<1	<1	1	4	**262**	2
Chromium (III+VI)	300		190	mg/kg	2	11	9	6	11	<2	5
Copper	17000		25	mg/kg	5	49	**139**	**551**	**1600**	**1810**	**157**
Lead	600	700	1100	mg/kg	5	91	368	**3320**	**19100**	65	1960
Manganese	19000			mg/kg	5	19	50	47	49	643	73
Nickel	1200		30	mg/kg	2	2	<2	<2	9	12	3
Zinc	30000		50	mg/kg	5	**154**	67	**670**	**3290**	126000	**1010**

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with li
fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from other pathw
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not exceed a le
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remediation a
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Methyphen
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Residential use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentration in **red box** exceed the adopted SSTL for recreational land use.
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H3: Historic Laboratory Soil Results -
GHD 2018

RAMBOLL

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:		9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017
				Sample ID:		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
				Project Name:																	
				Sample Description		sediment	sediment	sediment	sediment	sediment	sediment	sediment	sediment	sediment	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte grouping/Analyte				**Units**	**LOR**																
EA001: pH in soil using 0.01M CaCl extract																					
pH (CaCl2)				pH units	0.1	8.4	8.6	8.5	8.5	8.6	8.6	8.6	7	2.8	2.5	3.8	4.3	4.8	4.6	4.2	3.6
EA055: Moisture Content																					
Moisture Content (dried @ 103°C)				%	1	96.6	98.5	45.1	45.9	50.8	40.1	67.3	38.1	38.3	10.5	12.2	10.6	9	11.8	15.7	6.6
Electrical Conductivity																					
EC (µS/cm)				µS/cm	1	729	686	697	705	611	652	656	35	1360	1820	1990	1110	87	89	72	662
Cations/anions																					
Calcium (filtered)				mg/kg	10	2660	4170	140	120	100	100	190	20	160	120	1130	310	20	20	<10	270
Magnesium (filtered)				mg/kg	10	1070	1870	60	50	50	40	80	20	440	10	670	150	<10	20	<10	100
Sodium (filtered)				mg/kg	10	18700	41800	1100	1180	1120	980	1810	20	40	<10	20	20	<10	<10	<10	<10
Potassium (filtered)				mg/kg	10	520	1330	30	30	40	30	50	20	10	<10	<10	<10	<10	<10	<10	<10
TKN				mg/kg																	
Nitrate +Nitrite				mg/kg																	
total nitrogen				mg/kg																	
total phosphorus				mg/kg																	
exchangeable calcium				meq/100g																	
exchangeable magnesium				meq/100g																	
exchangeable potassium				meq/100g																	
exchangeable sodium				meq/100g																	
CEC				meq/100g																	
emerson class				-																	
soil type				-																	
EG005T: Total Metals by ICP-AES																					
Lead	600	700	1100	mg/kg	50	424.28	17.12	73.41	**1026.16**	**4092.74**	2750.61	215.45	< LOD	683.91	648.83	1105.23	1152.31	1793.97	< LOD	12.19	178.44
Arsenic	300		50	mg/kg	5	46.67	< LOD	< LOD	< LOD	< LOD	515.3	< LOD	< LOD	120.9	64.91	115.55	< LOD	< LOD	6.4	< LOD	< LOD
Chromium	300			mg/kg	5	< LOD	78.35								< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	36.76	< LOD	**74.77**	**178.7**	**439.04**	< LOD	< LOD	< LOD	55.46	36.59	**73.06**	< LOD	< LOD	< LOD	< LOD	33.52
Manganese	19000			mg/kg	2	< LOD	246.6	503.16	401.65	< LOD	< LOD	< LOD	< LOD	188.06	136.11	211.52	91.88	< LOD	188.2	198.72	393.51
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	54.14	62.87	56.2	< LOD	< LOD	< LOD	< LOD	< LOD	**103.4**	**75.96**	**88.72**	< LOD	**78.05**	**76.45**	57.23	< LOD
Zinc	30000		50	mg/kg	5	116.88	**234.5**	**970.66**	**906.45**	**1042.74**	**562.55**	**4354.59**	**550.41**	17.23	18.47	59.29	< LOD	57.48	**588.36**	**258.09**	**149.9**
Sulphur				mg/kg	2	< LOD	12925.71								< LOD	6179.95	1146.44	4086.95	4573.01	2254.95	< LOD
Potassium				mg/kg	5	15620.44	495.22								18215.84	20925.23	17314.34	18002.2	8529.2	5996.55	17548.56
Calcium				mg/kg		< LOD	52593.57								< LOD	< LOD	< LOD	< LOD	675.37	205.98	< LOD
Scandium				mg/kg		< LOD	341.54								< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		1375.6	< LOD								1530.54	1990.76	1666.93	2949.58	4651.86	5645.12	4158.1
Vanadium				mg/kg		< LOD	27.22								< LOD	< LOD	< LOD	37.86	63.89	72.52	68.25
Iron				mg/kg		17812.96	1173.82	30584.36	37377.3	43750.46	22922.2	28478.29	27657.06	34102.93	19237.45	32235.24	2357.05	5003.47	23870.46	21950.82	24043.59
				mg/kg																	
Cobalt				mg/kg		< LOD	79.47	334.02	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	211.9	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		68.99	32.84	117.85	73.48	79.22	67.93	117.56	137.35	112.91	135.1	159.27	96.69	91.3	43.6	45.87	84.99
Strontium				mg/kg		31.86	114.63	27.96	81.64	< LOD	52.21	42.57	34.19	32.37	23.1	24.58	13.9	22.9	27.29	31.56	18.7
Zirconium				mg/kg		136.06	59.59	253.92	242.48	167.75	132.07	178.4	286.29	155.44	132.09	233.04	356.52	558.45	428.94	1204.49	167.72
Molybdenum				mg/kg		< LOD	< LOD	9.98	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	8.54	10.68	8.95	< LOD	< LOD	9.43	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		12.83	< LOD	13.12	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	10.98	16.21	< LOD	< LOD	12.83	15.6	13.05
Uranium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg			< LOD									< LOD	18.25	< LOD	< LOD	< LOD	< LOD
Palladium				mg/kg			< LOD									< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg			147.85									128.42	< LOD	< LOD	< LOD	101.17	< LOD
Tin				mg/kg			32.29									24.57	29.58	17.33	19.86	30.14	< LOD
Antimony				mg/kg			42.52									37.21	37.71	24.44	31.71	39.4	< LOD
Tellurium				mg/kg			192.93									139.94	108.07	85.19	107.08	126.02	< LOD
Ceasium				mg/kg			105.33									82.86	77.22	54.27	67.72	79.34	< LOD
Barium				mg/kg			489.84									636.02	901.83	889.94	404.15	436.07	< LOD

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from other pathways. ASC NEPM HIL-D assumptions including 8 hrs time spent indoors and 1 hr spent outdoors at an industrial/commercial site
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remediation and management guidance for benzo(a)pyrene developed using a species sensitivity distribution (SSD) for eco-toxicity data from five independent studies involving one soil bacteria, three soil invertebrate taxa and four plant taxa (13 endpoints) in preference to NEPM low reliability data.
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Methyphenol has been reported separately.
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Table H3: Historic Laboratory Soil Results -
GHD 2018

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:		9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017	10/08/2017						
				Sample ID:		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
				Project Name:																						
				Sample Description		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Analyte grouping/Analyte				**Units**	**LOR**																					
EA001: pH in soil using 0.01M CaCl extract																										
pH (CaCl2)				pH units	0.1	3.9	4.4	3.8	4.8	4.9	6	4.1	3.9	6.2	5.5	5.4	3.6	2.8	3	4.5						
EA055: Moisture Content																										
Moisture Content (dried @ 103°C)				%	1	11.9	33	9.5	5.3	11.3	9.2	10.6	11.6	5.1	13.4	13.2	5.2	12.5	39	13.5						
Electrical Conductivity																										
EC (µS/cm)				µS/cm	1	196	48	696	29	45	127	51	132	34	9	18	1900	3390	35200	210						
Cations/anions																										
Calcium (filtered)				mg/kg	10	20	<10	30	<10	<10	30	<10	<10	10	<10	<10	1240	3080	980	50						
Magnesium (filtered)				mg/kg	10	40	<10	160	<10	<10	20	<10	<10	<10	<10	<10	320	160	17900	50						
Sodium (filtered)				mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	20	30	<10	<10	<10	10						
Potassium (filtered)				mg/kg	10	<10	20	<10	<10	<10	<10	<10	<10	<10	10	10	<10	<10	<10	<10						
TKN				mg/kg											340	620										
Nitrate +Nitrite				mg/kg											1.1	0.8										
total nitrogen				mg/kg											340	620										
total phosphorus				mg/kg											88	136										
exchangeable calcium				meq/100g											<0.1	<0.1										
exchangeable magnesium				meq/100g											<0.1	0.1										
exchangeable potassium				meq/100g											<0.1	0.2										
exchangeable sodium				meq/100g											<0.1	<0.1										
CEC				meq/100g											0.1	0.4										
emerson class				-											4	4										
soil type				-											1	1										
EG005T: Total Metals by ICP-AES																										
Lead	600	700	1100	mg/kg	50	85.39	< LOD	37.53	37.92	53.4	31.97	26.16	556.16	371.75	675.42	**792.5**	2035.4	1696.36	**805.59**	421.07	715.63	**4920.48**	**5073.98**	2696.99	1755.12	671.26
Arsenic	300		50	mg/kg	5	17.07	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	46.67	< LOD	< LOD	< LOD	< LOD	34.59	< LOD	< LOD	< LOD	< LOD	< LOD	55.48
Chromium	300			mg/kg	5	< LOD		< LOD	< LOD	< LOD	< LOD	37.51	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	22.55	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	36.05	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	**164.23**	95.7	**155.59**	**175.95**	228.76	149.83	191.62	152.11	142.93	348.52	732.34	509.46	284.01	105.89
Manganese	19000			mg/kg	2	677.47	< LOD	199.38	200.43	< LOD	174.77	188.32	451.48	311.92	417.03	441.27	551.74	343.36	233.23	272.58	158.04	419.88	330.68	424.25	290.09	105.19
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	< LOD	< LOD	< LOD	**75.14**	< LOD	40.03	40.24	67.3	< LOD	72.84	72.04	68.94	**75.46**	53.59	73.97	69.18	49.36	85.87	81.22	67.26	67.17
Zinc	30000		50	mg/kg	5	**195.33**	**221.95**	54.53	33.57	**499.81**	**692.45**	**689.11**	**923.19**	**699.32**	**876.22**	**820.83**	**1911.35**	**1045.27**	**289.88**	**324.23**	2356.15	9627.24	28915.87	**41108.88**	1505.4	315.39
Sulphur				mg/kg	2	647.75		< LOD	< LOD		< LOD	< LOD	1269.03	632.38	2723.94	2462.97	6548.95	6681.34	1546.01	6081.15	4347.21	5184.26	14540.21	20545.34	2357.63	1068.45
Potassium				mg/kg	5	12214.39		14013.06	17824.21		11353.91	17469.2	19392.93	11313.04	21621.41	13350.11	15568.43	15591.09	17287.79	15974.38	22295.35	17632.92	17489.88	25597.1	13165.64	21354.25
Calcium				mg/kg		451.48		149.74	< LOD		< LOD	< LOD	2296.97	1125.93	700.76	337.79	2590.31	6595.78	434.81	3609.4	2358.14	347.86	425.56	607.9	974.89	350.7
Scandium				mg/kg		< LOD		< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		2849.33		3030.51	3736.95		2807.14	4597.72	3424.22	2089.71	3002.17	1696.62	2338.72	2475.26	1822.22	2316.29	2995.27	2923.43	2368.89	3061.67	2641.92	2711.23
Vanadium				mg/kg		54.05		69.28	71.66		47.96	72.87	< LOD	28.8	47.19	33.91	46.94	< LOD	< LOD	< LOD	128.3	49.9	< LOD	58.08	76.9	78.27
Iron				mg/kg		34961.45	19892.32	27539.92	26528.07	17789.11	25918.91	24122.69	30640.28	22253.5	23861.66	21917.25	20216.31	19289.45	18677.62	15094.98	15796.83	38213.35	40075.39	31589.15	35774.01	31616.62
				mg/kg																						
Cobalt				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	186.77	< LOD	< LOD	124.33	< LOD	< LOD	< LOD	< LOD	< LOD	222.93
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		104.76	121.48	121.15	125.58	65.57	110.13	115.24	90.06	83.75	145.14	87.15	78.42	83.62	106.66	81.73	134.99	84.41	77.29	75.39	82.36	98.89
Strontium				mg/kg		19.48	< LOD	19.01	17.67	18.58	20.75	16.19	277.25	181.94	209.1	47.36	91.82	87.97	28.96	28	20.91	53.03	48.88	44.67	50.59	29.28
Zirconium				mg/kg		183.98	230.51	257.76	269.36	396.06	235.3	300.51	291.34	216.56	440.54	212.13	317.88	324.03	202.06	282.34	205.74	157.46	169.38	143.18	198.17	269.37
Molybdenum				mg/kg		8.74	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	8.48	< LOD	8.53	< LOD	< LOD	< LOD	11.67	< LOD	< LOD	< LOD	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	575.73	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	9.89	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		15.15	< LOD	15.48	16.1	< LOD	13.88	15.24	19.17	< LOD	28.61	20.17	< LOD	< LOD	13.69	16.36	18.75	< LOD	< LOD	< LOD	19.85	24.55
Uranium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	13.29	< LOD	< LOD	< LOD
Cadmium	90			mg/kg		< LOD		< LOD	< LOD		< LOD	< LOD	< LOD	21.72	< LOD	< LOD	< LOD	19.55	16.55	< LOD	< LOD	30.16	**83.19**	**73.21**	< LOD	< LOD
Palladium				mg/kg		< LOD		< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg		< LOD		< LOD	< LOD		< LOD	< LOD	114.86	123.75	111.54	136.24	< LOD	104.09	126.45	123	< LOD	110.07	219.61	216.98	101.2	< LOD
Tin				mg/kg		< LOD		34.72	21.26		31.04	< LOD	40.3	39.77	20.39	34.33	32.74	25.22	38.79	35.66	< LOD	35.48	66.57	49.45	43.19	23.54
Antimony				mg/kg		< LOD		37.4	39.35		25.62	33.39	46.82	45.74	42.59	42.17	49.46	33.86	54.48	44.45	29.02	51.82	79.56	85.97	44.38	19.75
Tellurium				mg/kg		< LOD		107.98	120.56		107.42	97	139.5	140.91	130.03	125.87	119.36	142.97	174.12	158.71	54.39	110.25	206.41	156.31	110.85	103.61
Ceasium				mg/kg		< LOD		72.11	73.55		62.21	61.78	88.82	94.24	82.28	87.2	87.4	79.21	103.18	82.17	50.32	72.84	143.24	110.24	76.03	58.92
Barium				mg/kg		< LOD		481.82	555.18		460	437.44	990.41	1039.4	1356.97	807.22	1745.42	1352.92	836.92	585.93	1143.21	928.67	1239	1001.61	1281.73	513.03

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based reme
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Table H3: Historic Laboratory Soil Results -
GHD 2018

RAMBOLL

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:																									
				Sample ID:		40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
				Project Name:																										
				Sample Description																										
Analyte grouping/Analyte				**Units**	**LOR**																									
EA001: pH in soil using 0.01M CaCl extract																														
pH (CaCl2)				pH units	0.1																									
EA055: Moisture Content																														
Moisture Content (dried @ 103°C)				%	1																									
Electrical Conductivity																														
EC (µS/cm)				µS/cm	1																									
Cations/anions																														
Calcium (filtered)				mg/kg	10																									
Magnesium (filtered)				mg/kg	10																									
Sodium (filtered)				mg/kg	10																									
Potassium (filtered)				mg/kg	10																									
TKN				mg/kg																										
Nitrate +Nitrite				mg/kg																										
total nitrogen				mg/kg																										
total phosphorus				mg/kg																										
exchangeable calcium				meq/100g																										
exchangeable magnesium				meq/100g																										
exchangeable potassium				meq/100g																										
exchangeable sodium				meq/100g																										
CEC				meq/100g																										
emerson class				-																										
soil type				-																										
EG005T: Total Metals by ICP-AES																														
Lead	600	700	1100	mg/kg	50	1652.59	4658.32	5289.63	16451.73	18195.42	2602.09	1032.76	702.3	825.51	7049.16	1620.81	1749.51	2145.18	136728.34	64363.95	7989.3	5697.03	23756.61	17991.76	5961.88	3531.15	255.52	411.34	3262.18	2183.83	2327.73	1864.74
Arsenic	300		50	mg/kg	5	129.33	< LOD	< LOD	477.12	547.37	< LOD	51.49	35.76	37.6	156.95	< LOD	100.25	100.25	6232.1	< LOD	< LOD	< LOD	< LOD	< LOD	310.22	304.09	< LOD	41.17	156.63	182.3	157.18	< LOD
Chromium	300			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	26.99	< LOD	< LOD	< LOD	22.3		< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	132.27	865.07	1194.28	1687.4	1857.16	209.14	128.15	113.35	103.6	1416.45	348.63	250.27	279.13	1893.19	906.91	< LOD	148.38	166.59	189.58	758.98	540.32	35.09	34.18	584.65	430.75	200.13	123.13
Manganese	19000			mg/kg	2	167.62	394.73	536.92	407.55	301.16	268.35	276.48	181.23	128.23	775.29	871.33	155.05	184.91	< LOD	< LOD	< LOD	207.99	271.64	308.03	271.7	277.12	238.58	264.69	253.66	209.07	218.15	172.48
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	51.79	113.45	85.94	116.28	< LOD	< LOD	55.97	41.22	< LOD	83.76	68.52	< LOD	65.39	< LOD	< LOD	< LOD	58.6	68.05	< LOD	93.82	98.88	71.54	97.75	54.78	< LOD	98.25	76.67
Zinc	30000		50	mg/kg	5	305.56	16223.3	14734.04	5765.55	6292.44	549.9	365.71	391.95	504.67	44355.52	20493.62	159.76	165.19	2973.87	910.81	< LOD	191.76	300.78	266.8	3029.81	1126.54	264.3	2066.98	8501.14	3784.15	262.53	103.89
Sulphur				mg/kg	2	2294.17	5414.56	6661.72	19860.44	17312.96	1822.06	1415.84	726.58	907.8	6956.6	4481.19	1365.76	1836.68	34732.52	10217.82		3391.5	7175.48		10557.08	11095.26	744.83	2626.62	1475.08	2348.85	7441.9	3115.49
Potassium				mg/kg	5	16871.76	8335	7382.24	4613.23	4462.35	8648.05	12146.27	9318.64	10078.96	9706.2	19872.06	4519.86	6322.33	4092.92	4595.37		11555.54	8392.82		12884.78	14677.36	37404.67	35094.32	13754.49	27145.86	21157.05	9309.21
Calcium				mg/kg		657.92	3979.62	3383.19	542	406	3329.82	5771.77	< LOD	< LOD	35087.38	56133.25	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD		588.1	195.69	< LOD	542.12	1630.58	1459.67	< LOD	< LOD
Scandium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	137.13	242.22	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		1957.71	1166.22	1749.43	1245.56	968.33	2071.44	3987.01	3682.86	2580.01	1558.43	2484.66	2389.49	3705.22	1063.12	1163.48		3600.28	3480.21		1419.67	2585.09	3256.49	3411.92	2188.12	4350.61	3499.26	970.95
Vanadium				mg/kg		39.71	< LOD	< LOD	< LOD	< LOD	< LOD	68.46	39.26	37.87	< LOD	< LOD	43.25	61.33	< LOD	37.65		88.18	56.52		< LOD	< LOD	56.04	< LOD	52.05	85.47	60.28	24.02
Iron				mg/kg		21657.92	92303.55	95853.91	190543.88	205975.89	33375.05	26815.36	18169.13	27551	192735.95	36981.05	47957.13	54301.78	103872.79	96498.41	41530.71	38894.59	42776.52	44192.04	105195.27	75068.68	14031.55	5219.3	55180.08	41453.55	54894.37	33870.78
				mg/kg																											
Cobalt				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	94.75	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		106.37	61.87	52.83	39.03	45.51	45.75	64.88	48.74	63.01	105.83	135.47	48.82	59.58	41.41	83.15	< LOD	85.11	79.44	73.99	80.01	81.07	178.16	200.08	115.19	131.51	91.61	75.72
Strontium				mg/kg		44.95	37.17	43.51	32.46	49.9	19.36	29.5	23.47	28.72	146.85	181.69	13.82	15.78	< LOD	< LOD	< LOD	22.67	10.69	24.27	45.65	135.67	27.13	33.81	40.06	34.31	27.07	19.93
Zirconium				mg/kg		214.79	107.53	238.1	124.37	164.17	272.98	370.36	304.55	216.28	80.11	64.38	239.4	304.7	49.6	168.74	280.15	292.34	618.46	429.11	118.18	260.11	298.34	330.04	218.46	296.58	238.68	220.89
Molybdenum				mg/kg		< LOD	12.17	15.39	19.22	20.8	< LOD	< LOD	< LOD	< LOD	18.57	9.56	< LOD	< LOD	< LOD	17.85	< LOD	< LOD	< LOD	< LOD	12	< LOD	< LOD	< LOD	11.89	12.77	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	19	12.46	14.45	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	21.38	14.41	< LOD	22.84	20.73	< LOD
Uranium				mg/kg		< LOD	< LOD	16.53	< LOD	< LOD	11.28	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg		< LOD	< LOD	< LOD	< LOD	49.93	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	24.18	107.5	54.54		< LOD	< LOD		< LOD	40.47	< LOD	19.43	< LOD	< LOD	< LOD	27.16
Palladium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	75.24	35.37		< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg		< LOD	102.21	< LOD	180.25	201.36	< LOD	< LOD	< LOD	< LOD	150.62	< LOD	111.04	117.98	666.84	244.52		111.14	205.88		134.74	211.4	151.24	138.69	105.52	< LOD	135.29	160.92
Tin				mg/kg		35.63	53.31	< LOD	42.88	83.7	< LOD	18.56	< LOD	< LOD	31.67	< LOD	25.46	42.53	225.32	87.42		< LOD	30.03		44.63	57.84	34.6	35.11	< LOD	< LOD	39.54	47.27
Antimony				mg/kg		42.13	59.52	53.04	113.15	162.2	< LOD	17.39	17.68	< LOD	75.46	49.04	45.54	38.77	342.02	167.97		32.96	57.87		67.15	91.25	59.18	52.64	39.68	< LOD	48.06	63.19
Tellurium				mg/kg		105.32	< LOD	< LOD	140.43	202.95	< LOD	63.83	45.23	62.99	103	64.83	111.11	131.18	763.86	273.66		63.44	145.53		119.77	307.35	166.37	163.45	59.62	< LOD	118.33	193.38
Ceasium				mg/kg		78.68	40.37	23.36	94.31	149.62	34.68	55.43	27.64	47.67	73.33	48.98	75.12	82.33	401.98	152.87		54.07	109.27		90.26	148.17	107.76	103	68.65	31.61	80.36	116.28
Barium				mg/kg		712.89	2656.9	2184.48	2877.04	4356.99	370.67	481.44	276.83	299.94	2081.15	1675.6	685.26	534.46	1849	888.57		412.95	678.38		2339.35	1589	1023.9	997.92	1964.14	1041.12	688.87	984.88

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remed
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H3: Historic Laboratory Soil Results -
GHD 2018

RAMBOLL

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:																									
				Sample ID:		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
				Project Name:																										
				Sample Description																										
Analyte grouping/Analyte				**Units**	**LOR**																									
EA001: pH in soil using 0.01M CaCl extract																														
pH (CaCl2)				pH units	0.1																									
EA055: Moisture Content																														
Moisture Content (dried @ 103°C)				%	1																									
Electrical Conductivity																														
EC (µS/cm)				µS/cm	1																									
Cations/anions																														
Calcium (filtered)				mg/kg	10																									
Magnesium (filtered)				mg/kg	10																									
Sodium (filtered)				mg/kg	10																									
Potassium (filtered)				mg/kg	10																									
TKN				mg/kg																										
Nitrate +Nitrite				mg/kg																										
total nitrogen				mg/kg																										
total phosphorus				mg/kg																										
exchangeable calcium				meq/100g																										
exchangeable magnesium				meq/100g																										
exchangeable potassium				meq/100g																										
exchangeable sodium				meq/100g																										
CEC				meq/100g																										
emerson class				-																										
soil type				-																										
EG005T: Total Metals by ICP-AES																														
Lead	600	700	1100	mg/kg	50	< LOD	421.53	27.09	41.74	**4987.95**	**6103.84**	**10952.38**	1635.32	143.08	**1164.61**	**638.68**	95.47	1934.31	**1297.08**	134.54	144.67	245.12	174.72	16.13	**4827.19**	**5182.56**	**750.14**	474.21	2420.02	2052.52	2834.5	706.95
Arsenic	300		50	mg/kg	5	< LOD	163.29	15.6	13.98	175.54	168.7	1227.8	< LOD	31.64	< LOD	53	19.17	< LOD	< LOD	17.96	< LOD	< LOD	< LOD	< LOD	106.1	**261.22**	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Chromium	300			mg/kg	5		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	< LOD	3741.77	111.53	83.64	608	574.05	53804.27	144.9	124.44	201.37	91.61	60.76	173.69	122.77	81.6	50.65	39.15	33.26	< LOD	591.99	528.58	88.16	38.62	175.91	< LOD	254.18	120.22
Manganese	19000			mg/kg	2	< LOD	< LOD	168.99	257.65	432.58	323.08	< LOD	178.83	201.52	190.59	151.72	189.87	468.03	382.5	233.67	118.08	170.47	171.81	247.78	523.11	679.89	501.42	333.05	323.93	< LOD	513.75	192.37
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	< LOD	< LOD	51.25	**107.65**	**97.23**	67.95	< LOD	**104.39**	52.46	57.44	< LOD	**75.91**	< LOD	< LOD	< LOD	< LOD	62.74	62.04	< LOD	**102.28**	59.05	63.98	**75.79**	< LOD	< LOD	60.62	38.34
Zinc	30000		50	mg/kg	5	< LOD	< LOD	285.79	246.32	678.79	508.37	6419.79	509.6	285.57	474.4	67.31	63.78	1045.06	1002.55	135.28	122.14	87.52	75.92	108.31	1279.6	931.65	241.11	166.09	1200.15	785.33	985.18	667.16
Sulphur				mg/kg	2		82484.06	460.52	602.89	4277.61	11842.7	145548.36	3090.63	1855.76	3183.32	1568.24	782.24	2594.55	2585.98	911.36	515.82	< LOD	622.15	< LOD	4964.16	6804.24	828.43	1201.3	836.35		925.36	430.24
Potassium				mg/kg	5		590.42	13536.05	16027.83	15492.43	15903.89	1433.64	15074.08	20455.61	15652.97	15410.26	14682.59	9496.26	7881.72	11716.69	7396.96	23653.09	15092.2	14442.82	15440.3	18286.15	14384.8	15488.59	7339.48		8062.61	27031.14
Calcium				mg/kg			< LOD	467.44	2781.88	440.27	824.81	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	15357.26	14722.02	< LOD	< LOD	< LOD	< LOD	1040.93	522.76	783.96	5317	5039.61	250.68		252.89	< LOD
Scandium				mg/kg			< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg			199.7	2477.02	2426.68	2052.81	3083	< LOD	3489.68	4518.89	3143.32	2854.17	3691.54	1137.76	936.44	2541.84	1683.86	4915.73	3080.69	3519.16	2173.77	2199.71	2814.57	2420.92	810.14		842.01	1748.59
Vanadium				mg/kg			< LOD	213.91	206.62	< LOD	< LOD	< LOD	67.44	92.27	70.64	58.52	60.62	< LOD	< LOD	41.73	47.07	109.93	52.45	58.41	< LOD	< LOD	77.38	69.92	< LOD		23.77	< LOD
Iron				mg/kg		< LOD	123084.06	9725.09	10326.7	48902.77	62173.21	724634.75	35827.8	33132.45	32394.12	39762.56	27851.25	12785.47	9792.24	26200.67	17704.77	30939.42	30175.71	19721.7	35348.49	26272.38	26049.42	18509.91	22535.16	20420.81	22411.58	11377.04
				mg/kg																												
Cobalt				mg/kg		< LOD	625.04	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	125.07	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	8.97	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		< LOD	< LOD	104.09	102.84	114.75	95.54	< LOD	114.62	122.45	109.26	117.16	122.51	48.15	43.84	91.75	61.36	127.07	134.92	75.21	108.24	80.25	99.2	87.48	110.88	83.47	114.93	129
Strontium				mg/kg		< LOD	5.71	51.17	75.18	47.32	69.31	< LOD	33.31	19.65	28.24	19.8	18.99	42.07	27.49	15.77	13.46	17.44	18.18	17.17	70.59	38.15	67.16	70.19	40.14	< LOD	41.05	23.55
Zirconium				mg/kg		< LOD	12.71	105.81	108.39	204.45	403.1	< LOD	394.66	266.32	230.14	236.51	308.73	71.13	64.59	163.42	91.95	236.37	241.44	183.12	207.65	150.17	119.93	121.41	178.03	186.68	216.27	231.46
Molybdenum				mg/kg		< LOD	13.3	8.38	11.33	< LOD	< LOD	16.83	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		< LOD	17.59	13.53	15.95	< LOD	< LOD	< LOD	37.15	39.12	33.46	21.08	20.61	< LOD	< LOD	15.52	< LOD	15.75	18.68	12.71	30.77	< LOD	17.67	16.3	< LOD	< LOD	< LOD	20.29
Uranium				mg/kg		< LOD	< LOD	12.51	11.15	< LOD	< LOD	< LOD	< LOD	12.22	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg			< LOD	19.78	19.67	< LOD	20.99	**93**	< LOD	< LOD	< LOD	18.33	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	15.5	33.16		30.4	< LOD
Palladium				mg/kg			< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD
Silver				mg/kg			148.8	117.4	123.31	163.97	129.22	603.74	135.73	106.96	124.41	114.71	107.4	< LOD	< LOD	< LOD	< LOD	< LOD	112.63	< LOD	106.57	166.84	< LOD	137.46	205.92		181.97	< LOD
Tin				mg/kg			< LOD	41.19	44.25	45.02	36.55	283.72	32.33	20.41	29.87	40.89	34.38	< LOD	< LOD	< LOD	< LOD	26.64	< LOD	< LOD	30.84	55.56	22.07	37.89	52.96		55.78	23.84
Antimony				mg/kg			< LOD	64.54	55.97	78.3	76.74	233.4	45.76	29.18	33.24	45.53	25.18	< LOD	< LOD	< LOD	< LOD	33.74	29.76	< LOD	60.5	80.26	22.23	47.03	102.17		89.53	39.36
Tellurium				mg/kg			< LOD	162.83	153.36	221.88	151.75	572.42	121.32	107.31	148.17	144.63	96.75	< LOD	< LOD	< LOD	< LOD	93.91	151	< LOD	120.06	224.59	96.52	125.67	262.37		225.69	122.99
Ceasium				mg/kg			62.41	101.84	106.55	141.7	86.8	285.74	93.66	62.38	84.09	81.28	76.94	< LOD	< LOD	14.11	< LOD	64.04	66.48	< LOD	105.56	141.56	68.75	92.63	124.42		156.95	66.4
Barium				mg/kg			253.82	1322.91	1346.23	2177.49	1999.69	1128.46	1381	638.78	780.15	727.05	581.05	59.23	129.15	210.54	132.7	514.88	636.05	96.67	4638.37	1397.62	685.38	829.64	2420.51		2767.43	902.07

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remed
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Table H3: Historic Laboratory Soil Results -
GHD 2018

RAMBOLL

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:																									
				Sample ID:		94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
				Project Name:																										
				Sample Description																										
Analyte grouping/Analyte				**Units**	**LOR**																									
EA001: pH in soil using 0.01M CaCl extract																														
pH (CaCl2)				pH units	0.1																									
EA055: Moisture Content																														
Moisture Content (dried @ 103°C)				%	1																									
Electrical Conductivity																														
EC (µS/cm)				µS/cm	1																									
Cations/anions																														
Calcium (filtered)				mg/kg	10																									
Magnesium (filtered)				mg/kg	10																									
Sodium (filtered)				mg/kg	10																									
Potassium (filtered)				mg/kg	10																									
TKN				mg/kg																										
Nitrate +Nitrite				mg/kg																										
total nitrogen				mg/kg																										
total phosphorus				mg/kg																										
exchangeable calcium				meq/100g																										
exchangeable magnesium				meq/100g																										
exchangeable potassium				meq/100g																										
exchangeable sodium				meq/100g																										
CEC				meq/100g																										
emerson class				-																										
soil type				-																										
EG005T: Total Metals by ICP-AES																														
Lead	600	700	1100	mg/kg	50	836.77	5765.27	5584.11	5763.74	10222.11	149943.08	1100.99	< LOD	459.37	5197.24	20.45	48.52	435.83	460.54	88.47	87.49	1735.32	1537.36	299.92	296.61	2095.91	1794.18	174.36	230.79	1999.44	1100.24	3958.15
Arsenic	300		50	mg/kg	5	37.66	172.31	300.82	428.62	360.84	4687.93	89.05	< LOD	497.78	< LOD	9.67	101.22	59.72	47.6	< LOD	< LOD	151.12	129.15	< LOD	< LOD	135.46	< LOD	< LOD	19.64	< LOD	< LOD	291.58
Chromium	300			mg/kg	5	< LOD	< LOD	<LOD	<LOD	<LOD	<LOD	< LOD	< LOD	572.07	27.55	87.42	< LOD	< LOD	< LOD	15.82	< LOD	< LOD	< LOD	18.19	24.55	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	130.64	1765.84	2195.26	1708.32	2691.75	13793.82	429.51	< LOD	< LOD	179.36	54.04	234.74	93.09	83.04	51.58	52.53	468.31	376.56	52.72	70.96	228.33	216.87	73.1	91.6	246.68	1095.02	577.79
Manganese	19000			mg/kg	2	275.75	452.8	430.05	576.01	723.47	< LOD	172.84	73.96	214.55	471.91	579.74	344.84	181.85	183.87	99.39	176.27	139.25	< LOD	194.56	419.43	167.57	149.82	1504.9	1316.46	425.39	537.69	272.25
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	67.22	99.39	180.77	99.1	168.28	< LOD	89.9	42.83	66.68	71.74	103.21	60.69	66.81	64.64	43.93	41.49	75.41	42.87	33.18	54.03	59.42	66.14	81.54	< LOD	100.06	46.18	59.54
Zinc	30000		50	mg/kg	5	685.69	3352.68	3217.29	2856.33	4130.96	2821.68	201.12	< LOD	39.96	2140.33	67.28	37.41	69.93	65.37	59.18	96.57	136.02	73.53	165.78	215.34	213.34	185.82	213.29	402.83	605.81	8125.29	436.71
Sulphur				mg/kg	2	578.6	3175.36	4044.56	3354.03	4023.49	35246.53	1429.4	< LOD	< LOD	10198.45	< LOD	< LOD	669.38	< LOD	< LOD	268.52	8204.92	5254.37	290.15	2778.56	3141.18	2019.3	< LOD	785.6	23110.98	63535.57	5421.47
Potassium				mg/kg	5	20388.65	15709.37	12538.92	10639.62	11224.88	4198.79	17406.61	126.93	12692.02	38583.18	21169.05	28276.64	17420.22	18262.74	17922.57	9543.2	14159.84	20340.93	13133.84	18982.8	13992.7	12439.03	15889.43	13532.27	25893.42	13105.51	18220.94
Calcium				mg/kg		< LOD	863.7	672.74	884.6	1065.61	165.9	< LOD	< LOD	7161.69	1499.21	21174.95	7882.4	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	5984.36	15280.93	< LOD	< LOD	< LOD
Scandium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		1438.6	3367.23	3344.46	2116.49	2405.98	1019.16	3142.04	< LOD	3801.12	7188.06	3696.79	4941.25	1231.1	1241.94	841.95	943.71	976.14	1259.39	708.43	740.57	2941.39	2217.63	2995.01	2256.25	2686.78	1599.01	2637.28
Vanadium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	69.96	< LOD	98.56	225.68	110.89	74.46	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	47.9	45.26	62.48	< LOD	113.01	54.91	< LOD
Iron				mg/kg		11531.52	53440.77	54175.89	54557.23	75710.34	190016.73	17445.97	166.46	14392.17	25564.73	27836.97	31565.29	20004.69	19342.34	7064.12	4462.08	15294.02	13974.36	11380.6	10498.81	45112.11	41561.11	36224.42	21123.41	50528.38	18289.95	29451.2
				mg/kg																												
Cobalt				mg/kg		< LOD	375.85	< LOD	293.96	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	106.06	< LOD	< LOD	< LOD	105.16	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	522.28	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	7.32	< LOD	< LOD	< LOD	< LOD	< LOD	14.06
Rubidium				mg/kg		128	113.33	102.22	104.15	99.64	< LOD	105.92	< LOD	62.24	186.68	91.23	142.42	136.41	128.3	172.63	83.64	66.93	115.48	70.17	103	97.46	91.61	104.51	74.7	131.02	87.22	113.25
Strontium				mg/kg		24.21	66.56	79.21	60.92	88.4	56.48	13.01	< LOD	78.39	234.82	217.91	97.49	9.5	13.71	17.57	12.26	14.38	17.85	9.34	14.19	20.96	18.47	329.93	216.14	7.18	4.06	50.77
Zirconium				mg/kg		256.32	494.66	468.05	271.08	265.22	86.97	315.23	< LOD	343.02	190.03	161.72	375.41	109.21	229.25	166.65	153.83	75.55	176.21	110.66	128.71	242.14	210.68	179.03	128.63	122.02	85.28	211.71
Molybdenum				mg/kg		< LOD	18.02	8.64	6.64	16.57	32.9	< LOD	< LOD	8.07	13.78	< LOD	14.82	< LOD	< LOD	5.24	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	221.54	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		26.58	37.06	< LOD	< LOD	< LOD	< LOD	17.48	< LOD	13.32	< LOD	14.06	48.39	19.58	23.05	15.61	8.7	< LOD	24.61	15.79	17.71	19.58	< LOD	14.47	< LOD	< LOD	< LOD	34.45
Uranium				mg/kg		< LOD	< LOD	< LOD	12.32	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	92.93	20.53	< LOD	443.92	17.46	< LOD	< LOD	< LOD	< LOD	18.53	< LOD	24.15	17.14	17.72	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Palladium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	64.07	< LOD	< LOD	29.29	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg		< LOD	< LOD	< LOD	137.8	141.63	572.06	150.42	< LOD	398.3	140.71	< LOD	< LOD	< LOD	103.74	127.44	110.95	170.31	152.93	113.26	127.49	129.5	150.07	134.38	< LOD	154	< LOD	124.66
Tin				mg/kg		< LOD	24.9	26.72	46.45	41.26	337.32	52.06	< LOD	< LOD	40.14	28.05	26.2	38.22	23.58	48.8	40.07	57.81	44.01	37.81	30.65	28.93	26.69	28.27	< LOD	36.53	< LOD	41.44
Antimony				mg/kg		31.14	112.18	121.86	128.06	127.17	811.39	65.4	26.24	< LOD	155.71	23.04	22.58	41.64	43.88	47.53	43.56	54.11	60.77	37.06	43.36	50.8	54.88	50.99	< LOD	66.36	41.68	92.04
Tellurium				mg/kg		88.76	< LOD	103.83	179.01	130.06	516.79	202.24	69.2	82.42	162.03	100.12	75.38	98.32	137.1	176.3	160.87	202.62	206.61	143.11	150.23	142.2	191.48	132	< LOD	214.4	75.28	177.48
Ceasium				mg/kg		78.39	79.31	97.26	132.4	97.29	269.57	103.72	39.35	41.73	85.63	63.95	58.34	78.25	71.88	116.33	87.55	121.29	117.4	93.56	93.5	84.93	107.16	91.2	< LOD	100.88	66.52	89.02
Barium				mg/kg		945.16	6385.93	7493.28	5224.45	8174.43	14620.84	970.42	156.12	708.8	928.67	835.24	420.23	656.05	742.51	751.95	552.95	684.13	858.34	567.8	742.99	1219.81	1252.32	867.6	233.87	1590.28	1092.89	1448.97

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
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[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
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NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
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Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
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To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
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Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based reme
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H3: Historic Laboratory Soil Results -
GHD 2018

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:																									
				Sample ID:		121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147
				Project Name:																										
				Sample Description																										
Analyte grouping/Analyte				**Units**	**LOR**																									
EA001: pH in soil using 0.01M CaCl extract																														
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Magnesium (filtered)				mg/kg	10																									
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CEC				meq/100g																										
emerson class				-																										
soil type				-																										
EG005T: Total Metals by ICP-AES																														
Lead	600	700	1100	mg/kg	50	**3064.03**	**16343.67**	**2277.41**	**2193.38**	567.17	**983.89**	655.14	397.95	70.43	74.66	541.87	**867.4**	19.36	28.57	44.03	**852.83**	**905.34**	57.59	52.53	251.37	188.4	145.41	180.57	196.2	366.48	549.83	515.17
Arsenic	300		50	mg/kg	5	106.14	913.89	< LOD	< LOD	65.83	54.77	149.62	50	83.34	61.19	197.5	243.97	< LOD	< LOD	18.65	< LOD	< LOD	17.32	15.83	54.73	40.49	26.97	96.58	67.6	61.38	86.87	< LOD
Chromium	300			mg/kg	5	< LOD	58.17	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	23.09	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	541.72	4773.5	208.99	135.73	244.62	286.53	102.33	55.8	32.08	< LOD	72.3	109.53	< LOD	< LOD	100.75	173.03	179.86	43.37	45.5	93.48	128.18	113.66	273.38	241.85	148.92	246.45	143.49
Manganese	19000			mg/kg	2	233.43	2655.69	293.1	250.25	228.59	280.19	344.94	702.83	211.68	292.88	150.23	165.19	283.72	273.6	139.35	353.3	432.81	140.31	121.79	249.75	187.46	123.39	205.78	< LOD	316.64	216.18	229.19
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	70.61	308.93	41.65	53.38	57.26	**107.04**	134.5	64.73	67.97	68.27	74.03	< LOD	< LOD	< LOD	**90.09**	**81.77**	62.24	35.58	< LOD	**89.31**	70.36	66.66	96.59	78.97	38.82	92.44	145.17
Zinc	30000		50	mg/kg	5	426.95	108513.77	1245.17	760.57	2023.42	1250.38	292.3	180.76	185.69	173.49	< LOD	67.84	78.58	86.3	48.57	2241.16	1485.37	38.15	53.28	105.75	87.99	47.85	< LOD	< LOD	58.74	76.28	50.82
Sulphur				mg/kg	2	4195.9	6761.74	2468.29	1985.48	10791.11	6920.53	2990.35	952.75	< LOD	< LOD	4633.47	4211.74	< LOD	< LOD	1996.99	1008.91	1670.15	< LOD	< LOD	649.22	< LOD	< LOD	< LOD	< LOD	< LOD	537.84	1264.91
Potassium				mg/kg	5	15599.87	9504.83	15231.32	17363.79	15623.92	19185.77	33513.38	27188.34	18055.6	14837.13	28637.8	16273.6	17604.79	18117.69	18497.21	23373.69	22705.27	8559.76	5592.51	12551.54	12386.46	19381.02	13817.43	15090.77	16275.67	15001.96	25208.86
Calcium				mg/kg		< LOD	12834	< LOD	< LOD	4576.45	2269.44	2717.55	< LOD	< LOD	< LOD	< LOD	< LOD	578.96	603.18	351.27	2564.04	4169.53	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Scandium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		2719.74	533.6	1310.81	1341.37	2454.39	2038.71	1848.54	1007.09	1592.04	1255.51	1338.33	998.45	3731.25	3790.23	2487.12	3228.55	3048.95	3767.78	2559.04	3175.15	2433.16	3200.38	3455.66	2953.98	3101.19	2605.8	939.43
Vanadium				mg/kg		62.2	< LOD	30.89	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	65.98	86.73	216.41	66.08	67.95	35.11	< LOD	< LOD	< LOD	51.76	71.39	68.89	52.54	< LOD	< LOD
Iron				mg/kg		30169.46	510765.06	19293.65	15471.2	18252.56	38497.68	16972.31	8867.46	15646.27	15257.46	31249.39	32721.29	23877.85	24337.04	18528.5	31783.68	25651.75	13331.43	11493.06	33734.62	29151.47	14127.59	64663.46	60487.04	19520.63	17304.12	19289.75
				mg/kg																												
Cobalt				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	275.68	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	226.02	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	21.26	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		99.73	53.24	108.22	99.01	68.41	149.09	230.08	167.14	109.31	88.91	132.18	88.61	122.18	102.17	114.37	119.69	99.98	68.54	61.11	81.39	81.96	115.62	105.25	105.15	103.12	96.85	131.52
Strontium				mg/kg		46.75	252.6	10	8.14	72.79	34.76	80.62	42.28	11.53	8.93	11.39	15.85	16.44	16.75	31.34	82.13	73.16	14.29	13.34	23.09	10.94	13.52	15.74	11.19	19.55	15.95	28.73
Zirconium				mg/kg		331.15	46.3	185.59	201.83	202.06	375.28	294.38	166.62	259.1	233.75	166.63	151.91	185.29	208.95	108.76	192.45	253.2	457.43	417.75	232.72	166.17	220.79	208.89	198.52	290.13	199.76	162.31
Molybdenum				mg/kg		< LOD	41.59	< LOD	< LOD	< LOD	< LOD	8.38	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	16.16	< LOD	< LOD	< LOD	9.53	< LOD	< LOD	< LOD	< LOD	< LOD	7.05	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	14.36	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	13.99
Thorium				mg/kg		21.92	< LOD	< LOD	< LOD	16.46	16.87	25.98	19.72	22.56	20.99	15.01	16.77	14.02	11.19	12.49	< LOD	< LOD	11.93	12.39	13.08	10.99	16.59	25.14	17.02	13.59	16.39	22.96
Uranium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium		90		mg/kg		< LOD	< LOD	< LOD	< LOD	20.61	< LOD	31.1	18.38	< LOD	< LOD	19.13	< LOD	< LOD	< LOD	22.92	< LOD	< LOD	15.06	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Palladium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg		117.45	248.01	118.59	107.59	112.89	152.81	202.04	177.06	106.91	129.47	184.24	< LOD	< LOD	< LOD	139.91	< LOD	104.6	< LOD	103.08	125.6	113.57	121.78	135.11	125.85	< LOD	126.96	< LOD
Tin				mg/kg		33.66	< LOD	25.49	31.6	29.88	51.31	70	46.28	23.22	26.69	46.04	< LOD	< LOD	< LOD	47.44	32.45	24.03	21.68	24.24	34.09	31.41	29.68	33.61	41.46	< LOD	23.28	28.25
Antimony				mg/kg		57.76	180.8	59.63	50.12	51.74	50.42	90.5	64.92	41.44	45.72	54.92	36.27	< LOD	< LOD	63.62	28.24	21.84	36.9	26.51	44.66	42.38	42.56	43.75	42.38	29.95	42.48	43.93
Tellurium				mg/kg		134.8	< LOD	112.54	102.71	146.29	159.42	257.31	184.55	134.34	142.37	207.06	99.32	< LOD	< LOD	170.75	97.93	94.46	88.73	150.16	134.82	101.98	190.36	137.98	144.06	74.05	122.85	161.49
Ceasium				mg/kg		84.54	73.25	77.83	79.66	84.77	102.6	143.24	123.92	70.69	80.57	111.74	56.71	< LOD	< LOD	112.62	79.82	59.63	67.23	72.49	87.91	84.44	104.43	82.14	79.87	60.38	94.16	120.65
Barium				mg/kg		1244	12426.02	714.8	686.15	871.27	1028.51	1058.95	876.95	522.63	506.03	848.51	548.5	207.67	180.58	982.32	1272.89	1025.65	519.44	551.59	1526.83	1225.6	1146.34	1113.65	1016.36	1184.93	1522.73	6955.88

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remed
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-M
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H3: Historic Laboratory Soil Results -
GHD 2018

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample date:																									
				Sample ID:		148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174
				Project Name:																										
				Sample Description																										
Analyte grouping/Analyte				**Units**	**LOR**																									
EA001: pH in soil using 0.01M CaCl extract																														
pH (CaCl2)				pH units	0.1																									
EA055: Moisture Content																														
Moisture Content (dried @ 103°C)				%	1																									
Electrical Conductivity																														
EC (µS/cm)				µS/cm	1																									
Cations/anions																														
Calcium (filtered)				mg/kg	10																									
Magnesium (filtered)				mg/kg	10																									
Sodium (filtered)				mg/kg	10																									
Potassium (filtered)				mg/kg	10																									
TKN				mg/kg																										
Nitrate +Nitrite				mg/kg																										
total nitrogen				mg/kg																										
total phosphorus				mg/kg																										
exchangeable calcium				meq/100g																										
exchangeable magnesium				meq/100g																										
exchangeable potassium				meq/100g																										
exchangeable sodium				meq/100g																										
CEC				meq/100g																										
emerson class				-																										
soil type				-																										
EG005T: Total Metals by ICP-AES																														
Lead	600	700	1100	mg/kg	50	525.64	227.43	250.97	256.82	216.64	112.18	284.81	1134.06	1343	3796.16	3241.49	3202.65	2760.95	3038.52	2265.17	5275.57	8700.44	730.35	6953.06	10749.03	694.03	1933.65	1022.54	< LOD	1616.5	1756.45	1753.58
Arsenic	300		50	mg/kg	5	33.82	32.47	56.03	20.98	23.7	< LOD	21.44	103.8	71.67	290.33	296.67	194.69	179	190.52	< LOD	203.13	9165.19	598.6	181.03	36918.5	1420.27	228.46	155.12	< LOD	94.71	112.81	59.96
Chromium	300			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	117.64	106.71	150.02	67.15	60.94	31.07	59.53	138.47	147.89	441.15	368.62	301.52	371.89	310.92	382.59	625.93	407.86	421.24	930.14	1413.65	2218.78	1554.9	630.3	< LOD	570	548.08	355.32
Manganese	19000			mg/kg	2	264.77	< LOD	169.94	< LOD	< LOD	211.98	215.93	251.97	243.81	318.52	412.22	356.63	332.6	303.32	304.9	310.78	255.86	271.46	215.14	270.7	272.88	922.49	425.18	< LOD	278.71	361.53	307.58
Mercury	80			mg/kg	5	< LOD	11.96	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	139.7	< LOD	61.77	< LOD	< LOD	63.79	34.58	87.43	44.31	115.27	119.07	83.16	143.87	97.35	93.71	68.9	99.9	126.94	76.9	56.07	< LOD	< LOD	< LOD	< LOD	52.61	< LOD	< LOD
Zinc	30000		50	mg/kg	5	50.49	47.33	52.58	53.55	77.21	267.61	523.25	123.96	116.7	760.08	454.74	354.12	474.71	433.23	586.98	951.21	260.9	274.06	2258.12	3358.58	2788.48	877.9710086	100865.55	< LOD	31945.1	24403.05	4182.75
Sulphur				mg/kg	2	833.23	< LOD	< LOD	< LOD	< LOD	< LOD	419.73	1827.26	1420.93	7028.29	6676.9	1922.45	5252.91	5593.83	2990.04	3595.1	31402.84	32806.01	24608.74	43869.75	54513.98	102753.98	49942		22843.72	15437.24	3211.42
Potassium				mg/kg	5	23750.16	14777.04	15307.06	11674.33	8928.5	15382.98	11893.43	12794.46	12526.08	10951.47	10410.3	10993.63	11094.41	10722.88	18640.55	18285.43	10622.14	11318.28	11574.35	7982.75	6541.05	823.25	811.21		9253.43	5952.59	19841.55
Calcium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	1937.48	1899.44	701.46	496.48	< LOD	295.22	< LOD	156.06	< LOD	868.49	371.52	< LOD	< LOD	914.35	4163.16	15352.3	1958.43	915.23		524.96	844.99	2317.99
Scandium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD	< LOD
Titanium				mg/kg		775.08	3187.3	3085.22	3505.64	2456.72	1935.13	2043.78	3181.68	3226.51	2833.76	2557.94	3076.82	1937.36	1891.39	4546.77	3097.54	1983.46	2045.69	3230.9	2235.98	1930.73	< LOD	128.02		1613.81	1312.24	2702.28
Vanadium				mg/kg		57.41	55.76	68.65	54.11	< LOD	67.48	53.08	88.08	84.05	94.23	< LOD	86.25	< LOD	< LOD	68.15	82.25	< LOD	87.57	< LOD	< LOD	< LOD	< LOD	< LOD		< LOD	44.69	57.1
Iron				mg/kg		22247.04	15811.96	30751.66	13459.27	12745.31	9414.31	11619.17	40512.26	46556.55	136548.22	122668.19	131804.23	77697.84	86201.16	34744.3	37703.64	162935.45	161092.97	74544.81	104584.75	198308.2	181178.78	122198.8	< LOD	57239.93	60069.94	37088.58
				mg/kg																										
Cobalt				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	287.12	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	15.61	12.85	12.49	< LOD	< LOD	< LOD	36.47	44.68	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		136.64	107.43	121.37	68.78	71.62	96.41	72.32	78.55	78.43	69.93	91.13	75.32	70.87	71.26	98.69	123.85	83.03	78.34	66.98	52.79	61.28	< LOD	< LOD	< LOD	81.49	65.04	113.17
Strontium				mg/kg		29.3	12.5	16.5	12.85	12.18	55.13	42.12	19.39	21.91	48.16	37.82	23.08	32.47	37.88	50.35	59.45	44.39	46.54	61.81	61.14	47.13	< LOD	< LOD	< LOD	29.42	31.46	60.77
Zirconium				mg/kg		128.14	237.33	209.16	226.1	199.84	115.36	94.1	213.12	227.54	174.37	220.22	204.75	226.34	200.23	274.13	202.59	157.59	155.09	156.28	207.57	132.74	< LOD	< LOD	< LOD	139.67	134.59	204.98
Molybdenum				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	10.19	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	11.76	12.46	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		20.1	< LOD	12.33	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		32.65	15.28	22.18	< LOD	< LOD	< LOD	< LOD	17.77	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	30.83	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	23.76
Uranium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	15.74	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	21.54	< LOD	< LOD	< LOD	23.04	< LOD	18.51	22.75	< LOD	< LOD	< LOD	45.31	88.33	197.07		28.37	38.85	< LOD
Palladium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	17.06	< LOD	< LOD	< LOD	< LOD	22.1	31.39	< LOD	< LOD		< LOD	< LOD	< LOD
Silver				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	140.82	145.76	173.2	175.59	165.82	173.8	193.27	147.36	< LOD	229.6	258.27	130.9	166.1	294.04	167.63	276.79		208.74	177.36	106.66
Tin				mg/kg		29.36	< LOD	54.42	< LOD	< LOD	24.69	< LOD	24.51	36.69	29.57	60.93	44.5	39.98	60.53	30.67	23.65	59.21	82.69	47.03	56.19	100.8	39.44	90.8		39.01	64.66	24.1
Antimony				mg/kg		43.9	23.03	51.46	< LOD	< LOD	34.64	17.43	50.52	38.69	130.86	168.27	125.71	78.71	111.68	62.66	144.8	100.99	100.36	84.97	104.33	175.23	34.39	102.87		67.93	86.6	54.8
Tellurium				mg/kg		134.91	97.42	150.08	< LOD	< LOD	103.73	< LOD	109.25	127.19	193.19	188.36	192.74	165.97	209.58	103.56	113.62	182.19	211.78	91.47	185.73	336.49	< LOD	281.92		234.41	286.54	122.34
Ceasium				mg/kg		129.04	55.97	95.34	19.39	< LOD	63.39	26.14	80.91	90.91	110.22	130.49	108.14	104.36	139.77	91.33	84.55	124.56	141.64	68.94	99.02	186.78	79.7	190.96		120.59	133.07	81.89
Barium				mg/kg		5294.38	824.89	985.6	465.73	397.64	671.69	605.82	1031.73	1050.5	2444.22	3177.77	2299.84	2067.64	1917.68	2162.65	3145.68	1586.86	1842.6	1870.05	1674.11	1896.01	356.9	760.55		960.88	1554.22	1093.29

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remed
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H3: Historic Laboratory Soil Results -
GHD 2018

	NEPM 2013 HIL C Residential	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																	
Sample date:																				
Sample ID:						175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	196	197
Project Name:																						
Sample Description																						
Analyte grouping/Analyte				**Units**	**LOR**																	
EA001: pH in soil using 0.01M CaCl extract																						
pH (CaCl2)				pH units	0.1																	
EA055: Moisture Content																						
Moisture Content (dried @ 103°C)				%	1																	
Electrical Conductivity																						
EC (µS/cm)				µS/cm	1																	
Cations/anions																						
Calcium (filtered)				mg/kg	10																	
Magnesium (filtered)				mg/kg	10																	
Sodium (filtered)				mg/kg	10																	
Potassium (filtered)				mg/kg	10																	
TKN				mg/kg																		
Nitrate +Nitrite				mg/kg																		
total nitrogen				mg/kg																		
total phosphorus				mg/kg																		
exchangeable calcium				meq/100g																		
exchangeable magnesium				meq/100g																		
exchangeable potassium				meq/100g																		
exchangeable sodium				meq/100g																		
CEC				meq/100g																		
emerson class				-																		
soil type				-																		
EG005T: Total Metals by ICP-AES																						
Lead	600	700	1100	mg/kg	50	2523.74	1654.31	1621.61	4924.75	6313.88	3729.43	3574.22	3578.84	4096.09	1225.72	972.19	9493.41	2804.58	1545.53	1557.88	1718.06	1522.93
Arsenic	300		50	mg/kg	5	< LOD	< LOD	< LOD	121.79	< LOD	272.07	264.65	251.38	244.51	136.51	111.82	297.84	259.42	< LOD	79.92	< LOD	54.17
Chromium	300			mg/kg	5	< LOD	< LOD	< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	17000		25	mg/kg	1	449.03	139.19	117.22	409.99	< LOD	667.37	240.41	258.88	281.26	223.61	184.93	344.9	210.28	237.82	220.07	232.99	190.75
Manganese	19000			mg/kg	2	257.61	271.9	173.52	241.43	< LOD	157.43	177.65	245.92	184.56	169.76	185.09	230.39	190.56	285.03	305.99	323.62	203.46
Mercury	80			mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	1200		30	mg/kg	5	< LOD	81.84	38.65	64.4	< LOD	< LOD	< LOD	59.5	< LOD	49.65	48.11	80.01	83.48	< LOD	< LOD	77.27	84.74
Zinc	30000		50	mg/kg	5	4721.81	793.24	844.31	1481.04	2186.68	3281.31	1845.58	1318.31	1433.23	948.32	678.69	538.25	409.93	2362.62	2128.16	5025.87	1964.55
Sulphur				mg/kg	2	2554.05	3277.47	2697.72	6043.26		5828.81	6412.29	5853.28	5730.44	1648.14	1225.23	12001.06	6541.63	1610.9	1590.62	2968.81	2513.4
Potassium				mg/kg	5	13708.7	15137.58	13151.04	12556.23		10682.76	12067.42	19822.67	15044.1	30180.34	31324.4	20305.04	18469.37	11725.52	11889.21	12607.4	10717.85
Calcium				mg/kg		1135.42	715.6	638.7	386.81		788.18	1174.93	1047.98	584.32	1694.24	1437.03	< LOD	< LOD	2826.92	1987.93	4095.52	2925.53
Scandium				mg/kg		< LOD	< LOD	< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium				mg/kg		3083.45	3577.86	2564.76	2603.97		1977.31	2091.63	3683.85	2835.28	4091.7	4354.11	3814.89	2813.31	1960.64	2224.55	2480.21	2350.53
Vanadium				mg/kg		54.95	67.03	72.45	83.39		48.3	59.3	99.61	92.8	97.83	65.12	68.99	48.51	46.6	37.55	71.15	75.59
Iron				mg/kg		47473.7	35428.3	37446.32	51830.65	82803.51	48795.06	51852.34	53825.95	61015.81	41256.03	32792.52	50122.43	37122.52	21229.77	18815.31	38576.51	24008.98
				mg/kg																		
Cobalt				mg/kg		< LOD	< LOD	< LOD	384.33	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Selenium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium				mg/kg		106.71	74.8	79.14	70.87	< LOD	62.71	87.76	131.72	119.85	154.96	133.02	123.53	93.92	68.8	65.99	59.37	66.48
Strontium				mg/kg		54.04	67.5	65.91	65.02	< LOD	51.38	51.45	53.4	60.08	26.53	22.71	29.11	25.66	32.72	25.99	53.93	46.47
Zirconium				mg/kg		217.36	154.99	162.72	160.69	183.2	133.16	133.51	248.97	227.38	267.33	258.71	448.19	247.8	133.4	130.21	165.86	208.94
Molybdenum				mg/kg		8.94	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	8.54	10.61	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Tungsten				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Gold				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Thorium				mg/kg		< LOD	29.52	22.36	< LOD	< LOD	24.94	< LOD	< LOD	< LOD	< LOD	17.45	< LOD	21.81	< LOD	< LOD	< LOD	17.17
Uranium				mg/kg		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	16.68	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	90			mg/kg		20.65	16.25	< LOD	< LOD		< LOD	18.63	21.4	< LOD	< LOD	< LOD	< LOD	20.92	< LOD	< LOD	< LOD	< LOD
Palladium				mg/kg		< LOD	< LOD	< LOD	< LOD		< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Silver				mg/kg		< LOD	164.82	109.76	163.44		< LOD	105.22	130.86	136.51	< LOD	111.35	184.72	236.87	< LOD	< LOD	< LOD	104.29
Tin				mg/kg		< LOD	35.45	28.44	46.4		< LOD	38.56	48.6	27.78	< LOD	51.29	53.87	58.22	< LOD	< LOD	< LOD	< LOD
Antimony				mg/kg		24.36	45.54	25.36	62.5		< LOD	51.75	50.86	59.98	< LOD	43.78	84.53	87.69	< LOD	< LOD	45.34	49.91
Tellurium				mg/kg		< LOD	129.55	88.08	161.98		< LOD	118.12	154.19	130.67	108.1	132.7	190.99	248.96	< LOD	< LOD	58.24	77.46
Ceasium				mg/kg		48.06	84.96	62.53	107.66		< LOD	73.15	90.08	69.98	64.96	68.65	116.98	154.37	< LOD	< LOD	62.85	74.05
Barium				mg/kg		1007.58	646.84	498.94	1240.06		596.69	1017.43	1011.25	1065.54	661.41	676.36	1102.83	857.73	217.12	317.02	1466.08	1193.44

Blank Cell indicates no criterion available
LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment M
CRC Care Technical Report no.10, *Health Screening Levels for petroleum hydrocarbons in soil and groundwater* September 2011
[A] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fin
<50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be s
[B] The most conservative ESL guideline value has been adopted for all analytes
[C] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene
[D] Direct Contact are applied to surface soils or soils that could result in immediate contact.
[E] PFAS National Environmental Management Plan. Based on 20% of FSANZ TDI, i.e. up to 80% of exposure is assumed to come from oth
NL = Non Limiting. No HSL is presented for these chemicals as a soil vapour source concentration for a petroleum mixture could not ex
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
To obtain F2 subtract naphthalene from the >C10-C16 fraction.
Benzo(a)Pyrene ESL derived ecological guideline (95% confidence limits) based on CRC CARE Technical Report no. 39 Risk-based remed
The Health Investigation Level for Cresols has been compared to 3- & 4-Methylphenol. There are three forms of Cresols, of which 2-Me
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'C' for Recreational Land use
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
concentrations in red border exceeds the SSTL for recreation
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guidleline value will be highlighted
Concentrations below the LOR noted as <value
'Ch' Chrysotile (white asbestos)
'Am' Amosite (brown asbestos)
Cr' Crocidolite (blue asbestos)
NOC = No Observed Contamination

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H4:
Captains Flat DSI Surface Water Samples
Ramboll 2021B

	95% Fresh Water Protection for Aquatic Ecosystems [C]	Drinking Water Guidelines [D]	Human Health - Recreational [E]	Sample Type:														
				ALS Sample number:														
				Sample date:	8/08/2017	8/08/2017	8/08/2017	8/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	9/08/2017	15/07/2017	15/07/2017
				Sample ID:	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08	SW09	SW10	SW11	SW12	SW13	CF001-W*	CF002-W*
				Project Name:	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018	GHD 2018		
				Compound:															
				Site:															
				Sampling Method:															
Guidelines				Sample Description:	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water	surface water		
Analyte grouping/Analyte				**Units**	**LOR**														
EG020T: Dissolved Metals by ICP-MS																			
Aluminium				µg/L	1	10500	12800	30	10	70	100	112000	2880	4570	16700	50	20	10	2	5
Arsenic	**24**			µg/L	1	2	6	2	1	1	1	7	1	1	3	1	1	1	13.6	
Cadmium	0.2	2	20	µg/L	0.1	19.5	86.4	0.1	9.5	1.3	1.2	51.9	48.5	214	153	1.3	0.1	0.1	65	18
Copper	1.4	2000	20000	µg/L	1	96	168	5	7	6	9	1810	1500	1100	3360	3	2	1	3720	3620
Iron				µg/L	1	290000	177000	150	6010	770	1410	11900	210	280	4410	280	90	100	3800	6300
Lead	3.4	10	100	µg/L	1	3	1020	4	2	5	6	251	614	1970	1080	6	1	1	3910	3790
Manganese				µg/L	1	48600	11300	99	1810	272	287	34900	3380	1600	2110	72	71	19	6400	9900
Zinc	8			µg/L	1	142000	1420000	365	10400	2180	2360	1400000	35300	102000	90400	1600	288	64	8800	8800
Field Parameters																				
pH				pH units	0.1	2.63	3.47	7.23	6.55	6.83	6.71	2.96	4.9	3.88	3.19	6.05	7.04	7.43	7.45	7.48
EC				µS/cm		5700	2800	490	1308	191	186	5030	1445	649	1098	197	275	175	27.4	27.1
Cations and Anions																				
Calcium - Dissolved						376	305	20	121	11	11	345	68	20	40	12	15	19		
Chloride, Cl						18	9	34	11	6	6	18	18	2	2	8	19	34		
Magnesium - Dissolved						522	171	13	66	10	10	418	87	10	29	9	12	17		
Potassium - Dissolved						2	3	13	2	1	1	1	2	2	2	1	1	1		
Sodium - Dissolved						123	27	48	42	8	7	106	28	2	6	9	17	27		
Sulphate, SO4						4740	2030	102	696	62	66	3830	639	298	492	57	56	42		

Blank Cell indicates no criterion available
All results are in µg/L unless stated
LOR = Limit of Reporting
Concentrations below the LOR noted as <value
NOC = No observed contamination

[A] National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM) Health Screening Levels for Groundwater.

[B] National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM) Groundwater Investigation Levels for Fresh and Marine Water Quality. Investigation levels apply to typical slightly-moderately disturbed systems. See ANZECC & ARMCANZ (2000) for guidance on applying these levels to different ecosystem conditions.

[C] Australia and New Zealand Environment and Conservation Council (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

[D] National Health and Medical Research Council, National Resource Management Ministerial Council (2011) Australian Drinking Water Guidelines, updated November 2016.

[E] National Health and Medical Research Council (2008) Guidelines for Managing Risks in Recreational Water

* USEPA RSL residential tap water value (updated June 2017), adjusted for a cancer risk level of 1:100,000 and adjusted for incidental ingestion of groundwater by applying a x10 factor (NHMRC 2008)
Guideline values exist for both meta-xylene and para-xylene as per ANZECC (2000). The guideline value for meta- & para-Xylene guideline has been adopted as the meta-Xylene value from ANZECC (2000) as it is the most conservative of the two guideline values.
Guidelines in *italics* are low level reliability guidelines
Underlined indicates freshwater value adopted for marine value in accordance with ANZECC (2000).
Bold indicates the 99% protection level should be adopted for slightly-moderately disturbed ecosystems protection level due to potential for bio-accumulation or acute toxicity to particular species
Arsenic guideline based on As (V) for fresh, the lowest of presented guidelines for ANZECC.
NHMRC arsenic guidelines are based on total arsenic
ANZECC, NEPM and NHMRC guidelines for chromium are based on Cr (VI)
ANZECC, NEPM and NHMRC guidelines for mercury are based on total mercury.
Concentration in **red** font and grey box exceed the HSL 'A & B' for Low and High Density Residential use / 'D' for Commercial/Industrial use
Concentration in **green** font and grey box exceed the adopted ecosystem guideline value
Concentration in **blue** font and grey box exceed the adopted drinking water guideline value
Concentration in **orange** font and grey box exceed the adopted recreational guideline value
Concentrations in **light blue** indicate the LOR is greater than the guideline value

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

DSI - Corridor Results

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		CFX53	CFX54	CFX55	CFX56	CFX57	CFX58	CFX59	CFX60	CFX61	CFX62	CFX63
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	< LOD	977	144	1625	< LOD	390	< LOD	169
Chromium	3600	320	mg/kg	2	35	< LOD	68	40	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	240000	310	mg/kg	5	< LOD	< LOD	< LOD	< LOD	1465	245	1228	< LOD	376	91	< LOD
Iron			mg/kg	0.005	10526	12579	13612	12615	32976	48735	151792	15111	37806	20278	6521
Lead	1500	1800	mg/kg	5	86	169	148	59	13792	2554	21564	171	6291	683	2166
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	206	172	233	206	687	576	1660	259	1518	1349	981

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		CFX79_0.05	CFX79_0.1	CFX79_0.1	CFX81	CFX82	CFX83	CFX84	CFX85	CFX86	CFX87	CFX88
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	10305	484	< LOD	229	76	< LOD	< LOD	< LOD	< LOD	< LOD	30
Chromium	3600	320	mg/kg	2	36	< LOD	0	< LOD	45	43	< LOD	< LOD	< LOD	39	71
Copper	240000	310	mg/kg	5	3074	406	< LOD	295	142	110	62	545	< LOD	< LOD	< LOD
Iron			mg/kg	0.005	218530	48259	< LOD	32835	32973	13963	13856	35504	10465	27009	50146
Lead	1500	1800	mg/kg	5	315567	13594	< LOD	5117	818	615	320	2466	47	235	194
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	7301	886	< LOD	1835	260	425	580	7369	40	294	420

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		TP02_0.0	TP02_0.1	TP02_0.2	TP02_0.5	TP02_0.5	TP02_1.0	TP02_1.5	TP03_0.0	TP03_0.1	TP03_0.2	TP03_0.3
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	1099	32	< LOD	28	< LOD	< LOD	25	2127	793	331	433
Chromium	3600	320	mg/kg	2	< LOD	48	< LOD	54	72	< LOD	52	< LOD	< LOD	< LOD	< LOD
Copper	240000	310	mg/kg	5	402	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	118	73	< LOD
Iron			mg/kg	0.005	39540	50234	24323	38783	35589	37549	50189	41866	45143	99470	110767
Lead	1500	1800	mg/kg	5	12606	< LOD	28	33	70	< LOD	< LOD	115551	9167	641	292
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	716	57	124	840	752	680	513	1293	160	305	< LOD

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site
Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in orange bold font exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample ID:					TP06_1.0	TP06_1.5	TP06_2.0	TP07_0.0	TP07_0.1	TP07_0.2	TP07_0.5	TP07_1.0	TP07_1.5	TP08_0.0	TP08_0.1	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	24	56	32	< LOD	170	42	81	56	99	229	< LOD	
Chromium	3600	320	mg/kg	2	69	< LOD	< LOD	81	< LOD	87	51	< LOD	102	< LOD	< LOD	
Copper	240000	310	mg/kg	5	63	< LOD	< LOD	< LOD	215	< LOD	68	140	434	1978	53	
Iron			mg/kg	0.005	28983	71243	52344	40979	11913	33245	29172	26011	39541	54738	6720	
Lead	1500	1800	mg/kg	5	24	49	98	320	**1641**	45	628	117	290	**9833**	593	
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	78	80	< LOD	< LOD	< LOD	< LOD	< LOD	62	
Zinc	400000	930	mg/kg	5	925	1437	1196	918	320	493	603	568	461	17728	4259	

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample ID:					TP11_0.2	TP11_0.3	TP11_0.5	TP11_1.0	TP11_1.5	TP11_2.0	TP12_0.0	TP12_0.1	TP12_0.2	TP12_0.3	TP12_0.5	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	1657	< LOD	73	< LOD	< LOD	< LOD	380	1044	187	< LOD	< LOD	
Chromium	3600	320	mg/kg	2	< LOD	< LOD	< LOD	45	32	0	28	< LOD	< LOD	< LOD	< LOD	
Copper	240000	310	mg/kg	5	1641	456	2677	< LOD	< LOD	< LOD	437	505	54	< LOD	< LOD	
Iron			mg/kg	0.005	120207	80412	8919	19005	22373	< LOD	37261	82858	32621	37335	19126	
Lead	1500	1800	mg/kg	5	**39324**	133	422	< LOD	< LOD	< LOD	**7699**	**9639**	**1541**	94	< LOD	
Nickel	6000	380	mg/kg	2	< LOD	168	146	77	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	
Zinc	400000	930	mg/kg	5	2761	922	679	55	177	< LOD	3420	2356	400	2501	350	

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample ID:					TP15_0.0	TP15_0.1	TP15_0.2	TP15_0.3	TP15_0.4	TP15_0.5	TP15_1.0	TP16_0.0	TP16_0.1	TP16_0.2	TP16_0.3	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	119	188	223	109	< LOD	52	< LOD	< LOD	< LOD	
Chromium	3600	320	mg/kg	2	< LOD	64	89	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	
Copper	240000	310	mg/kg	5	47	50	3607	819	625	280	< LOD	87	< LOD	184	422	
Iron			mg/kg	0.005	45604	51920	44001	45462	83143	24315	7589	30392	20916	34051	13162	
Lead	1500	1800	mg/kg	5	348	272	1447	**5763**	**6482**	**2085**	98	536	504	**1771**	717	
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	97	
Zinc	400000	930	mg/kg	5	892	816	63558	2162	3248	771	745	1200	581	1078	11420	

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial															
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					TP19_0.5	TP19_1.0	TP20_0.0	TP20_0.1	TP20_0.2	TP20_0.3	TP20_0.4	TP20_0.5	TP20_1.0	CFX99	CFX100
Sample date:															
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	805	1187	81	< LOD	< LOD	< LOD	285	624
Chromium	3600	320	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	37	< LOD	57	84	26	46
Copper	240000	310	mg/kg	5	< LOD	57	218	386	1452	< LOD	59	< LOD	< LOD	439	750
Iron			mg/kg	0.005	18285	25631	47541	34743	105670	16585	30670	18139	62914	33242	72968
Lead	1500	1800	mg/kg	5	202	157	4161	11226	34805	356	127	45	109	10966	13955
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	158	812	954	1627	2966	1468	873	827	444	423	534

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial															
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					CFX120	CFX121	CFX122	CFX123	CFX124	CFX125	CFX126	CFX127	CFX128	CFX129	CFX130
Sample date:															
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	824	98	183	354	113	<LOD	170	<LOD	<LOD	442	535
Chromium	3600	320	mg/kg	2	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	240000	310	mg/kg	5	563	95	122	342	67	127	107	283	208	535	390
Iron			mg/kg	0.005	51868	17791	10260	60287	24803	18216	13210	13458	45890	100185	59581
Lead	1500	1800	mg/kg	5	16563	1245	1822	8979	2007	2466	3089	3241	7589	11059	9481
Nickel	6000	380	mg/kg	2	<LOD	<LOD	<LOD	110	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Zinc	400000	930	mg/kg	5	764	834	1760	394	262	450	586	1149	307	715	574

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in orange bold font exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

DSI - Corridor Results

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		CFX64	CFX65	CFX66	CFX67	CFX68	CFX69	CFX70	CFX71	CFX72	CFX73	CFX74
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	538	< LOD	< LOD	< LOD
Chromium	3600	320	mg/kg	2	< LOD	< LOD	42	24	35	< LOD	< LOD	< LOD	40	34	37
Copper	240000	310	mg/kg	5	109	< LOD	105	< LOD	< LOD	< LOD	< LOD	227	< LOD	< LOD	< LOD
Iron			mg/kg	0.005	14548	12495	17721	6258	7064	5452	12719	40722	9763	14494	8369
Lead	1500	1800	mg/kg	5	846	227	190	136	71	119	159	14906	85	392	210
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	583	245	1136	325	90	166	176	303	160	165	< LOD

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		CFX89	CFX90	CFX91	CFX92	CFX93	CFX94	CFX95	CFX96	CFX97	CFX98	TP01_0.0
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	129	< LOD	70	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	724
Chromium	3600	320	mg/kg	2	< LOD	100	< LOD	57	57	< LOD	< LOD	< LOD	< LOD	76	< LOD
Copper	240000	310	mg/kg	5	373	689	132	140	162	< LOD	55	< LOD	181	< LOD	531
Iron			mg/kg	0.005	40173	139336	34670	41691	32640	17507	14627	42618	27703	37109	36951
Lead	1500	1800	mg/kg	5	3155	3127	1202	2016	1523	376	51	339	994	284	18618
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	3041	116599	11763	2440	1908	1460	800	912	1387	1215	607

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		TP03_0.5	TP03_1.0	TP03_1.5	TP04_0.0	TP04_0.1	TP04_0.2	TP04_0.5	TP04_1.0	TP04_1.5	TP05_0.0	TP05_0.1
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	33	< LOD	26	< LOD	147	< LOD	19	16	< LOD	1103	< LOD
Chromium	3600	320	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	42	< LOD	< LOD	< LOD
Copper	240000	310	mg/kg	5	< LOD	< LOD	< LOD	134	93	49	< LOD	< LOD	< LOD	319	234
Iron			mg/kg	0.005	29763	21609	24507	16179	25737	23284	11569	19752	28307	25819	31220
Lead	1500	1800	mg/kg	5	70	56	50	23008	747	369	44	25	27	27368	14797
Nickel	6000	380	mg/kg	2	< LOD	70	106	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	228	1017	330	375	108	67	45	69	76	585	328

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site
Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in orange bold font exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					TP08_0.2	TP08_0.3	TP08_0.5	TP08_1.0	TP08_1.5	TP08_2.0	TP09_0.0	TP09_0.1	TP09_0.2	TP09_0.5	TP09_1.0	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	< LOD	34	19	< LOD	17	27	216	83	18	< LOD	< LOD	
Chromium	3600	320	mg/kg	2	57	< LOD	82	< LOD	68	131	< LOD	< LOD	< LOD	< LOD	41	
Copper	240000	310	mg/kg	5	152	44	< LOD	< LOD	< LOD	< LOD	262	104	< LOD	< LOD	< LOD	
Iron			mg/kg	0.005	33523	53483	35960	19774	32316	37269	21888	9192	6927	16988	32632	
Lead	1500	1800	mg/kg	5	311	19	20	27	22	23	**2152**	513	54	88	31	
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	60	116	< LOD	< LOD	
Zinc	400000	930	mg/kg	5	1955	445	422	47	75	136	2251	1720	459	398	370	

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	
Sample ID:					TP12_1.0	TP12_1.0	TP12_1.5	TP12_2.0	TP13_0.0	TP13_0.1	TP13_0.2	TP13_0.3	TP13_0.4	TP13_0.5	TP13_1.0	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	< LOD	175	1180	677	300	35	< LOD	< LOD	
Chromium	3600	320	mg/kg	2	0	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	65	< LOD	< LOD	< LOD	
Copper	240000	310	mg/kg	5	269	< LOD	< LOD	< LOD	179	693	524	166	< LOD	< LOD	107	
Iron			mg/kg	0.005	38919	23867	18501	18948	30070	103612	85156	48319	26839	14391	96069	
Lead	1500	1800	mg/kg	5	853	253	37	420	**5084**	**20299**	**16797**	**3957**	219	161	783	
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	
Zinc	400000	930	mg/kg	5	2365	885	200	371	1009	5316	2111	316	231	142	528	

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	
Sample ID:					TP16_0.4	TP16_0.5	TP17_0.0	TP17_0.1	TP17_0.2	TP17_0.5	TP17_1.0	TP17_1.5	TP18_0.0	TP18_0.1	TP18_0.2	
Sample date:																
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	477	< LOD	< LOD	87	< LOD	< LOD	< LOD	< LOD	< LOD	98	26	
Chromium	3600	320	mg/kg	2	< LOD	< LOD	36	< LOD	< LOD	< LOD	< LOD	53	< LOD	< LOD	< LOD	
Copper	240000	310	mg/kg	5	893	209	297	359	51	< LOD	< LOD	< LOD	< LOD	114	166	
Iron			mg/kg	0.005	70284	15994	24491	21615	24336	20435	6056	37026	23267	23173	25679	
Lead	1500	1800	mg/kg	5	**14866**	**3062**	**4097**	966	158	60	53	92	264	1101	162	
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	75	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	75	
Zinc	400000	930	mg/kg	5	7294	813	1300	333	369	59	< LOD	93	146	401	88	

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

RAMBOLL

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					CFX101	CFX102	CFX103	CFX104	CFX105	CFX106	CFX107	CFX108	CFX109	CFX110	CFX111
Sample date:															
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	515	< LOD	< LOD	344	857	259	140	504	768
Chromium	3600	320	mg/kg	2	< LOD	63	< LOD	46	< LOD	< LOD	< LOD	144	< LOD	< LOD	<LOD
Copper	240000	310	mg/kg	5	3121	132	636	95	106	526	794	3192	217	436	493
Iron			mg/kg	0.005	320603	36517	17279	29752	39236	39909	127778	202885	16644	67234	87654
Lead	1500	1800	mg/kg	5	**11169**	583	**6052**	404	62	**4816**	**16749**	**7276**	**1531**	**8705**	**13060**
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	<LOD
Zinc	400000	930	mg/kg	5	42271	1952	382	780	150	609	1156	30700	1601	779	910

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial														
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					CFX131	CFX132	CFX133	CFX134	CFX135	CFX136	CFX137	CFX138	CFX139	CFX140	CFX141
Sample date:															
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%												
Heavy Metals															
Arsenic	3000	160	mg/kg	5	317	627	368	361	430	27	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	3600	320	mg/kg	2	<LOD	<LOD	<LOD	<LOD	<LOD	63	<LOD	<LOD	42	61	30
Copper	240000	310	mg/kg	5	424	496	311	452	344	<LOD	267	83	<LOD	320	<LOD
Iron			mg/kg	0.005	60731	49285	37877	46312	37921	7503	86973	11000	21200	28500	23448
Lead	1500	1800	mg/kg	5	**4687**	**8278**	**4532**	**8045**	**8902**	41	**7650**	339	48	1393	116
Nickel	6000	380	mg/kg	2	<LOD	97	165	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Zinc	400000	930	mg/kg	5	231	648	507	674	361	<LOD	525	880	161	5814	494

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

DSI - Corridor Results

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		CFX75	CFX76	CFX76	CFX77	CFX78	CFX79	CFX80	CFX80
			Sample date:									
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	144	< LOD	1914	126	< LOD
Chromium	3600	320	mg/kg	2	46	20	0	< LOD	42	< LOD	38	44
Copper	240000	310	mg/kg	5	< LOD	< LOD	< LOD	96	< LOD	1052	< LOD	< LOD
Iron			mg/kg	0.005	16237	8421	< LOD	8773	36029	52020	26971	23636
Lead	1500	1800	mg/kg	5	188	470	< LOD	1188	231	**27480**	855	542
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	285	445	< LOD	771	481	12900	337	255

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		TP01_0.1	TP01_0.2	TP01_0.3	TP01_0.4	TP01_0.5	TP01_1.0	TP01_1.5	TP01_2.0
			Sample date:									
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	60	49	< LOD	39	49	24	< LOD	< LOD
Chromium	3600	320	mg/kg	2	55	64	80	< LOD	62	72	66	< LOD
Copper	240000	310	mg/kg	5	< LOD	< LOD	< LOD	67	< LOD	< LOD	47	< LOD
Iron			mg/kg	0.005	28705	32366	36822	67830	92469	47604	20720	17905
Lead	1500	1800	mg/kg	5	430	461	241	26	< LOD	32	40	37
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	116	168	253	879	737	1094	614	612

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		TP05_0.2	TP05_0.5	TP05_1.0	TP05_1.5	TP05_2.0	TP06_0.0	TP06_0.2	TP06_0.5
			Sample date:									
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	144	58	90	45	43	1436	77	< LOD
Chromium	3600	320	mg/kg	2	< LOD	< LOD	123	< LOD	< LOD	< LOD	< LOD	60
Copper	240000	310	mg/kg	5	< LOD	< LOD	< LOD	94	< LOD	1777	71	< LOD
Iron			mg/kg	0.005	33025	24436	58159	30824	32354	102854	46689	24737
Lead	1500	1800	mg/kg	5	820	239	231	264	165	**43904**	334	94
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	230	245	240	164	135	1693	200	< LOD

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site
Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in orange bold font exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					TP09_1.5	TP10_0.0	TP10_0.2	TP10_0.1	TP10_0.3	TP10_0.5	TP10_1.0	TP10_1.5
Sample date:												
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	42	754	1517	424	182	15	< LOD	26
Chromium	3600	320	mg/kg	2	94	< LOD	< LOD	< LOD	< LOD	< LOD	55	82
Copper	240000	310	mg/kg	5	95	730	1685	442	196	60	< LOD	< LOD
Iron			mg/kg	0.005	28903	59379	210978	52543	38031	5252	11537	44667
Lead	1500	1800	mg/kg	5	210	**12699**	**19104**	**4241**	1106	80	< LOD	24
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	78
Zinc	400000	930	mg/kg	5	269	1374	2867	664	199	137	251	677

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					TP13_1.5	TP14_0.0	TP14_0.1	TP14_0.2	TP14_0.3	TP14_0.4	TP14_0.5	TP14_1.0
Sample date:												
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	17	< LOD	< LOD	165	**3089**	< LOD	24	< LOD
Chromium	3600	320	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	76	56
Copper	240000	310	mg/kg	5	62	53	64	1024	1907	< LOD	< LOD	< LOD
Iron			mg/kg	0.005	80740	13160	22190	31511	93192	20311	29474	21409
Lead	1500	1800	mg/kg	5	23	630	1011	**2983**	**58276**	47	64	58
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	930	mg/kg	5	398	985	432	10964	2963	928	960	935

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					TP18_0.3	TP18_0.5	TP18_1.0	TP19_0.0	TP19_0.1	TP19_0.2	TP19_0.3	TP19_0.4
Sample date:												
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	24	< LOD	1089	**5164**	208	36
Chromium	3600	320	mg/kg	2	< LOD	< LOD	< LOD	59	< LOD	< LOD	< LOD	46
Copper	240000	310	mg/kg	5	122	< LOD	< LOD	385	922	1109	77	< LOD
Iron			mg/kg	0.005	31932	28968	52480	35831	95658	60307	20346	24442
Lead	1500	1800	mg/kg	5	188	86	87	**3547**	**12001**	**105258**	**2241**	268
Nickel	6000	380	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	106	< LOD
Zinc	400000	930	mg/kg	5	61	611	247	5873	5655	5169	276	228

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H5:
Captains Flat DSI Corridor Summary - Heavy Metals
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					CFX112	CFX113	CFX114	CFX115	CFX116	CFX117	CFX118	CFX119
Sample date:												
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**								
Moisure Content												
Moisure Content			%									
Heavy Metals												
Arsenic	3000	160	mg/kg	5	767	402	744	1675	321	383	568	629
Chromium	3600	320	mg/kg	2	<LOD	80	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	240000	310	mg/kg	5	680	502	446	505	470	300	405	415
Iron			mg/kg	0.005	117976	64815	48042	54484	30094	36164	63757	57609
Lead	1500	1800	mg/kg	5	**16786**	**11416**	**11646**	**23479**	**5833**	**8441**	**10401**	**9383**
Nickel	6000	380	mg/kg	2	<LOD	115	<LOD	<LOD	<LOD	<LOD	<LOD	125
Zinc	400000	930	mg/kg	5	1146	508	402	803	1500	494	583	430

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial			
Sample Type:					**Soil**
Sample ID:					CFX142
Sample date:					
Project Name:					Captains Flat
Sampling Method:					XRF
Analyte grouping/Analyte			**Units**	**LOR**	
Moisure Content					
Moisure Content			%		
Heavy Metals					
Arsenic	3000	160	mg/kg	5	<LOD
Chromium	3600	320	mg/kg	2	50
Copper	240000	310	mg/kg	5	54
Iron			mg/kg	0.005	29455
Lead	1500	1800	mg/kg	5	395
Nickel	6000	380	mg/kg	2	<LOD
Zinc	400000	930	mg/kg	5	1818

LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site
Health Investigation Levels for chromium based on chromium (VI)
Nickel EIL, based on CEC of 5cmol/kg
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H4:
Captains Flat DSI Corridor Results Summary - TRH, BTEXN, PAH
Ramboll 2021B

	NEPM 2013 Soil Vapour Intrusion HSL D CLAY 0-1m	NEPM 2013 Soil Vapour Intrusion HSL D CLAY 1-2m	NEPM 2013 Soil Vapour Intrusion HSL D CLAY 2-4m	NEPM 2013 HIL D Commercial / Industrial	ESL Commercial / Industrial (fine soil)	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
							Sample ID:		TP04_0.0	TP06_0.0	TP08_0.0	TP09_0.0	TP12_0.0	TP02_0.0	TP14_0.0	TP16_0.0	TP17_1.0	TP19_0.5	TP20_1.0
							Sample date:												
							Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
							Sampling Method:		Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar
Analyte grouping/Analyte							**Units**	**LOR**											
Moisure Content																			
Moisure Content							%		16	15	20	16	8.1	18	13	14	11	11	10
Polycyclic Aromatic Hydrocarbons																			
Acenaphthene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Acenaphthylene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Anthracene							mg/kg	0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene							mg/kg	0.5	< 0.5	< 0.5	1.9	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene					0.7		mg/kg	0.5	< 0.5	< 0.5	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (lower bound) *							mg/kg	0.5	< 0.5	< 0.5	1.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *							mg/kg	0.5	0.6	0.6	2	0.6	0.7	0.6	0.6	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *				40			mg/kg	0.5	1.2	1.2	2.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-
Benzo(bkj)fluoranthene							mg/kg	0.5	< 0.5	< 0.5	1.8	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene							mg/kg	0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Chrysene							mg/kg	0.5	0.7	0.7	2.3	0.6	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Fluoranthene							mg/kg	0.5	0.7	0.6	3.7	0.7	1.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Fluorene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Naphthalene						370	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Phenanthrene							mg/kg	0.5	2.1	2	4.4	1.4	3.1	0.7	< 0.5	< 0.5	< 0.5	< 0.5	-
Pyrene							mg/kg	0.5	0.6	0.5	3.7	0.7	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Total PAH*				4000			mg/kg	0.5	4.1	3.8	20.8	3.4	7.5	0.7	< 0.5	< 0.5	< 0.5	< 0.5	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions																			
TRH C10-C14							mg/kg	200	74	53	< 200	33	160	< 20	< 20	< 20	< 20	< 20	-
TRH C10-C36 (Total)							mg/kg	50	704	783	990	471	1400	180	< 50	82	< 50	< 50	-
TRH C15-C28							mg/kg	50	500	600	990	380	1000	180	< 50	82	< 50	< 50	-
TRH C29-C36							mg/kg	50	130	130	< 500	58	240	< 50	< 50	< 50	< 50	< 50	-
TRH C6-C9							mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions																			
Naphthalene							mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
TRH >C10-C16							mg/kg	50	120	76	< 500	< 50	280	< 50	< 50	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)					170		mg/kg	50	120	76	< 500	< 50	280	< 50	< 50	< 50	< 50	< 50	-
TRH >C10-C40 (total)*							mg/kg	100	780	896	1300	510	1710	250	< 100	140	< 100	< 100	-
TRH >C16-C34					2500		mg/kg	100	660	820	1300	510	1300	250	< 100	140	< 100	< 100	-
TRH >C34-C40					6600		mg/kg	100	< 100	< 100	< 1000	< 100	130	< 100	< 100	< 100	< 100	< 100	-
TRH C6-C10							mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)	310	480			215		mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
BTEX																			
Benzene	4	6	9		95		mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Ethylbenzene					185		mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes							mg/kg	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
o-Xylene							mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H7:
Captains Flat DSI Corridor Results Summary - OCC/OPP, PCB, Phenols
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		TP04_0.0	TP06_0.0	TP08_0.0	TP09_0.0	TP12_0.0	TP02_0.0	TP14_0.0	TP16_0.0	TP17_1.0	TP19_0.5	TP20_1.0
			Sample date:												
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar
Analyte grouping/Analyte			**Units**	**LOR**											
Moisure Content															
Moisure Content			%		16	15	20	16	8.1	18	13	14	11	11	10
Organochlorine Pesticides															
4.4'-DDD			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
4.4'-DDE			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
4.4'-DDT		640	mg/kg	0.1	< 0.1	< 0.1	2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
a-BHC			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Aldrin			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Aldrin and Dieldrin (Total)*	45		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
b-BHC			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Chlordanes - Total	530		mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
d-BHC			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	3600		mg/kg	0.1	< 0.1	< 0.1	2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Dieldrin			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endosulfan I	2000		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endosulfan II	2000		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	2000		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endrin	100		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endrin ketone			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
g-BHC (Lindane)			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Heptachlor	50		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide			mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	80		mg/kg	0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Methoxychlor	2500		mg/kg	0.2	< 0.2	< 0.2	< 0.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Toxaphene	160		mg/kg	0.1	< 0.1	< 0.1	< 10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Vic EPA IWRG 621 OCP (Total)*			mg/kg	0.2	< 0.2	< 0.2	2.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*			mg/kg	0.2	< 0.2	< 0.2	< 0.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Organophosphorus Pesticides															
Azinphos-methyl			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Bolstar			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Chlorfenvinphos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos	2000		mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos-methyl			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Coumaphos			mg/kg	2	< 2	< 2	< 20	< 2	< 2	< 2	< 2	< 2	< 2	< 2	-
Demeton-O			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Demeton-S			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Diazinon			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Dichlorvos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Dimethoate			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Disulfoton			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
EPN			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ethion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ethoprop			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ethyl parathion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fenitrothion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fensulfothion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fenthion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Malathion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Merphos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Methyl parathion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Mevinphos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Monocrotophos			mg/kg	2	< 2	< 2	< 20	< 2	< 2	< 2	< 2	< 2	< 2	< 2	-
Naled			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Omethoate			mg/kg	2	< 2	< 2	< 20	< 2	< 2	< 2	< 2	< 2	< 2	< 2	-
Phorate			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Pirimiphos-methyl			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Pyrazophos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ronnel			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Terbufos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Tetrachlorvinphos			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Tokuthion			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Trichloronate			mg/kg	0.2	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Phenols (Halogenated)															
2.4.5-Trichlorophenol			mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
2.4.6-Trichlorophenol			mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
2.4-Dichlorophenol			mg/kg	0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
2.6-Dichlorophenol			mg/kg	0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
2-Chlorophenol			mg/kg	0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
4-Chloro-3-methylphenol			mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
Pentachlorophenol	660		mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
Tetrachlorophenols - Total			mg/kg	10	< 10	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-
Total Halogenated Phenol*			mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
Phenols (non-Halogenated)															
2.4-Dimethylphenol			mg/kg	0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
2.4-Dinitrophenol			mg/kg	5	< 5	< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	-
2-Cyclohexyl-4.6-dinitrophenol			mg/kg	20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
2-Methyl-4.6-dinitrophenol			mg/kg	5	< 5	< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	-
2-Methylphenol (o-Cresol)			mg/kg	0.2	< 0.2	< 0.2	< 5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
2-Nitrophenol			mg/kg	1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-
3&4-Methylphenol (m&p-Cresol)			mg/kg	0.4	< 0.4	< 0.4	< 10	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-
4-Nitrophenol			mg/kg	5	< 5	< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	-
Dinoseb			mg/kg	20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Phenol	240000		mg/kg	0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Total Non-Halogenated Phenol*			mg/kg	20	< 20	< 20	< 100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Polychlorinated Biphenyls															
Aroclor-1016			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Aroclor-1221			mg/kg	0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Aroclor-1232			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Aroclor-1242			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Aroclor-1248			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Aroclor-1254			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Aroclor-1260			mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
Total PCB*	7		mg/kg	0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-

Blank Cell indicates no criterion available
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Site specific EILs calculated based on soil pH from onsite soils

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H8:
Captains Flat DSI Corridor Results Summary - PFAS
Ramboll 2021B

	2020 PFAS National Environmental Management Plan 2.0 Human Health Values	2020 PFAS National Environmental Management Plan 2.0 Ecological Indirect Exposure	2020 PFAS National Environmental Management Plan 2.0 Ecological Direct Exposure	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				Sample ID:		TP04_0.0	TP06_0.0	TP08_0.0	TP09_0.0	TP12_0.0	TP02_0.0	TP14_0.0	TP16_0.0	TP17_1.0	TP19_0.5	TP20_1.0
				Sample date:												
				Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				Sampling Method:		Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar	Soil Jar
Analyte grouping/Analyte				**Units**	**LOR**											
Moisure Content																
Moisure Content				%		16	15	20	16	8.1	18	13	14	11	11	10
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)																
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)				ug/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	-	-	< 10	-	< 10
Perfluoroalkyl carboxylic acids (PFCAs)																
Perfluorobutanoic acid (PFBA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorodecanoic acid (PFDA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorododecanoic acid (PFDoDA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoroheptanoic acid (PFHpA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorohexanoic acid (PFHxA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorononanoic acid (PFNA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorooctanoic acid (PFOA)	50000		10000	ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoropentanoic acid (PFPeA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorotetradecanoic acid (PFTeDA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorotridecanoic acid (PFTrDA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoroundecanoic acid (PFUnDA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoroalkyl sulfonamido substances																
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)				ug/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	-	-	< 10	-	< 10
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)				ug/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	-	-	< 10	-	< 10
Perfluorooctane sulfonamide (FOSA)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoroalkyl sulfonic acids (PFSAs)																
Perfluorobutanesulfonic acid (PFBS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorodecanesulfonic acid (PFDS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoroheptanesulfonic acid (PFHpS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorohexanesulfonic acid (PFHxS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorononanesulfonic acid (PFNS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluorooctanesulfonic acid (PFOS)		140	1000	ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoropentanesulfonic acid (PFPeS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Perfluoropropanesulfonic acid (PFPrS)				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
PFASs Summations																
Sum (PFHxS + PFOS)*	20000			ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Sum of PFASs (n=30)*				ug/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	-	-	< 50	-	< 50
Sum of US EPA PFAS (PFOS + PFOA)*				ug/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	-	-	< 5	-	< 5
Sum of WA DWER PFAS (n=10)*				ug/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	-	-	< 10	-	< 10

Blank Cell indicates no criterion available

PFAS National Environmental Management Plan 2.0 (2020) (PFAS NEMP 2.0)

Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H9:
Captains Flat DSI Corridor Results Summary - Asbestos
Ramboll 2021B

	Health Screening Level - Commercial/Industrial	Sample Type:		Building Material	Building Material	Building Material	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		Sample ID:		TP08_0.0 FRAGMENT	TP09_0.0 FRAGMENT	TP12_0.0 FRAGMENT	TP04_0.0	TP06_0.0	TP08_0.0	TP09_0.0	TP12_0.0	TP02_0.0	TP17_0.0	TP14_0.6	TP16_0.7	TP19_0.8
		Sample date:		15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	15/02/2021	16/02/2021	16/02/2021	16/02/2021	16/02/2021
		Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
		Sampling Method:		Grab Sample	Grab Sample	Grab Sample	7 mm screened	8 mm screened	9 mm screened	9 mm screened	10 mm screened	11 mm screened	12 mm screened	13 mm screened	14 mm screened	15 mm screened
Analyte grouping/Analyte		**Units**	**LOR**													
Asbestos																
Weight of soil		g	-	16500	16500	16500	-	-	-	-	-	-	-	-	-	-
Weight of ACM		g	-	80	10	353	-	-	-	-	-	-	-	-	-	-
Percentage asbestos in ACM		%	-	15	15	15	-	-	-	-	-	-	-	-	-	-
Weight of asbestos		g	-	12	1.5	52.95	-	-	-	-	-	-	-	-	-	-
Calculated Bonded ACM in soil concentration	0.05	%	-	0.07%	0.01%	0.32%	-	-	-	-	-	-	-	-	-	-
Asbestos fines and Friable Asbestos in soil (AF + FA)	0.001		0.001	-	-	-	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H10:
Captains Flat DSI Corridor Results Summary - fpXRFs
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		x-ses01	x-ses02	x-ses03	x-ses04	x-ses05	x-ses06	x-ses07	x-ses08	x-ses09	x-ses10	x-ses11	x-ses12
			Sample date:													
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	< LOD	< LOD	< LOD	< LOD	518	< LOD	< LOD	59	167	< LOD	< LOD	< LOD
Chromium	3600	*320*	mg/kg	2	29	< LOD	42	50	< LOD	27	43	< LOD	< LOD	47	< LOD	< LOD
Copper	240000	*310*	mg/kg	5	< LOD	< LOD	< LOD	< LOD	1186	< LOD	1111	204	441	< LOD	1352	413
Iron			mg/kg	0.005	10937	19436	22274	14729	202227	24566	55803	27983	51995	34657	22163	39694
Lead	1500	1800	mg/kg	5	35	< LOD	69	49	**6076**	350	**3520**	1047	**4501**	78	**1598**	**2713**
Nickel	6000	*380*	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	49	105	291	111	5005	1315	13020	1425	2451	121	7220	754

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			Sample ID:		HA-ses02_0.1	HA-ses02_0.2	HA-ses03_0.0	HA-ses03_0.1	HA-ses03_0.2	HA-ses03_0.3	HA-ses04_0.0	HA-ses04_0.1	HA-ses04_0.2	HA-ses04_0.3	HA-SES04_0.4	HA-SES05_0.0
			Sample date:													
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	33	< LOD	< LOD	24	116	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Chromium	3600	*320*	mg/kg	2	65	< LOD	< LOD	42	< LOD	62	33	49	52	46	< LOD	< LOD
Copper	240000	*310*	mg/kg	5	< LOD	< LOD	< LOD	< LOD	261	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	147
Iron			mg/kg	0.005	18444	27821	20822	10861	43453	33319	17469	24109	25193	33003	45552	19011
Lead	1500	1800	mg/kg	5	67	45	29	< LOD	**1660**	174	< LOD	< LOD	55	< LOD	158	760
Nickel	6000	*380*	mg/kg	2	< LOD	89	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	196	153	81	< LOD	1281	325	65	< LOD	394	63	54	3240

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial	Sample Type:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
			Sample ID:		HA-SES07-0.1	HA-SES07-0.2	HA-SES07-0.3	HA-SES07-0.4	HA-SES08_0.0	HA-SES08_0.1	HA-SES08_0.2	HA-SES08_0.3	HA-SES08_0.5	HA-SES09_0.0	HA-SES09_0.1	HA-SES09_0.2
			Sample date:													
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**												
Moisure Content																
Moisure Content			%													
Heavy Metals																
Arsenic	3000	160	mg/kg	5	< LOD	32	< LOD	< LOD	84	481	836	75	67	341	60	172
Chromium	3600	*320*	mg/kg	2	32	< LOD	< LOD	18	< LOD	< LOD	< LOD	60	54	< LOD	< LOD	< LOD
Copper	240000	*310*	mg/kg	5	< LOD	55	< LOD	< LOD	372	371	253	79	< LOD	888	271	428
Iron			mg/kg	0.005	19148	34537	14727	6274	32187	91728	63838	21064	20450	152197	25147	37973
Lead	1500	1800	mg/kg	5	< LOD	63	30	104	**2386**	**7426**	**13257**	**1539**	302	**4949**	1182	**2569**
Nickel	6000	*380*	mg/kg	2	< LOD	< LOD	< LOD	95	< LOD	< LOD	< LOD	97	101	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	96	865	53	< LOD	3845	3754	1386	1359	655	3878	1115	2394

Blank Cell indicates no criterion available
LOD = Limit of Detection

National Environment Protection Council
(2013) National Environmental Protection
(Assessment of Site Contamination)
Amendment Measure 2013 (No. 1) (NEPM).

Health Investigation Levels for chromium based on chromium (VI)
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
*higher field duplicate value adopted
**hgher laboratory duplicate value adopted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H10:
Captains Flat DSI Corridor Results Summary - fpXRFs
Ramboll 2021B

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					x-ses13	x-ses14	x-ses15	HA-ses01_0.0	HA-ses01_0.1	HA-ses01_0.2	HA-ses01_0.3	HA-ses01_0.4	HA-ses02_0.0
Sample date:													
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**									
Moisure Content													
Moisure Content			%										
Heavy Metals													
Arsenic	3000	160	mg/kg	5	229	< LOD	93	< LOD	< LOD	75	155	< LOD	< LOD
Chromium	3600	*320*	mg/kg	2	86	35	< LOD	< LOD	42	< LOD	< LOD	85	49
Copper	240000	*310*	mg/kg	5	804	< LOD	145	79	122	364	567	< LOD	< LOD
Iron			mg/kg	0.005	78740	13973	26673	22528	10394	34497	29857	34208	22706
Lead	1500	1800	mg/kg	5	**3885**	57	**1646**	298	46	1400	**1697**	51	88
Nickel	6000	*380*	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	5996	150	1239	693	149	3109	6545	394	172

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial											
Sample Type:					**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample ID:					HA-SES05_0.1	HA-SES05_0.2	HA-SES05_0.25	HA-SES05_0.4	HA-SES06_0.0	HA-SES06_0.1	HA-SES06_0.2	HA-SES06_0.2	HA-SES07-0.0
Sample date:													
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**									
Moisure Content													
Moisure Content			%										
Heavy Metals													
Arsenic	3000	160	mg/kg	5	< LOD	99	102	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Chromium	3600	*320*	mg/kg	2	< LOD	< LOD	< LOD	< LOD	< LOD	39	< LOD	0	< LOD
Copper	240000	*310*	mg/kg	5	104	379	565	173	84	296	199	< LOD	135
Iron			mg/kg	0.005	6370	25399	20405	3846	7044	25861	41707	< LOD	22362
Lead	1500	1800	mg/kg	5	551	**1859**	**3622**	58	663	**4631**	880	< LOD	1001
Nickel	6000	*380*	mg/kg	2	< LOD	< LOD	129	< LOD	< LOD	< LOD	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	2824	11351	5070	1027	1810	1645	2136	< LOD	2238

	NEPM 2013 HIL D Commercial / Industrial	Site Specific EIL Commercial / Industrial						
Sample Type:								
Sample ID:					HA-SES09_0.5	HA-SES10_0.0	HA-SES10_0.1	HA-SES10_0.2
Sample date:								
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat
Sampling Method:					XRF	XRF	XRF	XRF
Analyte grouping/Analyte			**Units**	**LOR**				
Moisure Content								
Moisure Content			%					
Heavy Metals								
Arsenic	3000	160	mg/kg	5	< LOD	89	73	< LOD
Chromium	3600	*320*	mg/kg	2	< LOD	< LOD	< LOD	< LOD
Copper	240000	*310*	mg/kg	5	89	262	69	< LOD
Iron			mg/kg	0.005	24905	48310	31700	30392
Lead	1500	1800	mg/kg	5	163	**2156**	552	195
Nickel	6000	*380*	mg/kg	2	< LOD	< LOD	< LOD	< LOD
Zinc	400000	*930*	mg/kg	5	2428	4556	777	503

Blank Cell indicates no criterion available
LOD = Limit of Detection

National Environment Protection Council
(2013) National Environmental Protection
(Assessment of Site Contamination)
Amendment Measure 2013 (No. 1) (NEPM).

Health Investigation Levels for chromium based on chromium (VI)
Concentrations in orange box exceed adopted EIL for commercial/industrial use
Concentrations in **orange bold font** exceed adopted HIL D for commercial/industrial use
*higher field duplicate value adopted
**hgher laboratory duplicate value adopted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H11:
Captains Flat DSI Corridor Results Summary - Discrete Properties Dust Results
Ramboll 2021B

	Dust Interior – Floors (Residential)[A]	Dust Interior – Window Sills and Shelves (Residential)[A]	Dust Interior – Floors (commercial)[B]	Dust Interior – Window Sills and Shelves (Commercial)[B]	NEPM 2013 HIL A Residential	NEPM 2013 HIL D Open Space																
Sample Type:									Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust	Dust
Site:									SES	SES	SES	SES	SES	SES	SES	SES	SES	SES	SES	SES	SES	SES
Lab Sample number:									S21-Fe25571	S21-Fe25572	S21-Fe25573	S21-Fe25574	S21-Fe25575	S21-Fe25576	S21-Fe25577	S21-Fe25578	S21-Fe25579	S21-Fe25580	S21-Fe25581	S21-Fe25582	S21-Fe25583	S21-Fe25584	S21-Fe25588	S21-Fe25589
Sample date:									9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021
Sample ID:									SWAB-F-SES01	SWAB-F-SES02	SWAB-F-SES03	SWAB-F-SES04	SWAB-F-SES05	SWAB-WS-SES01	SWAB-WS-SES02	SWAB-BS-SES01	SWAB-BS-SES02	V-F-SES01	V-F-SES02	V-F-SES03	QA01-SWAB	QA02-SWAB	SWAB-RB01	SWAB-R01
Project Name:									Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI
Sampling Method:									Swab	Swab	Swab	Swab	Swab	Swab	Swab	Swab	Swab	Vacuum	Vacuum	Vacuum	Swab	Swab	Swab	Swab
Analyte grouping/Analyte							**Units**	**LOR**																
LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS																								
Lead					300	1500	mg/kg	5										150	610	570				
Total Lead							Total µg	1	46	4.6	3.1	6.3	4.6	14	7.1	780	9.8				26	15	<1	<1
Lead Loading																								
Sample Area							m²	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.078	0.09	0.09	2	2	2				
Sample Mass							g											0.748	2.734	5.097				
Lead Loading	108	1076	1000	5000			µg/m²	NA	511	51	34	70	51	156	91	**8667**	109	56	834	**1453**				

LOR = Limit of Reporting
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
Concentration in **red** font and grey box exceed the adopted residential dust criteria
Concentration in **orange** font and grey box exceed the adopted commercial dust criteria
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline exceeded will be highlighted
[A]USEPA (2020) Protect your family from lead in your home. US Environmental Protection Agency – January 2020.
[B]AS 4361.2-1998 Guide to lead paint management - Residential and commercial buildings.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H12:
Captains Flat DSI Corridor Results Summary - SES Area Paint Results
Ramboll 2021B

	NSW EPA Lead in Paint guideline[A]	Sample Type:	Paint	Paint	Paint
		Site:	SES	SES	SES
		Lab Sample number:	S21-Fe25585	S21-Fe25586	S21-Fe25587
		Sample date:	9/02/2021	9/02/2021	9/02/2021
		Sample ID:	P1-SES01	P1-SES02	P1-SES03
		Project Name:	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI
		Sampling Method:	Grab	Grab	Grab
Analyte grouping/Analyte		**Units** **LOR**			
E022.5 - ACID EXTRACTABLE METALS IN PAINT by ICP-MS					
Lead	0.1	% 0.01	0.01	0.09	**3.5**

LOR = Limit of Reporting

Concentration in **red** font and grey box exceed the adopted maximum allowable lead amount in house paint

[A]NSW EPA Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices. A Guide for Councils 2003.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H13:
Captains Flat DSI Corridor Results Summary - Surface Water
Ramboll 2021B

	Health-based Screening Criteria (Recreational Waters)	**Ecological Sceening Criteria (ANZG 95% Protection) Fresh Water**	**Sample Type:**		**Surface Water**	**Surface Water**	**Surface Water**	**Surface Water**	**Surface Water**	**Surface Water**
			Lab ID		S21-Fe25618	S21-Fe25619	S21-Fe25620	S21-Fe25621	S21-Fe25622	S21-Fe25623
			Sample date:		10/Feb/21	10/Feb/21	10/Feb/21	10/Feb/21	10/Feb/21	10/Feb/21
			Sample ID:		SW01	SW02	SW03	SW04	SW05	SW06
			Project Name:		Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI	Captains Flat DSI
			Project No:		318001025	318001025	318001025	318001025	318001025	318000780
			Sample Location		Copper Creek	Copper Creek	Copper Creek	Copper Creek	Copper Creek	Copper Creek
			Sampling Method:		Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample
Guidelines			**Sample Description:**		Clear-light orange.	Clear	Clear	Clear	Clear	Clear
Analyte grouping/Analyte			**Units**	**LOR**						
Dissolved and Total Metals										
Arsenic	0.07		mg/L	0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	0.001
Arsenic (filtered)		0.024	mg/L	0.001	0.001	0.001	0.002	0.002	0.002	0.002
Cadmium	0.02		mg/L	0.0002	**0.032**	**0.024**	0.0014	0.0057	0.012	0.0093
Cadmium (filtered)		0.0002	mg/L	0.0002	0.028	0.023	0.0014	0.0051	0.011	0.0092
Chromium	0.5		mg/L	0.001	< 0.001	< 0.001	0.002	0.001	0.001	0.001
Chromium (filtered)		0.001	mg/L	0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	< 0.001
Copper	20		mg/L	0.001	0.2	0.15	0.045	0.04	0.049	0.042
Copper (filtered)		0.0014	mg/L	0.001	0.16	0.13	0.039	0.036	0.039	0.036
Iron	3		mg/L	0.05						
Lead	0.1		mg/L	0.001	**0.35**	**0.41**	0.075	**0.22**	**0.25**	**0.17**
Lead (filtered)		0.0034	mg/L	0.001	0.26	0.34	0.052	0.16	0.13	0.12
Mercury	0.01		mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Mercury (filtered)		0.0006	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.2		mg/L	0.001	0.013	0.017	0.005	0.01	0.015	0.014
Nickel (filtered)		0.011	mg/L	0.001	0.01	0.015	0.004	0.009	0.013	0.013
Zinc	30		mg/L	0.005	18	27	0.73	2.5	3.8	3.3
Zinc (filtered)		0.008	mg/L	0.005	15	23	0.66	2.3	3.5	3.3

- indicates no criterion available
All results are in mg/L
LOR = Limit of Reporting
Concentrations below the LOR noted as <value
NOC = No observed contamination
Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018)
Australia and New Zealand Environment and Conservation Council (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
NHMRC (2008 updated 2018) Guidelines for Manageing Risks in Recreational Water. National Health and Medical Research Council.
ANZECC, NEPM and NHMRC guidelines for mercury are based on total mercury.
Concentration in **red bold** font exceed the Health-based Recreational Use Criteria
Concentration in yellow box exceed the Ecological Criteria
(1) Generally 95% protective level for fresh water ecosystems.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table H14:
Captains Flat DSI Corridor Results Summary - Sediment
Ramboll 2021B

	ANZG (2018) DGV	ANZG (2018) GV-high	Sample Type:		Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
			Sample ID:		SED01	SED02	SED03	SED04	SED05	SED06	DRAIN01
			Sample date:		10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021	10/02/2021
			Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
			Sampling Method:		Grab	Grab	Grab	Grab	Grab	Grab	Grab
Analyte grouping/Analyte			**Units**	**LOR**							
Moisure Content											
Moisure Content			%		26	40	9.4	25	9.2	18	3.6
Heavy Metals											
Arsenic	20	70	mg/kg	5	65	44	16	21	18	24	25
Cadmium	1.5	10	mg/kg	0.4	0.8	0.5	0.8	0.5	0.9	2.2	1.9
Chromium	80	*370*	mg/kg	2	9	15	23	21	19	21	22
Copper	65	*270*	mg/kg	5	210	210	100	55	68	80	150
Lead	50	220	mg/kg	5	**1100**	**1100**	**590**	**670**	**780**	**1000**	**1500**
Mercury	0.15	1	mg/kg	0.1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Nickel	21	*52*	mg/kg	2	< 5	< 5	12	8	9	10	7
Zinc	200	*410*	mg/kg	5	**800**	**600**	**3800**	**490**	**470**	**910**	**920**

Blank Cell indicates no criterion available
Australia and New Zealand Guidelines for Fresh and Marine Water Quality (2018)

Concentrations in orange box exceed adopted default guideline value (ANZG, 2018)

Concentrations in **orange bold font** exceed adopted Guideline Value - High (ANZG, 2018)

Table H15:
Human Health Detailed Site Investigation
Captains Flat Oval - Soil
EnviroSciences 2021

Sample	Depth	Date Sampled	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S1-Grid 1	0-100mm	12/2/2021	<4	<0.4	3	21	130	<0.1	2	89
S2-Grid 1	400-500mm	12/2/2021	<4	<0.4	3	7	31	<0.1	2	31
S3-Grid 2	0-100mm	12/2/2021	56	1	8	180	2600	0.9	8	270
S4-Grid 2	400-500mm	12/2/2021	31	0.7	3	110	1500	0.3	4	130
S5-Grid 3	0-100mm	12/2/2021	11	0.7	4	36	330	<0.1	4	150
S6-Grid 3	400-500mm	12/2/2021	6	0.4	3	22	150	<0.1	3	94
S7-Grid 4	0-100mm	12/2/2021	6	0.6	2	37	260	<0.1	2	94
S8-Grid 4	400-500mm	12/2/2021	<4	0.4	3	22	130	<0.1	2	75
S9-Grid 5	0-100mm	12/2/2021	<4	<0.4	2	17	110	<0.1	1	72
S10-Grid 5	400-500mm	12/2/2021	4	<0.4	4	15	79	<0.1	2	64
S11-Grid 6	0-100mm	12/2/2021	23	1	6	120	670	0.2	6	800
S12-Grid 6	400-500mm	12/2/2021	14	0.8	4	88	400	0.1	4	300
S13-Grid 7	0-100mm	12/2/2021	10	0.8	4	47	270	0.1	3	210
S14-Grid 7	400-500mm	12/2/2021	<4	0.4	3	23	110	<0.1	2	120
S15-Grid 8	0-100mm	12/2/2021	17	1	4	140	400	0.2	4	330
S16-Grid 8	400-500mm	12/2/2021	<4	0.8	5	65	81	<0.1	5	150
S17-Grid 9	0-100mm	12/2/2021	5	0.7	4	37	150	<0.1	4	220
S18-Grid 9	400-500mm	12/2/2021	<4	<0.4	3	16	49	<0.1	2	130
S19-Grid 10	0-100mm	12/2/2021	6	0.5	4	30	160	<0.1	5	140
S20-Grid 10	400-500mm	12/2/2021	<4	<0.4	4	16	80	<0.1	4	77
S21-Grid 11	0-100mm	12/2/2021	5	<0.4	4	21	97	<0.1	4	110
S22-Grid 11	400-500mm	12/2/2021	<4	<0.4	4	12	52	<0.1	3	65
S23-Grid 12	0-100mm	12/2/2021	11	0.8	5	56	310	0.1	4	190
S24-Grid 12	400-500mm	12/2/2021	<4	<0.4	2	19	96	<0.1	2	68
S25-Grid 13	0-100mm	12/2/2021	15	1	11	100	390	0.2	8	380
Residential A Health Investigation Levels (mg/kg)			300	90	300	17000	600	80	1200	30 000

Table H15:
Human Health Detailed Site Investigation
Captains Flat Oval - Soil
EnviroSciences 2021

Sample	Depth	Date Sampled	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S26-Grid 13	400-500mm	12/2/2021	4	0.7	4	32	130	<0.1	4	160
S27-Grid 14	0-100mm	12/2/2021	11	0.5	4	44	240	0.2	4	210
S28-Grid 14	400-500mm	12/2/2021	15	0.6	4	74	370	0.2	4	520
S29-Grid 15	0-100mm	12/2/2021	<4	0.7	5	30	94	<0.1	4	220
S30-Grid 15	400-500mm	12/2/2021	<4	<0.4	3	6	16	<0.1	2	110
S31-Grid 16	0-100mm	12/2/2021	<4	<0.4	3	17	99	<0.1	2	67
S32-Grid 16	400-500mm	12/2/2021	<4	<0.4	3	13	71	<0.1	2	45
S33-Grid 17	0-100mm	12/2/2021	<4	<0.4	3	11	48	<0.1	2	86
S34-Grid 17	400-500mm	12/2/2021	5	<0.4	2	18	98	<0.1	2	100
S35-Grid 18	0-100mm	12/2/2021	5	<0.4	2	22	130	<0.1	2	100
S36-Grid 18	400-500mm	12/2/2021	<4	<0.4	2	25	82	<0.1	2	440
S37-Grid 19	0-100mm	12/2/2021	<4	<0.4	2	33	110	<0.1	2	190
S38-Grid 19	400-500mm	12/2/2021	<4	<0.4	2	30	130	<0.1	2	210
S39-Grid 20	0-100mm	12/2/2021	4	<0.4	5	11	42	<0.1	4	120
S40-Grid 20	400-500mm	12/2/2021	<4	<0.4	7	14	47	<0.1	4	130
S41-Grid 12 Duplicate	400-500mm	12/2/2021	6	0.5	4	42	180	<0.1	4	120
S42-Grid 5 Duplicate	400-500mm	12/2/2021	<4	<0.4	4	14	74	<0.1	2	57
Residential A Health Investigation Levels (mg/kg)			300	90	300	17000	600	80	1200	30 000

Table H16:
Human Health Detailed Site Investigation
Pre-School - Soil
EnviroSciences 2021

Sample	Depth	Date Sampled	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
S1-Grid 1	0-100mm	12/2/2021	41	3	8	170	1000	0.3	11	2100
S2-Grid 1	400-500mm	12/2/2021	34	2	8	170	1100	0.3	14	3800
S3-Grid 2	0-100mm	12/2/2021	18	1	7	120	570	0.2	4	460
S4-Grid 2	400-500mm	12/2/2021	26	2	9	140	780	0.2	8	640
S5-Grid 3	0-100mm	12/2/2021	10	0.6	4	67	270	<0.1	3	220
S6-Grid 3	400-500mm	12/2/2021	62	0.8	8	440	2300	0.4	4	62
S7-Grid 4	0-100mm	12/2/2021	10	0.6	3	39	210	<0.1	2	10
S8-Grid 4	400-500mm	12/2/2021	29	2	7	120	660	0.2	7	29
S9-Grid 5	0-100mm	12/2/2021	580	1	6	680	7300	3.9	3	580
S10-Grid 5	400-500mm	12/2/2021	1500	1	7	690	10000	12	3	1500
S11-Grid 6	0-100mm	12/2/2021	87	0.8	7	380	1900	0.7	3	480
S12-Grid 6	400-500mm	12/2/2021	100	1	8	560	2700	0.6	5	100
S13-Grid 7	0-100mm	12/2/2021	46	<0.4	3	210	2300	0.5	1	290
S14-Grid 7	400-500mm	12/2/2021	240	1	4	710	9500	2	<1	240
S15-Grid 8	0-100mm	12/2/2021	59	0.4	6	160	1900	0.3	2	59
S16-Grid 8	400-500mm	12/2/2021	140	0.8	7	450	5400	1.1	2	140
S17-Batter	0-100mm	12/2/2021	94	<0.4	5	320	3000	0.4	2	94
S18-Batter	0-100mm	12/2/2021	25	0.5	7	100	830	<0.1	4	25
S19-Grid 6 Duplicate	0-100mm	12/2/2021	31	2	7	110	640	0.2	7	31
S20-Control	0-100mm	12/2/2021	24	0.9	5	100	700	0.2	4	1100
Residential A Health Investigation Levels (mg/kg)			100	20	100	6000	300	40	400	7400

Table H17:
Captains Flat Surface Soil Testing Report
NSW EPA 2021

ID Name	Sample date	Comments	Lead mg/kg	Arsenic mg/kg	Copper mg/kg	Zinc mg/kg
CFCC001	2-Feb-21	Preschool	790	24	140	920
CFCC002	2-Feb-21	Preschool	850	18	180	3200
CFCC003	2-Feb-21	Preschool	320	12	55	330
CFCC004	2-Feb-21	Preschool (sand pit)	1	<4	<1	3
CFPS001	2-Feb-21	Captains Flat School	10	<4	6	47
CFPS002	2-Feb-21	Captains Flat School	2	<4	1	4
CFPS003	2-Feb-21	Captains Flat School	240	15	36	350
CFPS004	2-Feb-21	Captains Flat School	200	16	40	480
CFPS005	2-Feb-21	Captains Flat School	150	19	22	130
CFPS006	2-Feb-21	Captains Flat School	190	21	32	210
CFPS007	2-Feb-21	Captains Flat School	140	10	33	220
CN004-a	2-Feb-21	Foxlow Parklet	2700	44	75	190
CN004-b	2-Feb-21	Foxlow Parklet	720	22	79	1200
CN004-c	2-Feb-21	Foxlow Parklet	2300	69	67	240
CN004-d	2-Feb-21	Foxlow Parklet	1100	27	96	1100
CN009-a CN009-b	2-Feb-21	Foxlow St between Newman and Montgomery St	225*	12*	45*	700*
CS004-a CS004-b	2-Feb-21	Willow Rd between Wattle Ave and Kurrajong St	320*	8*	93*	1340*
CS007	3-Feb-21	Braidwood Rd south of Men's Shed	700	79	110	1,100
CS010-a CS010-b	3-Feb-21	George St proximal to Captains Flat Rd intersection	260*	71*	46*	525*
CS013	3-Feb-21	Wilkins Park south of play area	400	13	73	550
CS015	3-Feb-21	Foxlow St south of Old Mine Road intersection	2,200	75	280	2,900
CS017	2-Feb-21	Pool grounds – grassed area	260	18	120	830
CS018	3-Feb-21	Outside preschool	1,900	66	300	3,000
NC001-a NC001-b NC001-c	2-Feb-21	Captains Flat Road (North) control sample	139**	25**	21**	111***

Table H17:
Captains Flat Surface Soil Testing Report
NSW EPA 2021

ID Name	Sample date	Comments	Lead mg/kg	Arsenic mg/kg	Copper mg/kg	Zinc mg/kg
NC002-a NC002-b NC002-c	2-Feb-21	Lillydale Road (South) control sample	38**	<4**	10**	123**
Cfcc07	9-Feb-21	Reserve behind preschool	3,100	58	450	440
Cfcc08	9-Feb-21	Reserve behind preschool	2,400	69	430	2,400
Cfcg002	9-Feb-21	School garden (not in use)	400	35	45	310
Cfcg001	9-Feb-21	School garden (not in use)	380	44	38	200
Ms-a	10-Feb-21	Men's Shed	18	<4	4	68
Ms-b	10-Feb-21	Men's Shed	560	33	130	930
Fs-b	11-Feb-21	Fire station	390	17	30	260
Fs-a	11-Feb-21	Fire station	320	10	65	1,600

* Average of duplicate samples
** Average of triplicate samples

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

				Sample Type:	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	31/05/2021	31/05/2021	31/05/2021	31/05/2021	31/05/2021	31/05/2021	31/05/2021	31/05/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
				Sample ID:	R_S1a	R_S2a	R_S4a	R_S6a	R_S5a	R_S7a	R_S8a	R_S9a	R_S41B	R_S42B	R_S42B_0.1	R_S42B_0.2	R_S43B_0.0	R_S43B_0.1	R_S43B_0.25	R_S44B_0.0	R_S44B_0.1	R_S44B_0.2	R_S45B_0.0	R_S45B_0.1	R_S45B_0.25
				Sample ID (ID only)	R_S1a	R_S2a	R_S4a	R_S6a	R_S5a	R_S7a	R_S8a	R_S9a	R_S41B	R_S42B	R_S42B	R_S42B	R_S43B	R_S43B	R_S43B	R_S44B	R_S44B	R_S44B	R_S45B	R_S45B	R_S45B
				Sample Depth	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.0	0.1	0.25	-	0.1	0.2	-	0.1	0.25
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	2	2	2	2	2	2	2	2	5	5	5	5	5	5	5	5	5	5	5	5	5
				Site:																					
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
	NEPM 2013 HIL C Recreational	**SSTL - Recreational**	**NEPM 2013 EIL Residential /Public Open Space**	**Sample Description**	Road side. Sample just under loose road base	Silty SAND, grey	Silty SAND, overlain by road base gravel, brown	Silty SAND, overlain by gravel, brown	Silty SAND, overlain by gravel, brown	Sandy GRAVEL, brown. Sample in apparent drainage channel	GRAVEL, yellowish brown, sub angular. Sample in yellow area	Silty SAND, brown. Thin layer adjacent to river	Silty SAND with fine trace gravel, light brown, moist. Sediment from drainage line	Gravelly SILT, medium to coarse gravel, brown/grey	Gravelly SILT, medium to coarse gravel, brown/grey	Gravelly SILT, medium to coarse gravel, brown/grey. Refusal on cobble	Sandy SILT with trace gravel, grey, dry	Sandy SILT with trace gravel, grey, dry	Sandy CLAY, light brown, moist	Gravelly SILT, brown/grey	Sandy CLAY, with cobbles, pale brown/yellow	Sandy CLAY, with cobbles, pale brown/yellow. Refusal on large cobbles	Gravelly SILT exposed with salt crystals at surface, brown, moist	Gravelly SILT, brown, moist	Sandy CLAY with gravel and cobbles, pale brown/yellow
Analyte grouping/Analyte				**Units**																					
EG005T: Total Metals by ICP-AES and fpXRF																									
Lead	600	700	**1100**	mg/kg	**2391**	935	707	679	674	**2138**	**84045**	**1553**	**1124**	313	85	322	367	103	278	161	629	471	384	**2016**	600
Arsenic	300		**50**	mg/kg	**57**	43	<LOD	45	**51**	**99**	**1771**	**103**	<LOD	22	<LOD	<LOD	24	15	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	28
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	157	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	-	-	<LOD	-	-	-	-	-	<LOD	45	<LOD	<LOD	<LOD	<LOD	13	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	**620**	**249**	126	189	78	183	**7270**	217	176	100	<LOD	100	49	<LOD	64	47	75	79	70	**501**	119
Iron	-		-	mg/kg	47290	15080	23348	23349	20620	50246	206558	52459	18747	23313	14553	22479	13378	13503	17174	16848	13351	17505	23808	43394	19811
Molybdenum	-		-	mg/kg	9	4	7	7	4	6	18	<LOD	8	8	8	8	5	7	7	8	6	<LOD	8	7	<LOD
Manganese	19000		-	mg/kg	181	316	191	151	220	178	615	213	<LOD	472	289	334	497	290	298	434	289	358	237	759	155
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	46	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	63	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium			-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	-	-	<LOD	-	-	-	-	-	453	4017	1200	2945	1183	1182	1003	2565	653	2025	1120	1783	1779
Zinc	30000		**570**	mg/kg	**8745**	467	**2530**	**1613**	**1176**	**1435**	**4204**	553	371	**977**	143	348	351	180	112	351	191	226	**833**	**944**	407

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM).
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.
[d] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
Sample ID:					R_S46B_0.0	R_S46B_0.1	R_S46B_0.2	R_S47B_0.0	R_S47B_0.1	R_S47B_0.2	R_S48B_0.0	R_S48B_0.05	R_S49B	R_S50B_0.0	R_S50B_0.1	R_S50B_0.1	R_S50B_0.25	R_S50B_0.3	R_S51B_0.0	R_S51B_0.1	R_S51B_0.25	R_S69a_0m	R_S69a_0.1m	R_S69a_0.25m
Sample ID (ID only)					R_S46B	R_S46B	R_S46B	R_S47B	R_S47B	R_S47B	R_S48B	R_S48B	R_S49B	R_S50B	R_S50B	R_S50B	R_S50B	R_S50B	R_S51B	R_S51B	R_S51B	R_S69a	R_S69a	R_S69a
Sample Depth					-	0.1	0.2	-	0.1	0.2	-	.05	0	-	0.1	0.1	0.25	0.3	-	0.1	0.25	-	0.1	0.25
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Gravelly SILT, brown	Sandy CLAY with gravel, pale brown/yellow	Sandy CLAY with gravel, pale brown/yellow. Refusal on coarse gravel to cobbles	Gravelly SILT, brown	Sandy CLAY with coarse gravel to cobbles, pale brown/yellow	Sandy CLAY with coarse gravel to cobbles, pale brown/yellow. Refusal on cobbles	Gravelly, SILT, brown, gravel to cobbles	Gravelly, SILT, brown, gravel to cobbles	Lead ore amongst sandstone	Gravelly SAND, pale brown, gravel to cobbles. Lead ore surface	Gravelly SAND, pale brown, gravel to cobbles. Lead ore surface	Gravelly SAND, pale brown, gravel to cobbles. Lead ore surface	Gravelly SAND, pale brown, gravel to cobbles. Lead ore surface	Gravelly SAND, pale brown, gravel to cobbles. Lead ore surface	Gravelly SAND, brown/grey, coarse gravel to cobbles	Gravelly SAND, brown/grey, coarse gravel to cobbles	Gravelly SAND, brown/grey, coarse gravel to cobbles	Gravelly SAND, coarse grained, orangish brown	Gravelly SAND, coarse grained, orangish brown	Gravelly SAND, coarse grained, orangish brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	115	523	737	97	795	136	**2399**	**13676**	**15622**	**2047**	**2411**	<LOD	**3784**	**1124**	558	1058	329	**2214**	**6311**	409
Arsenic	300		**50**	mg/kg	11	31	49	14	33	<LOD	**72**	**391**	<LOD	**133**	**158**	<LOD	**130**	**84**	<LOD	<LOD	50	**108**	<LOD	**59**
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	235	<LOD	<LOD	<LOD	<LOD	164	927	3612	<LOD	<LOD	<LOD	154	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	13	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	39	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	49	137	184	39	148	31	**292**	**837**	**1629**	**376**	**442**	<LOD	**604**	208	152	**286**	**223**	**234**	**274**	80
Iron	-		-	mg/kg	15030	22370	25581	21309	16572	20475	35352	173826	221368	16783	16107	<LOD	22850	20903	14436	20592	20158	41400	35635	27485
Molybdenum	-		-	mg/kg	<LOD	<LOD	4	8	4	10	4	20	45	<LOD	4	<LOD	4	<LOD	4	10	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	498	321	498	441	82	399	121	415	596	122	96	<LOD	124	144	208	187	163	163	177	154
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	42	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	154	38
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	2837	544	1267	4328	855	1999	2994	827	<LOD	1815	608	-	1472	2571	1564	782	2352	<LOD	<LOD	2137
Zinc	30000		**570**	mg/kg	456	194	207	329	270	345	**851**	**1643**	**17800**	**771**	**760**	<LOD	**1089**	**908**	**831**	**1690**	**1351**	**606**	329	270

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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	3/06/2021	3/06/2021	3/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
Sample ID:					R_S70a_0m	R_S70a_0.1m	R_S70a_0.24m	R_S71a_0m	R_S71a_0.1m	R_S71a_0.20m	R_S72a_0.1m	R_S73a_0m	R_S73a_0.1m	R_S52B_0.0	R_S52B_0.1	R_S52B_0.25	R_S52B_0.3	R_S53_0.0	R_S53_0.1	R_S53_0.25	R_S54B_0.0	R_S54B_0.1	R_S54B_0.2	R_S55B_0.0
Sample ID (ID only)					R_S70a	R_S70a	R_S70a	R_S71a	R_S71a	R_S71a	R_S72a	R_S73a	R_S73a	R_S52B	R_S52B	R_S52B	R_S52B	R_S53_	R_S53_	R_S53_	R_S54B	R_S54B	R_S54B	R_S55B
Sample Depth					-	0.1	0.25	-	0.1	0.2	0.1	-	0.1	-	0.1	0.25	0.3	0.0	0.1	0.25	0.0	0.1	0.2	0.0
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Sandy GRAVEL, coarse grained, orangish brown	Sandy GRAVEL, coarse grained, orangish brown	Sandy GRAVEL, coarse grained, orangish brown	Sandy GRAVEL, with some cobbles, coarse grained, orangish brown	Sandy GRAVEL, with some cobbles, coarse grained, orangish brown	Sandy GRAVEL, with some cobbles, coarse grained, orangish brown	Sandy GRAVEL, coarse grained, orangish brown	Sandy GRAVEL, coarse grained, orangish brown	Sandy GRAVEL, coarse grained, orangish brown	Gravelly SAND, very fine to medium gravel, pale brown	Gravelly SAND, very fine to medium gravel, pale brown	Gravelly SAND, brown/orange	Gravelly SAND, brown/orange	Gravelly SAND, fine to coarse gravel, pale brown/grey	Gravelly SAND, fine to coarse gravel, pale brown/grey	Gravelly SAND, fine to coarse gravel, pale brown/grey. Refusal on cobbles	Sandy SILT with gravel, brown, dry	Sandy SILT with gravel, brown, dry	Sandy SILT with gravel, brown, dry	Silty GRAVEL, brown, dry
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**3771**	**4374**	882	**6203**	**1283**	**3414**	**5716**	**1132**	**1115**	299	154	861	985	174	102	25	367	373	555	654
Arsenic	300		**50**	mg/kg	**108**	<LOD	**91**	**365**	<LOD	47	**222**	**121**	**159**	16	33	<LOD	43	21	12	14	31	<LOD	44	<LOD
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	231	177	383	<LOD	<LOD	105	<LOD	152	241	<LOD	<LOD	254	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	44	<LOD	<LOD	40	71	36	33	<LOD	25
Copper	17000		**220**	mg/kg	**466**	**453**	158	**1436**	183	**519**	**240**	114	141	21	45	84	97	41	<LOD	<LOD	54	<LOD	126	112
Iron	-		-	mg/kg	88893	58096	38458	38624	19787	37508	65421	27454	36981	22688	26240	26968	31265	23201	20665	33880	14533	10829	27459	14538
Molybdenum	-		-	mg/kg	4	11	<LOD	6	<LOD	<LOD	7	<LOD	<LOD	5	6	<LOD	<LOD	4	5	<LOD	7	<LOD	<LOD	9
Manganese	19000		-	mg/kg	339	280	221	254	151	320	225	146	267	264	305	323	311	507	381	522	155	284	132	108
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	99	183	77	<LOD	**215**	112	<LOD	40	41	<LOD	56	80	62	<LOD	<LOD	82	<LOD	**316**	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	<LOD	<LOD	2027	1536	<LOD	2309	<LOD	<LOD	1170	3207	4022	4094	3012	3397	1516	3597	1237	108	2602	1159
Zinc	30000		**570**	mg/kg	**923**	**1500**	467	**823**	213	535	400	179	244	204	146	358	359	136	96	74	290	259	205	207

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

				Sample Type:	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	16/06/2021	16/06/2021
				Sample ID:	R_S55B_0.1	R_S55B_0.2	R_S56B_0.0	R_S56B_0.1	R_S56B_0.2	R_S56B_0.25	R_S57B_0.0	R_S57B_0.1	R_S57B_0.25	R_S58_0.0	R_S58_0.1	R_S58_0.25	R_S59_0.0	R_S59_0.1	R_S59_0.25	R_S60_0.0	R_S60_0.1	R_S60_0.25	R_S86A_0.0	R_S86A_0.1
				Sample ID (ID only)	R_S55B	R_S55B	R_S56B	R_S56B	R_S56B	R_S56B	R_S57B	R_S57B	R_S57B	R_S58_	R_S58_	R_S58_	R_S59_	R_S59_	R_S59_	R_S60_	R_S60_	R_S60_	R_S86A	R_S86A
				Sample Depth	0.1	0.2	0.0	0.1	0.2	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	0.0	0.1	0.25	0.0	0.1
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	8	8
				Site:																				
	NEPM 2013 HIL C Recreational	**SSTL - Recreational**	**NEPM 2013 EIL Residential /Public Open Space**	**Sampling Method:**	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Silty GRAVEL, brown, dry	Silty GRAVEL, brown, dry	Gravelly SAND, pale brown, coarse gravel to cobbles	Gravelly SAND, pale brown, coarse gravel to cobbles	Gravelly SAND, pale brown, coarse gravel to cobbles	Gravelly SAND, pale brown, coarse gravel to cobbles	Gravelly Silty SAND, pale brown, moist	Gravelly Silty SAND, pale brown, moist	Gravelly Silty SAND, pale brown, moist. Refusal on coarse gravel to cobbles	Gravelly SAND, brown, coarse gravel to cobbles	Gravelly SAND, brown, coarse gravel to cobbles	Gravelly SAND, brown, coarse gravel to cobbles	Gravelly SAND in swale, pale brown/orange	Gravelly SAND in swale, pale brown/orange	Gravelly SAND in swale, pale brown/orange	Sandy GRAVEL, pale brown, loose, washed out sediment	Sandy GRAVEL, pale brown, loose, washed out sediment	Gravelly SAND, coarse gravel to cobbles, brown	Sandy CLAY, with gravels, orange-brown, moist	Sandy CLAY, with gravels, orange-brown, moist
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	291	532	**5687**	**3886**	**2488**	**2199**	**3023**	**2354**	684	**1523**	**1229**	**2143**	**1565**	**2289**	1018	902	469	**1799**	499	**2903**
Arsenic	300		**50**	mg/kg	25	48	**169**	**149**	<LOD	**94**	<LOD	**70**	**140**	41	**50**	<LOD	50	**129**	**99**	41	27	<LOD	**58**	**160**
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	917
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	222	<LOD	<LOD	150	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	207	<LOD	<LOD	159	318	<LOD
Chromium	-		**300**	mg/kg	29	<LOD	31	<LOD	<LOD	<LOD	<LOD	62	<LOD	<LOD	45	30	<LOD	30	24	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	150	**235**	**999**	**920**	**348**	**363**	**275**	**270**	131	**258**	**269**	**259**	169	**401**	163	91	56	146	169	208
Iron	-		-	mg/kg	14840	12448	49375	40794	44672	36308	25113	33116	66943	31147	35827	32774	34561	36887	38726	33583	24472	35507	60674	68633
Molybdenum	-		-	mg/kg	5	<LOD	6	<LOD	<LOD	<LOD	<LOD	<LOD	10	<LOD	4	<LOD	<LOD	7	6	<LOD	5	<LOD	<LOD	4
Manganese	19000		-	mg/kg	<LOD	155	2445	666	833	510	284	302	1282	417	488	633	350	860	352	505	1004	785	248	252
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	48	95	68	<LOD	64	46	184	58	41	71	<LOD	<LOD	100	<LOD	<LOD	51	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	644	1557	3941	3793	4027	3666	2025	2266	5038	3145	4526	3885	3607	2665	2862	3897	2407	2898	2374	3323
Zinc	30000		**570**	mg/kg	214	374	**1380**	**2653**	**850**	**851**	**773**	**1123**	448	**2002**	**653**	**762**	531	**1134**	425	414	215	**657**	394	**798**

Cells denoted with '-' indicate no criterion available
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National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021
Sample ID:					R_S86A_0.25	R_S87A_0.0	R_S87A_0.1	R_S87A_0.25	R_S88A_0.0	R_S88A_0.1	R_S88A_0.25	R_S89A_0.0	R_S89A_0.1	R_S89A_0.25	R_S90A_0.0	R_S90A_0.1	R_S90A_0.25	R_S91A_0.0	R_S91A_0.1	R_S91A_0.25	R_S92A_0.0	R_S92A_0.1	R_S92A_0.25	R_S93A_0.0
Sample ID (ID only)					R_S86A	R_S87A	R_S87A	R_S87A	R_S88A	R_S88A	R_S88A	R_S89A	R_S89A	R_S89A	R_S90A	R_S90A	R_S90A	R_S91A	R_S91A	R_S91A	R_S92A	R_S92A	R_S92A	R_S93A
Sample Depth					0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Sandy CLAY, with gravels, orange-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with gravels, red-brown, moist	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**1440**	249	213	229	979	498	123	**3606**	**7470**	**17776**	**252560**	**22596**	665	**20075**	**2190**	232	**12340**	409	285	**3160**
Arsenic	300		**50**	mg/kg	**101**	24	<LOD	<LOD	35	48	21	<LOD	**476**	**459**	**4152**	**1761**	**147**	**234**	**82**	<LOD	<LOD	<LOD	27	**80**
Barium	-		-	mg/kg	1873	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1045	851	<LOD	2844	<LOD	1811	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	159	134	<LOD	<LOD	<LOD	165	<LOD	<LOD	577	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	32	<LOD	<LOD	<LOD	<LOD	64	49	47	40
Copper	17000		**220**	mg/kg	124	39	<LOD	53	93	<LOD	48	146	**437**	**773**	**682**	186	27	**221**	65	32	**359**	57	121	158
Iron	-		-	mg/kg	51075	33097	30358	52367	39107	12839	17169	34028	118724	159606	85352	36594	29057	60868	13242	20115	57369	23228	33773	65076
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	7	<LOD	5	10	<LOD	9	18	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	258	210	137	168	97	<LOD	106	129	198	357	<LOD	200	167	225	148	156	167	110	88	<LOD
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	111	<LOD	42	60	<LOD	52	<LOD	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	10	<LOD	<LOD	<LOD	28	<LOD	<LOD	10	26	9	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1558	3460	2328	5138	3068	3145	6073	1670	2140	2502	2320	5130	2503	4746	3617	2795	4817	1770	4448	3248
Zinc	30000		**570**	mg/kg	**847**	**1501**	**891**	**1914**	**609**	170	241	**959**	**836**	**1534**	**1344**	221	109	339	171	174	**597**	427	**1007**	**1535**

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	16/06/2021	16/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
				Sample ID:	R_S93A_0.1	R_S93A_0.25	SAQP9-BH02_0.0	SAQP9-BH02_0.25	SAQP9-BH02_0.5	SAQP9-BH02_0.75	SAQP9-BH02_1.0	SAQP9-BH03_0.0	SAQP9-BH03_0.25	SAQP9-BH03_0.5	SAQP9-BH03_0.75	SAQP9-BH03_1.0	SAQP9-BH01_0.0	SAQP9-BH01_0.25	SAQP9-BH01_0.5	SAQP9-BH01_1.0	SAQP9-BH04_0.0	SAQP9-BH04_0.25	SAQP9-BH04_0.5	SAQP9-BH04_0.75
				Sample ID (ID only)	R_S93A	R_S93A	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-
				Sample Depth	0.1	0.25	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.75	0.5	1.0	0.0	0.25	0.5	0.75
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Sandy CLAY, with some gravel, orangish brown	Sandy CLAY, with some gravel, orangish brown	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**1199**	144	277	67	<LOD	<LOD	<LOD	**2681**	47	14	<LOD	<LOD	**921**	124	421	23	542	**1427**	440	287
Arsenic	300		**50**	mg/kg	**123**	39	<LOD	<LOD	16	<LOD	<LOD	14	<LOD	10	6	<LOD	15	35	9	20	<LOD	26	27	
Barium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1457	<LOD	2634	1174	1230	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	216	<LOD	146	<LOD	<LOD	154	203	140	<LOD	103	110	126	
Chromium	-		**300**	mg/kg	<LOD	37	<LOD	<LOD	37	<LOD	21	<LOD	97	66	57	<LOD	73	<LOD	39	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	115	104	<LOD	34	<LOD	<LOD	<LOD	26	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	36	28	27	29
Iron	-		-	mg/kg	69920	41029	11141	23302	50804	29547	22398	7387	36517	20850	25662	22058	9308	18688	22462	34082	9800	16746	18113	21791
Molybdenum	-		-	mg/kg	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	4	4	5	4
Manganese	19000		-	mg/kg	183	<LOD	151	1700	445	<LOD	<LOD	<LOD	1305	743	391	127	157	775	1163	451	127	677	749	477
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	58	<LOD	<LOD	56	87	<LOD	<LOD	<LOD	75	66	59	42	<LOD	62	<LOD	56	<LOD	36	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	4477	4476	1622	4119	3487	4534	2053	974	4333	3843	3521	1697	1457	3572	3754	3981	2105	1858	2190	1798
Zinc	30000		**570**	mg/kg	476	**637**	233	**799**	92	51	39	171	81	63	72	59	106	69	166	67	283	259	200	202

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

				Sample Type:	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	29/06/2021	29/06/2021	29/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
				Sample ID:	SAQP9-BH04_1.0	SAQP9-BH05_0.0	SAQP9-BH05_0.25	SAQP9-BH05_0.5	SAQP9-BH05_0.75	SAQP9-BH05_1.0	R_S120a	R_S121a	R_S122a	SAQP10-BH01_0.0	SAQP10-BH01_0.0	SAQP10-BH01_0.25	SAQP10-BH01_0.5	SAQP10-BH01_0.75	SAQP10-BH01_1.0	SAQP10-BH01_1.25	SAQP10-BH01_1.5	SAQP10-BH02_0.0	SAQP-BH02_0.25	SAQP10-BH02_0.5
				Sample ID (ID only)	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	SAQP9-	R_S120	R_S121	R_S122	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP-B	SAQP10
				Sample Depth	1.0	0.0	0.25	0.5	0.75	1.0	0	0	0	0.0	0.0	0.25	0.5	0.75	1.0	0.25	1.5	0.0	0.25	0.5
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	9	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	10	10	10
				Site:																				
	NEPM 2013 HIL C Recreational	**SSTL - Recreational**	**NEPM 2013 EIL Residential /Public Open Space**	**Sampling Method:**	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	Gravelly SAND, brown	Clayey Gravelly SAND	Gravelly Clayey SAND, brown	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	276	637	116	<LOD	<LOD	15	13604	15422	1093	<LOD	7619	2119	240	353	220	62	119	599	2437	2650
Arsenic	300		**50**	mg/kg	33	<LOD	15	9	8	7	901	<LOD	41	<LOD	280	150	51	49	58	26	65	51	129	115
Barium	-		-	mg/kg	<LOD	789	<LOD	1051	985	<LOD	-	-	-	<LOD	1444	978	<LOD	<LOD	1569	1321	<LOD	1613	2076	1513
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	120	134	<LOD	<LOD	186	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	173	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	35	56	30	<LOD	<LOD	<LOD	<LOD	25	38	<LOD	48	34	55	41	68	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	**248**	**231**	47	<LOD	**509**	**425**	53	93	72	<LOD	34	193	**351**	**269**
Iron	-		-	mg/kg	20161	10389	21450	32126	23402	33461	53890	35076	26174	644	52958	26325	13269	19843	41788	21481	73382	28984	40429	33941
Molybdenum	-		-	mg/kg	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6	<LOD	11	8	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9	<LOD
Manganese	19000		-	mg/kg	484	<LOD	223	187	<LOD	175	246	167	244	<LOD	355	494	422	390	260	129	560	477	587	257
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	51
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	49	<LOD	51	39	92	87	<LOD	<LOD	57	41	46	68	91	74	<LOD	<LOD	50
Selenium	-		-	mg/kg	<LOD	6	<LOD	<LOD	<LOD	<LOD	17	<LOD	<LOD	<LOD	<LOD	<LOD	8	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10
Titanium	-		-	mg/kg	1469	2051	3142	3053	2497	2151	<LOD	<LOD	<LOD	265	2171	3509	2415	5329	5761	4237	2643	3281	1862	2274
Zinc	30000		**570**	mg/kg	208	73	67	67	79	100	-	-	-	<LOD	**1780**	**897**	566	413	410	217	443	**5142**	**4157**	533

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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
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Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	2/06/2021
				Sample ID:	SAQP10-BH02_0.75	SAQP10-BH02_1.25	SAQP10-BH02_1.5	SAQP10-BH02_1.0	SAQP10-BH03_0.0	SAQP10-BH03_0.25	SAQP10-BH03_0.5	SAQP10-BH03_0.75	SAQP10-BH03_1.0	SAQP10-BH03_1.25	SAQP10-BH03_1.5	SAQP10-BH04_0.0	SAQP10-BH04_0.1	SAQP10-BH04_0.25	SAQP10-BH04_0.5	SAQP10-BH04_0.75	SAQP10-BH04_1.0	SAQP10-BH04_1.25	SAQP10-BH04_1.5	R_S68a_0m
				Sample ID (ID only)	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	SAQP10	R_S68a
				Sample Depth	0.75	0.25	1.5	1.0	0.0	0.25	0.5	0.75	1.0	0.25	1.5	0.0	0.1	0.25	0.5	0.75	1.0	0.25	1.5	-
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	Sandy GRAVEL, coarse grained, reddish brown with some cobbles and boulders
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	2136	72	110	85	316	434	706	<LOD	<LOD	<LOD	<LOD	114	<LOD	61	76	79	75	220	34	4252
Arsenic	300		**50**	mg/kg	**59**	<LOD	29	<LOD	26	35	30	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	14	<LOD	<LOD	<LOD	<LOD	**285**
Barium	-		-	mg/kg	1505	688	1484	<LOD	<LOD	911	<LOD	<LOD	-	<LOD	<LOD	<LOD	-	<LOD	<LOD	1070	1521	1349	971	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	94	<LOD	<LOD	<LOD	<LOD	<LOD	99	<LOD	<LOD	158	108	177	88	<LOD	249
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	32	<LOD	<LOD	<LOD	<LOD	-	19	32	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	150	<LOD	<LOD	<LOD	43	54	150	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	**456**
Iron	-		-	mg/kg	19876	11346	31035	15651	20897	17979	17760	16341	9728	12739	11293	15826	13527	17450	30673	13572	31351	10655	8890	61399
Molybdenum	-		-	mg/kg	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	7	<LOD	4	<LOD	<LOD	15
Manganese	19000		-	mg/kg	426	296	343	551	348	267	480	462	193	339	146	186	<LOD	200	748	292	610	246	227	244
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	53	<LOD	<LOD	<LOD	<LOD	42	<LOD	<LOD	39	<LOD	<LOD	88	71	<LOD	69	49	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13
Titanium	-		-	mg/kg	3447	2805	2512	3117	3435	3435	4575	1806	4510	2117	3852	2608	-	1049	1913	3342	3656	2417	2614	<LOD
Zinc	30000		**570**	mg/kg	540	**640**	**1054**	**1187**	428	418	364	60	60	54	44	540	**760**	**585**	159	142	136	114	111	**722**

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				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
				Sample ID:	SAQP11_BH01_0.0	SAQP11-BH01_0.1	SAQP11-BH01_0.25	SAQP11-BH01_0.5	SAQP11-BH01_0.75	SAQP11-BH01_1.0	SAQP11-BH02_0.0	SAQP11-BH02_0.25	SAQP11-BH02_0.5	SAQP11-BH02_0.75	SAQP11-BH02_1.0	SAQP11-BH03_0.0	SAQP11-BH03_0.25	SAQP11-BH03_0.5	SAQP11-BH03_0.75	SAQP11-BH03_1.0	SAQP11-BH04_0.0	SAQP11-BH04_0.25	SAQP11-BH04_0.5	SAQP11-BH04_0.75
				Sample ID (ID only)	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11
				Sample Depth	0.0	0.1	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	
				SAQP Item:	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
				Site:																					
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	
Analyte grouping/Analyte				**Units**																					
EG005T: Total Metals by ICP-AES and fpXRF																									
Lead	600	700	**1100**	mg/kg	**3170**	**<LOD**	**5987**	**5523**	**2132**	225	**5557**	**5149**	**5326**	533	785	**16433**	**6972**	**8680**	**1884**	**1470**	**3869**	258	145	150
Arsenic	300		**50**	mg/kg	<LOD	<LOD	**159**	**106**	<LOD	30	**224**	**107**	**163**	<LOD	**74**	**172**	**213**	**881**	**448**	**74**	<LOD	37	25	16
Barium	-		-	mg/kg	1028	-	881	1142	1065	1905	<LOD	1640	2710	846	<LOD	3272	8365	2509	756	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	175	<LOD	244	<LOD	<LOD	<LOD	<LOD	313	<LOD	190	273	<LOD	<LOD	436	<LOD	194	145	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	36	<LOD	55	78	<LOD	<LOD	<LOD	29	<LOD	<LOD	<LOD	62	24
Copper	17000		**220**	mg/kg	**253**	<LOD	**401**	**490**	146	79	**382**	**291**	**448**	200	193	**549**	**529**	**907**	**614**	**367**	**366**	**284**	157	93
Iron	-		-	mg/kg	38001	<LOD	53562	40555	41579	20926	31605	52829	32708	17651	48608	108200	85980	150400	18165	32901	21193	21743	38390	13241
Molybdenum	-		-	mg/kg	11	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7	<LOD	<LOD	<LOD	11	5	<LOD	<LOD	8	<LOD	4	<LOD	4
Manganese	19000		-	mg/kg	209	<LOD	216	346	5264	230	112	187	190	301	547	507	410	364	<LOD	150	<LOD	156	142	81
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	80	54	<LOD	61	138	112	180	<LOD	<LOD	<LOD	<LOD	38	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	16	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	3207	-	2719	3548	3318	1721	3111	3497	1921	3672	3317	2594	2439	1624	3109	2500	1874	4521	5825	4701
Zinc	30000		**570**	mg/kg	505	<LOD	**618**	567	**692**	**619**	499	369	**626**	553	**802**	**724**	**965**	**1008**	**1672**	**2185**	**693**	314	**727**	416

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				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
				Sample ID:	SAQP11-BH04_1.0	SAQP11-BH05_0.0	SAQP11-BH05_0.25	SAQP11-BH05_0.5	SAQP11-BH05_0.75	SAQP11-BH05_1.0	SAQP11-BH06_0.0	SAQP11-BH06_0.25	SAQP11-BH06_0.5	SAQP11-BH06_0.75	SAQP11-BH06_1.0	SAQP11-BH07_0.0	SAQP11-BH07_0.25	SAQP11-BH07_0.5	SAQP11-BH07_0.75	SAQP11-BH07_1.0	SAQP11-BH08_0.0	SAQP11-BH08_0.25	SAQP11-BH08_0.5	SAQP11-BH08_0.75
				Sample ID (ID only)	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11
				Sample Depth	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	207	**2651**	356	181	355	475	535	**2888**	**75393**	437	917	**2479**	**3284**	424	160	281	885	**1586**	**7245**	**4173**
Arsenic	300		**50**	mg/kg	32	**168**	36	20	21	47	36	**142**	**8418**	<LOD	<LOD	<LOD	**135**	<LOD	15	33	39	38	**227**	<LOD
Barium	-		-	mg/kg	<LOD	713	<LOD	<LOD	<LOD	<LOD	<LOD	1045	9753	887	<LOD	1231	2114	<LOD	<LOD	<LOD	1135	1484	2592	<LOD
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	167	1701	<LOD	<LOD	276	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	51	<LOD	<LOD	<LOD	43	37	<LOD	<LOD	<LOD	<LOD	63	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	31
Copper	17000		**220**	mg/kg	211	**653**	105	37	28	65	159	**655**	**2083**	146	103	149	**758**	73	27	24	104	**286**	**1160**	**384**
Iron	-		-	mg/kg	54130	24770	14268	11854	17293	21446	17316	31519	454638	26642	31914	38357	24251	13291	21982	25479	26563	32336	39253	21776
Molybdenum	-		-	mg/kg	6	<LOD	<LOD	4	5	5	<LOD	5	69	<LOD	7	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	5	<LOD
Manganese	19000		-	mg/kg	199	225	287	100	143	187	218	132	740	74	134	455	201	407	265	183	365	715	294	3000
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	41	38	<LOD	<LOD	<LOD	49	<LOD	<LOD	<LOD	<LOD	46	43	<LOD	84	<LOD	<LOD
Selenium			-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	127	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15	<LOD
Titanium	-		-	mg/kg	2451	4034	4003	4306	5302	5039	4223	3262	2241	4427	1505	3264	2891	4238	2351	2504	3734	2084	2280	4171
Zinc	30000		**570**	mg/kg	**939**	**697**	467	553	**767**	**706**	534	421	**1268**	261	462	**816**	**1118**	**1483**	**944**	**944**	**659**	**1876**	**1183**	**1400**

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
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[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

				Sample Type:	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
				Sample ID:	SAQP11-BH08_1.0	SAQP11-BH09_0.0	SAQP11-BH09_0.25	SAQP11-BH09_0.5	SAQP11-BH09_0.75	SAQP11-BH09_1.0	SAQP11-BH10_0.0	SAQP11-BH10_0.25	SAQ11-BH10_0.5	SAQP11-BH10_0.75	SAQP11-BH10_1.0	SAQP13-BH02_0.0	SAQP13-BH02_0.25	SAQP13-BH02_0.5	SAQP13-BH02_0.75	SAQP13-BH02_1.0	SAQP13-BH03_0.0	SAQP13-BH03_0.25	SAQP13-BH03_0.5	SAQP13-BH03_0.75
				Sample ID (ID only)	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQP11	SAQ11-	SAQP11	SAQP11	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13
				Sample Depth	1.0	0.0	0.25	0.5	.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.25	0.5	0.75
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	11	11	11	11	11	11	11	11	11	11	11	13	13	13	13	13	13	13	13	13
				Site:																				
	NEPM 2013 HIL C Recreational	**SSTL - Recreational**	**NEPM 2013 EIL Residential /Public Open Space**	**Sampling Method:**	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**5427**	**1188**	**1942**	118	111	193	815	85	136	89	97	196	228	142	113	82	**1174**	**1540**	**2247**	**3875**
Arsenic	300		**50**	mg/kg	**68**	<LOD	49	17	17	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	22	<LOD	19	<LOD	<LOD	**51**	**118**
Barium	-		-	mg/kg	<LOD	297	<LOD	568	977	<LOD	<LOD	<LOD	<LOD	<LOD	620	<LOD	1435	<LOD	<LOD	<LOD	<LOD	2158	<LOD	1568
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	130	<LOD	<LOD	<LOD	<LOD	138	<LOD	<LOD	<LOD	<LOD	<LOD	124	<LOD	<LOD	<LOD	121	<LOD	160	175
Chromium	-		**300**	mg/kg	94	<LOD	<LOD	<LOD	78	42	<LOD	<LOD	42	60	<LOD	<LOD	<LOD	<LOD	<LOD	59	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	114	67	**414**	25	24	<LOD	175	<LOD	26	20	19	<LOD	54	<LOD	<LOD	<LOD	149	142	**222**	**752**
Iron	-		-	mg/kg	23167	13848	15137	18875	23491	12127	18411	11488	34245	16194	10012	11150	23495	28656	16896	42058	22173	30553	44933	47753
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	4	<LOD	5	<LOD	<LOD	5	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	4
Manganese	19000		-	mg/kg	2592	225	432	169	317	108	419	265	940	154	115	104	397	1992	170	295	212	391	509	367
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	37	56	<LOD	<LOD	<LOD	<LOD	41	<LOD	<LOD	41	<LOD	98	43	58
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	4893	850	2798	5920	4973	5092	1600	4778	4650	4859	5052	1937	2798	4076	5802	3843	2191	3152	2506	4855
Zinc	30000		**570**	mg/kg	**1805**	**994**	**739**	**653**	**594**	382	**995**	329	371	324	347	380	557	413	204	381	356	483	**1452**	**1910**

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Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
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Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021
				Sample ID:	SAQP13-BH03_1.0	SAQP13-BH04_0.0	SAQP13-BH04_0.25	SAQP13-BH04_0.5	SAQP13-BH04_1.0	SAQP13-BH01_0.0	SAQP13-BH01_0.25	SAQP13-BH01_0.5	SAQP13-BH01_0.75	SAQP13-BH01_1.0	R_S99A_0.0	R_S99A_0.1	R_S99A_0.25	R_S10OA_0.0	R_S10OA_01	R_S10OA_03	R_S10IA_0.0	R_S101A_0.1	R_S101A_0.25	R_S102A_0.0
				Sample ID (ID only)	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	SAQP13	R_S99A	R_S99A	R_S99A	R_S10O	R_S10O	R_S10O	R_S10I	R_S101	R_S101	R_S102
				Sample Depth	1.0	0.0	0.25	0.5	1.0	0.0	0.25	0.5	0.75	1.0	0.0	0.1	0.25	0.0	0.1	0.3	0.0	0.1	0.25	0.0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	Sandy CLAY overlain by grass, with gravels, dark brown, moist, rootlets	Sandy CLAY, with gravels, dark brown, moist, rootlets	Sandy CLAY, with gravels, dark brown, moist, rootlets	Sandy CLAY, with gravels, dark brown, moist, rootlets	Sandy CLAY, with gravels, dark brown, moist, rootlets	Sandy CLAY, with gravels, dark brown, moist, rootlets	Sandy SILT, brown, moist	Sandy SILT, brown, moist	Sandy SILT, brown, moist	Silty SAND overlain by grass, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	129	843	7396	3152	347	1740	8458	472	296	227	124	280	1019	3407	5751	3777	118	253	1330	417
Arsenic	300		**50**	mg/kg	16	<LOD	732	249	33	<LOD	1015	20	55	22	16	27	78	154	108	<LOD	<LOD	25	32	<LOD
Barium	-		-	mg/kg	353	<LOD	1726	2595	<LOD	<LOD	1543	<LOD	<LOD	1221	<LOD	<LOD	-	1224	1343	1294	<LOD	<LOD	904	<LOD
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	189	570	<LOD	<LOD	<LOD	260	<LOD	<LOD	138	<LOD	153	<LOD	91
Chromium	-		**300**	mg/kg	45	41	31	46	35	<LOD	<LOD	<LOD	<LOD	51	<LOD	18	<LOD	<LOD	<LOD	<LOD	55	101	59	<LOD
Copper	17000		**220**	mg/kg	37	100	**530**	**512**	216	**260**	169	24	105	37	20	<LOD	159	**410**	**416**	**270**	<LOD	64	162	45
Iron	-		-	mg/kg	14734	19672	96032	140260	14256	12108	54705	25171	100313	32790	26053	19713	37594	32742	31163	22137	14364	25846	25842	13474
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD	<LOD	5	4	<LOD
Manganese	19000		-	mg/kg	244	206	470	366	182	1066	416	262	340	236	383	318	250	617	1870	537	123	205	238	161
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	100	<LOD	56	49	64	<LOD	63	<LOD	<LOD	127	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	18	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	6315	3047	1475	1406	5896	2187	2898	4789	2454	3284	3826	1214	2601	2792	1448	1072	1654	3485	2774	2551
Zinc	30000		**570**	mg/kg	**853**	**715**	**1020**	**905**	**652**	**1674**	**889**	341	256	280	226	228	378	**1587**	**3973**	**2310**	404	472	**1540**	**755**

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Job No: 318001193
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25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
				Sample ID:	R_S102A_0.1	R_S102A_0.25	R_S103A_0.0	R_S103A_0.1	R_S103A_0.25	R_S104_0.0	R_S104_0.1	R_S104_0.25	R_S105A_0.0	R_S105A_0.1	R_S105A_0.25	R_S50a_0m	R_S50a_0.1m	R_S50a_0.1m	R_S50a_0.25m	R_S51a_0m	R_S51a_0.1m	R_S51a_0.25m	R_S52a_0m	R_S52a_0.1m
				Sample ID (ID only)	R_S102	R_S102	R_S103	R_S103	R_S103	R_S104	R_S104	R_S104	R_S105	R_S105	R_S105	R_S50a	R_S50a	R_S50a	R_S50a	R_S51a	R_S51a	R_S51a	R_S52a	R_S52a
				Sample Depth	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	-	0.1	0.1	0.25	-	0.1	0.25	-	0.1
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	13	13	13	13	13	13	13	13	13	13	13	14	14	14	14	14	14	14	14	14
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Silty SAND, brown	Silty SAND, brown	Silty SAND overlain by grass, brown	Silty SAND, brown	Silty SAND, brown	Silty SAND, with some gravel, brown	Silty SAND, with some gravel, brown	Silty SAND, with some gravel, brown	Gravelly Silty SAND, brown	Gravelly Silty SAND, brown	Gravelly Silty SAND, brown	Gravelly Silty SAND, fine, brown, with some cobbles	Gravelly Silty SAND, fine, brown, with some cobbles	Gravelly Silty SAND, fine, brown, with some cobbles	Gravelly Silty SAND, fine, brown, with some cobbles	Gravelly Silty SAND, fine, brown, sub angular gravel	Gravelly Silty SAND, fine, brown, sub angular gravel	Gravelly Silty SAND, fine, brown, sub angular gravel	Sandy Gravelly CLAY, dark brown with orange mottling	Sandy Gravelly CLAY, dark brown with orange mottling
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	255	235	128	271	117	**2828**	**2392**	**3386**	**5230**	**6408**	**5829**	**2128**	**3867**	4	**5423**	962	**4064**	**4241**	141	**3201**
Arsenic	300		**50**	mg/kg	28	25	<LOD	15	19	**113**	**83**	**126**	**185**	<LOD	**153**	**133**	**382**	<LOD	**528**	**84**	**227**	**441**	24	**149**
Barium	-		-	mg/kg	1086	<LOD	<LOD	<LOD	1134	1883	2332	2689	933	1373	<LOD	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	138	<LOD	86	101	166	222	<LOD	<LOD	203	343	377	<LOD	<LOD	3	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	131	87	<LOD	62	115	<LOD	<LOD	<LOD	<LOD	<LOD	34	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	41	45	<LOD	30	52	**255**	**244**	**261**	201	**264**	**353**	**397**	**560**	1	**777**	145	**476**	**706**	**265**	**392**
Iron	-		-	mg/kg	23601	24229	13028	21880	27171	45773	57489	47599	44579	48811	54374	41423	95039	3	104923	37695	58881	118109	11161	71396
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	6	5	7	6	<LOD	<LOD	13	14	<LOD	7	5	6	8	6	9
Manganese	19000		-	mg/kg	290	158	144	138	242	249	310	147	810	1571	1541	272	153	4	176	223	150	253	77	99
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1	34	<LOD	<LOD	37	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1846	2609	2218	3256	3518	3613	3243	2229	3388	3427	2865	<LOD	<LOD	-	1686	<LOD	<LOD	1258	824	<LOD
Zinc	30000		**570**	mg/kg	393	280	**578**	**573**	445	536	555	520	**772**	**1267**	**1163**	**1539**	**911**	1	**1534**	**882**	**875**	**1278**	**1180**	**896**

Cells denoted with '-' indicate no criterion available
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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
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Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
Sample ID:					R_S52a_0.25m	R_S53a_0m	R_S53a_0.1m	R_S53a_0.25m	R_S54a_0m	R_S54a_0.1m	R_S54a_0.25m	R_S55a_0m	R_S55a_0.1m	R_S55a_0.25m	R_S56a_0m	R_S56a_0.1m	R_S56a_0.25m	R_S57a_0m	R_S57a_0.1m	R_S57a_0.25m	R_S58a_0m	R_S58a_0.1m	R_S58a_0.25m	R_S59a_0m
Sample ID (ID only)					R_S52a	R_S53a	R_S53a	R_S53a	R_S54a	R_S54a	R_S54a	R_S55a	R_S55a	R_S55a	R_S56a	R_S56a	R_S56a	R_S57a	R_S57a	R_S57a	R_S58a	R_S58a	R_S58a	R_S59a
Sample Depth					0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Sandy Gravelly CLAY, dark brown with orange mottling	Silty Gravelly SAND, fine sand, pale brown, with some cobbles	Silty Gravelly SAND, fine sand, pale brown, with some cobbles	Silty Gravelly SAND, fine sand, pale brown, with some cobbles	Sandy SILT overlain by grass, dark brown with some organic matter	Sandy SILT, dark brown with some organic matter	Sandy SILT, dark brown with some organic matter	Sandy SILT overlain by grass, brown, some organics	Sandy SILT, brown, some organics	Sandy SILT, brown, some organics	Sandy SILT overlain by grass, brown	Silty GRAVEL with coarse grained shale, brown	Silty GRAVEL with coarse grained shale, brown	Sandy SILT overlain by grass, brown, with organics	Sandy SILT, brown, with organics	Sandy SILT, brown, with organics	Sandy SILT overlain by grass, brown with some organics	Sandy SILT overlain by grass, brown with some organics	Sandy SILT overlain by grass, brown with some organics	Sandy GRAVEL, coarse grained, greyish brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**2498**	**1839**	**2296**	**2655**	707	546	486	181	101	104	115	534	104	36	55	46	76	65	72	448
Arsenic	300		**50**	mg/kg	**250**	**78**	**226**	**222**	45	35	38	19	16	22	10	<LOD	10	8	8	10	<LOD	<LOD	<LOD	20
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	143	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	194	120	<LOD	177	109	<LOD	<LOD	123	<LOD	<LOD	138	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	**400**	195	**260**	**267**	121	183	162	41	58	43	19	110	57	<LOD	21	32	16	<LOD	<LOD	121
Iron	-		-	mg/kg	68547	34087	39551	41271	19910	20270	21301	18623	17980	22427	16675	34452	26677	10110	20841	23022	14096	12529	11307	20792
Molybdenum	-		-	mg/kg	4	6	4	7	3	6	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3	<LOD	<LOD	<LOD	<LOD	4
Manganese	19000		-	mg/kg	168	160	<LOD	90	269	175	187	507	280	173	157	299	251	<LOD	252	374	196	159	331	520
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	87	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	71	<LOD	<LOD	<LOD	81	<LOD	<LOD	<LOD	<LOD	<LOD	80	<LOD
Selenium			-	mg/kg	6	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1709	<LOD	<LOD	1044	<LOD	<LOD	1353	<LOD	<LOD	1074	<LOD	2294	<LOD	<LOD	1302	1047	<LOD	1027	<LOD	<LOD
Zinc	30000		**570**	mg/kg	**896**	428	330	303	**610**	188	385	**761**	206	212	462	**1375**	494	84	162	150	273	225	245	**1943**

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
				Sample ID:	R_S59a_0.1m	R_S59a_0.1m	R_S59a_0.1m	R_S59a_0.25m	R_S60a_0m	R_S60a_0.1m	R_S60a_0.25m	R_S61a_0m	R_S61a_0.1m	R_S61a_0.25m	R_S62a_0m	R_S62a_0.1m	R_S62a_0.25m	R_S63a_0m	R_S63a_0.1m	R_S63a_0.25m	R_S64a_0m	R_S64a_0.1m	R_S64a_0.25m	R_S65a_0m
				Sample ID (ID only)	R_S59a	R_S59a	R_S59a	R_S59a	R_S60a	R_S60a	R_S60a	R_S61a	R_S61a	R_S61a	R_S62a	R_S62a	R_S62a	R_S63a	R_S63a	R_S63a	R_S64a	R_S64a	R_S64a	R_S65a
				Sample Depth	0.1	0.1	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	-	-
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Sandy GRAVEL, coarse grained, greyish brown	Sandy GRAVEL, coarse grained, greyish brown	Sandy GRAVEL, coarse grained, greyish brown	Sandy GRAVEL, coarse grained, greyish brown	Silty SAND overlain by grass, coarse grained, light brown	Silty SAND, coarse grained, light brown	Sandy GRAVEL, medium grained, brown	Sandy SILT overlain by grass, brown, with some organics	Sandy SILT, brown, with some organics	Sandy SILT, brown, with some organics	Sandy SILT overlain by grass, brown	Sandy SILT, brown	Sandy SILT, brown	Sandy SILT overlain by grass, brown	Sandy SILT, brown	Sandy SILT, brown	Sandy SILT overlain by grass, organics, brown	Sandy SILT, brown, organics	Sandy SILT, brown, organics	Sandy SILT overlain by grass, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	<LOD	<LOD	1316	5595	85	76	106	34	35	32	24	21	33	89	29	51	30	38	<LOD	30
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	372	9	<LOD	7	6	11	8	13	14	10	11	6	13	9	9	7	5
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	382	1072	<LOD	<LOD	<LOD	<LOD	191	<LOD	246	265	125	187	94	<LOD	108	97	13585	<LOD
Chromium	-		**300**	mg/kg	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	**292**	**1507**	21	36	24	17	30	22	<LOD	23	25	<LOD	27	25	19	29	129	17
Iron	-		-	mg/kg	<LOD	<LOD	27832	146263	19081	13768	13717	22089	27433	19266	35670	37873	32910	14296	19557	33989	20704	22935	6687	16603
Molybdenum	-		-	mg/kg	<LOD	<LOD	10	23	<LOD	<LOD	<LOD	3	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3	<LOD	<LOD
Manganese	19000		-	mg/kg	<LOD	<LOD	221	1224	173	142	346	151	305	216	302	319	1134	124	202	209	146	186	294	104
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	80	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	79	**249**	<LOD	40	105	<LOD	<LOD	49	<LOD	42	49	<LOD	<LOD	38	<LOD	<LOD	**282**	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7	<LOD
Titanium	-		-	mg/kg	-	-	<LOD	<LOD	<LOD	<LOD	1680	2093	1509	1035	<LOD	<LOD	1507	449	<LOD	<LOD	<LOD	<LOD	<LOD	1181
Zinc	30000		**570**	mg/kg	<LOD	<LOD	**6264**	39726	403	249	294	136	115	92	85	64	68	184	132	125	100	117	128	113

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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

RAMBOLL

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	2/06/2021	2/06/2021	2/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021
				Sample ID:	R_S65a_0.1m	R_S66a_0m	R_S67a_0m	R_S106A_0.0	R_S106A_0.1	R_S106A_0.25	R_S107A_0.0	R_S107A_0.1	R_S107A_0.1	R_S107A_0.25	R_S108A_0.0	R_S108A_0.1	R_S108A_0.0	R_S109A_0.0	R_S109A_0.1	R_S109A_0.1	R_S109A_0.25	R_S110A_0.0	R_S110A_0.1	R_S110A_0.25
				Sample ID (ID only)	R_S65a	R_S66a	R_S67a	R_S106	R_S106	R_S106	R_S107	R_S107	R_S107	R_S107	R_S108	R_S108	R_S108	R_S109	R_S109	R_S109	R_S109	R_S110	R_S110	R_S110
				Sample Depth	0.1	-	-	-	0.1	0.25	0.0	0.1	0.1	0.25	0.0	0.1	0.0	0.0	0.1	0.1	0.25	0.0	0.1	0.25
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Sandy SILT, brown	SILT, pale grey	Gravelly SILT, brown	Sandy CLAY, overlain by grass, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY with some gravel, brown	Sandy CLAY with some gravel, brown	Sandy CLAY with some gravel, brown	Sandy CLAY with some gravel, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, pale brown with white mottling	Sandy CLAY overlain by grass	Sandy CLAY	Sandy CLAY
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	33	345	9	**81**	**61**	**67**	**153**	**365**	**<LOD**	**511**	**514**	**885**	**1336**	**102**	**<LOD**	**50**	**105**	**146**	**88**	**36**
Arsenic	300		**50**	mg/kg	7	<LOD	7	<LOD	<LOD	<LOD	<LOD	39	<LOD	**178**	23	<LOD	**57**	12	<LOD	36	**77**	<LOD	<LOD	26
Barium	-		-	mg/kg	-	-	-	<LOD	<LOD	755	<LOD	<LOD	-	2171	<LOD	1254	1278	<LOD	-	<LOD	1709	<LOD	1274	1782
Cadmium	90		-	mg/kg	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	128	<LOD	139	115	74	225	<LOD	<LOD	<LOD	129	<LOD	<LOD	<LOD	<LOD	281	<LOD	172	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	63	89	<LOD	40	-	88	47	168	193	<LOD	-	112	297	<LOD	60	108
Copper	17000		**220**	mg/kg	29	76	23	<LOD	<LOD	24	<LOD	24	<LOD	<LOD	16	39	34	<LOD	<LOD	27	48	<LOD	23	<LOD
Iron	-		-	mg/kg	17924	14753	24315	18339	28147	21866	10845	24849	<LOD	27879	16954	27967	36329	11509	<LOD	19276	53522	11218	23783	26802
Molybdenum	-		-	mg/kg	<LOD	6	5	<LOD	4	<LOD	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	12	4	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	165	385	239	134	139	301	299	692	<LOD	913	1383	1507	2247	243	<LOD	103	<LOD	111	196	217
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	49	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	<LOD	2061	1364	3342	2079	4400	2326	3415	-	1709	2427	3725	1871	2955	-	2249	3920	3091	3157	2502
Zinc	30000		**570**	mg/kg	106	299	72	117	112	112	122	194	<LOD	176	245	253	298	97	<LOD	78	130	146	99	49

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

R_S106 - R_S115 were advanced at the school playing fields and are screened against Health Investigation Level A

R_S106 - R_S115 were advanced at the school playing fields and are screened against Health Investigat

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

RAMBOLL

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021
Sample ID:					R_S110A_0.0	R_S111A_0.0	R_S111A_0.1	R_S111A_0.1	R_S111A_0.25	R_S112A_0.0	R_S112A_0.1	R_S112A_0.25	R_S113A_0.0	R_S113A_0.1	R_S113A_0.25	R_S113A_0.25	R_S113A_0.25	R_S114A_0.0	R_S114A_0.1	R_S114A_0.25	R_S114A_0.25	R_S115A_0.0	R_S115A_0.1	R_S115A_0.25
Sample ID (ID only)					R_S110	R_S111	R_S111	R_S111	R_S111	R_S112	R_S112	R_S112	R_S113	R_S113	R_S113	R_S113	R_S113	R_S114	R_S114	R_S114	R_S114	R_S115	R_S115	R_S115
Sample Depth					0.0	0.0	0.1	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.25	0.25	0.0	0.1	0.25	0.25	0.0	0.1	0.25
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Sandy CLAY	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Gravelly Sandy CLAY, pale brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY overlain by grass, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY overlain by grass, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY, brown	Sandy CLAY overlain by grass, brown	Sandy CLAY, brown	Sandy CLAY, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	**95**	**106**	**151**	**<LOD**	**69**	**155**	**126**	**36**	**124**	**256**	**205**	**<LOD**	**<LOD**	**172**	**301**	**156**	**<LOD**	**45**	**70**	**46**
Arsenic	300		**50**	mg/kg	<LOD	<LOD	13	<LOD	47	<LOD	19	<LOD	<LOD	18	17	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11	12
Barium	-		-	mg/kg	-	1147	<LOD	-	2213	<LOD	1662	932	<LOD	907	1010	-	-	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	-	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	116	<LOD	244	162	<LOD	136	<LOD	186	118	<LOD	<LOD	<LOD	106	189	<LOD	82	152	<LOD
Chromium	-		**300**	mg/kg	-	79	38	-	177	45	139	93	<LOD	107	101	-	-	<LOD	120	42	-	<LOD	74	56
Copper	17000		**220**	mg/kg	<LOD	<LOD	<LOD	<LOD	32	19	27	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	25	22	<LOD	<LOD	<LOD	<LOD
Iron	-		-	mg/kg	14882	12728	18816	<LOD	49908	22332	23546	22704	14502	28254	26349	<LOD	<LOD	11715	22456	23893	<LOD	12495	24018	22197
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	<LOD	286	447	<LOD	168	458	453	442	178	583	538	<LOD	<LOD	157	316	480	<LOD	146	357	231
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium			-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	-	3006	3123	-	3433	3169	4409	4308	3530	2192	4059	-	-	2462	4287	3812	-	3189	3460	2742
Zinc	30000		**570**	mg/kg	112	101	216	<LOD	60	181	128	88	106	204	138	<LOD	<LOD	223	254	377	<LOD	107	104	86

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

ion Level A

R_S106 - R_S115 were advanced at the school playing fields and are screened

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	17/06/2021	17/06/2021	17/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021
				Sample ID:	R_S116A_0.0	R_S116A_0.1	R_S116A_0.25	R_S135a_0m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S135a_0.1m	R_S136a_0m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m	R_S136a_0.1m
				Sample ID (ID only)	R_S116	R_S116	R_S116	R_S135	R_S135	R_S135	R_S135	R_S135	R_S135	R_S135	R_S135	R_S135	R_S136	R_S136	R_S136	R_S136	R_S136	R_S136	R_S136	R_S136	R_S136
				Sample Depth	0.0	0.1	0.25	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
				Site:																					
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Sandy CLAY overlain by grass, brown	Sandy CLAY, brown	Sandy CLAY, brown	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m	Gravelly Silty SAND, brown, moist. Worm present in soil at 0.1m
Analyte grouping/Analyte				**Units**																					
EG005T: Total Metals by ICP-AES and fpXRF																									
Lead	600	700	**1100**	mg/kg	**66**	**25**	**26**	**23**	**<LOD**	<LOD	<LOD	<LOD	<LOD	<LOD	13	26	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	48
Arsenic	300		**50**	mg/kg	<LOD	<LOD	21	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	22
Barium	-		-	mg/kg	<LOD	797	1894	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	348	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	534
Chromium	-		**300**	mg/kg	57	108	242	<LOD	-	-	-	-	-	-	<LOD	<LOD	-	-	-	-	-	-	-	-	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	30	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	29
Iron	-		-	mg/kg	21526	26745	63473	8311	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10002	8261	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	61507
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5
Manganese	19000		-	mg/kg	254	172	258	419	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	478	331	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2326
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	44	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-	-	-	mg/kg	3108	3573	3271	<LOD	-	-	-	-	-	-	<LOD	<LOD	-	-	-	-	-	-	-	-	<LOD
Zinc	30000		**570**	mg/kg	104	76	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (d against Health Investigation Level A
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021
				Sample ID:	R_S136a_0.3m	R_S137a_0m	R_S137a_0.1m	R_S138a_0m	R_S138a_0.1m	R_S138a_0.25m	R_S78a_0m	R_S78a_0.1m	R_S78a_0.25m	R_S79a_0m	R_S79a_0.1m	R_S79a_0.25	R_S80a_0.1m	R_S81a_0m	R_S81a_0.1m	R_S81a_0.25m	R_S82a__0m	R_S82a_0.1m	R_S82a_0.25m	R_S75a_0m
				Sample ID (ID only)	R_S136	R_S137	R_S137	R_S138	R_S138	R_S138	R_S78a	R_S78a	R_S78a	R_S79a	R_S79a	R_S79a	R_S80a	R_S81a	R_S81a	R_S81a	R_S82a	R_S82a	R_S82a	R_S75a
				Sample Depth	0.3	-	0.1	-	0.1	0.25	-	0.1	0.25	-	0.1	0.25	0.1	-	0.1	0.25	-	0.1	0.25	-
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	15	15	15	15	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	18
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND, brown, moist	Gravelly Silty SAND into weathered shale, light brown, moist	Gravelly Silty SAND into weathered shale, light brown, moist	Gravelly Silty SAND into weathered shale, light brown, moist	Clayey SAND, pale brown	Clayey SAND, pale brown	Fractured rock, extremely weathered, white to yellow	Sandy GRAVEL with cobbles and boulders, coarse grained, brown	Sandy GRAVEL with cobbles and boulders, coarse grained, brown	Sandy GRAVEL with cobbles and boulders, coarse grained, brown	Silty SAND with cobbles and boulders, pale brown	Clayey SAND, fine grained, pale brown	Clayey SAND, fine grained, pale brown	Clayey SAND, fine grained, pale brown	Gravelly SAND, with some gravel, brown	Gravelly SAND, with some gravel, brown	Gravelly SAND, with some gravel, brown	Sandy SILT, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	55	11	<LOD	26	34	37	781	494	470	**6676**	**4718**	**5798**	621	**1760**	**2363**	**4038**	157	273	398	531
Arsenic	300		**50**	mg/kg	7	<LOD	<LOD	<LOD	9	<LOD	**263**	**178**	**128**	**75**	**471**	**457**	**144**	**117**	**124**	**234**	19	**131**	**85**	**71**
Barium	-		-	mg/kg	-	-	-	-	-	-	4400	4900	5778	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	-	-	-	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	186	<LOD	148	<LOD	<LOD	138	87	705	196	<LOD	<LOD	<LOD	<LOD	154	<LOD	<LOD	<LOD	175
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	25	50	27	<LOD	19	<LOD	20	17	22	<LOD	<LOD	<LOD	26	19
Copper	17000		**220**	mg/kg	25	<LOD	<LOD	<LOD	<LOD	39	<LOD	29	<LOD	164	119	192	<LOD	<LOD	38	97	<LOD	76	<LOD	<LOD
Iron	-		-	mg/kg	18689	7706	13558	12396	23216	27824	15522	11353	12083	42172	34434	39524	11692	13535	16201	27891	2271	17710	10811	25841
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11	<LOD	4	7	6	<LOD	<LOD	6	9	<LOD	10	6	10	7
Manganese	19000		-	mg/kg	714	255	392	396	470	642	<LOD	163	79	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	331
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	47	109	<LOD	23	<LOD	40	58	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	120	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1191	<LOD	<LOD	<LOD	1121	2044	274	330	163	1061	592	1110	604	434	550	1752	149	1942	159	512
Zinc	30000		**570**	mg/kg	-	-	-	-	-	-	500	423	450	166	177	185	45	109	158	199	75	81	60	270

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
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[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021
Sample ID:					R_S75a_0.1m	R_S75a_0.25m	R_S76a_0.1m	R_S76a_0.25m	R_S77a_0m	R_S77a_0.1m	R_S127a_0m	R_S127a_0.1m	R_S127a_0.25m	R_S128a_0m	R_S128a_0.1m	R_S129a_0m	R_S129a_0.1m	R_S130a_0m	R_S130a_0.1m	R_S130a_0.2m	R_S131a_0m	R_S131a_0.1m	R_S132a_0m	R_S132a_0.1m
Sample ID (ID only)					R_S75a	R_S75a	R_S76a	R_S76a	R_S77a	R_S77a	R_S127	R_S127	R_S127	R_S128	R_S128	R_S129	R_S129	R_S130	R_S130	R_S130	R_S131	R_S131	R_S132	R_S132
Sample Depth					0.1	0.25	0.1	0.25	-	0.1	-	0.1	0.25	-	0.1	-	0.1	-	0.1	0.2	-	0.1	-	0.1
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Sandy SILT, brown	Sandy SILT, brown	Sandy SILT, brown	Sandy SILT, brown	Sandy SILT, with some gravel, brown, natural	Sandy SILT, with some gravel, brown, natural	Gravelly SAND, light orange/brown, moist	Gravelly SAND, light orange/brown, moist	Gravelly SAND, light orange/brown, moist	Sandy GRAVEL, pale brown, moist	Sandy GRAVEL, pale brown, moist	Clayey Sandy GRAVEL into weathered shale, pale orange/brown, moist	Clayey Sandy GRAVEL into weathered shale, pale orange/brown, moist	Sandy GRAVEL, light brown, moist	Sandy GRAVEL, light brown, moist	Sandy GRAVEL, light brown, moist	Gravelly SAND, brown, moist	Gravelly SAND, brown, moist	Gravelly SAND, brown, moist	Gravelly SAND, brown, moist
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	344	268	171	102	96	102	34	17	11	14	<LOD	<LOD	<LOD	<LOD	17	12	16	9	14	16
Arsenic	300		**50**	mg/kg	**155**	**72**	16	16	<LOD	14	17	<LOD	6	<LOD	6	12	14	6	<LOD	<LOD	<LOD	<LOD	<LOD	5
Barium	-		-	mg/kg	-	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	444	124	<LOD	<LOD	135	236	132	<LOD	<LOD	<LOD	122	125	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	68
Chromium	-		**300**	mg/kg	17	16	<LOD	32	73	67	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	21	<LOD	<LOD	29	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Iron	-		-	mg/kg	35534	17346	16898	11533	17793	24501	20957	16146	23989	7666	10620	9275	22108	16289	17466	14327	12812	17673	8491	13531
Molybdenum	-		-	mg/kg	<LOD	5	5	5	7	<LOD	<LOD	3	<LOD	5	<LOD	<LOD	5	<LOD	7	<LOD	<LOD	3	<LOD	<LOD
Manganese	19000		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	85	239	458	133	151	95	<LOD	<LOD	503	285	168	507	634	570	680
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	40	54	<LOD	<LOD	<LOD	51	<LOD	117	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	389	1014	1551	742	1136	2979	<LOD	1298	<LOD	<LOD	957	<LOD	<LOD	990	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Zinc	30000		**570**	mg/kg	147	161	81	78	105	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 [

[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic

[b] The most conservative ESL guideline value has been adopted for all analytes

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[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021
				Sample ID:	R_S133a_0m	R_S133a_0m	R_S133a_0m	R_S133a_0m	R_S133a_0.1m	R_S133a_0.1m	R_S133a_0.1m	R_S133a_0.1m	R_S133a_0.1m	R_S133a_0.1m	R_S133a_0.3m	R_S134a_0m	R_S134a_0.1m	R_S139a_0m	R_S139a_0.1m	R_S139a_0.3m	R_S140a_0m	R_S140a_0.1m	R_S140a_0.1m	R_S141a_0m	R_S141a_0.1m
				Sample ID (ID only)	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S133	R_S134	R_S134	R_S139	R_S139	R_S139	R_S140	R_S140	R_S140	R_S141	R_S141
				Sample Depth	-	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	0.1	-	0.1	0.3	-	0.1	0.1	-	0.1
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
				Site:																					
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, orange/brown, moist	Gravelly SAND, brown, moist	Gravelly SAND, brown, moist	Gravelly Silty SAND, light brown, no odour	Gravelly Silty SAND, light brown, no odour	Gravelly Silty SAND, light brown, no odour	Gravelly Silty SAND, light brown, moist	Gravelly Silty SAND, light brown, moist	Gravelly Silty SAND, light brown, moist	Gravelly Silty SAND, light brown, moist	Gravelly Silty SAND, light brown, moist
Analyte grouping/Analyte				**Units**																					
EG005T: Total Metals by ICP-AES and fpXRF																									
Lead	600	700	**1100**	mg/kg	<LOD	<LOD	<LOD	17	<LOD	<LOD	<LOD	<LOD	30	30	24	<LOD	73	37	254	130	<LOD	<LOD	91	53	
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	50	21	26	<LOD	<LOD	14	30	19	
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	91	<LOD	<LOD	<LOD	78	<LOD	
Chromium	-		**300**	mg/kg	-	-	-	<LOD	-	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD	<LOD	<LOD	
Copper	17000		**220**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	25	<LOD	<LOD	<LOD	26	63	<LOD	<LOD	<LOD	21	<LOD	
Iron	-		-	mg/kg	<LOD	<LOD	<LOD	12756	<LOD	<LOD	<LOD	<LOD	19617	27042	12674	16123	24050	24326	16313	13664	<LOD	10981	16945	16682	
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	7	<LOD	<LOD	<LOD	<LOD	9	<LOD	4	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	3	
Manganese	19000		-	mg/kg	<LOD	<LOD	<LOD	684	<LOD	<LOD	<LOD	<LOD	750	753	138	120	<LOD	159	147	63	<LOD	174	65	<LOD	
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	97	<LOD	<LOD	<LOD	<LOD	<LOD	31	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	**238**	<LOD	<LOD	
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Titanium	-		-	mg/kg	-	-	-	<LOD	-	-	-	-	<LOD	2496	<LOD	1603	<LOD	1192	<LOD	<LOD	-	<LOD	3329	1205	
Zinc	30000		**570**	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Concentrations in box exceed the screening value >2.5 times
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021	2/06/2021
				Sample ID:	R_S141a_0.3m	R_S142a_0m	R_S142a_0.1m	R_S142a_0.25m	R_S143a_0m	R_S143a_0.1m	R_S143a_0.3m	R_S144a_0m	R_S144a_0.1m	R_S144a_0.3m	R_61B_0.0	R_61B_0.1	R_61B_0.2	R_62B_0.0	R_62B_0.1	R_62B_0.15	R_63B_0.0	R_63B_0.1	R_63B_0.2	R_64B_0.0
				Sample ID (ID only)	R_S141	R_S142	R_S142	R_S142	R_S143	R_S143	R_S143	R_S144	R_S144	R_S144	R_61B_	R_61B_	R_61B_	R_62B_	R_62B_	R_62B_	R_63B_	R_63B_	R_63B_	R_64B_
				Sample Depth	0.3	-	0.1	0.25	-	0.1	0.3	-	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.15	0.0	0.1	0.2	0.0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	18	18	18	18	18	18	18	18	18	18	20	20	20	20	20	20	20	20	20	20
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Gravelly Silty SAND, light brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly SAND, pale brown	Gravelly SAND, pale brown	Gravelly SAND, coarse gravel to cobbles, brown	Gravelly SAND, pale brown, roadbase.	Asphalt	Gravelly SAND, brown	Sandy GRAVEL, grey, roadbase	Gravelly SAND, coarse gravel to cobbles, brown	Gravelly SAND, coarse gravel to cobbles, brown	Gravelly SAND, overlain by loose gravel, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	116	62	56	111	73	43	147	5	13	12	22	41	4763	586	679	4442	123	37	4984	296
Arsenic	300		**50**	mg/kg	28	<LOD	6	24	12	14	22	<LOD	10	9	<LOD	16	**283**	26	45	<LOD	<LOD	39	**226**	<LOD
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	92	<LOD	<LOD	217	<LOD	<LOD	<LOD	<LOD	68	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	486	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	24	<LOD	<LOD	<LOD	47	42	64	38	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	<LOD	33	<LOD	<LOD	<LOD	<LOD	14	<LOD	55	59	**523**	148	186	**1224**	144	92	**345**	66
Iron	-		-	mg/kg	22138	23421	22658	45134	13034	13859	14279	11171	12133	22493	51405	38781	102772	27273	26657	82629	19695	13847	52454	31295
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	6	6	<LOD	13	14	18	7	<LOD
Manganese	19000		-	mg/kg	101	126	180	254	113	120	137	85	136	111	909	587	593	376	272	225	256	169	302	132
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	51	<LOD	<LOD	54	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	66	<LOD	60	<LOD	56	<LOD	36	64	100	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9	<LOD	<LOD
Titanium	-		-	mg/kg	2936	1334	2830	1442	<LOD	898	1181	1144	2237	1127	6816	4961	4030	2395	1832	1555	3717	4017	711	1825
Zinc	30000		**570**	mg/kg	-	-	-	-	-	-	-	-	-	-	**1084**	**860**	**1983**	**1751**	**1280**	**13898**	**1064**	343	562	158

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	2/06/2021	2/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021	16/06/2021
				Sample ID:	R_64B_0.1	R_64B_0.22	R_S74a_0m	R_S74a_0.1m	R_S74a_0.25m	R_S83a_0m	R_S83a_0.1m	R_S84A_0.0	R_S84A_0.1	R_S84A_0.25	R_S85A_0.0	R_S85A_0.1	R_S85A_0.25	R_S96A_0.0	R_S96A_0.1	R_S96A_0.25	R_S97A_0.0	R_S97A_0.1	R_S97A_0.25	R_S98A_0.0
				Sample ID (ID only)	R_64B_	R_64B_	R_S74a	R_S74a	R_S74a	R_S83a	R_S83a	R_S84A	R_S84A	R_S84A	R_S85A	R_S85A	R_S85A	R_S96A	R_S96A	R_S96A	R_S97A	R_S97A	R_S97A	R_S98A
				Sample Depth	0.1	0.2	-	0.1	0.25	-	0.1	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0	0.1	0.25	0.0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Gravelly SAND, overlain by loose gravel, brown	Silty Gravelly SAND, coarse gravel to cobbles, brown. Refusal on cobbles	Sandy GRAVEL with some cobbles, coarse grained	Sandy GRAVEL with some cobbles, coarse grained	Sandy SILT with some gravel, brown	Sandy SILT overlain by grass, brown	Sandy SILT, brown	Sandy GRAVEL	Sandy GRAVEL	Sandy GRAVEL into weathered sandstone.	Sandy GRAVEL	Sandy GRAVEL	Sandy GRAVEL	Silty SAND overlain by gravel, brown	Silty SAND, brown	Silty SAND, brown	Silty SAND overlain by gravel, brown	Silty SAND, brown	Silty SAND, brown	Gravelly SAND, light brown, dry
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	111	**5049**	893	529	587	<LOD	<LOD	545	979	**1399**	499	913	609	215	747	1002	160	318	520	160
Arsenic	300		**50**	mg/kg	26	**237**	**88**	<LOD	45	<LOD	<LOD	**61**	<LOD	**88**	27	29	34	<LOD	34	<LOD	18	<LOD	23	<LOD
Barium	-		-	mg/kg	-	-	-	-	-	<LOD	<LOD	-	-	-	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	919
Cadmium	90		-	mg/kg	-	-	-	-	-	<LOD	<LOD	-	-	-	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	315	<LOD	<LOD	<LOD	<LOD	140	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	107	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	31	40	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	124	**550**	**254**	149	151	<LOD	<LOD	64	47	66	43	90	54	<LOD	25	<LOD	<LOD	41	43	<LOD
Iron	-		-	mg/kg	27012	105273	25699	10091	16695	18299	15535	25579	23643	19029	19640	45443	27794	18533	25435	19394	19922	39595	40683	19866
Molybdenum	-		-	mg/kg	4	7	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	215	327	180	289	180	266	271	236	316	360	259	1600	653	296	392	318	287	759	891	296
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	78	101	27	146	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	82	<LOD
Selenium	-		-	mg/kg	<LOD	14	<LOD	<LOD	<LOD	<LOD	<LOD	8	12	17	<LOD	<LOD	11	<LOD	<LOD	<LOD	<LOD	9	8	<LOD
Titanium	-		-	mg/kg	3989	2952	<LOD	<LOD	<LOD	676	1290	1760	1055	753	2163	5457	2240	1700	2844	1742	2619	3363	3417	1941
Zinc	30000		**570**	mg/kg	235	**887**	222	120	163	40	45	209	349	387	207	471	324	171	366	374	176	357	476	250

Cells denoted with '-' indicate no criterion available
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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
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TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	16/06/2021	16/06/2021	29/06/2021	29/06/2021	16/06/2021	16/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021
				Sample ID:	R_S98A_0.1	R_S98A__0.25	R_S123a	R_S124a	R_S94A_0.0	R_S95A_0.0	GW1_0.0	GW1_0.1	GW1_0.2	GW1_0.3	GW1_0.4	GW1_0.5	GW1_1.0	GW1_2.0	GW1_3.0	GW1_4.0	GW2_0.1	GW2_0.0	GW2_0.2	GW2_0.3
				Sample ID (ID only)	R_S98A	R_S98A	R_S123	R_S124	R_S94A	R_S95A	GW1	GW1	GW1	GW1	GW1	GW1	GW1	GW1	GW1	GW1	GW2	GW2	GW2	GW2
				Sample Depth	0.1	0.25	0	0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	0.1	0.0	0.2	0.3
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	20	20	20	20	21	21	13	13	13	13	13	13	13	13	13	13	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Gravelly SAND, light brown, dry	Gravelly SAND, light brown, dry	Sandy GRAVEL, brown	Sandy GRAVEL, brown	Sandy CLAY, red-brown, moist	Sandy CLAY, brown, moist, organic matter	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	619	**3428**	**3813**	**23517**	1074	**2399**	112	276	427	481	121	117	149	337	608	372	1073	731	464	297
Arsenic	300		**50**	mg/kg	<LOD	<LOD	**253**	**327**	**74**	<LOD	<LOD	24	27	36	<LOD	<LOD	15	<LOD	<LOD	20	**58**	49	21	28
Barium	-		-	mg/kg	1743	1479	-	-	839	1000	-	-	<LOD	-	<LOD	-	<LOD	<LOD	2499	980	-	<LOD	-	934
Cadmium	90		-	mg/kg	<LOD	<LOD	-	-	<LOD	<LOD	-	-	<LOD	-	<LOD	-	<LOD	<LOD	<LOD	<LOD	-	<LOD	-	<LOD
Cobalt	-		-	mg/kg	<LOD	229	<LOD	<LOD	<LOD	224	<LOD	95	135	<LOD	126	143	<LOD	116	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	48	<LOD	<LOD	<LOD	<LOD	48	41	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	59	<LOD	**308**	**2403**	181	**275**	34	59	75	75	46	36	34	52	128	63	93	89	111	97
Iron	-		-	mg/kg	36055	40983	47279	80172	46569	48700	13921	16812	18596	20697	16179	20313	17907	21855	27811	19656	33376	20880	27998	27341
Molybdenum	-		-	mg/kg	<LOD	13	7	18	4	8	<LOD	<LOD	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	357	437	109	473	283	996	169	373	345	319	354	383	<LOD	248	315	326	620	547	475	772
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	149	<LOD	<LOD	<LOD	47	48	<LOD	<LOD	<LOD	<LOD	<LOD	51	41	62	<LOD	50	<LOD
Selenium				mg/kg	<LOD	18	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	2479	1689	<LOD	1595	4873	2335	3465	4073	4708	1781	4859	3867	4266	2740	2196	1886	3610	5266	3432	2840
Zinc	30000		**570**	mg/kg	**753**	**739**	-	-	401	**3359**	394	535	**681**	**639**	423	469	**643**	**922**	**1020**	**1266**	**982**	**832**	**959**	**709**

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TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	7/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021
				Sample ID:	GW2_0.44	GW2_0.5	GW2_1.0	GW2_2.0	GW3_0.0	GW3_0.1	GW3_0.2	GW3_0.3	GW3_0.4	GW3_0.5	GW3_1.0	GW3_2.0	GW3_3.0	GW4_0.0	GW4_0.1	GW4_0.2	GW4_0.3	GW4_0.4	GW4_0.5	GW4_1.0
				Sample ID (ID only)	GW2	GW2	GW2	GW2	GW3	GW3	GW3	GW3	GW3	GW3	GW3	GW3	GW3	GW4	GW4	GW4	GW4	GW4	GW4	GW4
				Sample Depth	0.4	0.5	1.0	2.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	10	10	10	10	10	10	10	10	10	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	258	435	426	508	624	**10592**	**2858**	**9059**	**2046**	**6250**	**2376**	**2990**	342	55	**2916**	**4207**	1088	26	48	81
Arsenic	300		**50**	mg/kg	23	45	40	34	<LOD	**275**	**253**	**184**	46	**214**	**69**	**222**	30	24	**120**	<LOD	**99**	<LOD	<LOD	19
Barium	-		-	mg/kg	-	1097	<LOD	-	-	2495	<LOD	2277	1361	2116	1174	<LOD	<LOD	<LOD	2431	2960	1048	<LOD	936	880
Cadmium	90		-	mg/kg	-	<LOD	<LOD	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	605	<LOD	<LOD	<LOD	<LOD	176	228	<LOD	226	201	270	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	35	28	72	<LOD	<LOD	<LOD	21	<LOD	56
Copper	17000		**220**	mg/kg	89	106	97	107	169	**737**	**426**	**686**	**243**	**474**	**354**	**389**	41	31	**315**	**370**	148	<LOD	42	34
Iron	-		-	mg/kg	24825	27285	29891	27928	13296	98759	36735	52190	29255	51968	32741	36846	20034	37271	51718	79726	34881	13717	17347	20378
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	4	<LOD	<LOD	6	11	<LOD	5	4	<LOD
Manganese	19000		-	mg/kg	421	284	225	321	182	494	264	358	186	238	277	273	<LOD	387	283	241	122	182	263	199
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	79	52	41	48	<LOD	72	<LOD	71	110	74	47	<LOD	<LOD	68	<LOD	96	<LOD	<LOD	44	55
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	5232	5948	5401	5401	2367	4530	5045	3895	3068	4617	5674	3425	3156	2040	3462	2824	3236	2876	5332	5687
Zinc	30000		**570**	mg/kg	**838**	**960**	**996**	**1061**	211	**1972**	**657**	**1953**	454	**1210**	**821**	**1271**	334	396	**1434**	**1041**	403	166	237	297

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021
				Sample ID:	GW4_2.0	GW5_0.0	GW5_0.1	GW5_0.2	GW5_0.3	GW5_0.4	GW5_0.5	GW5_1.0	GW6_0.0	GW6_0.1	GW6_0.2	GW6_0.3	GW6_0.4	GW6_0.5	GW6_1.0	GW7_0.00	GW7_0.1	GW7_0.2	GW7_0.3	GW7_0.4
				Sample ID (ID only)	GW4	GW5	GW5	GW5	GW5	GW5	GW5	GW5	GW6	GW6	GW6	GW6	GW6	GW6	GW6	GW7	GW7	GW7	GW7	GW7
				Sample Depth	2.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	-	0.1	0.2	0.3	0.4
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	10	10	10	10	10
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	25	76	179	209	201	9	9	54	82	156	253	76	18	23	17	63	1869	1679	1503	1818
Arsenic	300		**50**	mg/kg	14	<LOD	<LOD	<LOD	18	<LOD	<LOD	12	<LOD	<LOD	<LOD	<LOD	<LOD	8	<LOD	10	**103**	**103**	**165**	**173**
Barium	-		-	mg/kg	618	<LOD	1831	<LOD	746	<LOD	547	757	<LOD	915	<LOD	1838	714	676	1366	<LOD	1900	885	<LOD	1932
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	109	<LOD	182	137	91	<LOD	<LOD	121	<LOD	<LOD	<LOD	<LOD	69	248	145	122	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	41	<LOD	<LOD	<LOD	<LOD	<LOD	29	<LOD	<LOD	157	108	119	144
Copper	17000		**220**	mg/kg	19	<LOD	64	35	41	<LOD	<LOD	<LOD	<LOD	51	57	<LOD	<LOD	20	<LOD	<LOD	61	54	78	55
Iron	-		-	mg/kg	23060	13016	20420	29439	15943	8564	16711	17046	14407	18009	14123	7199	9647	25495	20302	20638	43151	39571	41646	44366
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	334	<LOD	565	392	217	301	1190	331	193	315	508	196	231	201	246	233	1778	1707	1616	2249
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	63	<LOD	103	<LOD	<LOD	<LOD	41	70	<LOD	<LOD	41	<LOD	40	<LOD	112	<LOD	91	70	<LOD	126
Selenium			-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	4969	3658	2716	2621	5206	3465	5206	5480	2871	4000	4642	2130	6371	5710	2652	4153	5425	4281	5440	4785
Zinc	30000		**570**	mg/kg	218	438	484	**604**	231	34	111	137	263	378	397	194	80	81	69	133	404	396	358	393

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				Sample date:	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	8/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021
				Sample ID:	GW7_0.3	GW7_0.4	GW7_1.0	GW7_2.0	GW7_3.0	GW7_5.0	GW8_0.0	GW8_0.1	GW8_0.2	GW8_0.3	GW8_0.4	GW8_0.5	GW8_1.0	GW8_2.0	GW8_5.0	GW10_0.0	GW10_0.1	GW10_0.2	GW10_0.3	GW10_0.4
				Sample ID (ID only)	GW7	GW7	GW7	GW7	GW7	GW7	GW8	GW8	GW8	GW8	GW8	GW8	GW8	GW8	GW8	GW10	GW10	GW10	GW10	GW10
				Sample Depth	0.3	0.4	1.0	2.0	3.0	5.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	2.0	5.0	0.0	0.1	0.2	0.3	0.4
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	10	10	10	10	10	10	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs
Analyte grouping/Analyte				**Units**																				
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Lead	600	700	**1100**	mg/kg	**2943**	**2273**	660	**4088**	**3261**	**2005**	932	**2583**	**2848**	**1508**	**2875**	**1569**	**2061**	**1521**	64	**1768**	25	33	33	25
Arsenic	300		**50**	mg/kg	**147**	**337**	38	**201**	**201**	<LOD	**181**	**301**	**163**	**59**	**565**	**132**	**126**	**80**	19	**78**	<LOD	<LOD	<LOD	<LOD
Barium	-		-	mg/kg	-	1387	1118	1513	2093	6015	<LOD	1679	3338	1424	1849	2196	1131	941	6136	<LOD	1257	696	-	373
Cadmium	90		-	mg/kg	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	<LOD
Cobalt	-		-	mg/kg	172	258	<LOD	<LOD	<LOD	<LOD	<LOD	221	158	187	288	<LOD	235	<LOD	333	<LOD	89	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	176	239	69	169	115	294	<LOD	32	49	<LOD	<LOD	<LOD	37	<LOD	70	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	79	105	20	106	62	146	49	45	41	36	83	34	33	25	<LOD	**249**	<LOD	<LOD	19	<LOD
Iron	-		-	mg/kg	49022	64194	23343	61229	56617	51862	24984	51640	43009	34908	55346	35731	47670	40699	55544	15042	16534	22861	19307	21055
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	4	<LOD	<LOD	<LOD	5	4	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	2024	1406	840	7604	9705	43737	956	1176	1094	794	1091	468	1494	586	5309	156	335	346	298	347
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	31	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	193	159	110	129	**206**	**792**	<LOD	<LOD	116	74	68	54	<LOD	<LOD	112	<LOD	36	53	41	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	4637	5744	4636	5107	4378	3301	2867	4487	4993	4994	3929	5044	4775	3628	4516	3500	4445	5038	5368	5195
Zinc	30000		**570**	mg/kg	538	**639**	157	**807**	**788**	**1640**	**1175**	**865**	**789**	**778**	**822**	**701**	**1013**	**1242**	**741**	**5213**	114	140	162	121

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				Sample date:	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	9/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021
				Sample ID:	GW10_0.5	GW10_1.0	GW10_2.0	GW10_4.0	GW9_0.0	GW9_0.1	GW9_0.2	GW9_0.3	GW9_0.4	GW9_0.5	GW9_1.0	R_S1B	R_S2B	R_S3B	R_S4B	R_S5B	R_S6B	R_S7B	R_S8B	R_S9B
				Sample ID (ID only)	GW10	GW10	GW10	GW10	GW9	GW9	GW9	GW9	GW9	GW9	GW9	R_S1B	R_S2B	R_S3B	R_S4B	R_S5B	R_S6B	R_S7B	R_S8B	R_S9B
				Sample Depth	0.5	1.0	2.0	4.0	0.0	0.1	0.2	0.3	0.4	0.5	1.0	0	0	0	0	0	0	0	0	0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	See bore logs	SILT, overlain by pine needles, brown	Gravelly SAND, grey	Gravelly SAND, grey/brown	Sandy GRAVEL, pale brown/yellow	Gravelly SAND, brown	Gravelly SAND, dark brown	SAND, brown	SILT, brown	Gravelly SAND, pale brown/yellow
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	32	27	33	222	44	18	8	<LOD	<LOD	<LOD	17	69	230	517	32	731	1390	181	988	906
Arsenic	300		**50**	mg/kg	11	13	<LOD	20	14	15	15	10	15	<LOD	16	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15	<LOD	40
Barium	-		-	mg/kg	810	765	<LOD	1182	<LOD	<LOD	<LOD	874	<LOD	1630	<LOD	-	-	-	<LOD	-	-	-	-	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	-	-	-	<LOD	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	224	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	262	<LOD	139	<LOD
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	133	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15	28	33	24	24	24	<LOD	17	<LOD
Copper	17000		**220**	mg/kg	<LOD	34	<LOD	31	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	92	<LOD	90	192	43	**221**	119
Iron	-		-	mg/kg	20845	16555	32593	41570	16782	31525	34019	30909	29429	28182	28703	8814	16422	15042	10530	16331	23180	11741	19944	17745
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	18	8	13	16	4	5	10
Manganese	19000		-	mg/kg	263	256	359	516	159	304	288	291	270	208	249	<LOD	293	233	488	198	280	231	300	<LOD
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	50	54	62	<LOD	53	<LOD	<LOD	<LOD	<LOD	42	<LOD	**201**	<LOD	**238**	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	5148	5074	4841	4593	3014	4675	4244	4528	4772	3161	4539	253	416	740	402	1436	359	2101	1423	1860
Zinc	30000		**570**	mg/kg	119	111	102	**1232**	70	100	94	75	80	104	92	500	**855**	**1605**	170	**682**	**2776**	506	**2581**	124

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021
				Sample ID:	R_S10B	R_S11B	R_S12B	R_S13B	R_S14B	R_S15B	R_S16B	R_S17B	R_S18B	R_S19B	R_S20B	R_S21B	R_S22B	R_S23B	R_S24B	R_S25B	R_S26B	R_S27B	R_S28B	R_S29B
				Sample ID (ID only)	R_S10B	R_S11B	R_S12B	R_S13B	R_S14B	R_S15B	R_S16B	R_S17B	R_S18B	R_S19B	R_S20B	R_S21B	R_S22B	R_S23B	R_S24B	R_S25B	R_S26B	R_S27B	R_S28B	R_S29B
				Sample Depth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	SILT, dark brown	SILT overlain by grass, brown	Gravelly SAND, yellow	Gravelly SAND, brown	Gravelly SAND, grey	Gravelly SAND, grey/brown	Gravelly SAND, brown	Sandy GRAVEL, angular, brown	Sandy GRAVEL, angular, grey	Gravelly SILT, brown	Gravelly SAND, orange	Gravelly SAND, brown	Gravelly SAND, brown	Gravelly SAND, brown	Gravelly SAND, grey/brown	Gravelly SAND, brown	Gravelly SAND, brown	Sandy GRAVEL, grey	Gravelly SAND, orange	Sandy SILT, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	67	154	119	**1511**	127	460	28	13	**<LOD**	892	29	34	128	55	146	16	126	274	**<LOD**	11
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	<LOD	18	<LOD	11	<LOD	24	39	9	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	<LOD
Barium	-		-	mg/kg	-	-	-	-	-	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	180	399	<LOD	190	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	144	<LOD	<LOD	<LOD	218	161	<LOD
Chromium	-		**300**	mg/kg	<LOD	19	33	38	42	32	28	<LOD	40	<LOD	<LOD	84	16	21	50	<LOD	<LOD	18	61	<LOD
Copper	17000		**220**	mg/kg	<LOD	<LOD	38	**293**	47	112	<LOD	<LOD	<LOD	**278**	<LOD	<LOD	<LOD	38	29	<LOD	41	53	<LOD	<LOD
Iron	-		-	mg/kg	7659	9694	28238	45143	19148	28683	24371	4783	8401	28487	23441	18647	18821	26119	24807	15097	21275	20964	25285	17904
Molybdenum	-		-	mg/kg	5	8	9	16	5	9	6	5	19	10	6	9	7	9	8	5	7	8	6	10
Manganese	19000		-	mg/kg	194	<LOD	453	468	257	282	402	<LOD	<LOD	731	250	<LOD	305	546	537	169	176	711	303	460
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	157	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	64	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	512	346	2355	623	2104	1874	2460	2602	2549	1693	3700	5866	1532	2068	2070	873	2573	683	2565	3828
Zinc	30000		**570**	mg/kg	**629**	503	185	**7708**	**603**	**2237**	192	252	55	**3969**	335	170	400	288	354	148	**681**	**844**	146	62

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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
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Health Investigation Levels for chromium based on chromium (VI)
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Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
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Concentrations in box exceed the screening value >2.5 times
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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**	**SOIL XRF**
				Sample date:	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021
				Sample ID:	R_S30B	R_S31B	R_S32B	R_S33B	R_S34B	R_S35B	R_S36B	R_S37B	R_S38B	R_S39B	R_S40B	R_S65b_0m	R_S65b_0.1m	R_S65b_0.2m	R_S66b_0m	R_S66b_0.1m	R_S66b_0.25m	R_S67b_0m	R_S67b_0.1m	R_S67b_0.25m
				Sample ID (ID only)	R_S30B	R_S31B	R_S32B	R_S33B	R_S34B	R_S35B	R_S36B	R_S37B	R_S38B	R_S39B	R_S40B	R_S65b	R_S65b	R_S65b	R_S66b	R_S66b	R_S66b	R_S67b	R_S67b	R_S67b
				Sample Depth	0	0	0	0	0	0	0	0	0	0	0	-	0.1	0.2	-	0.1	0.25	-	0.1	0.25
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	SILT, brown	Sandy gravel, grey/brown	Gravelly SILT, brown	Sandy GRAVEL, brown	Sandy GRAVEL, orange	Gravelly SAND, grey	Gravelly SAND, grey	Gravelly SAND, brown/orange	Gravelly, SAND, orange. Sample located in drainage line	Gravelly SILT, overlain by pine needles, brown	Gravelly SILT overlain by grass, brown	Gravelly Clayey SAND, overlain by pine needles, brown, with tree roots	Gravelly Clayey SAND, brown, with tree roots	Gravelly Clayey SAND, brown, with tree roots	Clayey SAND with coarse gravel to cobbles, orange	Sandy CLAY with medium to coarse gravel/cobbles, grey	Sandy CLAY with medium to coarse gravel/cobbles, grey	Clayey SAND with gravel	Sandy CLAY with gravel, grey	Sandy CLAY with gravel, grey
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	360	61	358	748	36	661	242	<LOD	**1947**	84	<LOD	96	244	216	**4179**	**1141**	**1345**	793	**2052**	**4582**
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13	**507**	<LOD	<LOD	<LOD	<LOD	<LOD	**338**	**72**	**99**	**62**	**187**	**273**
Barium	-		-	mg/kg	-	-	<LOD	-	-	<LOD	2052	-	2847	-	-	<LOD	<LOD	<LOD	1255	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	-	-	<LOD	-	-	<LOD	<LOD	-	<LOD	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	188	<LOD	<LOD	156	142	683	152	117	<LOD	<LOD	<LOD	234	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	36	<LOD	<LOD	<LOD	11	28	<LOD	34	<LOD	30	20	15	32	<LOD	29	26	<LOD	27	<LOD	24
Copper	17000		**220**	mg/kg	66	<LOD	49	88	45	167	83	<LOD	87	35	<LOD	<LOD	37	45	**385**	197	177	191	**331**	**469**
Iron	-		-	mg/kg	24497	19456	15384	19806	20185	16176	33987	29005	154300	19928	10420	13190	24035	35666	73082	26607	29212	35682	46733	41314
Molybdenum	-		-	mg/kg	4	7	5	6	7	9	5	4	9	7	8	<LOD	8	<LOD	5	<LOD	<LOD	<LOD	<LOD	<LOD
Manganese	19000		-	mg/kg	1090	241	360	168	401	132	389	626	1048	164	123	188	<LOD	191	194	<LOD	116	<LOD	146	<LOD
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	107	<LOD	65	42	<LOD	<LOD	<LOD	<LOD	<LOD	58	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	2208	3379	2877	2631	970	1456	2528	2831	3964	3796	408	557	1448	3608	2934	1376	2987	1744	3043	1018
Zinc	30000		**570**	mg/kg	**1371**	236	384	**2406**	282	**806**	**963**	132	**885**	130	117	93	98	79	269	177	262	171	308	343

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TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																				
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021	4/06/2021
Sample ID:					R_S68b_0m	R_S68b_0.1m	R_S68b_0.25m	R_S69b_0m	R_S69b_0.1m	R_S70b_0m	R_S70b_0.1m	R_S71b_0m	R_S71b_0.1m	R_S72b_0m	R_S72b_0.1m	R_S73b_0m	R_S73b_0.1m	R_S74b_0m	R_S74b_0.1m	R_S75b_0m	R_S75b_0.1m	R_S76b_0m	R_S76b_0.1m	R_S77b_0m
Sample ID (ID only)					R_S68b	R_S68b	R_S68b	R_S69b	R_S69b	R_S70b	R_S70b	R_S71b	R_S71b	R_S72b	R_S72b	R_S73b	R_S73b	R_S74b	R_S74b	R_S75b	R_S75b	R_S76b	R_S76b	R_S77b
Sample Depth					-	0.1	0.25	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
Site:																							
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Silty SAND with coarse gravel to cobbles, fine grained, brown	Silty SAND with coarse gravel to cobbles, fine grained, brown	Silty SAND with coarse gravel to cobbles, fine grained, brown	Gravelly Silty SAND overlain by grass and leaf litter, brown but becoming orange at 0.05	Gravelly Silty SAND overlain by grass and leaf litter, brown/orange	SILT overlain by leaf litter, brown	Silty SAND, fine, pale brown	Clayey GRAVEL, with sand, brown, medium sub-angular gravel	Clayey GRAVEL, with sand, brown, medium sub-angular gravel	Clayey SILT, with medium sub angular gravel, pale brown to brown	Clayey SILT, with medium sub angular gravel, pale brown to brown	Clayey SILT overlain by leaf litter, with medium sub angular gravel, brown	Clayey SILT overlain by leaf litter, with medium sub angular gravel, brown	Sandy CLAY overlain by leaf litter, with gravel, brown/orange, tree roots	Sandy CLAY with gravel, brown/orange, tree roots	Sandy CLAY overlain by leaf litter, with medium sub angular gravel, orange brown	Sandy CLAY overlain by leaf litter, with medium sub angular gravel, orange brown	Sandy CLAY with some gravel, orangish brown	Sandy CLAY with some gravel, orangish brown	Clayey SILT overlain by grass, brown
Analyte grouping/Analyte				**Units**																			
EG005T: Total Metals by ICP-AES and fpXRF																							
Lead	600	700	**1100**	mg/kg	31	<LOD	9	15	28	<LOD	<LOD	64	21	223	93	97	41	<LOD	13	<LOD	<LOD	<LOD	<LOD
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	8	9	<LOD	<LOD	<LOD	<LOD	27	<LOD	10	<LOD	<LOD	<LOD	9	<LOD	<LOD	8	<LOD
Barium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cobalt	-		-	mg/kg	141	<LOD	162	<LOD	261	<LOD	<LOD	84	<LOD	<LOD	87	<LOD	<LOD	<LOD	<LOD	131	<LOD	<LOD	188	63
Chromium	-		**300**	mg/kg	37	38	53	<LOD	<LOD	7	<LOD	<LOD	10	<LOD	17	<LOD	<LOD	<LOD	38	<LOD	30	36	36	57
Copper	17000		**220**	mg/kg	<LOD	<LOD	22	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	25	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Iron	-		-	mg/kg	21067	10728	35147	16625	22198	3782	9050	12200	9861	12845	8341	15196	11534	4025	16918	28256	16019	13609	27341	7692
Molybdenum	-		-	mg/kg	<LOD	<LOD	<LOD	8	<LOD	6	4	6	7	7	5	<LOD	5	<LOD	<LOD	5	<LOD	<LOD	4	5
Manganese	19000		-	mg/kg	230	<LOD	236	1414	149	<LOD	<LOD	630	347	598	277	120	120	101	68	257	<LOD	<LOD	84	153
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	**289**	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1739	83	3156	2539	2294	412	2460	2829	1107	2202	1381	4355	2979	448	3222	3230	195	227	2125	705
Zinc	30000		**570**	mg/kg	109	<LOD	63	110	66	46	49	178	199	231	167	97	78	22	58	61	47	80	57	132

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
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Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in red font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in orange font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in green and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	**Sample Type:**	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	4/06/2021	4/06/2021	4/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021
				Sample ID:	R_S77b_0.1m	R_S78b_0m	R_S78b_0.1m	R_S10a	R_S11a	R_S12a	R_S13a	R_S14a	R_S15a	R_S16a	R_S17a	R_S18a	R_S19a	R_S20a	R_S21a	R_S22a	R_S23a	R_S24a	R_S25a	R_S26a
				Sample ID (ID only)	R_S77b	R_S78b	R_S78b	R_S10a	R_S11a	R_S12a	R_S13a	R_S14a	R_S15a	R_S16a	R_S17a	R_S18a	R_S19a	R_S20a	R_S21a	R_S22a	R_S23a	R_S24a	R_S25a	R_S26a
				Sample Depth	0.1	-	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Clayey SILT overlain by grass, brown	Sandy CLAY, overlain by thick grass, pale brown/orange	Sandy CLAY, pale brown/orange	-	Gravelly SAND, brown	-	Gravelly SAND, brown	Silty Gravelly SAND, brown	Silty Gravelly SAND	Fill; Sandy gravel, brown. Pub driveway	Gravelly Silty SAND	Silty SAND, overlain by grass, brown	Sandy GRAVEL	Gravelly SAND, brown	Silty Gravelly SAND, brown	Silty SAND, brown	Silty SAND, brown	-	Silty SAND, brown	Sandy GRAVEL, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	<LOD	21	13	114	2340	469	483	1524	2339	<LOD	487	266	133	1041	54	87	101	123	23	1796
Arsenic	300		**50**	mg/kg	<LOD	<LOD	<LOD	<LOD	**77**	35	<LOD	**72**	**96**	5	49	14	11	**125**	9	14	10	<LOD	9	37
Barium	-		-	mg/kg	<LOD	<LOD	1519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	397	<LOD	167	<LOD	123	<LOD	<LOD	104	134	<LOD	<LOD	<LOD	<LOD	<LOD	157	<LOD
Chromium	-		**300**	mg/kg	12	<LOD	16	-	-	-	-	<LOD	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-
Copper	17000		**220**	mg/kg	<LOD	<LOD	<LOD	52	**465**	60	66	**264**	215	<LOD	68	34	44	113	50	17	22	26	20	**404**
Iron	-		-	mg/kg	12378	14452	9876	14555	73532	18863	15463	32409	26938	37823	27248	12193	28062	21365	14441	14670	24382	19997	16654	49679
Molybdenum	-		-	mg/kg	<LOD	3	<LOD	5	13	5	8	5	8	<LOD	5	5	5	4	5	3	3	4	<LOD	8
Manganese	19000		-	mg/kg	275	143	84	201	431	294	201	200	355	416	512	255	476	491	218	211	439	284	205	408
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	54	70	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	1055	2329	783	-	-	-	-	1811	<LOD	<LOD	-	-	-	-	-	-	-	-	-	-
Zinc	30000		**570**	mg/kg	73	151	130	**1757**	**12302**	543	**913**	**1135**	**1632**	85	**730**	541	491	438	243	216	349	444	121	**7397**

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space	Sample Type:	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
				Sample date:	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021	1/06/2021
				Sample ID:	R_S27a	R_S28a	R_S29a	R_S30a	R_S31a	R_S32a	R_S33a	R_S34a	R_S35a	R_S36a	R_S37a	R_S38a	R_S39a	R_S40a	R_S41a	R_S42a	R_S43a	R_S44a	R_S45a	R_S46a
				Sample ID (ID only)	R_S27a	R_S28a	R_S29a	R_S30a	R_S31a	R_S32a	R_S33a	R_S34a	R_S35a	R_S36a	R_S37a	R_S38a	R_S39a	R_S40a	R_S41a	R_S42a	R_S43a	R_S44a	R_S45a	R_S46a
				Sample Depth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Project Name:	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
				SAQP Item:	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
				Site:																				
				Sampling Method:	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
				Sample Description	Sandy GRAVEL, brown	Sandy GRAVEL, brown	Sandy GRAVEL, brown	Silty SAND overlain by moss, brown	Gravelly Sandy SILT, pale brown	Sandy GRAVEL, brown	Silty SAND, pale brown	Gravelly SAND, brown	Sandy GRAVEL, pale brown	Sandy GRAVEL, pale brown	Silty SAND, brown	Sandy GRAVEL, grey	Sandy GRAVEL	Silty SAND, brown	Silty Sandy GRAVEL, pale brown		-	Sandy GRAVEL, brown	Gravelly SAND	Silty SAND, brown
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	697	305	5	141	80	35	87	33	379	36	58	42	28	115	63	580	35	154	<LOD	15
Arsenic	300		**50**	mg/kg	**56**	<LOD	6	11	14	13	<LOD	8	<LOD	9	12	20	9	<LOD	12	20	7	14	<LOD	7
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	362	186	<LOD	<LOD	<LOD	107	120	173	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	-		**300**	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	17000		**220**	mg/kg	102	35	25	13	31	35	42	54	90	17	56	41	26	39	29	97	<LOD	47	<LOD	52
Iron	-		-	mg/kg	19316	22310	30953	14554	26561	16293	24011	51384	33496	20493	19126	14042	12410	15441	34414	17286	8248	17617	1303	4760
Molybdenum	-		-	mg/kg	11	6	<LOD	<LOD	5	7	<LOD	6	3	<LOD	5	12	6	3	<LOD	3	<LOD	7	8	6
Manganese	19000		-	mg/kg	221	306	471	290	1543	272	566	856	471	278	426	278	261	272	357	376	146	288	<LOD	167
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	36	<LOD	42	<LOD	65	107	32	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	<LOD	1248	<LOD	1185	<LOD	<LOD
Zinc	30000		**570**	mg/kg	**703**	**723**	71	306	409	134	378	346	**1514**	194	542	137	150	559	351	**913**	108	**1063**	51	437

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[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
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25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space																			
Sample Type:					SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
Sample date:					1/06/2021	1/06/2021	1/06/2021	29/06/2021	29/06/2021	29/06/2021	29/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	30/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021
Sample ID:					R_S47a	R_S48a	R_S49a	R_S117 correct	R_S119a	R_S125a	R_S126a	R_S145a	R_S146a	R_S147a	R_S148a	R_S149a	WC01	WC02	WC03	WC04	WC05	WC06	WC07	WC08
Sample ID (ID only)					R_S47a	R_S48a	R_S49a	R_S117	R_S119a	R_S125a	R_S126a	R_S145a	R_S146a	R_S147a	R_S148a	R_S149a								
Sample Depth					0	0	0	-	0	0	0	-	0	0	0	0	-	-	-	-	-	-	-	-
Project Name:					Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
SAQP Item:					106	106	106	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	WC	WC	WC	WC	WC	WC	WC	WC
Site:																								
Sampling Method:					XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
Sample Description					Silty SAND, brown	Silty SAND, brown	Gravelly SAND	-	Gravelly SAND, brown	Sandy GRAVEL, brown	Sandy GRAVEL, green/grey	Gravelly Silty SAND, orange/brown, moist	Gravelly Silty SAND, orange/brown, moist	Gravelly SAND, green/grey/brown, moist	Gravelly SAND, dark brown/grey, moist	Gravelly Silty SAND, brown, moist	--	--	--	--	--	--	--	--
Analyte grouping/Analyte				**Units**																				
EG005T: Total Metals by ICP-AES and fpXRF																								
Lead	600	700	**1100**	mg/kg	92	97	400	**1147**	**2813**	**6850**	**54475**	**2241**	**1575**	**21849**	**16370**	922	619	**2374**	220	**<LOD**	263	81	419	**1383**
Arsenic	300		**50**	mg/kg	<LOD	34	**142**	**192**	**377**	**395**	**806**	**56**	**123**	**1773**	**2398**	36	<LOD	**122**	<LOD	<LOD	<LOD	19	<LOD	**51**
Barium	-		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	860	-	-
Cadmium	90		-	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<LOD	-	-
Cobalt	-		-	mg/kg	<LOD	<LOD	155	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	131	<LOD	<LOD	<LOD	<LOD	98	<LOD	124
Chromium	-		**300**	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	58
Copper	17000		**220**	mg/kg	48	**536**	32	184	178	**338**	**1350**	150	**257**	**960**	**632**	118	81	**486**	31	<LOD	<LOD	<LOD	74	**328**
Iron	-		-	mg/kg	13385	14884	22520	86696	67785	51850	113450	28952	37968	74210	32526	30206	19684	19994	6807	17634	6533	19884	8098	29725
Molybdenum	-		-	mg/kg	4	9	6	7	<LOD	<LOD	<LOD	<LOD	3	11	6	10	<LOD	<LOD	5	<LOD	<LOD	<LOD	<LOD	4
Manganese	19000		-	mg/kg	201	358	869	208	118	1293	221	368	226	101	76	444	<LOD	419	130	616	188	130	98	1036
Mercury	80		-	mg/kg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD	<LOD	65	52	<LOD	**320**	37	<LOD	<LOD	55	96	<LOD	<LOD	<LOD	<LOD	<LOD	48	<LOD	<LOD
Selenium				mg/kg	<LOD	<LOD	<LOD	<LOD	6	<LOD	25	<LOD	<LOD	18	18	<LOD	<LOD	<LOD	<LOD	18	<LOD	<LOD	<LOD	<LOD
Titanium	-		-	mg/kg	<LOD	1009	<LOD	1491	<LOD	1649	<LOD	1820	<LOD	<LOD	907	<LOD	4400	4068	3241	518	1134	2118	2898	1746
Zinc	30000		**570**	mg/kg	527	**755**	414	-	-	-	-	-	-	-	-	-	518	**1088**	398	44	441	244	**586**	**1204**

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquic
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HIL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T1:
fpXRF - Soil Sampling Results

	NEPM 2013 HIL C Recreational	SSTL - Recreational	NEPM 2013 EIL Residential /Public Open Space			
				Sample Type:	**SOIL XRF**	**SOIL XRF**
				Sample date:	18/06/2021	18/06/2021
				Sample ID:	WC09	WC10
				Sample ID (ID only)		
				Sample Depth	-	-
				Project Name:	Captains Flat	Captains Flat
				SAQP Item:	WC	WC
				Site:		
				Sampling Method:	XRF	XRF
				Sample Description	--	--
Analyte grouping/Analyte				**Units**		
EG005T: Total Metals by ICP-AES and fpXRF						
Lead	600	700	**1100**	mg/kg	**1929**	579
Arsenic	300		**50**	mg/kg	**87**	<LOD
Barium	-		-	mg/kg	-	-
Cadmium	90		-	mg/kg	-	-
Cobalt	-		-	mg/kg	160	<LOD
Chromium	-		**300**	mg/kg	49	<LOD
Copper	17000		**220**	mg/kg	**368**	**232**
Iron	-		-	mg/kg	19417	13287
Molybdenum	-		-	mg/kg	4	<LOD
Manganese	19000		-	mg/kg	391	327
Mercury	80		-	mg/kg	<LOD	<LOD
Nickel	1200		**200**	mg/kg	<LOD	<LOD
Selenium	-			mg/kg	<LOD	<LOD
Titanium	-		-	mg/kg	1654	2500
Zinc	30000		**570**	mg/kg	**1702**	**1523**

Cells denoted with '-' indicate no criterion available
LOD = Limit of Detection
National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (
[a] For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid
[b] The most conservative ESL guideline value has been adopted for all analytes
[c] Management limits are applied after consideration of relevant ESLs and HSLs. Separate management limits for BTEX and naphthalene are not avai
[b] Direct Contact are applied to surface soils or soils that could result in immediate contact.
Health Investigation Levels for chromium based on chromium (VI)
Chromium (III) EIL, based on a low clay content (% clay) of 1%
Nickel EIL, based on CEC of 5cmol/kg
Copper EIL, based on slightly acidic soil pH of 4.5
Zinc EIL, based on slightly acidic soil pH of 4.0 and CEC of 5cmol/kg
Concentration in **red** font and grey box exceed the adopted HIL/HSL 'A' for Residential use
Concentration in **orange** font and grey box exceed the adopted HSL 'B' for Urban Residential/ Public Open Space
Concentration in **green** and grey box exceed the adopted EIL 'A' Residential /Public Open Space
Concentrations in box exceed the screening value >2.5 times
Where one or more guideline value is exceeded, the highest guideline value will be highlighted

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T1a:
Soil Sample Results for Site Specific EIL Derivations

	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Lab Report Number:		805698	805698	805698	805698	805698	805698
	Lab Sample number:		S21-Jn50360	S21-Jn50364	S21-Jn50367	S21-Jn50370	S21-Jn50371	S21-Jn50372
	Sample date:		3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021
	Sample ID:		QA11	QA21	QA26	QA40	QA43	QA44
	Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
	Site:							
	Sampling Method:		Direct	Direct	Direct	Direct	Direct	Direct
Analyte grouping/Analyte	**Units**	**LOR**						
pH in Soil								
pH (1:5 Aqueous extract at 25°C as rec.)	pH units	0.1	6.4	6.2	5.1	5.9	5.5	5.2
Moisture and Clay Content								
Moisture Content (dried @ 103°C)	%	1	1.8	32	26	12	11	20
% Clay	%	1	1	8	7	9	< 1	2
Electrical Conductivity								
EC (1:5 Aqueous extract at 25°C as rec.)	µS/cm	10	310	33	19	< 10	12	< 10
Cation Exchange Capacity								
Cation Exchange Capacity	meq/100g	0.05	9.9	16	1.9	5.4	2.4	0.6
Total Metals by ICP-AES								
Lead	mg/kg	5	93	34	260	24	90	27
Aluminium	mg/kg	20	7700	18000	6700	14000	6400	5900
Arsenic	mg/kg	2	8	11	21	2.4	8	6.5
Barium	mg/kg	10	120	120	75	63	43	46
Cadmium	mg/kg	0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	mg/kg	5	15	27	13	22	8.9	14
Cobalt	mg/kg	5	7.5	20	< 5	8.8	< 5	11
Copper	mg/kg	5	25	22	41	17	13	20
Iron	mg/kg	20	22000	32000	22000	22000	13000	20000
Manganese	mg/kg	5	190	230	56	180	190	99
Mercury	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	mg/kg	5	< 5	< 5	< 5	< 5	< 5	< 5
Nickel	mg/kg	5	11	16	5.3	16	< 5	9.8
Selenium	mg/kg	2	2.1	5.5	2.3	3.4	< 2	3.6
Titanium	mg/kg	10	170	130	71	280	270	200
Zinc	mg/kg	5	470	59	74	59	86	54

LOR - Limit of Reporting
Values provided with as a <value indicate value at LOR

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T1a:
Soil Sample Results for Site Specific EIL Derivations

SOIL	SOIL	SOIL	SOIL	Average
805698	805698	805698	805698	
S21-Jn50377	S21-Jn50378	S21-Jn50379	S21-Jn50380	
3/06/2021	3/06/2021	3/06/2021	3/06/2021	
QA109	QA110	QA113	QA114	
Captains Flat	Captains Flat	Captains Flat	Captains Flat	
Direct	Direct	Direct	Direct	
5.9	5.8	5.9	6.5	5.8
39	40	26	22	23.0
8	7	7	16	7.2
67	30	20	11	62.8
12	11	7.2	13	7.9
92	170	160	38	-
15000	9600	13000	31000	-
10	16	18	8.5	-
140	160	170	200	-
< 0.4	< 0.4	< 0.4	< 0.4	-
15	12	15	22	-
7	8.3	7.7	8	-
22	26	31	23	-
23000	20000	25000	29000	-
330	590	500	92	-
0.1	0.1	0.1	< 0.1	-
< 5	< 5	< 5	< 5	-
11	11	16	19	-
4.2	3.7	4.3	6.3	-
190	110	140	280	-
110	160	210	60	-

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

TABLE T2:
Dust Swab Sampling Results

	NSW EPA (2003)	US EPA - Window SIII (2020)	US EPA - Hard Floors (2020)															
Sample Type:							**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**
Laboratory Sample number:							N21-Jn44554	N21-Jn44555	N21-Jn44556	N21-Jn44557	N21-Jn44558	N21-Jn44559	N21-Jn44560	N21-Jn44561	N21-Jn44562	N21-Jn44563	N21-Jn44564	N21-Jn44565
Sample date:																		
Sample ID:							MS_SWAB1	MS_SWAB2	MS_SWAB3	MS_SWAB4	CH_SWAB1	CH_SWAB2	CH_SWAB3	CH_SWAB4	RFS_SWAB1	RFS_SWAB2	RFS_SWAB3	RFS_SWAB4
Site:							Mens Shed	Mens Shed	Mens Shed	Mens Shed	Community Hall	Community Hall	Community Hall	Community Hall	Fire Station	Fire Station	Fire Station	Fire Station
Sampling Location																		
Analyte grouping/Analyte					**Units**	**LOR**												
Internal Dust																		
paint by ICP-AES																		
Total Lead	--	--	--		µg	1	640	97	210	22	9	2	46	210	43	27	18	9
Surface Area	--	--	--		m²	--	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Lead	NA	5,000	1,000		µg/m²	--	**7111**	**1078**	**2333**	244	97	27	511	2333	478	300	200	97

	NSW EPA (2003)	US EPA - Window SIII (2020)	US EPA - Hard Floors (2020)												
Sample Type:							**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**SWAB**	**Dust**
Laboratory Sample number:							N21-Jn44566	N21-Jn44567	N21-Jn44568	N21-Jn44569	N21-Jn44570	N21-Jn44571	N21-Jn44572	N21-Jn44573	N21-Jn44574
Sample date:															
Sample ID:							STP_SWAB1	STP_SWAB2	STP_SWAB3	STP_SWAB4	SWAB_QA01	SWAB_QA02	SWAB_RB	SWAB_BLANK	MS_VAC1
Site:							Sewerage Treatment Plant	Sewerage Treatment Plant	Sewerage Treatment Plant	Sewerage Treatment Plant	Duplicate STP_SWAB1	Duplicate STP_SWAB1	Vaccuum Bucket		
Sampling Location															
Analyte grouping/Analyte					**Units**	**LOR**									
Internal Dust															
paint by ICP-AES															
Total Lead	--	--	--		µg	1	10	18	7	< 1	6	15	< 1	<1	1
Surface Area	--	--	--		m²	--	0.09	0.09	0.09	0.09	0.09	0.075	0.09	0.09	2.00
Lead	NA	5,000	1,000		µg/m²	--	111	200	76	<11	64	200	<11	<11	1

Blank Cell indicates no criterion available
LOR = Limit of Reporting
Concentration in **Blue** font and grey box exceed the adopted criteria for Floor Swabs
Concentration in **red** font and grey box exceed the adopted criteria Window Sill and Shelf Swabs
Concentrations in box exceed the screening value >2.5 times

NSW EPA (2005) Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices. A Guide for Councils. NSW Environment Protection Authority.
US EPA (2020) Protect your family from lead in your home

Table T3:
Sediment Results

	Sediment DGV[A]	Sediment GV-High[A]	Sample Type:		Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
			Site:																
			Lab Sample number:		S21-Jn12576	S21-Jn12577	S21-Jn12578	S21-Jn12579	S21-Jn12580	S21-Jn12581	S21-Jn12582	S21-Jn12583	S21-Jn12584	S21-Jn12585	S21-Jn12586	S21-Jn12587	S21-Jn12588	S21-Jn12589	S21-Jn12590
			Sample date:																
			Sample ID:		SED1	SED2	SED3	SED4	SED5	SED6	SED7	SED8	SED9	SED10	SED11	SED12	SED13	SED14	SED15
			Project Name:		Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM
			Sampling Method:		Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
Analyte grouping/Analyte			**Units**	**LOR**															
LTM-GEN-7080 Moisture																			
Moisture Content (dried @ 103°C)			%	--	80	74	60	69	33	20	13	16	19	21	56	29	25	71	33
LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS																			
Aluminium	--	--	mg/kg	2	17000	12000	14000	9600	6000	5500	5700	15000	5100	3600	14000	4000	9900	10000	4500
Arsenic	20	70	mg/kg	2	**69**	**44**	**36**	**140**	**140**	13	17	**44**	**70**	**84**	**130**	**75**	**27**	13	2.8
Barium	--	--	mg/kg	10	490	300	150	180	630	38	41	140	56	1400	250	78	190	140	53
Cadmium	1.5	10	mg/kg	2	**22**	**5.5**	**4.6**	1.1	1.1	**4.8**	0.9	1.4	< 0.4	**3.7**	**1.9**	< 0.4	< 0.4	0.7	< 0.4
Chromium	80	370	mg/kg	0.4	21	26	18	< 5	11	18	23	11	6.7	6.6	20	6.9	9	15	< 5
Cobalt	--	--	mg/kg	0.4	40	16	9.9	< 5	< 5	18	6	< 5	11	< 5	6.2	< 5	< 5	12	< 5
Copper	65	270	mg/kg	5	**520**	**430**	**490**	**130**	**600**	**320**	51	**260**	**80**	**1300**	**320**	**94**	**180**	37	13
Iron	--	--	mg/kg	5	37000	36000	59000	130000	230000	18000	19000	21000	29000	63000	68000	57000	8300	13000	5300
Lead	50	220	mg/kg	5	**1500**	**2400**	**2500**	**1100**	**6700**	**220**	**260**	**550**	**380**	**5900**	**1000**	**550**	**730**	**150**	**76**
Manganese	--	--	mg/kg	20	1900	750	190	160	86	260	93	67	110	220	220	66	72	550	190
Mercury	0.15	1	mg/kg	5	**0.3**	**0.2**	**0.2**	0.1	**0.4**	< 0.1	< 0.1	**0.4**	< 0.1	< 0.1	**0.2**	< 0.1	**0.3**	< 0.1	< 0.1
Molybdenum	--	--	mg/kg	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	19	< 5	< 5	< 5	< 5	< 5
Nickel	21	52	mg/kg	0.1	**37**	19	15	< 5	< 5	11	8.9	< 5	< 5	5.2	11	< 5	< 5	20	< 5
Selenium	--	--	mg/kg	5	4.4	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2.9	2.3	< 2	< 2	< 2	< 2
Titanium	--	--	mg/kg	5	320	380	230	590	430	240	180	350	540	140	170	94	100	160	120
Zinc	200	410	mg/kg	5	**11000**	**3600**	**3700**	**1500**	**1700**	**1300**	**600**	**500**	190	**21000**	**2000**	**650**	**230**	**500**	81

LOR = Limit of Reporting

Concentration in **orange bold** font exceed the adopted Sediment DGV

Concentration in grey box exceed the Sediment GV-High

[A]ANZG (2018)˙ Toxicant default guideline values for sediment quality

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T4 - Groundwater Geochemical Data

Well ID	Purge Date	Purge Vol (L)	Temperature (ºC)	pH	SPC (µScm-¹)	DO (mg/L)	Eh (mV)	Comments
GW1	18/06/2021	-	11.7	5.91	1202	1.13	-101.5	Clear turbidity, no odour.
GW2	18/06/2021	1.0	10.6	5.55	777	4.18	95.1	Clear turbidity, no odour.
GW3	18/06/2021	1.0	14.4	4.63	1955	4.07	151.9	Clear turbidity, no odour.
GW4	18/06/2021	1.5	9.8	7.04	701	1.5	143.5	Turbid, no odour.
GW5	18/06/2021	1.4	10.5	6.97	588	1.93	194.8	Pale yellow, clear, no odour.
GW6	18/06/2021	0.8	13.7	6.70	423	2.71	185.1	Pale orange, no odour.
GW7	18/06/2021	-	-	-	-	-	-	Dry
GW8	18/06/2021	-	-	-	-	-	-	Dry
GW9_S	18/06/2021	1.0	10.2	6.79	2925	0.81	-111.2	Clear turbidity, no odour.
GW9_D	18/06/2021	-	12.1	6.47	2783	0.9	87.8	Clear turbidity, no odour.
GW10	18/06/2021	1.0	12.2	6.67	1143	1.49	157.6	Clear turbidity, no odour.

Notes

L = Litre
DO = Dissolved Oxygen
ppm = parts per million
SPC = Specific Conductivity
µScm-¹ = microSiemens per centimetre
Eh = Redox
mV = milli Volts
- = No result recorded

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T5:
Surface Water Results

Guidelines	Drinking Water Guidelines[D]	*Recreation (Exposure Adjusted)*	ANZECC Fresh Water Guidelines - Irrigation[B]	ANZECC Fresh Water Guidelines - Stock Water[B]	Ecological Sceening Criteria (ANZG 95% Protection) Fresh Water	Lab ID		S21-Jn12561	S21-Jn12562	S21-Jn12563	S21-Jn12564	S21-Jn12565	S21-Jn12566	S21-Jn12567	S21-Jn12568	S21-Jn12569
						Sample date:		3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021	3/06/2021
						Sample ID:		SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9
						Project Name:		Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM
						Project No:		318001193	318001193	318001193	318001193	318001193	318001193	318001193	318001193	318001193
						Sample Location		North end of Precinct	Molonglo River DS of Copper Ck	Adjacent / DS of the confluence of Copper Ck and Molonglo River	Molonglo River DS of Main Adit Spring	Main Adit Spring	Copper Ck DS of the rail corridor	Copper Ck US of the rail corridor	Mine dam overflow DS of the rail corridor	Mine dam overflow US of the rail corridor
						Sampling Method:		Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
						Sample Description:		-								
Analyte grouping/Analyte						**Units**	**LOR**									
Hardness																
Hardness mg equivalent CaCO3/L						µg/L	10	63	62	88	54	1400	33	32	300	330
Cations/Anions																
Calcium						µg/L	10	11	11	15	9.2	280	4.2	4.2	55	72
Magnesium		-	-	-	-	µS/cm	100	8.8	8.6	12	7.6	170	5.5	5.3	40	36
Total Metals																
Aluminium	20	**200**	*5*	20	-	mg/L	0.05	0.33	0.7	1.6	0.62	*13*	2.5	2	*16*	*16*
Arsenic	0.01	**0.1**	*0.5*	2	-	mg/L	0.001	< 0.001	0.001	0.001	0.001	0.01	0.002	0.002	0.003	0.002
Barium	2	**20**	-	-	-	mg/L	0.001	0.02	< 0.02	0.03	< 0.02	< 0.02	0.03	0.03	0.02	0.03
Cadmium	0.002	**0.06***	*0.01*	0.05	-	mg/L	0.0002	0.0019	0.0019	*0.011*	0.0018	***0.1***	0.0029	0.003	***0.11***	***0.16***
Chromium	0.05	**0.5**	*1*	1	-	mg/L	0.001	< 0.001	0.002	0.003	< 0.001	0.002	0.003	0.003	0.003	0.004
Cobalt	0.006	**0.03^**	*1*	0.1	-	mg/L	0.001	0.003	0.003	0.008	0.003	**0.086**	0.001	0.002	**0.037**	**0.04**
Copper	2	**20**	*0.5*	0.1	-	mg/L	0.001	0.012	0.016	0.15	0.016	0.33	0.063	0.06	*1.7*	2.6
Iron	1.4	**119^**	-	10	-	mg/L	0.05	2.1	3.9	3	3.8	**150**	2.2	2	15	7.5
Lead	0.01	**0.2'**	*0.1*	5	-	mg/L	0.001	0.019	0.028	0.087	0.028	***1.2***	***0.29***	***0.3***	***1.2***	***1.3***
Manganese	0.5	**12***	*10*	2.5	-	mg/L	0.005	0.31	0.32	0.65	0.31	*10*	0.042	0.042	2.5	3
Mercury	0.001	**0.01**	*0.002*	0.002	-	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum	0.05	**0.5**	-	-	-	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02	**0.2**	*1*	2	-	mg/L	0.001	0.005	0.005	0.008	0.003	0.063	0.004	0.003	0.034	0.044
Selenium	0.01	**0.1**	-	-	-	mg/L	0.001	0.001	< 0.001	0.002	< 0.001	0.011	0.002	0.001	0.007	0.009
Titanium	-	**-**	-	-	-	mg/L	0.005	< 0.005	< 0.005	0.01	0.006	< 0.005	0.053	0.042	< 0.005	< 0.005
Zinc	0.6	**26"**	*20*	5	-	mg/L	0.005	2.3	2.2	8	2.1	***120***	1.4	1.4	***67***	***95***
Dissolved																
Aluminium (filtered)	-	-	-	-	0.055	mg/L	0.05	0.09	0.06	< 0.05	0.1	13	0.74	0.51	13	15
Arsenic (filtered)	-	-	-	-	0.024	mg/L	0.001	< 0.001	< 0.001	< 0.001	0.001	0.008	< 0.001	< 0.001	0.001	0.002
Barium (filtered)	-	-	-	-	-	mg/L	0.001	0.02	0.02	0.03	0.02	< 0.02	0.02	0.02	0.03	0.03
Cadmium (filtered)	-	-	-	-	0.0002	mg/L	0.0002	0.0019	0.002	0.012	0.0021	0.11	0.003	0.0032	0.12	0.18
Chromium (filtered)	-	-	-	-	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.004
Cobalt (filtered)	-	-	-	-	0.09	mg/L	0.001	0.003	0.003	0.008	0.003	0.097	0.001	0.001	0.041	0.043
Copper (filtered)	-	-	-	-	0.0014	mg/L	0.001	0.008	0.008	0.11	0.01	0.36	0.045	0.046	1.9	2.7
Iron (filtered)	-	-	-	-	0.3	mg/L	0.05	0.63	0.87	0.82	1.7	190	0.65	0.63	11	8.3
Lead (filtered)	-	-	-	-	0.0034	mg/L	0.001	0.007	0.005	0.018	0.006	1.3	0.11	0.13	1.2	1.4
Manganese (filtered)	-	-	-	-	1.9	mg/L	0.005	0.3	0.35	0.71	0.33	12	0.033	0.034	3	3.3
Mercury (filtered)	-	-	-	-	0.00006	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum (filtered)	-	-	-	-	0.034	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel (filtered)	-	-	-	-	0.011	mg/L	0.001	0.004	0.006	0.008	0.003	0.072	0.003	0.003	0.036	0.047
Selenium (filtered)	-	-	-	-	0.011	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.002	0.002
Titanium (filtered)	-	-	-	-	-	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.012	0.011	< 0.005	< 0.005
Zinc (filtered)	-	-	-	-	0.008	mg/L	0.005	1.6	1.8	6.8	1.8	140	1.1	1.2	78	110

- indicates no criterion available

All results are in µg/L
LOR = Limit of Reporting
Concentrations below the LOR noted as <value
NOC = No observed contamination
Australian and New Zealand Guidelines for Fresh and Marine
Water Quality (ANZG 2018)
Australia and New Zealand Environment and Conservation Council (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
[A]NRMMC (2011 updated 2018) Australian Drinking Water Guidelines (ADWG) Paper 6 National Water Quality Management Strategy. National Health and Medical Research Council.
ANZECC, NEPM and NHMRC guidelines for mercury are based on total mercury.

Client: Department of Regional NSW
Job No: 318001193
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Table T5:
Surface Water Results

Guidelines	Drinking Water Guidelines[D]	*Recreation (Exposure Adjusted)*	ANZECC Fresh Water Guidelines - Irrigation[B]	ANZECC Fresh Water Guidelines - Stock Water[B]	Ecological Sceening Criteria (ANZG 95% Protection) Fresh Water	S21-Jn12570
						3/06/2021
						SW10
						Captains Flat LM
						318001193
						Adjacent / DS of the confluence of Forsters Ck and Molonglo River
						Direct
						-
Analyte grouping/Analyte						
Hardness						
Hardness mg equivalent CaCO3/L						96
Cations/Anions						
Calcium						13
Magnesium		-	-	-	-	15
Total Metals						
Aluminium	20	**200**	*5*	20	-	2.6
Arsenic	0.01	**0.1**	*0.5*	2	-	0.001
Barium	2	**20**	-	-	-	< 0.02
Cadmium	0.002	**0.06***	*0.01*	0.05	-	0.0069
Chromium	0.05	**0.5**	*1*	1	-	0.001
Cobalt	0.006	**0.03^**	*1*	0.1	-	0.016
Copper	2	**20**	*0.5*	0.1	-	0.19
Iron	1.4	**119^**	-	10	-	3.8
Lead	0.01	**0.2'**	*0.1*	5	-	*0.11*
Manganese	0.5	**12***	*10*	2.5	-	1.3
Mercury	0.001	**0.01**	*0.002*	0.002	-	< 0.0001
Molybdenum	0.05	**0.5**	-	-	-	< 0.005
Nickel	0.02	**0.2**	*1*	2	-	0.006
Selenium	0.01	**0.1**	-	-	-	0.004
Titanium	-	**-**	-	-	-	< 0.005
Zinc	0.6	**26"**	*20*	5	-	8.2
Dissolved						
Aluminium (filtered)	-	-	-	-	0.055	1.2
Arsenic (filtered)	-	-	-	-	0.024	< 0.001
Barium (filtered)	-	-	-	-	-	< 0.02
Cadmium (filtered)	-	-	-	-	0.0002	0.0072
Chromium (filtered)	-	-	-	-	0.001	< 0.001
Cobalt (filtered)	-	-	-	-	0.09	0.016
Copper (filtered)	-	-	-	-	0.0014	0.18
Iron (filtered)	-	-	-	-	0.3	1.2
Lead (filtered)	-	-	-	-	0.0034	0.069
Manganese (filtered)	-	-	-	-	1.9	1.3
Mercury (filtered)	-	-	-	-	0.00006	< 0.0001
Molybdenum (filtered)	-	-	-	-	0.034	< 0.005
Nickel (filtered)	-	-	-	-	0.011	0.007
Selenium (filtered)	-	-	-	-	0.011	< 0.001
Titanium (filtered)	-	-	-	-	-	< 0.005
Zinc (filtered)	-	-	-	-	0.008	6.8

- indicates no criterion available

All results are in µg/L
LOR = Limit of Reporting
Concentrations below the LOR noted as <value
NOC = No observed contamination
Australian and New Zealand Guidelines for Fresh and Marine
Water Quality (ANZG 2018)
Australia and New Zealand Environment and Conservation Council (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
[A]NRMMC (2011 updated 2018) Australian Drinking Water Guidelines (ADWG) Paper 6 National Water Quality Management Strategy. National Health and Medical Research Council.
ANZECC, NEPM and NHMRC guidelines for mercury are based on total mercury.

Client: Department of Regional NSW
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Table T6:
Groundwater Gauging Data

Well ID	Easting	Northing	Gauging Date	Total Well Depth		SWL		Surface Elevation	TOC Elevation	Well Monument Stickup	Groundwater Elevation
				(m btoc)	(m bgl)	(m btoc)	(m bgl)	(mAHD)	(mAHD)	m	(mAHD)
GW1	721402.01	6058259.223	18/06/2021	7.94	7.00	1.65	0.71	847.183	848.126	0.94	846.48
GW2	721525.593	6058675.09	18/06/2021	4.59	4.00	1.49	0.90	843.612	844.202	0.59	842.71
GW3	721499.01	6058470.421	18/06/2021	6.45	6.50	1.99	2.04	845.113	845.064	-0.05	843.07
GW4	721592.472	6058721.95	18/06/2021	3.97	4.00	0.5	0.53	843.287	843.259	-0.03	842.76
GW5	721581.24	6058874.257	18/06/2021	3.80	3.00	1.1	0.30	842.663	843.462	0.80	842.36
GW6	721714.924	6058949.036	18/06/2021	5.85	6.00	1.49	1.64	845.889	845.736	-0.15	844.25
GW7	722012.677	6059344.143	18/06/2021	14.96	15.00	Dry	-	857.513	857.475	-0.04	-
GW8	721818.20	6058557.89	18/06/2021	10.93	10.00	Dry	-	866.233	867.17	0.93	-
GW9_S	721265.54	6059134.51	18/06/2021	5.23	4.20	1.63	0.60	846.499	847.53	1.03	845.90
GW9_D	721264.48	6059134.67	18/06/2021	15.98	15.00	0.8	1.78	846.559	847.54	0.98	846.74
GW10	720896.58	6058791.96	18/06/2021	10.99	10.00	7	6.01	865.981	866.97	0.99	859.97

Notes

m = Metres
btoc = Below Top of Casing
SWL = Standing Water Level
TOC = Top of Casing
AHD = Australian Height Datum
Easting projection MGA94: Map Grid of Australia 1994

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table T7:
Groundwater Results

	NHMRC Australian Drinking Water Guidelines[A]	ANZECC Fresh Water Guidelines - 95% Species Protection[B]	ANZECC Fresh Water Guidelines - Irrigation[B]	ANZECC Fresh Water Guidelines - Stock Water[B]	Sample Type:		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
					Site:												
					Lab Sample number:		N21-Jn42606	N21-Jn42607	N21-Jn42608	N21-Jn42609	N21-Jn42610	N21-Jn42611	N21-Jn42612	N21-Jn42613	N21-Jn42614	N21-Jn42615	N21-Jn42616
					Sample date:		19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021	19/06/2021
					Sample ID:		GW1	GW2	GW3	GW4	GW5	GW6	GW9_S	GW9_D	GW10	D01_180621	T01_180621
					Project Name:		Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM	Captains Flat LM
					Sampling Method:		Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic
Analyte grouping/Analyte					**Units**	**LOR**											
LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS																	
Aluminium (filtered)	**0.01**	0.055	*20*	5	mg/L	0.05	**0.13**	**0.35**	**15**	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	**0.38**	**0.36**
Arsenic (filtered)	**0.01**	0.024	*2*	0.5	mg/L	0.001	0.002	0.001	0.007	0.001	0.001	0.001	0.001	0.002	0.001	< 0.001	0.001
Barium (filtered)	**2**				mg/L	0.02	0.07	0.04	0.05	0.05	0.04	0.03	0.04	0.02	0.05	0.04	0.03
Cadmium (filtered)	**0.002**	0.0002	*0.002*	0.01	mg/L	0.0002	***0.049***	***0.09***	***0.17***	0.0009	0.0003	< 0.0002	< 0.0002	0.0003	***0.0097***	***0.092***	***0.089***
Chromium (filtered)	**0.05**	0.001	*0.05*	1	mg/L	0.001	< 0.001	< 0.001	0.007	0.002	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt (filtered)		0.0014	*0.1*	1	mg/L	0.001	*0.32*	*0.16*	*0.19*	0.011	0.007	< 0.001	0.014	0.013	0.078	*0.17*	*0.17*
Copper (filtered)	**2**	0.0014	*5*	0.4	mg/L	0.001	0.083	0.097	**2.7**	0.007	0.003	0.004	0.002	0.002	0.004	0.1	0.1
Iron (filtered)			*10*		mg/L	0.05	< 0.05	0.06	7.2	< 0.05	< 0.05	< 0.05	< 0.05	0.44	< 0.05	0.05	< 0.05
Lead (filtered)	**0.01**	0.0034	*5*	0.1	mg/L	0.001	**0.41**	**0.017**	**0.049**	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	**0.015**	**0.016**
Manganese (filtered)	**0.5**	1.9	*10*		mg/L	0.005	***11***	**8.4**	**7.5**	**0.87**	**1.7**	0.095	***20***	**9.7**	**1.6**	**8.7**	**8.6**
Mercury (filtered)	**0.001**	0.00006	*0.002*	0.002	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum (filtered)					mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	< 0.005	0.007	< 0.005	< 0.005
Nickel (filtered)	**0.02**	0.011	*2*	1	mg/L	0.001	**0.14**	**0.11**	**0.18**	0.014	0.003	0.004	0.015	0.005	**0.12**	**0.12**	**0.12**
Selenium (filtered)	**0.01**				mg/L	0.001	0.005	0.004	0.009	0.003	< 0.001	0.001	0.005	0.005	0.004	0.001	< 0.001
Titanium (filtered)					mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Zinc (filtered)		0.008	*5*	20	mg/L	0.005	*23*	*32*	*47*	0.48	0.081	0.067	0.22	0.53	0.98	*32*	*36*

LOR = Limit of Reporting
Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018)
Australia and New Zealand Environment and Conservation Council (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

[A]NRMMC (2011 updated 2018) Australian Drinking Water Guidelines (ADWG) Paper 6 National Water Quality Management Strategy.
National Health and Medical Research Council.
Concentration in **bold** font exceed the Health-based drinking water criteria
Concentration **orange** font exceed the ANZG 2018 95% Species Protection
Concentration in *italicised/underlined* font exceed the Irrigation short term value Criteria
Concentration in grey box exceed the Stock watering Criteria
Where one or more guideline value is exceeded, the highest guideline exceeded will be highlighted
Details of Guideline values are presented in **Section 10** of report (**Table 10-2**)

Client: Department of Regional NSW
Job No: 318001193
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Table T8:
Soil Waste Classification Results

	CT1 - General Solid Waste[1]	CT2 - Restricted Solid Waste[1]	SCC1 - General Solid Waste[2]	SCC2 - Restricted Solid Waste[2]	TCLP1 - General Solid Waste[2]	TCLP2 - Restricted Solid Waste[2]	Sample Type:		SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF	SOIL XRF
							Sample date:		18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021	18/06/2021
							Sample ID:		WC01	WC02	WC03	WC04	WC05	WC06	WC07	WC08	WC09	WC10
							Project Name:		Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat	Captains Flat
							SAQP Item:		WC	WC	WC	WC	WC	WC	WC	WC	WC	WC
							Sampling Method:		XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF
							Sample Description											
Analyte grouping/Analyte							**Units**	**LOR**										
EG005T: Total Metals by ICP-AES and fpXRF																		
Lead	100	400	1500	6000			mg/kg		513.95	**1970.38**	182.31	<LOD	218.62	67.11	347.47	1147.52	**1601.43**	480.91
Arsenic	100	400	500	2000			mg/kg		<LOD	101.58	<LOD	<LOD	<LOD	15.41	<LOD	42.26	72.19	<LOD
Barium							mg/kg							714.15				
Cadmium	20	80	100	400			mg/kg							<LOD				
Cobalt							mg/kg		108.78	<LOD	<LOD	<LOD	<LOD	81.28	<LOD	103.03	132.68	<LOD
Chromium	100	400	1900	7600			mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	48.1	40.81	<LOD
Copper							mg/kg		67.19	403.17	25.48	<LOD	<LOD	<LOD	61.44	272.31	305.5	192.53
Iron							mg/kg		16337.35	16594.69	5650.19	14636.17	5422.43	16503.8	6721.07	24672.05	16116.43	11028.57
Molybdenum							mg/kg		<LOD	<LOD	3.74	<LOD	<LOD	<LOD	<LOD	3.58	2.96	<LOD
Manganese							mg/kg		<LOD	347.94	108.2	511.6	155.75	108.29	81.49	860.27	324.34	271.09
Mercury	4	16	50	200			mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Nickel	40	160	1050	4200			mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	39.69	<LOD	<LOD	<LOD	<LOD
Selenium							mg/kg		<LOD	<LOD	<LOD	15.3	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Titanium							mg/kg		3652.35	3376.7	2690.31	430.34	941.01	1757.7	2404.99	1449.24	1372.43	2075.03
Zinc							mg/kg		429.89	903.24	330.23	36.49	365.87	202.58	486.21	998.98	1412.35	1264.45
Sulphur							mg/kg		569.89	1481.9	<LOD	<LOD	369.69	<LOD	367.78	232.9	<LOD	<LOD
Calcium							mg/kg		1886.4	2109.81	656.97	6404.31	656.55	743.79	2148.81	1332.58	2519.51	1763.16
Gold							mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Potassium							mg/kg		11183.01	15037.86	2986.19	7350.99	3432.74	7836.6	3915.77	5499.92	4207.37	6695.59
Rubidium							mg/kg		59.16	82.78	31.38	157.12	50.94	60.61	27.42	77.34	69.07	69.89
Scandium							mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Strontium							mg/kg		19.21	35.6	17.47	95.36	22.87	13.35	92.21	46.08	45.16	32.16
Thorium							mg/kg		<LOD	<LOD	<LOD	21.28	11.37	7.66	<LOD	<LOD	<LOD	<LOD
Tungsten							mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Uranium							mg/kg		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Vanadium							mg/kg		79.75	71.73	24.12	9.62	16.5	52.46	22.73	40.99	44.7	<LOD
Zirconium							mg/kg		163.97	166.71	254.35	110.25	145.88	136.28	158.98	148.96	172.95	166.86
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons																		
Acenaphthene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Acenaphthylene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Anthracene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benz(a)anthracene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benzo(a)pyrene	0.8	3.2	10	23			mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (lower bound) *							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *							mg/kg		0.6	0.6	0.6	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *							mg/kg		1.2	1.2	1.2	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benzo(g.h.i)perylene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Benzo(k)fluoranthene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Chrysene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Dibenz(a.h)anthracene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Fluoranthene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Fluorene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Indeno(1.2.3-cd)pyrene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Naphthalene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Phenanthrene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Pyrene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
Total PAH*	200	800	200	800			mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
EP080/071: Total Petroleum Hydrocarbons																		
TRH C10-C14							mg/kg		< 20	< 20	< 20	-	-	-	-	-	-	-
TRH C10-C36 (Total)	10000	40000	10000	40000			mg/kg		63	148	< 50	-	-	-	-	-	-	-
TRH C15-C28							mg/kg		63	78	< 50	-	-	-	-	-	-	-
TRH C29-C36							mg/kg		< 50	70	< 50	-	-	-	-	-	-	-
TRH C6-C9	650	2600	650	2600			mg/kg		< 20	< 20	< 20	-	-	-	-	-	-	-
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions																		
Naphthalene							mg/kg		< 0.5	< 0.5	< 0.5	-	-	-	-	-	-	-
TRH >C10-C16							mg/kg		< 50	< 50	< 50	-	-	-	-	-	-	-
TRH >C10-C16 less Naphthalene (F2)							mg/kg		< 50	< 50	< 50	-	-	-	-	-	-	-
TRH >C10-C40 (total)*							mg/kg		130	130	< 100	-	-	-	-	-	-	-
TRH >C16-C34							mg/kg		130	130	< 100	-	-	-	-	-	-	-
TRH >C34-C40							mg/kg		< 100	< 100	< 100	-	-	-	-	-	-	-
TRH C6-C10							mg/kg		< 20	< 20	< 20	-	-	-	-	-	-	-
TRH C6-C10 less BTEX (F1)							mg/kg		< 20	< 20	< 20	-	-	-	-	-	-	-
Metals TCLP																		
Arsenic					5	20	mg/L		< 0.01	< 0.01	< 0.01	-	-	-	-	-	-	-
Lead					5	20	mg/L		0.3	0.42	0.11	-	-	-	-	-	-	-

Blank Cell indicates no criterion available
LOR = Limit of Reporting
NSW EPA Waste Classification Guidelines - Part 1: Classification of Waste
[1] Maximum values of specific contaminant concentration (SCC) for classification without TCLP
[2] Maximum values for leachable concentration and specific contaminant concentration when used together
[3] PFOS and PFHxS are to be summed for comparison against the TCLP and SCC values.
[4] Values are the same for general solid waste (putrescible) and general solid waste (non-putrescible).
PFOS/PFOA values adopted from Addendum to the Waste Classification Guidelines (2014) – Part 1: classifying waste, October 2016 (NSW EPA). Noting these values have been based on the enHealth TDI values
Blank cell indicates no screening criterion available
For Limit of Reporting (LOR) refer to laboratory certificates of analysis
--- Indicates sample not analysed
Concentration in **orange** font and grey box exceed CT1 screening value
Concentration in **blue** font and grey box exceed CT2 screening value
Concentration in **orange** font and grey box exceed SCC1 or TCLP1 screening value
Concentration in **green** font and grey box exceed SCC2 or TCLP 2 screening value
Concentrations below the LOR noted as <value

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Pb	Moisture Corrected Pb (x)	Pb Error	Lab Pb (y)	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)	Residual (e_i^2)	Normalised Residual
R_S106A_0.0	QA109	39	#########	61.46	ppm	49.7	81.4754098	5.2	92	862.9	770.9	594353.7	0.4
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	109.58	114.027055	6.1	120	877.1	757.1	573238.1	0.4
R_S110A_0.0	QA110	40	#########	61.57	ppm	87.79	146.316667	6.1	170	891.2	721.2	520118.2	0.3
R_S113A_0.1	QA113	26	#########	62.29	ppm	189.09	255.527027	9.9	160	938.8	778.8	606484.3	0.4
R_S116A_0.0	QA114	22	#########	61.14	ppm	51.33	65.8076923	5.7	38	856.1	818.1	669316.3	0.4
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	971.98	1040.66381	15.8	730	1280.8	550.8	303408.3	0.3
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	28.62	29.1446029	5.6	93	840.1	747.1	558225.4	0.4
R_S30B	QA13	19	#########	60.43	ppm	291.51	359.888889	12.8	360	984.2	624.2	389672.4	0.3
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	1994.23	2128.31377	89.4	2300	1754.7	-545.3	297382.0	-0.3
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	535.75	556.334372	15.3	710	1069.8	359.8	129471.3	0.2
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	535.75	559.822362	15.3	1900	1071.3	-828.7	686676.0	-0.4
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	452.77	707.453125	9.1	550	1135.7	585.7	342995.2	0.3
R_S57_0.0	QA30	14	#########	60.83	ppm	2600.03	3023.2907	36.0	2100	2144.6	44.6	1987.4	0.0
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	16.12	23.7058824	3.4	34	837.8	803.8	646054.9	0.4
R_64B_0.0	QA33	2.3	#########	60.2	ppm	289.58	296.397134	12.4	240	956.6	716.6	513482.0	0.3
R_S68b_0.25m	QA40	12	#########	61.82	ppm	7.6	8.63636364	4.5	24	831.2	807.2	651588.3	0.4
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	1945.75	2262.5	68.2	2400	1813.1	-586.9	344413.6	-0.3
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	1945.75	2262.5	68.2	2300	1813.1	-486.9	237040.1	-0.2
R_S73b_0.1m	QA43	11	#########	61.41	ppm	34.46	38.7191011	5.2	90	844.3	754.3	568992.8	0.4
R_S73b_0.1m	QA44	20	#########	61.41	ppm	34.46	43.075	5.2	27	846.2	819.2	671111.2	0.4
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	182.8	247.027027	11.0	260	935.1	675.1	455716.7	0.3
R_S90A_0.1	QA101	12	#########	61.09	ppm	19884.79	22596.3523	122.2	9800	10671.8	871.8	760059.2	0.4
R_S92A_0.0	QA102	15	#########	61.61	ppm	10489.25	12340.2941	79.7	9800	6203.6	-3596.4	12933793.6	-1.7
R_S92A_0.0	QA103	15	#########	61.61	ppm	10489.25	12340.2941	79.7	12000	6203.6	-5796.4	33597770.5	-2.8
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	3533.5	4206.54762	45.3	2700	2660.1	-39.9	1593.6	0.0
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	1577.8	1678.51064	27.7	920	1558.7	638.7	407951.1	0.3
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	2363.65	2847.77108	35.6	1500	2068.1	568.1	322751.9	0.3
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	2472.52	3169.89744	34.6	2500	2208.5	-291.5	85001.0	-0.1
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	12488.76	16432.5789	96.1	1300	7986.5	6686.5	44709195.8	3.2
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	229.62	382.7	9.9	770	994.2	224.2	50254.6	0.1
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	974.68	1107.59091	20.8	7300	1310.0	-5990.0	35880307.9	-2.8
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	6138.41	6975.46591	63.9	4300	3866.4	-433.6	188016.5	-0.2
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	2252.19	2437.43506	34.8	3600	1889.3	-1710.7	2926341.0	-0.8
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	610.9	814.533333	16.9	1200	1182.3	-17.7	313.0	0.0

Average = 17.0

STDEV 4423.44

Intercept = 827.4
Slope = 0.4

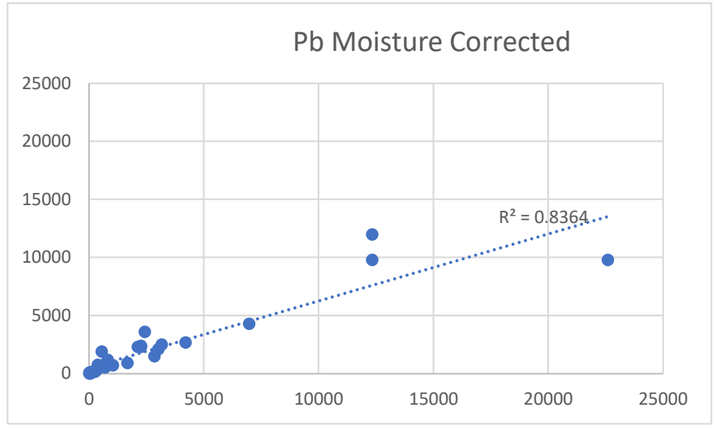
Standard Error = 2103.8

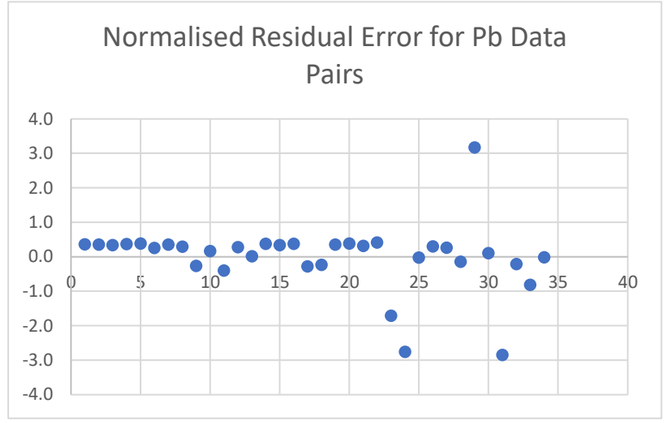
Notes
Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.





Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	As	Moisture Corrected	As Error	Lab As	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)	Residual (e_i^2)	Normalised Residual
R_S106A_0.0	QA109	39	#########	61.46	ppm	6.19	10.1	6.19	10	37.1	27.1	731.9	0.7
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	7.5	7.8	7.5	6.9	36.9	30.0	902.8	0.8
R_S110A_0.0	QA110	40	#########	61.57	ppm	7.25	12.1	7.25	16	37.1	21.1	447.0	0.6
R_S113A_0.1	QA113	26	#########	62.29	ppm	13.25	17.9	8.01	18	37.4	19.4	376.6	0.5
R_S116A_0.0	QA114	22	#########	61.14	ppm	6.92	8.9	6.92	8.5	37.0	28.5	812.0	0.8
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	117.21	125.5	13.12	37	42.3	5.3	28.0	0.1
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	8.97	9.1	4.76	8	37.0	29.0	841.4	0.8
R_S30B	QA13	19	#########	60.43	ppm	15.35	19.0	15.35	23	37.5	14.5	208.9	0.4
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	124.91	133.3	72.61	97	42.7	-54.3	2953.8	-1.5
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	18.32	19.0	18.32	14	37.5	23.5	550.2	0.6
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	18.32	19.1	18.32	30	37.5	7.5	55.7	0.2
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	28.49	44.5	7.36	22	38.6	16.6	276.1	0.4
R_S57_0.0	QA30	14	#########	60.83	ppm	42.51	49.4	42.51	38	38.8	0.8	0.7	0.0
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	8.6	12.6	2.93	11	37.2	26.2	684.7	0.7
R_64B_0.0	QA33	2.3	#########	60.2	ppm	15	15.4	15	8.9	37.3	28.4	806.0	0.8
R_S68b_0.25m	QA40	12	#########	61.82	ppm	5.6	6.4	5.6	2.4	36.9	34.5	1189.0	0.9
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	97.68	113.6	55.02	83	41.8	-41.2	1701.2	-1.1
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	97.68	113.6	55.02	69	41.8	-27.2	742.3	-0.7
R_S73b_0.1m	QA43	11	#########	61.41	ppm	6.43	7.2	6.43	8	36.9	28.9	836.4	0.8
R_S73b_0.1m	QA44	20	#########	61.41	ppm	6.43	8.0	6.43	6.5	37.0	30.5	927.7	0.8
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	15.64	21.1	8.95	21	37.6	16.6	274.0	0.4
R_S90A_0.1	QA101	12	#########	61.09	ppm	1549.57	1760.9	99.59	94	116.6	22.6	511.7	0.6
R_S92A_0.0	QA102	15	#########	61.61	ppm	94.26	110.9	94.26	62	41.6	-20.4	414.8	-0.5
R_S92A_0.0	QA103	15	#########	61.61	ppm	94.26	110.9	94.26	67	41.6	-25.4	643.5	-0.7
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	53.37	63.5	53.37	130	39.5	-90.5	8193.9	-2.4
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	96.81	103.0	22.4	37	41.3	4.3	18.3	0.1
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	135.32	163.0	28.71	61	44.0	-17.0	288.9	-0.5
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	40.79	52.3	40.79	40	39.0	-1.0	1.1	0.0
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	130.35	171.5	75.91	26	44.4	18.4	338.1	0.5
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	11.96	19.9	11.96	23	37.5	14.5	210.2	0.4
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	24.87	28.3	24.87	170	37.9	-132.1	17456.5	-3.6
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	607.6	690.5	52.55	90	68.0	-22.0	485.2	-0.6
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	118.83	128.6	28.03	56	42.4	-13.6	183.9	-0.4
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	20.09	26.8	20.09	41	37.8	-3.2	10.2	-0.1
	Average =	17.0											
						STDEV							

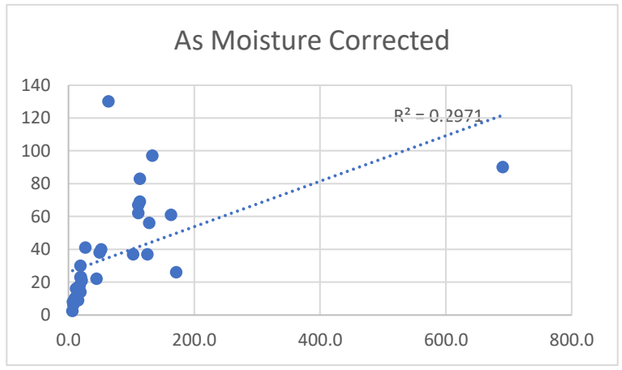
Notes
Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

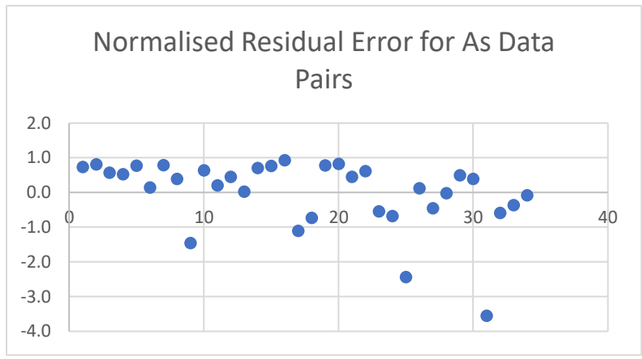
Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Intercept =	36.6
Slope =	0.0
Standard Error =	37.1





Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Cr	Moisture Corrected	Cr Error	Lab Cr
R_S106A_0.0	QA109	39	#########	61.46	ppm	<LOD	n/a	24.6	15.0
R_S10a_QA1	QA01	3.9	#########	60.2	ppm		0.0		9.8
R_S110A_0.0	QA110	40	#########	61.57	ppm	<LOD	n/a	27.7	12.0
R_S113A_0.1	QA113	26	#########	62.29	ppm	78.9	106.6	12.9	15.0
R_S116A_0.0	QA114	22	#########	61.14	ppm	44.8	57.4	17.9	22.0
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm				< 5
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	<LOD	n/a	15.4	15.0
R_S30B	QA13	19	#########	60.43	ppm	29.0	35.8	9.3	8.7
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	<LOD	n/a	124.3	11.0
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	<LOD	n/a	18.7	< 5
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	<LOD	n/a	18.7	< 5
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	<LOD	n/a	205.2	8.9
R_S57_0.0	QA30	14	#########	60.83	ppm	<LOD	n/a	17.0	8.1
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	<LOD	n/a	208.1	27.0
R_64B_0.0	QA33	2.3	#########	60.2	ppm	<LOD	n/a	16.5	< 5
R_S68b_0.25m	QA40	12	#########	61.82	ppm	46.9	53.3	12.8	22.0
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	<LOD	n/a	171.1	13.0
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	<LOD	n/a	171.1	14.0
R_S73b_0.1m	QA43	11	#########	61.41	ppm	<LOD	n/a	12.5	8.9
R_S73b_0.1m	QA44	20	#########	61.41	ppm	<LOD	n/a	12.5	14.0
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	<LOD	n/a	9.9	13.0
R_S90A_0.1	QA101	12	#########	61.09	ppm	28.2	32.0	18.7	19.0
R_S92A_0.0	QA102	15	#########	61.61	ppm	54.6	64.2	20.6	59.0
R_S92A_0.0	QA103	15	#########	61.61	ppm	54.6	64.2	20.6	37.0
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	<LOD	n/a	30.9	8.5
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	101.3	107.8	18.1	7.0
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	40.3	48.6	18.6	8.6
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	<LOD	n/a	23.6	11.0
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	<LOD	n/a	23.6	10.0
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	<LOD	n/a	14.4	21.0
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	<LOD	n/a	15.3	9.0
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	25.7	29.2	10.9	11.0
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	<LOD	n/a	19.0	6.8
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	<LOD	n/a	9.8	14.0
	Average =	17.0						STDEV	

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Ni	Moisture Corrected	Ni Error	Lab Ni
R_S106A_0.0	QA109	39	#########	61.46	ppm	<LOD	n/a	22.6	11.0
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	<LOD	n/a	19.9	9.1
R_S110A_0.0	QA110	40	#########	61.57	ppm	<LOD	n/a	20.8	11.0
R_S113A_0.1	QA113	26	#########	62.29	ppm	<LOD	n/a	28.3	16.0
R_S116A_0.0	QA114	22	#########	61.14	ppm	<LOD	n/a	26.0	19.0
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	<LOD	n/a	18.9	< 5
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	<LOD	n/a	34.3	11.0
R_S30B	QA13	19	#########	60.43	ppm	<LOD	n/a	33.6	8.3
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	<LOD	n/a	92.3	< 5
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	<LOD	n/a	29.4	< 5
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	<LOD	n/a	29.4	< 5
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	<LOD	n/a	13.5	< 5
R_S57_0.0	QA30	14	#########	60.83	ppm	54.7	63.6	23.6	6.8
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	<LOD	n/a	18.9	16.0
R_64B_0.0	QA33	2.3	#########	60.2	ppm	<LOD	n/a	33.0	< 5
R_S68b_0.25m	QA40	12	#########	61.82	ppm	<LOD	n/a	33.9	16.0
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	<LOD	n/a	61.6	5.3
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	<LOD	n/a	61.6	5.2
R_S73b_0.1m	QA43	11	#########	61.41	ppm	<LOD	n/a	28.5	< 5
R_S73b_0.1m	QA44	20	#########	61.41	ppm	<LOD	n/a	28.5	9.8
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	<LOD	n/a	36.7	5.3
R_S90A_0.1	QA101	12	#########	61.09	ppm	<LOD	n/a	48.3	< 5
R_S92A_0.0	QA102	15	#########	61.61	ppm	<LOD	n/a	40.5	< 5
R_S92A_0.0	QA103	15	#########	61.61	ppm	<LOD	n/a	40.5	5.1
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	80.8	96.1	27.8	< 5
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	65.6	69.8	23.6	29.0
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	96.7	116.4	25.3	29.0
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	<LOD	n/a	33.9	5.8
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	104.9	138.0	35.5	7.6
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	<LOD	n/a	25.9	18.0
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	<LOD	n/a	30.4	< 5
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	<LOD	n/a	45.3	< 5
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	<LOD	n/a	36.1	5.5
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	<LOD	n/a	29.3	9.8
	Average =	17.0				STDEV			

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Cu	Moisture Corrected Cu (x)	Cu Error	Lab Cu (y)	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)	Residual (e_i^2)	Normailsed Residual
R_S106A_0.0	QA109	39	#########	61.46	ppm	12.12	19.87	12.1	22	61.0	39.0	1524.6	0.3
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	50.45	52.50	10.0	51	86.1	35.1	1234.0	0.3
R_S110A_0.0	QA110	40	#########	61.57	ppm	10.9	18.17	10.9	26	59.7	33.7	1138.3	0.3
R_S113A_0.1	QA113	26	#########	62.29	ppm	15.92	21.51	15.9	31	62.3	31.3	980.4	0.2
R_S116A_0.0	QA114	22	#########	61.14	ppm	13.41	17.19	13.4	23	59.0	36.0	1295.2	0.3
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	105.49	112.94	10.4	99	132.6	33.6	1128.5	0.3
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	17.78	18.11	17.8	25	59.7	34.7	1203.5	0.3
R_S30B	QA13	19	#########	60.43	ppm	53.08	65.53	13.7	57	96.1	39.1	1532.5	0.3
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	372.39	397.43	65.7	400	351.3	-48.7	2374.0	-0.4
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	146.39	152.01	13.9	180	162.6	-17.4	301.8	-0.1
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	146.39	152.97	13.9	430	163.4	-266.6	71097.2	-2.1
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	77.65	121.33	7.5	110	139.0	29.0	843.2	0.2
R_S57_0.0	QA30	14	#########	60.83	ppm	236.9	275.47	18.0	230	257.5	27.5	757.5	0.2
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	12.42	18.26	12.4	22	59.8	37.8	1429.9	0.3
R_64B_0.0	QA33	2.3	#########	60.2	ppm	64.27	65.78	13.2	47	96.3	49.3	2434.5	0.4
R_S68b_0.25m	QA40	12	#########	61.82	ppm	19	21.59	11.9	17	62.4	45.4	2058.5	0.4
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	149.42	173.74	37.2	260	179.3	-80.7	6507.6	-0.6
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	149.42	173.74	37.2	230	179.3	-50.7	2567.4	-0.4
R_S73b_0.1m	QA43	11	#########	61.41	ppm	14.72	16.54	14.7	13	58.5	45.5	2069.1	0.4
R_S73b_0.1m	QA44	20	#########	61.41	ppm	14.72	18.40	14.7	20	59.9	39.9	1593.4	0.3
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	20.58	27.81	13.7	41	67.2	26.2	683.9	0.2
R_S90A_0.1	QA101	12	#########	61.09	ppm	164.11	186.49	21.4	72	189.1	117.1	13718.7	0.9
R_S92A_0.0	QA102	15	#########	61.61	ppm	305.22	359.08	21.9	240	321.8	81.8	6691.2	0.6
R_S92A_0.0	QA103	15	#########	61.61	ppm	305.22	359.08	21.9	260	321.8	61.8	3819.2	0.5
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	311.21	370.49	21.5	280	330.6	50.6	2557.0	0.4
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	51.03	54.29	12.9	61	87.5	26.5	702.5	0.2
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	33.77	40.69	12.8	29	77.0	48.0	2308.7	0.4
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	197.01	252.58	16.7	210	239.9	29.9	895.7	0.2
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	417.02	548.71	28.1	180	467.6	287.6	82694.6	2.2
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	14	23.33	14.0	56	63.7	7.7	59.4	0.1
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	123.3	140.11	14.0	410	153.5	-256.5	65803.2	-2.0
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	439.86	499.84	26.6	390	430.0	40.0	1600.1	0.3
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	324.52	351.21	21.1	780	315.7	-464.3	215528.2	-3.6
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	131.46	175.28	14.3	330	180.5	-149.5	22347.0	-1.2
	Average =	17.0											
	STDEV												

Notes
Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

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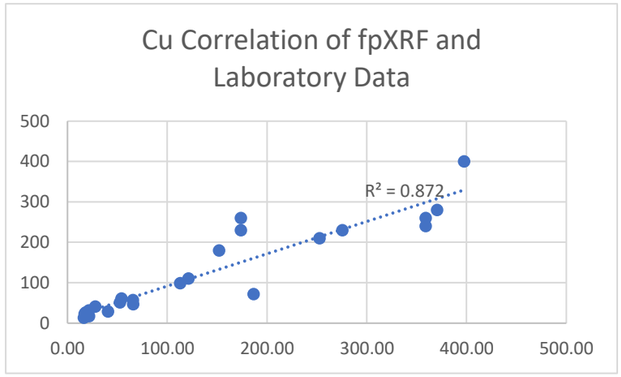
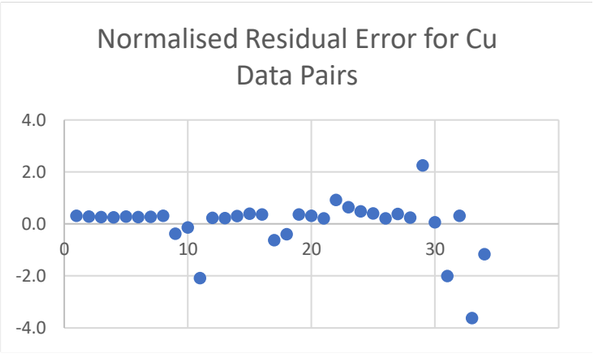
Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Intercept =	45.8
Slope =	0.8
Standard Error =	127.9





Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Zn	Moisture Correct	Zn Error	Lab Zn	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)	Residual (e_i^2)
R_S106A_0.0	QA109	39	#########	61.46	ppm	874.19	1040.7	25.93	700	2992.87	2292.87	5257231.84
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	371.83	395.56	15.9	340	515.41	175.41	30769.81
R_S110A_0.0	QA110	40	#########	61.57	ppm	654.81	788.93	21.6	1000	2026.00	1026.00	1052683.80
R_S113A_0.1	QA113	26	#########	62.29	ppm	1688.07	1756.6	24.21	1200	5741.96	4541.96	20629357.83
R_S116A_0.0	QA114	22	#########	61.14	ppm	408.83	437.72	11.94	1600	677.30	-922.70	851377.48
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	1442.05	1539	86.32	2500	4906.45	2406.45	5791000.46
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	390.49	610.14	9.62	510	1339.43	829.43	687950.97
R_S30B	QA13	19	#########	60.43	ppm	194.47	220.99	16.3	86	-154.99	-240.99	58075.22
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	507.53	597.09	20.93	360	1289.33	929.33	863648.82
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	507.53	597.09	20.93	390	1289.33	899.33	808789.19
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	71.64	117.44	6.99	110	-552.62	-662.62	439070.55
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	329.17	335.2	15.22	470	283.62	-186.38	34737.89
R_S57_0.0	QA30	14	#########	60.83	ppm	87.47	145.78	7.08	160	-443.79	-603.79	364562.82
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	150.81	203.8	10.46	210	-221.01	-431.01	185766.13
R_64B_0.0	QA33	2.3	#########	60.2	ppm	80.77	103.55	7.78	60	-605.97	-665.97	443515.14
R_S68b_0.25m	QA40	12	#########	61.82	ppm	1110.35	1370.8	26.87	1000	4260.51	3260.51	10630933.50
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	797.79	828.44	20.92	3000	2177.75	-822.25	676099.27
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	797.79	833.64	20.92	9400	2197.69	-7202.31	51873221.03
R_S73b_0.1m	QA43	11	#########	61.41	ppm	57.71	84.868	5.79	59	-677.72	-736.72	542753.35
R_S73b_0.1m	QA44	20	#########	61.41	ppm	191.12	222.23	27.4	250	-150.21	-400.21	160168.94
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	191.12	222.23	27.4	230	-150.21	-380.21	144560.50
R_S90A_0.1	QA101	12	#########	61.09	ppm	66.96	90.486	9.24	74	-656.14	-730.14	533105.25
R_S92A_0.0	QA102	15	#########	61.61	ppm	664.86	773.09	21.1	690	1965.20	1275.20	1626123.95
R_S92A_0.0	QA103	15	#########	61.61	ppm	154.13	157.76	11.15	140	-397.80	-537.80	289232.85
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	55.79	63.398	8.08	59	-760.17	-819.17	671033.67
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	66.19	74.371	7.55	86	-718.03	-804.03	646460.80
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	66.19	82.738	7.55	54	-685.90	-739.90	547449.23
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	3840.98	4156.9	50.69	19000	14959.66	-4040.34	16324324.02
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	393.7	504.74	16.42	480	934.68	454.68	206737.41
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	550.29	724.07	24.19	460	1776.92	1316.92	1734283.41
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	746.16	994.88	20.95	1200	2816.90	1616.90	2614362.20
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	193.23	322.05	10.61	530	233.11	-296.89	88145.78
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	295.79	336.13	13.69	280	287.16	7.16	51.22
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	846.71	962.17	27.54	2500	2691.29	191.29	36591.18
Average =		17.0										
STDEV												

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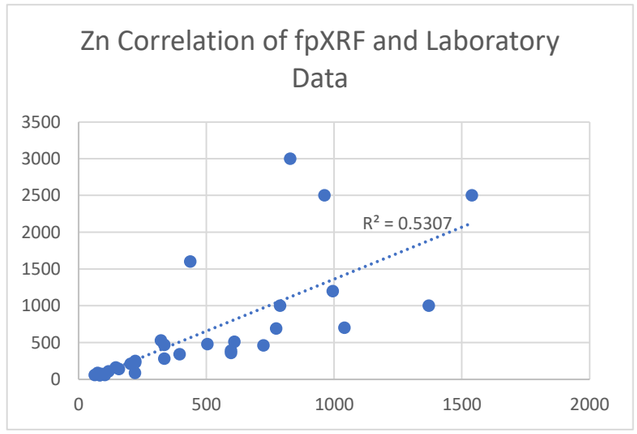
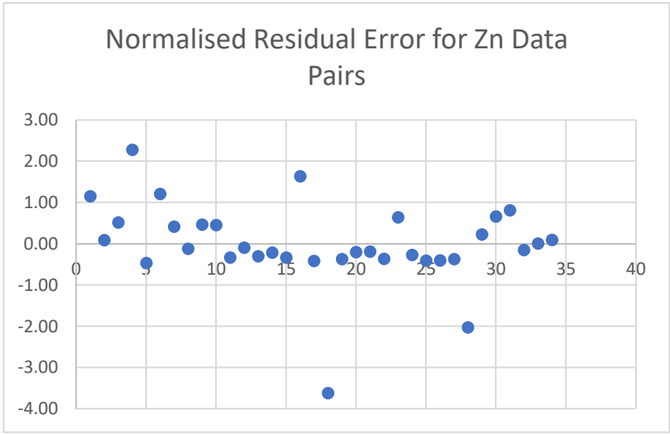
Intercept =	-1003.63
Slope =	3.84
Standard Error =	1990.95





Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Normailsed Residual	Hg	Moisture Corrected	Hg Error	Lab Hg
R_S106A_0.0	QA109	39	#########	61.46	ppm	1.15	<LOD	n/a	6.01	0.1
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	0.09	<LOD	n/a	7.28	< 0.1
R_S110A_0.0	QA110	40	#########	61.57	ppm	0.52	<LOD	n/a	5.48	0.1
R_S113A_0.1	QA113	26	#########	62.29	ppm	2.28	<LOD	n/a	8.02	0.1
R_S116A_0.0	QA114	22	#########	61.14	ppm	-0.46	<LOD	n/a	6.97	< 0.1
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	1.21	<LOD	n/a	6.74	0.2
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	0.42	<LOD	n/a	9.08	< 0.1
R_S30B	QA13	19	#########	60.43	ppm	-0.12	<LOD	n/a	9.33	0.2
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	0.47	<LOD	n/a	32.36	0.2
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	0.45	<LOD	n/a	8.44	< 0.1
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	-0.33	<LOD	n/a	8.44	< 0.1
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	-0.09	<LOD	n/a	4.74	< 0.1
R_S57_0.0	QA30	14	#########	60.83	ppm	-0.30	<LOD	n/a	10.21	0.4
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	-0.22	<LOD	n/a	6.2	< 0.1
R_64B_0.0	QA33	2.3	#########	60.2	ppm	-0.33	<LOD	n/a	8.63	< 0.1
R_S68b_0.25m	QA40	12	#########	61.82	ppm	1.64	<LOD	n/a	8.69	< 0.1
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	-0.41	<LOD	n/a	22.43	0.3
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	-3.62	<LOD	n/a	22.43	0.3
R_S73b_0.1m	QA43	11	#########	61.41	ppm	-0.37	<LOD	n/a	7.63	< 0.1
R_S73b_0.1m	QA44	20	#########	61.41	ppm	-0.20	<LOD	n/a	7.63	< 0.1
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	-0.19	<LOD	n/a	9.8	< 0.1
R_S90A_0.1	QA101	12	#########	61.09	ppm	-0.37	<LOD	n/a	18.4	0.2
R_S92A_0.0	QA102	15	#########	61.61	ppm	0.64	<LOD	n/a	13.93	0.2
R_S92A_0.0	QA103	15	#########	61.61	ppm	-0.27	<LOD	n/a	13.93	0.1
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	-0.41	<LOD	n/a	11.5	0.5
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	-0.40	<LOD	n/a	9.47	0.1
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	-0.37	<LOD	n/a	10.67	0.2
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	-2.03	<LOD	n/a	9.59	0.2
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	0.23	<LOD	n/a	17.09	0.1
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	0.66	<LOD	n/a	6.75	0.2
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	0.81	<LOD	n/a	8.24	2.1
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	-0.15	<LOD	n/a	13.39	0.6
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	0.00	<LOD	n/a	11.72	0.3
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	0.10	<LOD	n/a	7.87	0.2
	Average =	17.0					**STDEV**			

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Mn	Moisture Corrected	Mn Error	Lab Mn	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)	Residual (e_i^2)	Normalised Residual
R_S106A_0.0	QA109	39	#########	61.46	ppm	81.94	134.33	34.14	330	122.30	-207.70	43141.29	-1.11
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	192.73	200.55	33.78	180	167.20	-12.80	163.81	-0.07
R_S110A_0.0	QA110	40	#########	61.57	ppm	66.46	110.77	31.5	590	106.32	-483.68	233947.91	-2.59
R_S113A_0.1	QA113	26	#########	62.29	ppm	431.23	582.74	51.31	500	426.36	-73.64	5422.13	-0.39
R_S116A_0.0	QA114	22	#########	61.14	ppm	198.42	254.38	41.4	92	203.71	111.71	12478.11	0.60
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	458.73	491.15	38.76	230	364.25	134.25	18023.78	0.72
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	245.24	249.74	49.61	190	200.55	10.55	111.36	0.06
R_S30B	QA13	19	#########	60.43	ppm	882.63	1089.67	65.93	1300	770.11	-529.89	280784.72	-2.84
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	255.26	272.42	145.61	77	215.94	138.94	19303.49	0.74
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	200.03	207.72	43.59	110	172.06	62.06	3851.34	0.33
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	200.03	209.02	43.59	210	172.94	-37.06	1373.27	-0.20
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	172.2	269.06	25.79	250	213.66	-36.34	1320.70	-0.19
R_S57_0.0	QA30	14	#########	60.83	ppm	244.48	284.28	50.46	230	223.98	-6.02	36.28	-0.03
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	205.5	302.21	33.81	230	236.13	6.13	37.61	0.03
R_64B_0.0	QA33	2.3	#########	60.2	ppm	128.94	131.98	46.39	78	120.70	42.70	1823.29	0.23
R_S68b_0.25m	QA40	12	#########	61.82	ppm	207.27	235.53	49.21	180	190.92	10.92	119.31	0.06
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	162.8	189.30	162.8	87	159.57	72.57	5266.88	0.39
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	162.8	189.30	162.8	89	159.57	70.57	4980.59	0.38
R_S73b_0.1m	QA43	11	#########	61.41	ppm	101.54	114.09	38.03	190	108.57	-81.43	6630.54	-0.44
R_S73b_0.1m	QA44	20	#########	61.41	ppm	101.54	126.93	38.03	99	117.28	18.28	333.99	0.10
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	62.71	84.74	62.71	56	88.67	32.67	1067.46	0.17
R_S90A_0.1	QA101	12	#########	61.09	ppm	176.18	200.20	65.88	29	166.97	137.97	19034.63	0.74
R_S92A_0.0	QA102	15	#########	61.61	ppm	141.62	166.61	58.23	28	144.19	116.19	13499.38	0.62
R_S92A_0.0	QA103	15	#########	61.61	ppm	141.62	166.61	58.23	29	144.19	115.19	13268.01	0.62
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	202.59	241.18	60.01	59	194.75	135.75	18428.19	0.73
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	1604.58	1707.00	81.21	1100	1188.72	88.72	7871.49	0.48
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	908.38	1094.43	71.55	600	773.34	173.34	30047.21	0.93
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	162.74	208.64	47.85	120	172.69	52.69	2775.90	0.28
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	385.46	507.18	77.47	190	375.13	185.13	34272.53	0.99
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	125.07	208.45	37.34	550	172.56	-377.44	142463.01	-2.02
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	175.59	199.53	43.51	94	166.51	72.51	5257.91	0.39
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	390.34	443.57	71.37	140	331.99	191.99	36860.35	1.03
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	542.83	587.48	62.61	230	429.58	199.58	39830.48	1.07
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	314.55	419.40	47.31	650	315.60	-334.40	111821.95	-1.79
Average =		17.0											
STDEV													

Notes

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Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

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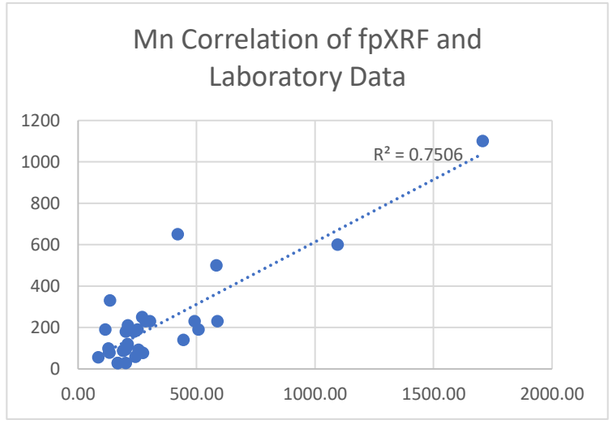
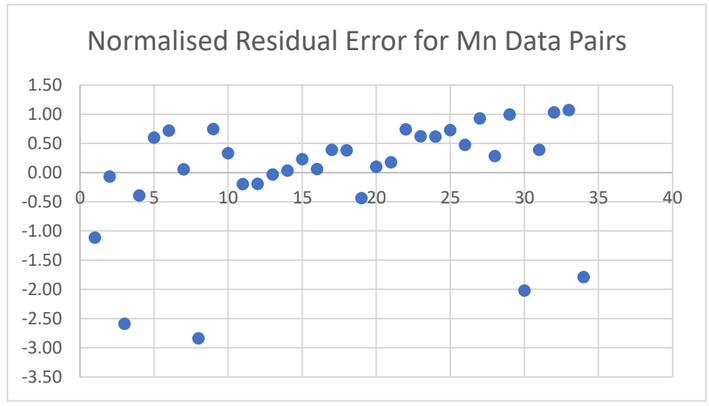
Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Intercept = 31.21
Slope = 0.68

Standard Error = 186.72





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25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Ti	Moisture Corrected	Ti Error	Lab Ti
R_S106A_0.0	QA109	39	#########	61.46	ppm	2038.52	3341.84	65.46	190
R_S10a_QA1	QA01	3.9	#########	60.2	ppm		0.00		460
R_S110A_0.0	QA110	40	#########	61.57	ppm	1854.73	3091.22	68.90	110
R_S113A_0.1	QA113	26	#########	62.29	ppm	1622.26	2192.24	56.36	140
R_S116A_0.0	QA114	22	#########	61.14	ppm	2424.16	3107.90	75.36	280
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm		0.00		55
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	3633.27	3699.87	61.15	170
R_S30B	QA13	19	#########	60.43	ppm	1788.08	2207.51	45.75	94
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	<LOD	n/a	639.92	78
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	1501.63	1559.33	58.80	67
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	1501.63	1569.10	58.80	110
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	<LOD	n/a	1173.82	120
R_S57_0.0	QA30	14	#########	60.83	ppm	1741.41	2024.90	60.63	250
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	<LOD	n/a	991.73	130
R_64B_0.0	QA33	2.3	#########	60.2	ppm	1783.40	1825.38	52.25	470
R_S68b_0.25m	QA40	12	#########	61.82	ppm	2777.22	3155.93	64.41	280
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	<LOD	n/a	1030.20	290
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	<LOD	n/a	1030.20	320
R_S73b_0.1m	QA43	11	#########	61.41	ppm	2517.08	2828.18	46.53	270
R_S73b_0.1m	QA44	20	#########	61.41	ppm	2517.08	3146.35	46.53	200
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	913.18	1234.03	27.84	71
R_S90A_0.1	QA101	12	#########	61.09	ppm	4514.83	5130.49	96.06	140
R_S92A_0.0	QA102	15	#########	61.61	ppm	4094.63	4817.21	98.07	170
R_S92A_0.0	QA103	15	#########	61.61	ppm	4094.63	4817.21	98.07	160
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	2372.53	2824.44	98.54	140
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	4023.79	4280.63	94.68	68
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	4144.06	4992.84	112.38	270
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	2501.64	3207.23	75.77	470
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	1971.19	2593.67	75.92	510
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	1346.30	2243.83	40.06	200
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	1818.23	2066.17	48.58	200
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	1224.53	1391.51	48.83	300
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	1720.73	1862.26	64.28	150
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	1199.96	1599.95	30.72	130
	Average =	17.0						STDEV	

Notes

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25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Fe	Moisture Corrected	Fe error	Lab Fe	Best Fit Value (Y)	Residual ($e_i = Y_i - y_i$)
R_S106A_0.0	QA109	39	#########	61.46	ppm	11187.05	18339.43	128.19	23000	22530.57	-469.43
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	13987.14	14554.78	129.33	10000	21688.84	11688.84
R_S110A_0.0	QA110	40	#########	61.57	ppm	6730.66	11217.77	96.54	20000	20946.67	946.67
R_S113A_0.1	QA113	26	#########	62.29	ppm	20908.09	28254.18	199.13	25000	24735.67	-264.33
R_S116A_0.0	QA114	22	#########	61.14	ppm	16790.33	21526.06	166.43	29000	23239.30	-5760.70
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	19955.09	21365.19	146.76	16000	23203.52	7203.52
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	23018.82	23440.75	220.37	22000	23665.14	1665.14
R_S30B	QA13	19	#########	60.43	ppm	19842.37	24496.75	208.12	17000	23900.00	6900.00
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	38813.43	41423.08	814.00	44000	27664.51	-16335.49
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	13858.85	14391.33	158.53	12000	21652.49	9652.49
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	13858.85	14481.56	158.53	26000	21672.56	-4327.44
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	12742.53	19910.20	97.81	15000	22879.92	7879.92
R_S57_0.0	QA30	14	#########	60.83	ppm	21597.54	25113.42	215.12	21000	24037.15	3037.15
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	24255.83	35670.34	161.80	32000	26385.07	-5614.93
R_64B_0.0	QA33	2.3	#########	60.2	ppm	30575.35	31295.14	250.66	11000	25412.00	14412.00
R_S68b_0.25m	QA40	12	#########	61.82	ppm	30929.66	35147.34	252.66	22000	26268.75	4268.75
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	45018.30	52346.86	674.18	42000	30094.03	-11905.97
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	45018.30	52346.86	674.18	43000	30094.03	-12905.97
R_S73b_0.1m	QA43	11	#########	61.41	ppm	9746.36	10950.97	130.38	13000	20887.34	7887.34
R_S73b_0.1m	QA44	20	#########	61.41	ppm	9746.36	12182.95	130.38	20000	21161.34	1161.34
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	9901.31	13380.15	155.70	22000	21427.60	-572.40
R_S90A_0.1	QA101	12	#########	61.09	ppm	32202.35	36593.58	324.13	24000	26590.40	2590.40
R_S92A_0.0	QA102	15	#########	61.61	ppm	48763.50	57368.82	356.16	39000	31210.94	-7789.06
R_S92A_0.0	QA103	15	#########	61.61	ppm	48763.50	57368.82	356.16	30000	31210.94	1210.94
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	66970.14	79726.36	406.96	36000	36183.39	183.39
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	37196.30	39570.53	276.94	27000	27252.50	252.50
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	35697.09	43008.54	285.49	31000	28017.13	-2982.87
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	29640.69	38000.88	247.48	26000	26903.40	903.40
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	82232.25	108200.33	510.67	21000	42516.17	21516.17
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	9246.96	15411.60	124.21	19000	21879.41	2879.41
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	18403.20	20912.73	185.87	51000	23102.89	-27897.11
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	79706.67	90575.76	476.08	41000	38596.36	-2403.64
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	37356.36	40428.96	292.38	42000	27443.42	-14556.58
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	13808.48	18411.31	163.91	15000	22546.56	7546.56
Average =		17.0									
STDEV											

Notes
Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

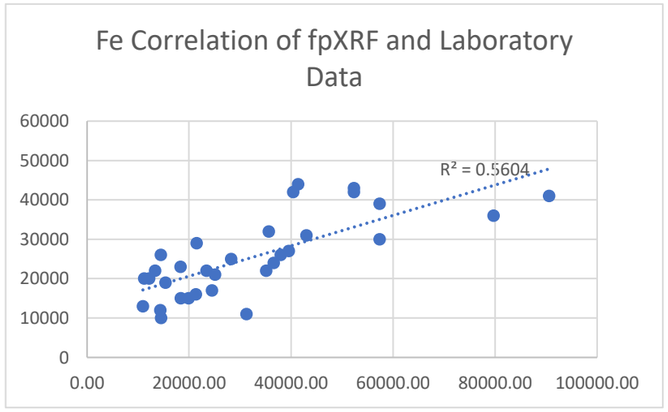
Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

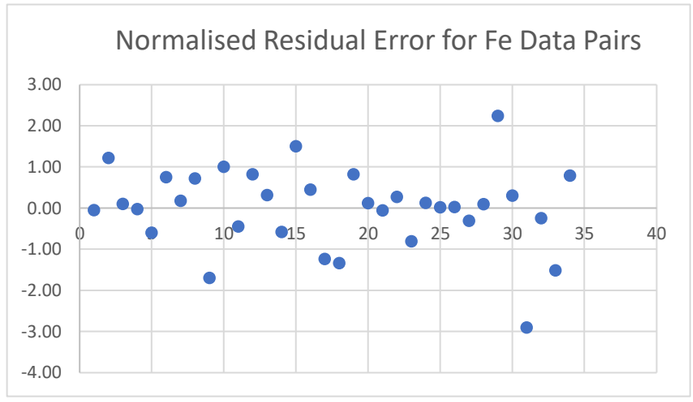
Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Intercept = 18451.78
Slope = 0.22

Standard Error = 9610.80





Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Residual (e_i^2)	Normailsed Residual	Co	Moisture Corrected	Co error
R_S106A_0.0	QA109	39	#########	61.46	ppm	220362.31	-0.05	<LOD	n/a	59.97
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	136629069.40	1.22	<LOD	n/a	73.78
R_S110A_0.0	QA110	40	#########	61.57	ppm	896189.97	0.10	<LOD	n/a	46.24
R_S113A_0.1	QA113	26	#########	62.29	ppm	69869.64	-0.03	137.56	185.89	62.11
R_S116A_0.0	QA114	22	#########	61.14	ppm	33185670.36	-0.60	<LOD	n/a	77.44
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	51890711.08	0.75	<LOD	n/a	83.85
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	2772683.77	0.17	<LOD	n/a	101.86
R_S30B	QA13	19	#########	60.43	ppm	47609976.67	0.72	<LOD	n/a	96.61
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	266848083.44	-1.70	<LOD	n/a	461.45
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	93170605.65	1.00	<LOD	n/a	74.27
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	18726742.24	-0.45	<LOD	n/a	74.27
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	62093177.68	0.82	<LOD	n/a	55.61
R_S57_0.0	QA30	14	#########	60.83	ppm	9224270.23	0.32	<LOD	n/a	99.87
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	31527441.09	-0.58	167.13	245.78	62.15
R_64B_0.0	QA33	2.3	#########	60.2	ppm	207705726.91	1.50	<LOD	n/a	114.95
R_S68b_0.25m	QA40	12	#########	61.82	ppm	18222244.52	0.44	142.8	162.27	77.83
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	141752190.93	-1.24	<LOD	n/a	386.31
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	166564136.75	-1.34	<LOD	n/a	386.31
R_S73b_0.1m	QA43	11	#########	61.41	ppm	62210055.34	0.82	<LOD	n/a	62.03
R_S73b_0.1m	QA44	20	#########	61.41	ppm	1348700.36	0.12	<LOD	n/a	62.03
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	327642.15	-0.06	83.88	113.35	49.97
R_S90A_0.1	QA101	12	#########	61.09	ppm	6710193.60	0.27	<LOD	n/a	149.6
R_S92A_0.0	QA102	15	#########	61.61	ppm	60669433.71	-0.81	<LOD	n/a	162.03
R_S92A_0.0	QA103	15	#########	61.61	ppm	1466379.10	0.13	<LOD	n/a	162.03
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	33631.62	0.02	226.41	269.54	123.96
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	63754.22	0.03	<LOD	n/a	126
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	8897514.58	-0.31	131.5	158.43	87.43
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	816126.35	0.09	136.56	175.08	76.32
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	462945536.46	2.24	<LOD	n/a	231.57
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	8290981.62	0.30	<LOD	n/a	58.75
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	778248760.42	-2.90	100.2	113.86	57.94
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	5777480.43	-0.25	<LOD	n/a	214.11
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	211894146.71	-1.51	<LOD	n/a	134.22
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	56950552.65	0.79	103.26	137.68	51.79
	Average =	17.0							STDEV	

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Lab co	Se	Moisture Corrected	Se error	Lab Se
R_S106A_0.0	QA109	39	#########	61.46	ppm	7	<LOD	n/a	4.48	4.2
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	< 5	<LOD	n/a	2.73	2.3
R_S110A_0.0	QA110	40	#########	61.57	ppm	8.3	<LOD	n/a	4.1	3.7
R_S113A_0.1	QA113	26	#########	62.29	ppm	7.7	<LOD	n/a	6.06	4.3
R_S116A_0.0	QA114	22	#########	61.14	ppm	8	<LOD	n/a	5.05	6.3
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	< 5	<LOD	n/a	3.24	2.1
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	7.5	<LOD	n/a	7.12	2.1
R_S30B	QA13	19	#########	60.43	ppm	5.6	<LOD	n/a	8.46	< 2
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	< 5	<LOD	n/a	14.99	3.2
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	< 5	<LOD	n/a	7	< 2
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	< 5	<LOD	n/a	7	2.9
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	< 5	<LOD	n/a	2.17	< 2
R_S57_0.0	QA30	14	#########	60.83	ppm	< 5	<LOD	n/a	8.87	3.5
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	20	<LOD	n/a	2.6	5.5
R_64B_0.0	QA33	2.3	#########	60.2	ppm	< 5	<LOD	n/a	6.64	2.3
R_S68b_0.25m	QA40	12	#########	61.82	ppm	8.8	<LOD	n/a	6.5	3.4
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	< 5	<LOD	n/a	11.84	3.9
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	< 5	<LOD	n/a	11.84	4.3
R_S73b_0.1m	QA43	11	#########	61.41	ppm	< 5	<LOD	n/a	5.54	< 2
R_S73b_0.1m	QA44	20	#########	61.41	ppm	11	<LOD	n/a	5.54	3.6
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	< 5	<LOD	n/a	7.35	2.3
R_S90A_0.1	QA101	12	#########	61.09	ppm	< 5	<LOD	n/a	19.02	6.8
R_S92A_0.0	QA102	15	#########	61.61	ppm	< 5	<LOD	n/a	13.22	9.5
R_S92A_0.0	QA103	15	#########	61.61	ppm	< 5	<LOD	n/a	13.22	9.9
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	< 5	<LOD	n/a	10.25	3.3
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	6.9	<LOD	n/a	7.84	4.2
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	12	<LOD	n/a	8.97	7.9
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	< 5	<LOD	n/a	8.31	5
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	5.1	<LOD	n/a	16.02	4.1
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	12	<LOD	n/a	5.24	2.3
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	< 5	8.42	9.57	4.24	8.3
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	< 5	<LOD	n/a	12.96	3.8
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	< 5	<LOD	n/a	12.61	< 2
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	11	<LOD	n/a	7.02	4.2
	Average =	17.0							**STDEV**	

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Mo	Moisture Corrected	Mo error	Lab Mo
R_S106A_0.0	QA109	39	#########	61.46	ppm	<LOD	n/a	2.48	< 5
R_S10a_QA1	QA01	3.9	#########	60.2	ppm	5.11	5.32	1.75	< 5
R_S110A_0.0	QA110	40	#########	61.57	ppm	<LOD	n/a	2.35	< 5
R_S113A_0.1	QA113	26	#########	62.29	ppm	3.97	5.36	2.03	< 5
R_S116A_0.0	QA114	22	#########	61.14	ppm	<LOD	n/a	2.7	< 5
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm	3.77	4.04	1.67	< 5
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm	5.78	5.89	2.4	< 5
R_S30B	QA13	19	#########	60.43	ppm	3.46	4.27	2.2	< 5
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm	11.88	12.68	7	5.7
R_S51B_0.0	QA17	3.7	#########	60.72	ppm	4.15	4.31	1.98	< 5
R_S51B_0.0	QA18	4.3	#########	60.72	ppm	4.15	4.34	1.98	7
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm	2.21	3.45	1.28	< 5
R_S57_0.0	QA30	14	#########	60.83	ppm	<LOD	n/a	3.34	< 5
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm	<LOD	n/a	2.3	< 5
R_64B_0.0	QA33	2.3	#########	60.2	ppm	<LOD	n/a	3.08	< 5
R_S68b_0.25m	QA40	12	#########	61.82	ppm	<LOD	n/a	3.16	< 5
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm	8.93	10.38	5.24	< 5
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm	8.93	10.38	5.24	< 5
R_S73b_0.1m	QA43	11	#########	61.41	ppm	4.05	4.55	2.06	< 5
R_S73b_0.1m	QA44	20	#########	61.41	ppm	4.05	5.06	2.06	< 5
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	<LOD	n/a	3.39	< 5
R_S90A_0.1	QA101	12	#########	61.09	ppm	<LOD	n/a	4.31	< 5
R_S92A_0.0	QA102	15	#########	61.61	ppm	<LOD	n/a	3.71	< 5
R_S92A_0.0	QA103	15	#########	61.61	ppm	<LOD	n/a	3.71	< 5
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	9.19	10.94	2.51	5.1
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	<LOD	n/a	3.33	< 5
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	<LOD	n/a	3.46	< 5
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	8.24	10.56	2.2	< 5
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	8.31	10.93	2.83	< 5
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	<LOD	n/a	2.68	5.2
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	<LOD	n/a	2.95	5.8
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	<LOD	n/a	3.81	< 5
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	7.98	8.64	2.39	7.9
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	3.91	5.21	2.12	< 5
	Average =	17.0						STDEV	

Notes

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Cd	Moisture Corrected	Cd error	Lab Cd
R_S106A_0.0	QA109	39	#########	61.46	ppm	<LOD	n/a	106.8	< 0.4
R_S10a_QA1	QA01	3.9	#########	60.2	ppm				0.5
R_S110A_0.0	QA110	40	#########	61.57	ppm	<LOD	n/a	71.15	< 0.4
R_S113A_0.1	QA113	26	#########	62.29	ppm	<LOD	n/a	87.41	< 0.4
R_S116A_0.0	QA114	22	#########	61.14	ppm	<LOD	n/a	140.48	< 0.4
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm				< 0.4
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm				< 0.4
R_S30B	QA13	19	#########	60.43	ppm				0.9
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm				0.6
R_S51B_0.0	QA17	3.7	#########	60.72	ppm				0.7
R_S51B_0.0	QA18	4.3	#########	60.72	ppm				1.5
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm				1.4
R_S57_0.0	QA30	14	#########	60.83	ppm				0.6
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm				< 0.4
R_64B_0.0	QA33	2.3	#########	60.2	ppm				< 0.4
R_S68b_0.25m	QA40	12	#########	61.82	ppm	<LOD	n/a	132.32	< 0.4
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm				< 0.4
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm				< 0.4
R_S73b_0.1m	QA43	11	#########	61.41	ppm	<LOD	n/a	95.05	< 0.4
R_S73b_0.1m	QA44	20	#########	61.41	ppm	<LOD	n/a	95.05	< 0.4
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	<LOD	n/a	187.17	< 0.4
R_S90A_0.1	QA101	12	#########	61.09	ppm	<LOD	n/a	154.27	< 0.4
R_S92A_0.0	QA102	15	#########	61.61	ppm	<LOD	n/a	134.2	0.7
R_S92A_0.0	QA103	15	#########	61.61	ppm	<LOD	n/a	134.2	0.7
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	<LOD	n/a	222.12	< 0.4
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	<LOD	n/a	99.08	< 0.4
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	<LOD	n/a	278.19	0.8
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	<LOD	n/a	117.12	0.4
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	<LOD	n/a	226.84	1.6
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	<LOD	n/a	122.58	0.5
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	<LOD	n/a	97.42	< 0.4
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	<LOD	n/a	200.12	0.8
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	<LOD	n/a	138.47	2.9
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	<LOD	n/a	78.93	3.9
	Average =	17.0						STDEV	

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

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Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T9:
QC fpXRF Comparability

SAMPLE	QA Sample	% Moisture	Time	Duration	Units	Ba	Moisture Corrected	Ba Error	Lab Ba
R_S106A_0.0	QA109	39	#########	61.46	ppm	<LOD	n/a	594.68	140
R_S10a_QA1	QA01	3.9	#########	60.2	ppm				66
R_S110A_0.0	QA110	40	#########	61.57	ppm	<LOD	n/a	337.55	160
R_S113A_0.1	QA113	26	#########	62.29	ppm	671.24	907.08	350.06	170
R_S116A_0.0	QA114	22	#########	61.14	ppm	<LOD	n/a	651.15	200
R_S20a_QA2_QA3	QA02	6.6	#########	60.25	ppm				240
R_S20B_QA11_QA12	QA11	1.8	#########	60.49	ppm				120
R_S30B	QA13	19	#########	60.43	ppm				390
R_S50a_0m_QA7	QA07	6.3	#########	61.61	ppm				390
R_S51B_0.0	QA17	3.7	#########	60.72	ppm				260
R_S51B_0.0	QA18	4.3	#########	60.72	ppm				720
R_S54a_0m_QA8_QA9	QA08	36	#########	60.96	ppm				320
R_S57_0.0	QA30	14	#########	60.83	ppm				400
R_S62a_0m_QA21_QA22	QA21	32	#########	61.28	ppm				120
R_64B_0.0	QA33	2.3	#########	60.2	ppm				57
R_S68b_0.25m	QA40	12	#########	61.82	ppm	<LOD	n/a	654.25	63
R_S72a_0m_QA24_QA25	QA24	14	#########	60.78	ppm				460
R_S72a_0m_QA24_QA25	QA25	14	#########	60.78	ppm				370
R_S73b_0.1m	QA43	11	#########	61.41	ppm	<LOD	n/a	657.24	43
R_S73b_0.1m	QA44	20	#########	61.41	ppm	<LOD	n/a	657.24	46
R_S76a_0m_QA	QA26	26	#########	62.17	ppm	1430.86	1933.59	696.21	75
R_S90A_0.1	QA101	12	#########	61.09	ppm	<LOD	n/a	942.40	32
R_S92A_0.0	QA102	15	#########	61.61	ppm	<LOD	n/a	685.78	38
R_S92A_0.0	QA103	15	#########	61.61	ppm	<LOD	n/a	685.78	54
GW4_0.2	GW4_0.2	16	#########	61.41	ppm	2486.37	2959.96	794.70	590
GW7_0.2	GW7_0.2	6	#########	62.24	ppm	831.93	885.03	405.92	120
GW8_0.2	GW8_0.2	17	#########	61.03	ppm	2770.88	3338.41	1103.60	250
SAQP11_BH01_0.0	SAQP11-BH01_0.0	22	#########	61.77	ppm	801.76	1027.90	447.68	220
SAQP11-BH03_0.0	SAQP11-BH03_0.0	24	#########	61.56	ppm	2486.54	3271.76	865.21	270
SAQP13-BH02_0.0	SAQP13-BH02_0.0	40	#########	61.41	ppm	<LOD	n/a	662.94	240
SAQP9-BH03_0.0	SAQP9-BH03_0.0	12	#########	61.98	ppm	<LOD	n/a	528.61	120
SAQP9-BH04_0.25	SAQP9-BH04_0.25	12	#########	62.26	ppm	1432.67	1628.03	697.07	440
SAQP-BH02_0.25	SAQP10-BH02_0.25	7.6	#########	62.04	ppm	1918.10	2075.87	568.63	1400
SAQP-BH10_0.0	SAQP11-BH10_0.0	25	#########	63.28	ppm	<LOD	n/a	430.18	340
	Average =	17.0						STDEV	

Notes

Statistical outliers are defined where normalised residual errors between moisture corrected fpXRF and laboratory results exceed +/- 2 and the residual is inconsistent with its neighbours (Cimbala 2011). Data pairs with red borders have been excluded as statistical outliers

Spectral peaks for arsenic and lead overlap and where lead is observed this can cause inaccuracies in arsenic measurements where arsenic and lead are co-located.

Sample pairs with red borders are identified as statistical outliers based on highlighted residual error > +/- 2

Sample pairs blue red borders are identified as samples where XRF was < LOD and limited development of meaningful correlations.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Tabel T10:
Soil QA/QC Results

55	Laboratory:		Eurofins	Eurofins	RPD	Eurofins	Eurofins	RPD	Eurofins	Eurofins	RPD	Eurofins	Envirolab	RPD	Eurofins
	Lab sample number:		S21-Jn50362	S21-Jn50363		S21-Jn50365	S21-Jn50366		S21-Jn50371	S21-Jn50372		S21-Jn50371	272502-1		S21-Jn50374
	Sample date:		2/06/2021	2/06/2021		2/06/2021	2/06/2021		4/06/2021	4/06/2021		4/06/2021	4/06/2021		16/06/2021
	Sample ID:		QA17	QA18		QA24	QA25		QA43	QA44		QA43	QA45		QA102
	Sample Description		PRIMARY	Duplicate of QA17		PRIMARY	Duplicate of QA24		PRIMARY	Duplicate of QA43		PRIMARY	Triplicate of QA43		PRIMARY
Analyte grouping/Analyte		**Units**	**LOR**												
EG005T: Total Metals by ICP-AES															
Aluminium		mg/kg	20	1600	3000	***60.9***	9200	8600	*6.7*	6400	5900	*8.1*	6400	7300	*13.1*	12000
Arsenic		mg/kg	2	14	30	***72.7***	83	69	*18.4*	8	6.5	*20.7*	8	<4	*nc*	62
Barium		mg/kg	10	260	720	***93.9***	460	370	*21.7*	43	46	*6.7*	43	35	*20.5*	38
Cadmium		mg/kg	0.4	0.7	1.5	*72.7*	< 0.4	< 0.4	*nc*	< 0.4	< 0.4	*nc*	< 0.4	<0.4	*nc*	0.7
Chromium		mg/kg	5	< 5	< 5	*nc*	13	14	*7.4*	8.9	14	*44.5*	8.9	15	*51.0*	59
Cobalt		mg/kg	5	< 5	< 5	*nc*	< 5	< 5	*nc*	< 5	11	*nc*	< 5	9	*nc*	< 5
Copper		mg/kg	5	180	430	***82.0***	260	230	*12.2*	13	20	*42.4*	13	19	*37.5*	240
Iron		mg/kg	20	12000	26000	***73.7***	42000	43000	*2.4*	13000	20000	***42.4***	13000	24000	***59.5***	39000
Lead		mg/kg	5	710	1900	***91.2***	2400	2300	*4.3*	90	27	***107.7***	90	25	***113.0***	9800
Manganese		mg/kg	5	110	210	***62.5***	87	89	*2.3*	190	99	***63.0***	190	87	***74.4***	28
Mercury		mg/kg	0.1	< 0.1	< 0.1	*nc*	0.3	0.3	*0.0*	< 0.1	< 0.1	*nc*	< 0.1	<0.1	*nc*	0.2
Molybdenum		mg/kg	5	< 5	7	*nc*	< 5	< 5	*nc*	< 5	< 5	*nc*	< 5	<1	*nc*	< 5
Nickel		mg/kg	5	< 5	< 5	*nc*	5.3	5.2	*1.9*	< 5	9.8	nc	< 5	12	*nc*	< 5
Selenium		mg/kg	2	< 2	2.9	*nc*	3.9	4.3	*9.8*	< 2	3.6	*nc*	< 2	<3	*nc*	9.5
Titanium		mg/kg	10	67	110	***48.6***	290	320	*9.8*	270	200	*29.8*	270	30	***160.0***	170
Zinc		mg/kg	5	3000	9400	***103.2***	250	230	*8.3*	86	54	***45.7***	86	46	***60.6***	360

LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
Bold and Shaded cells exceed RPD >30% (RPDs where concentrations were < 10 x LOR were discounted from assessment)
Bold indicates when above the acceptance criteria for Trip Spikes/Blanks and Rinsates
nc = not calculated as one or more results are below the LOR.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Tabel T10:
Soil QA/QC Results

55	**Laboratory:**		Eurofins	RPD	Eurofins	Envirolab	RPD	Eurofins	Eurofins	RPD	Eurofins	Envirolab	RPD
	Lab sample number:		S21-Jn50375		S21-Jn50374	272502-2		S21-Jn12580	S21-Jn12591		S21-Jn12580	271012-1	
	Sample date:		16/06/2021		16/06/2021	16/06/2021		3/06/2021	3/06/2021		3/06/2021	3/06/2021	
	Sample ID:		QA103		QA102	QA104		SED5	QA35		SED5	QA36	
	Sample Description		Duplicate of QA102		PRIMARY	Triplicate of QA102		PRIMARY	Duplicate of SED5		PRIMARY	Triplicate of SED5	
Analyte grouping/Analyte	**Units**	**LOR**											
EG005T: Total Metals by ICP-AES													
Aluminium	mg/kg	20	12000	*0.0*	12000	18000	***40.0***	6000	2900	***69.7***	6000	230	***185.2***
Arsenic	mg/kg	2	67	*7.8*	62	57	*8.4*	140	110	*24.0*	140	31	***127.5***
Barium	mg/kg	10	54	*34.8*	38	18	*71.4*	630	470	*29.1*	630	30	***181.8***
Cadmium	mg/kg	0.4	0.7	*0.0*	0.7	0.8	*13.3*	1.1	0.5	*nc*	1.1	<0.4	*nc*
Chromium	mg/kg	5	37	***45.8***	59	39	***40.8***	11	8.7	*23.4*	11	3	*114.3*
Cobalt	mg/kg	5	< 5	*nc*	< 5	2	*nc*	< 5	< 5	*nc*	< 5	<1	*nc*
Copper	mg/kg	5	260	*8.0*	240	290	*18.9*	600	430	***33.0***	600	200	***100.0***
Iron	mg/kg	20	30000	*26.1*	39000	37000	*5.3*	230000	270000	*16.0*	230000	4400	***192.5***
Lead	mg/kg	5	12000	*20.2*	9800	8900	*9.6*	6700	4400	***41.4***	6700	1300	***135.0***
Manganese	mg/kg	5	29	*3.5*	28	21	*28.6*	86	65	*27.8*	86	30	***96.6***
Mercury	mg/kg	0.1	0.1	*66.7*	0.2	0.5	*85.7*	0.4	0.3	*28.6*	0.4	0.4	*0.0*
Molybdenum	mg/kg	5	< 5	*nc*	< 5	1	*nc*	< 5	< 5	*nc*	< 5	<1	*nc*
Nickel	mg/kg	5	5.1	*nc*	< 5	5	*nc*	< 5	< 5	*nc*	< 5	1	*nc*
Selenium	mg/kg	2	9.9	*4.1*	9.5	<9	*nc*	< 2	< 2	*nc*	< 2	<12	*nc*
Titanium	mg/kg	10	160	*6.1*	170	16	***165.6***	430	330	*26.3*	430	24	***178.9***
Zinc	mg/kg	5	390	*8.0*	360	300	*18.2*	1700	1300	*26.7*	1700	480	***111.9***

LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
Bold and Shaded cells exceed RPD >30% (RPDs where concentrations were < 10 x LOR were discounted from assessment)
Bold indicates when above the acceptance criteria for Trip Spikes/Blanks and Rinsates
nc = not calculated as one or more results are below the LOR.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T11:
Surface Water QA/QC Results

	Laboratory:		Eurofins	Eurofins	RPD	Eurofins	Envirolab	RPD
	Laboratory Sample number:		S21-Jn12565	S21-Jn12592		S21-Jn12565	271012-2	
	Sample date:		3/06/2021	3/06/2021		3/06/2021	3/06/2021	
	Sample ID:		SW5	QA35		SW5	QA35	
Guidelines	Sample Description:		PRIMARY	DUPLICATE OF SW5		PRIMARY	TRIPLICATE OF 006_GW005	
Analyte grouping/Analyte	**Units**	**LOR**						
EG020T: Dissolved Metals by ICP-MS								
Aluminium	mg/L	0.05	13	14	*7.4*	13	14	*7.4*
Aluminium (filtered)	mg/L	0.05	13	12	*8.0*	13	16	*20.7*
Arsenic	mg/L	0.001	0.01	0.011	*9.5*	0.01	0.011	*9.5*
Arsenic (filtered)	mg/L	0.001	0.008	0.008	*0.0*	0.008	0.006	*28.6*
Barium	mg/L	0.001	< 0.02	< 0.02	*nc*	< 0.02	0.009	*nc*
Barium (filtered)	mg/L	0.001	< 0.02	< 0.02	*nc*	< 0.02	0.006	*nc*
Cadmium	mg/L	0.0002	0.1	0.11	*9.5*	0.1	0.12	*18.2*
Cadmium (filtered)	mg/L	0.0002	0.11	0.11	*0.0*	0.11	0.1	*9.5*
Chromium	mg/L	0.001	0.002	0.002	*0.0*	0.002	0.09	***191.3***
Chromium (filtered)	mg/L	0.001	< 0.001	< 0.001	*nc*	< 0.001	0.067	*nc*
Cobalt	mg/L	0.001	0.086	0.096	*11.0*	0.086	<1	*nc*
Cobalt (filtered)	mg/L	0.001	0.097	0.098	*1.0*	0.097	<1	*nc*
Copper	mg/L	0.001	0.33	0.37	*11.4*	0.33	0.33	*0.0*
Copper (filtered)	mg/L	0.001	0.36	0.37	*2.7*	0.36	0.24	***40.0***
Iron	mg/L	0.05	150	170	*12.5*	150	160	*6.5*
Iron (filtered)	mg/L	0.05	190	190	*0.0*	190	170	*11.1*
Lead	mg/L	0.001	1.2	1.3	*8.0*	1.2	<1	*nc*
Lead (filtered)	mg/L	0.001	1.3	1.4	*7.4*	1.3	<1	*nc*
Manganese	mg/L	0.005	10	11	*9.5*	10	11	*9.5*
Manganese (filtered)	mg/L	0.005	12	12	*0.0*	12	11	*8.7*
Mercury	mg/L	0.0001	< 0.0001	< 0.0001	*nc*	< 0.0001	<1	*nc*
Mercury (filtered)	mg/L	0.0001	< 0.0001	< 0.0001	*nc*	< 0.0001	<1	*nc*
Molybdenum	mg/L	0.005	< 0.005	< 0.005	*nc*	< 0.005	0.066	*nc*
Molybdenum (filtered)	mg/L	0.005	< 0.005	< 0.005	*nc*	< 0.005	0.047	*nc*
Nickel	mg/L	0.001	0.063	0.071	*11.9*	0.063	1.3	***181.5***
Nickel (filtered)	mg/L	0.001	0.072	0.072	*0.0*	0.072	1.4	***180.4***
Selenium	mg/L	0.001	0.011	0.013	*16.7*	0.011	0.002	***138.5***
Selenium (filtered)	mg/L	0.001	0.003	0.002	***40.0***	0.003	<1	*nc*
Titanium	mg/L	0.005	< 0.005	< 0.005	*nc*	< 0.005	0.0011	*nc*
Titanium (filtered)	mg/L	0.005	< 0.005	< 0.005	*nc*	< 0.005	<1	*nc*
Zinc	mg/L	0.005	120	130	*8.0*	120	130	*8.0*
Zinc (filtered)	mg/L	0.005	140	140	*0.0*	140	140	*0.0*

LOR = Limit of Reporting
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Bold and Shaded cells exceed RPD >30% (RPDs where concentrations were < 10 x LOR were discounted from assessment)
Bold indicates when above the acceptance criteria for Trip Spikes/Blanks and Rinsates
nc = not calculated as one or more results are below the LOR.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T11:
Surface Water QA/QC Results

RAMBOLL

Eurofins	Eurofins	RPD	Eurofins	Envirolab	RPD	Eurofins
S21-No11151	S21-No11159		S21-No11151	1		S21-No11160
1/11/2021	1/11/2021		1/11/2021	1/11/2021		1/11/2021
SW8	D01_20211101		SW8	T01_20211101		R01_20211101
PRIMARY	DUPLICATE OF SW8		PRIMARY	TRIPLICATE OF SW8		RINSATE
0.78	0.74	*5.3*	0.78	0.46	***51.6***	< 0.05
0.5	0.47	*6.2*	0.5	0.44	*12.8*	< 0.05
< 0.001	< 0.001	*nc*	< 0.001	<0.001	*nc*	< 0.001
0.001	< 0.001	*nc*	0.001	<0.001	*nc*	< 0.001
-	-	*nc*	-	-	*nc*	-
-	-	*nc*	-	-	*nc*	-
0.018	0.02	*10.5*	0.018	0.017	*5.7*	< 0.0002
0.016	0.016	*0.0*	0.016	0.018	*11.8*	< 0.0002
< 0.001	< 0.001	*nc*	< 0.001	<0.001	*nc*	< 0.001
< 0.001	< 0.001	*nc*	< 0.001	<0.001	*nc*	< 0.001
0.022	0.024	*8.7*	0.022	0.02	*9.5*	< 0.001
0.019	0.018	*5.4*	0.019	0.02	*5.1*	< 0.001
0.082	0.091	*10.4*	0.082	0.078	*5.0*	< 0.001
0.073	0.072	*1.4*	0.073	0.072	*1.4*	< 0.001
7.4	7.4	*0.0*	7.4	4.7	***44.6***	< 0.05
3.9	3.8	*2.6*	3.9	3.7	*5.3*	< 0.05
0.24	0.28	*15.4*	0.24	0.2	*18.2*	< 0.001
0.17	0.17	*0.0*	0.17	0.19	*11.1*	< 0.001
1.6	1.7	*6.1*	1.6	1.3	*20.7*	< 0.005
1.3	1.3	*0.0*	1.3	1.4	*7.4*	< 0.005
< 0.0001	< 0.0001	*nc*	< 0.0001	<0.00005	*nc*	< 0.0001
< 0.0001	< 0.0001	*nc*	< 0.0001	<0.00005	*nc*	< 0.0001
< 0.005	< 0.005	*nc*	< 0.005	<0.001	*nc*	< 0.005
< 0.005	< 0.005	*nc*	< 0.005	<0.001	*nc*	< 0.005
0.016	0.017	*6.1*	0.016	0.015	*6.5*	< 0.001
0.014	0.013	*7.4*	0.014	0.014	*0.0*	< 0.001
-	-	*nc*	-	-	*nc*	-
-	-	*nc*	-	-	*nc*	-
-	-	*nc*	-	-	*nc*	-
-	-	*nc*	-	-	*nc*	-
27	29	*7.1*	27	26	*3.8*	0.012
22	21	*4.7*	22	22	*0.0*	0.008

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table T12:
Groundwater QA/QC Results

	Laboratory:		Eurofins	Eurofins	RPD	Eurofins	Eurofins	RPD
	Laboratory Sample number:		N21-Jn42607	N21-Jn42615		N21-Jn42607	N21-Jn42616	
	Sample date:		19/06/2021	19/06/2021		19/06/2021	19/06/2021	
	Sample ID:		GW2	D01_180621		GW2	T01_180621	
Guidelines	**Sample Description:**		PRIMARY	DUPLICATE OF GW2		PRIMARY	TRIPLICATE OF GW2	
Analyte grouping/Analyte	**Units**	**LOR**						
EG020T: Dissolved Metals by ICP-MS								
Aluminium (filtered)	µg/L	1	0.35	0.38	*8.2*	0.35	0.36	*2.8*
Arsenic (filtered)	µg/L	1	0.001	< 0.001	*nc*	0.001	0.001	*0.0*
Barium (filtered)	µg/L	0.1	0.04	0.04	*0.0*	0.04	0.03	*28.6*
Cadmium (filtered)	µg/L	1	0.09	0.092	*2.2*	0.09	0.089	*1.1*
Chromium (filtered)	µg/L	1	< 0.001	< 0.001	*nc*	< 0.001	< 0.001	*nc*
Cobalt (filtered)	µg/L	1	0.16	0.17	*6.1*	0.16	0.17	*6.1*
Copper (filtered)	µg/L	1	0.097	0.1	*3.0*	0.097	0.1	*3.0*
Iron (filtered)	µg/L	1	0.06	0.05	*18.2*	0.06	< 0.05	*nc*
Lead (filtered)	µg/L	1	0.017	0.015	*12.5*	0.017	0.016	*6.1*
Manganese (filtered)	µg/L	1	8.4	8.7	*3.5*	8.4	8.6	*2.4*
Mercury (filtered)	µg/L	1	< 0.0001	< 0.0001	*nc*	< 0.0001	< 0.0001	*nc*
Molybdenum (filtered)	µg/L	1	< 0.005	< 0.005	*nc*	< 0.005	< 0.005	*nc*
Nickel (filtered)	µg/L	1	0.11	0.12	*8.7*	0.11	0.12	*8.7*
Selenium (filtered)	µg/L	1	0.004	0.001	*120.0*	0.004	< 0.001	*nc*
Titanium (filtered)	µg/L	1	< 0.005	< 0.005	*nc*	< 0.005	< 0.005	*nc*
Zinc (filtered)	µg/L	1	37	37	*0.0*	37	36	*2.7*

LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
Bold and Shaded cells exceed RPD >30% (RPDs where concentrations were < 10 x LOR were discounted from assessment)
Bold indicates when above the acceptance criteria for Trip Spikes/Blanks and Rinsates
nc = not calculated as one or more results are below the LOR.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table T13:
Dust QA/QC Results

	Laboratory:		Eurofins	Eurofins	RPD	Eurofins	Eurofins	RPD	Eurofins
	Lab sample number:		N21-Jn44566	N21-Jn44570		N21-Jn44566	N21-Jn44571		N21-Jn44573
	Sample date:		17/06/2021	17/06/2021		17/06/2021	17/06/2021		17/06/2021
	Sample ID:		STP_SWAB1	SWAB_QA01		STP_SWAB1	SWAB_QA02		SWAB_BLANK
	Sample Description		PRIMARY	Duplicate STP_SWAB1		PRIMARY	Duplicate STP_SWAB1		BLANK
Analyte grouping/Analyte	**Units**	**LOR**							
EG005T: Total Metals by ICP-AES									
Total Lead	mg/kg	20	43	5.8	-	43	15	-	<1
Surface Area	mg/kg	2	0.09	0.09	-	0.09	0.075	-	0.09
Lead	mg/kg	10	478	64	***152.5***	478	200	***82.0***	<11

LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
Bold and Shaded cells exceed RPD >30% (RPDs where concentrations were < 10 x LOR were discounted from assessment)
Bold indicates when above the acceptance criteria for Trip Spikes/Blanks and Rinsates
nc = not calculated as one or more results are below the LOR.

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Pb	Pb Error	Dry Weight (moisture corrected) Pb using average moisture	Dry Weight (moisture corrected) Pb using 95 % UCL	As	As Error	Dry Weight (moisture corrected) As	Ba	Ba Error
7/06/2021 10:55	53.99	cps	-	-	-	NC		-	-	NC	-	-
7/06/2021 10:56	53.57	cps	-	-	-	NC		-	-	NC	-	-
7/06/2021 10:58	61.59	ppm	SiO2	<LOD	3.48	<LOD		<LOD	3.08	<LOD	<LOD	562.84
7/06/2021 11:21	60.43	ppm	GW1_0.0	92.69	7.21	111.67	116.15	<LOD	8.60	<LOD	-	-
7/06/2021 11:30	60.61	ppm	GW1_0.1	228.99	10.33	275.89	286.95	19.76	8.44	23.81	-	-
7/06/2021 11:31	19.12	ppm	GW1_0.1	257.68	14.21	310.46	322.91	<LOD	17.04	<LOD	-	-
7/06/2021 11:32	60.66	ppm	GW1_0.2	354.51	12.57	427.12	444.25	22.34	10.17	26.92	<LOD	995.58
7/06/2021 11:32	0.53	ppm	GW1_0.2	<LOD	301.84	<LOD	#VALUE!	<LOD	347.48	<LOD	-	-
7/06/2021 11:33	60.47	ppm	GW1_0.3	398.86	14.85	480.55	499.82	29.96	12.09	36.10	-	-
7/06/2021 11:35	60.68	ppm	GW1_0.4	100.56	7.30	121.16	126.02	<LOD	8.72	<LOD	<LOD	936.62
7/06/2021 11:37	60.76	ppm	GW1_0.5	97.19	7.34	117.10	121.79	<LOD	8.95	<LOD	-	-
7/06/2021 11:38	61.01	ppm	GW1_1.0	123.42	7.97	148.70	154.66	12.54	6.54	15.11	<LOD	633.63
7/06/2021 11:40	60.76	ppm	GW1_2.0	279.61	12.58	336.88	350.39	<LOD	15.20	<LOD	<LOD	1067.71
7/06/2021 11:41	60.67	ppm	GW1_3.0	504.36	15.45	607.66	632.03	<LOD	18.54	<LOD	2074.24	1013.71
7/06/2021 11:42	6.84	ppm	GW1_4.0	295.18	29.23	355.64	369.90	36.43	24.19	43.89	-	-
7/06/2021 11:43	61.37	ppm	GW1_4.0	308.45	11.87	371.63	386.53	16.77	9.56	20.20	813.17	536.74
7/06/2021 13:21	60.51	ppm	GW3_0.1	890.67	19.85	1073.10	1116.13	47.79	16.00	57.58	-	-
7/06/2021 13:26	60.77	ppm	GW3_0.0	606.52	15.92	730.75	760.05	40.43	12.91	48.71	<LOD	880.71
7/06/2021 13:28	60.6	ppm	GW3_0.2	384.99	13.38	463.84	482.44	17.53	10.75	21.12	-	-
7/06/2021 13:29	72.5	ppm	GW3_0.3	246.53	10.62	297.02	308.93	23.37	8.71	28.16	775.18	61.77
7/06/2021 13:31	60.51	ppm	GW3_0.44	213.84	10.37	257.64	267.97	19.39	8.48	23.36	-	-
7/06/2021 13:33	63.3	ppm	GW3_0.5	361.04	13.16	434.99	452.43	37.65	10.82	45.36	910.39	225.54
7/06/2021 13:34	60.96	ppm	GW3_1.0	353.71	12.64	426.16	443.25	32.98	10.36	39.73	<LOD	942.37
7/06/2021 13:41	60.6	ppm	GW3_2.0	421.50	14.07	507.83	528.20	28.46	11.40	34.29	-	-
7/06/2021 13:58	60.47	ppm	SiO2	<LOD	3.73	<LOD	#VALUE!	<LOD	3.13	<LOD	-	-
7/06/2021 14:00	60.77	ppm	RCRA	475.63	17.89	573.05	596.03	441.68	17.73	532.14	-	-
7/06/2021 15:09	60.72	ppm	D1	453.16	13.60	545.98	567.87	<LOD	16.24	<LOD	-	-
7/06/2021 15:12	60.52	ppm	GW3_0.0	518.19	14.29	624.33	649.36	<LOD	16.93	<LOD	-	-
7/06/2021 15:24	60.98	ppm	GW3_0.1	8791.33	77.72	10591.96	11016.70	228.54	61.84	275.35	2070.71	1051.52
7/06/2021 15:26	60.5	ppm	GW3_0.2	2372.15	33.22	2858.01	2972.62	210.33	27.19	253.41	<LOD	2597.67
7/06/2021 15:28	61.05	ppm	GW3_0.3	7519.07	66.79	9059.12	9422.39	153.08	53.01	184.43	1889.81	996.72
7/06/2021 15:29	71.47	ppm	GW3_0.4	1697.88	28.71	2045.64	2127.67	37.95	22.82	45.72	1129.56	73.59
7/06/2021 15:31	62.46	ppm	GW3_0.5	5187.86	52.45	6250.43	6501.08	177.41	41.89	213.75	1756.12	466.41
7/06/2021 15:32	64.68	ppm	GW3_1.0	1972.33	30.38	2376.30	2471.59	57.01	24.22	68.69	974.42	125.95
7/06/2021 15:34	61.4	ppm	GW3_2.0	2481.39	34.54	2989.63	3109.51	184.57	28.09	222.37	<LOD	953.85
7/06/2021 15:37	61.39	ppm	GW3_3.0	283.57	11.40	341.65	355.35	24.94	9.32	30.05	<LOD	1222.65
8/06/2021 7:48	53.82	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
8/06/2021 7:49	56.02	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
8/06/2021 8:00	60.96	ppm	SiO2	<LOD	3.81	<LOD	#VALUE!	<LOD	3.22	<LOD	<LOD	1174.34
8/06/2021 8:02	61.12	ppm	RCRA	483.08	18.59	582.02	605.36	455.71	18.46	549.05	<LOD	905.90
8/06/2021 8:08	61.74	ppm	GW4_0.0	45.88	6.32	55.28	57.49	20.11	5.58	24.23	<LOD	637.85
8/06/2021 8:09	61.95	ppm	GW4_0.1	2420.25	35.09	2915.96	3032.89	99.88	28.12	120.34	2018.01	440.88
8/06/2021 8:14	61.41	ppm	GW4_0.2	3533.50	45.31	4206.55	4427.94	<LOD	53.37	<LOD	2486.37	794.70
8/06/2021 8:16	62.26	ppm	GW4_0.3	903.30	20.22	1088.31	1131.95	82.56	16.57	99.47	869.86	376.08
8/06/2021 8:17	61.51	ppm	GW4_0.4	21.25	4.86	25.60	26.63	<LOD	6.07	<LOD	<LOD	621.69
8/06/2021 8:19	61.85	ppm	GW4_0.5	39.71	5.42	47.84	49.76	<LOD	6.68	<LOD	777.12	361.47
8/06/2021 8:20	65.48	ppm	GW4_1.0	67.20	6.36	80.96	84.21	16.12	5.42	19.42	730.67	98.81
8/06/2021 8:22	62.3	ppm	GW4_2.0	20.85	4.79	25.12	26.13	11.94	4.20	14.39	513.23	336.70
8/06/2021 9:13	62.15	ppm	GW5_0.0	62.99	5.50	75.89	78.93	<LOD	6.77	<LOD	<LOD	325.56
8/06/2021 9:14	61.79	ppm	GW5_0.1	148.27	9.35	178.64	185.80	<LOD	11.38	<LOD	1519.35	572.20
8/06/2021 9:19	61.88	ppm	GW5_0.2	173.45	10.40	208.98	217.36	<LOD	12.64	<LOD	<LOD	734.17
8/06/2021 9:20	61.76	ppm	GW5_0.3	167.19	8.93	201.43	209.51	14.55	7.31	17.53	619.10	356.07
8/06/2021 9:22	61.8	ppm	GW5_0.4	7.41	4.11	8.93	9.29	<LOD	5.10	<LOD	<LOD	560.90
8/06/2021 9:24	80.71	ppm	GW5_0.5	7.22	4.00	8.70	9.05	<LOD	4.98	<LOD	453.94	36.88
8/06/2021 9:25	61.79	ppm	GW5_1.0	45.00	5.73	54.22	56.39	9.65	4.81	11.63	628.34	363.98
8/06/2021 9:51	61.71	ppm	SiO2	<LOD	3.77	<LOD	#VALUE!	<LOD	3.24	<LOD	<LOD	555.03
8/06/2021 9:55	30	ppm	RCRA	343.37	14.51	413.70	430.29	322.42	14.37	388.46	-	-
8/06/2021 9:56	62.23	ppm	RCRA	473.33	18.03	570.28	593.15	443.32	17.87	534.12	<LOD	614.63
8/06/2021 10:04	62.28	ppm	D2	47.82	5.58	57.61	59.92	<LOD	6.86	<LOD	<LOD	431.43
8/06/2021 10:05	61.74	ppm	GW6_0.0	68.41	6.11	82.42	85.73	<LOD	7.22	<LOD	<LOD	540.46
8/06/2021 10:11	61.88	ppm	GW6_0.1	129.22	7.92	155.69	161.93	<LOD	9.49	<LOD	759.70	377.31
8/06/2021 10:13	60.96	ppm	GW6_0.2	210.12	9.82	253.16	263.31	<LOD	11.62	<LOD	<LOD	927.98
8/06/2021 10:14	61.3	ppm	GW6_0.3	63.39	6.27	76.37	79.44	<LOD	7.56	<LOD	1525.13	866.88
8/06/2021 10:16	70.43	ppm	GW6_0.4	14.54	4.37	17.52	18.22	<LOD	5.39	<LOD	592.64	56.17
8/06/2021 10:18	74.28	ppm	GW6_0.5	18.90	4.79	22.77	23.68	6.48	4.03	7.81	561.18	50.18
8/06/2021 10:20	61.98	ppm	GW6_1.0	14.31	4.83	17.24	17.93	<LOD	6.06	<LOD	1134.08	554.64
8/06/2021 11:33	61.81	ppm	GW7_0.00	52.35	5.79	63.07	65.60	8.11	4.80	9.77	<LOD	492.93
8/06/2021 11:56	61.46	ppm	GW7_0.1	1551.55	27.57	1869.34	1944.30	85.57	22.23	103.10	1577.26	673.90
8/06/2021 12:00	62.24	ppm	GW7_0.2	1577.80	27.70	1678.51	1977.19	96.81	22.40	102.99	831.93	405.92
8/06/2021 12:06	61.24	ppm	GW7_0.3	1247.23	24.42	1502.69	1562.94	137.32	20.16	165.45	<LOD	709.01
8/06/2021 12:07	61.12	ppm	GW7_0.4	1509.05	27.26	1818.13	1891.04	143.82	22.37	173.28	1603.23	961.19
8/06/2021 12:08	41.19	ppm	GW7_0.3	2442.72	36.83	2943.04	3061.05	122.08	29.63	147.08	-	-
8/06/2021 12:09	64.87	ppm	GW7_0.4	1886.46	32.77	2272.84	2363.98	279.84	27.50	337.16	1151.42	153.54
8/06/2021 12:11	61.83	ppm	GW7_1.0	547.88	16.45	660.10	686.57	31.70	13.28	38.19	928.19	415.02
8/06/2021 12:13	61.67	ppm	GW7_2.0	3392.86	42.62	4087.78	4251.70	167.17	34.28	201.41	1255.93	540.88

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	2706.50	39.33	3260.84	3391.60	166.69	31.81	200.83	1737.47	599.44
8/06/2021 12:16	61.51	ppm	GW7_5.0	1664.15	31.10	2005.00	2085.40	<LOD	36.99	<LOD	4992.09	941.38
8/06/2021 12:36	61.77	ppm	SiO2	<LOD	3.68	<LOD	#VALUE!	<LOD	3.24	<LOD	<LOD	478.04
8/06/2021 12:37	61.84	ppm	RCRA	501.83	18.57	604.61	628.86	425.38	18.10	512.51	803.78	438.43
8/06/2021 14:21	61.47	ppm	GW8_0.0	773.97	17.43	932.49	969.89	150.34	14.89	181.13	<LOD	664.13
8/06/2021 14:37	0.15	ppm	GW8_0.0	<LOD	3829.89	<LOD	#VALUE!	<LOD	2315.37	<LOD	-	-
8/06/2021 15:02	61.45	ppm	GW8_0.1	2144.02	32.82	2583.16	2686.74	249.86	27.18	301.04	1393.67	583.17
8/06/2021 15:03	61.03	ppm	GW8_0.2	2363.65	35.56	2847.77	2961.97	135.32	28.71	163.04	2770.88	1103.60
8/06/2021 15:05	61.09	ppm	GW8_0.3	1251.84	24.78	1508.24	1568.72	49.14	19.84	59.20	1181.59	719.78
8/06/2021 15:06	61.68	ppm	GW8_0.4	2386.25	34.79	2875.00	2990.29	469.03	29.79	565.10	1534.87	460.11
8/06/2021 15:07	62.15	ppm	GW8_0.5	1302.58	25.02	1569.37	1632.31	109.31	20.43	131.70	1822.68	479.98
8/06/2021 15:09	62.56	ppm	GW8_1.0	1710.45	29.27	2060.78	2143.42	104.97	23.67	126.47	938.73	432.83
8/06/2021 15:13	61.78	ppm	GW8_2.0	1262.13	25.15	1520.64	1581.62	66.81	20.27	80.49	780.97	423.38
8/06/2021 15:14	62.22	ppm	D3	1317.73	25.60	1587.63	1651.29	69.26	20.62	83.45	906.65	422.31
8/06/2021 15:16	61.01	ppm	GW8_5.0	53.07	6.77	63.94	66.50	15.74	5.81	18.96	5092.75	1388.91
9/06/2021 7:45	53.9	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
9/06/2021 7:46	53.54	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
9/06/2021 7:50	62.07	ppm	SiO2	<LOD	3.69	<LOD	#VALUE!	<LOD	3.31	<LOD	<LOD	399.96
9/06/2021 7:52	61.73	ppm	RCRA	503.96	18.45	607.18	631.53	422.57	17.97	509.12	<LOD	568.40
9/06/2021 7:59	61.51	ppm	GW10_0.0	1467.84	23.71	1768.48	1839.40	65.08	19.03	78.41	<LOD	488.74
9/06/2021 8:10	61.66	ppm	GW10_0.1	21.06	4.77	25.37	26.39	<LOD	6.02	<LOD	1043.54	479.70
9/06/2021 8:12	66.09	ppm	GW10_0.2	27.79	5.10	33.48	34.82	<LOD	6.30	<LOD	578.02	92.53
9/06/2021 8:13	34.99	ppm	GW10_0.3	27.33	4.94	32.93	34.25	<LOD	6.09	<LOD	-	-
9/06/2021 8:21	65.81	ppm	GW10_0.4	20.95	4.77	25.24	26.25	<LOD	5.98	<LOD	309.48	87.96
9/06/2021 8:23	62.2	ppm	GW10_0.5	26.82	4.91	32.31	33.61	8.98	4.18	10.82	671.96	366.86
9/06/2021 8:24	61.66	ppm	GW10_1.0	22.70	4.89	27.35	28.45	10.83	4.27	13.05	634.92	388.70
9/06/2021 8:26	61.56	ppm	GW10_2.0	27.20	5.13	32.77	34.09	<LOD	6.34	<LOD	<LOD	559.66
9/06/2021 8:27	61.17	ppm	GW10_4.0	184.00	10.11	221.69	230.58	16.42	8.24	19.78	981.32	546.53
9/06/2021 11:18	61.42	ppm	GW9_0.0	36.44	5.30	43.90	45.66	11.49	4.55	13.84	<LOD	942.94
9/06/2021 11:25	61.58	ppm	GW9_0.1	14.73	4.63	17.75	18.46	12.63	4.13	15.22	<LOD	472.94
9/06/2021 11:27	61.71	ppm	GW9_0.2	6.98	4.13	8.41	8.75	12.18	3.76	14.67	<LOD	582.10
9/06/2021 11:41	64.9	ppm	GW9_0.3	<LOD	5.95	<LOD	#VALUE!	8.71	3.54	10.49	725.28	129.79
9/06/2021 11:42	62.1	ppm	GW9_0.4	<LOD	5.83	<LOD	#VALUE!	12.21	3.61	14.71	<LOD	474.17
9/06/2021 11:44	61.49	ppm	GW9_0.5	<LOD	5.96	<LOD	#VALUE!	<LOD	5.00	<LOD	1352.72	713.43
9/06/2021 11:45	61.63	ppm	GW9_1.0	14.17	4.50	17.07	17.76	13.28	4.05	16.00	<LOD	479.04
9/06/2021 12:01	61.32	ppm	SiO2	<LOD	3.74	<LOD	#VALUE!	<LOD	3.04	<LOD	<LOD	539.85
9/06/2021 12:51	63.56	ppm	RCRA	487.11	18.42	586.88	610.41	439.63	18.18	529.67	517.24	207.72
10/06/2021 7:32	61.73	ppm	SiO2	<LOD	3.77	<LOD	#VALUE!	<LOD	3.35	<LOD	<LOD	494.25
10/06/2021 7:34	61.78	ppm	RCRA	484.18	18.38	583.35	606.74	434.84	18.10	523.90	<LOD	762.87
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	<LOD	12.89	<LOD	#VALUE!	<LOD	11.27	<LOD	<LOD	130.74
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	1444.49	22.85	1740.35	1810.14	<LOD	26.87	<LOD	<LOD	387.38
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	7020.40	64.63	8458.31	8797.49	842.71	53.63	1015.31	1280.45	454.29
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	391.90	13.33	472.17	491.10	16.61	10.70	20.01	<LOD	654.16
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	245.37	13.18	295.63	307.48	45.62	11.16	54.96	<LOD	767.41
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	188.71	10.13	227.36	236.48	17.99	8.30	21.67	1013.66	457.53
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	2472.52	34.58	3169.90	3098.40	<LOD	40.79	<LOD	801.76	447.68
10/06/2021 9:05	63.11	ppm	D4	1862.37	28.43	2243.82	2333.80	50.91	22.64	61.34	834.22	227.60
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	<LOD	235.05	<LOD	#VALUE!	<LOD	188.59	<LOD	-	-
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	4969.04	51.19	5986.80	6226.87	132.24	40.74	159.33	731.57	407.44
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	4584.05	48.34	5522.95	5744.42	88.33	38.35	106.42	948.22	385.39
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	1769.28	29.31	2131.66	2217.14	<LOD	33.89	<LOD	883.66	489.96
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	186.67	9.59	224.90	233.92	24.95	7.98	30.06	1581.13	561.41
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	4612.21	43.72	5556.88	5779.71	185.75	35.03	223.80	<LOD	509.04
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	4273.90	47.85	5149.28	5355.76	88.74	37.99	106.92	1360.95	512.88
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	4420.91	47.06	5326.40	5539.99	135.65	37.53	163.43	2249.54	583.75
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	442.34	14.29	532.94	554.31	<LOD	17.13	<LOD	701.93	364.17
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	651.37	18.51	784.78	816.25	61.11	15.18	73.63	<LOD	868.72
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	12488.76	96.09	16432.58	15650.08	130.35	75.91	171.51	2486.54	865.21
10/06/2021 9:41	61.9	ppm	D5	6796.96	70.94	8189.11	8517.49	102.14	56.17	123.06	1528.56	685.33
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	5786.54	62.10	6971.73	7251.30	176.62	49.53	212.80	6942.58	1003.40
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	7204.19	71.11	8679.75	9027.81	731.53	58.54	881.36	2082.40	500.38
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	1563.64	26.04	1883.90	1959.45	371.56	22.64	447.66	627.43	141.12
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	1219.94	25.55	1469.81	1528.75	61.61	20.57	74.23	<LOD	685.32
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	3211.12	34.55	3868.82	4023.96	<LOD	40.87	<LOD	<LOD	515.20
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	214.01	9.68	257.84	268.18	30.59	8.08	36.86	<LOD	661.43
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	120.12	8.12	144.72	150.53	20.62	6.82	24.84	<LOD	444.01
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	124.18	8.17	149.61	155.61	13.22	6.71	15.93	<LOD	508.55
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	171.47	9.90	206.59	214.87	26.54	8.28	31.98	<LOD	977.80
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	2200.56	30.40	2651.28	2757.59	139.49	24.61	168.06	591.99	42.50
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	295.40	10.99	355.90	370.18	29.81	9.04	35.92	<LOD	390.97
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	150.16	8.52	180.92	188.17	16.66	7.04	20.07	<LOD	650.56
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	294.36	11.82	354.65	368.87	17.74	9.56	21.37	<LOD	473.42
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	393.96	13.67	474.65	493.68	38.90	11.23	46.87	<LOD	480.88
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	443.77	13.52	534.66	556.10	30.03	10.96	36.18	<LOD	436.85
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	2397.03	35.25	2887.99	3003.80	117.53	28.36	141.60	867.19	505.44
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	62576.55	363.14	75393.43	78416.73	6987.30	300.28	8418.43	8094.64	1260.12
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	363.03	12.34	437.39	454.92	<LOD	14.66	<LOD	736.50	323.01
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	760.74	22.58	916.55	953.31	<LOD	26.99	<LOD	<LOD	794.55
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	2057.78	31.71	2479.25	2578.67	<LOD	37.49	<LOD	1021.97	277.33
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	2725.47	35.48	3283.70	3415.38	112.38	28.44	135.40	1754.88	477.32

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	351.53	12.31	423.53	440.51	<LOD	14.74	<LOD	<LOD	672.14
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	132.79	8.49	159.99	166.40	12.26	6.95	14.77	<LOD	542.70
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	233.26	10.55	281.04	292.31	27.28	8.72	32.87	<LOD	604.16
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	734.66	17.96	885.13	920.63	32.23	14.41	38.83	942.26	347.77
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	1316.15	25.84	1585.72	1649.31	31.69	20.55	38.18	1231.49	417.21
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	6013.38	58.80	7245.04	7535.56	188.12	46.91	226.65	2151.73	480.72
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	3463.24	39.67	4172.58	4339.90	<LOD	45.42	<LOD	<LOD	563.67
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	4504.06	46.23	5426.58	5644.19	56.72	36.56	68.34	<LOD	481.32
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	986.01	19.68	1187.96	1235.60	<LOD	22.90	<LOD	246.89	64.51
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	1611.54	26.01	1941.61	2019.47	40.62	20.70	48.94	<LOD	636.93
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	97.67	7.16	117.67	122.39	13.96	5.95	16.82	471.85	104.02
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	92.51	7.19	111.46	115.93	13.87	5.98	16.71	811.12	522.89
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	160.23	8.71	193.05	200.79	<LOD	10.35	<LOD	<LOD	460.56
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	610.90	16.88	814.53	765.54	<LOD	20.09	<LOD	<LOD	430.18
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	70.29	6.31	84.69	88.08	<LOD	7.59	<LOD	<LOD	506.19
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	112.51	7.84	135.55	140.99	<LOD	9.51	<LOD	<LOD	639.63
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	73.82	6.56	88.94	92.51	<LOD	8.09	<LOD	<LOD	584.32
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	80.13	6.67	96.54	100.41	<LOD	8.19	<LOD	514.47	298.34
10/06/2021 11:52	62.04	ppm	SiO2	<LOD	3.93	<LOD	#VALUE!	<LOD	3.16	<LOD	<LOD	422.85
10/06/2021 11:54	61.67	ppm	RCRA	489.25	18.17	589.46	613.10	432.35	17.83	520.90	<LOD	860.75
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	117.43	7.24	141.48	147.16	<LOD	8.61	<LOD	<LOD	396.24
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	188.93	9.59	227.63	236.75	<LOD	11.56	<LOD	1191.41	522.52
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	117.91	7.82	142.06	147.76	18.53	6.53	22.33	<LOD	515.18
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	93.92	7.03	113.16	117.69	<LOD	8.60	<LOD	<LOD	437.48
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	68.47	6.79	82.49	85.80	16.04	5.76	19.33	<LOD	800.49
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	974.68	20.84	1107.59	1221.40	<LOD	24.87	<LOD	<LOD	528.61
10/06/2021 12:26	66.34	ppm	D6	1176.95	22.91	1418.01	1474.87	<LOD	27.18	<LOD	742.75	92.99
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	1278.60	24.44	1540.48	1602.26	<LOD	28.74	<LOD	1790.99	537.52
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	1864.86	30.57	2246.82	2336.92	42.11	24.29	50.73	<LOD	1218.37
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	3216.34	40.28	3875.11	4030.50	97.56	32.13	117.54	1301.66	437.15
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	107.18	7.36	129.13	134.31	12.88	6.06	15.52	292.94	103.37
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	699.59	17.09	842.88	876.68	<LOD	20.34	<LOD	<LOD	816.87
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	6138.41	63.91	6975.47	7692.24	607.60	52.55	690.45	1432.67	697.07
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	2616.05	44.19	3151.87	3278.26	206.90	36.01	249.28	2153.88	782.44
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	288.32	11.34	347.37	361.30	27.28	9.29	32.87	<LOD	474.66
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	6323.92	62.05	7619.18	7924.71	232.78	49.62	280.46	1198.67	679.86
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	1758.46	28.25	2118.63	2203.58	124.63	22.94	150.16	811.86	456.95
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	199.54	10.15	240.41	250.05	41.93	8.67	50.52	<LOD	939.97
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	293.37	12.02	353.46	367.63	40.65	10.02	48.98	<LOD	609.85
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	182.46	9.82	219.83	228.65	47.98	8.51	57.81	1302.45	553.16
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	51.80	6.16	62.41	64.91	21.43	5.45	25.82	1096.84	434.86
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	98.61	8.23	118.81	123.57	54.19	7.63	65.29	<LOD	668.10
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	497.14	14.58	598.96	622.98	42.14	11.90	50.77	1338.68	293.75
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	2252.19	34.79	2437.44	2822.29	118.83	28.03	128.60	1918.10	568.63
10/06/2021 13:33	61.81	ppm	D7	1819.77	29.87	2192.49	2280.41	38.36	23.72	46.22	824.35	380.00
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	2199.51	31.65	2650.01	2756.28	95.69	25.39	115.29	1255.99	485.83
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	1772.54	26.91	2135.59	2221.23	49.30	21.44	59.40	1249.43	421.21
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	60.09	6.17	72.40	75.30	<LOD	7.44	<LOD	571.35	156.73
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	91.62	7.51	110.39	114.81	24.38	6.48	29.37	1231.42	809.78
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	70.58	6.33	85.04	88.45	<LOD	7.68	<LOD	<LOD	666.74
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	262.20	10.26	315.90	328.57	21.51	8.37	25.92	<LOD	545.15
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	359.94	12.12	433.66	451.05	29.05	9.88	35.00	755.86	251.36
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	586.01	15.71	706.04	734.35	25.28	12.61	30.46	<LOD	447.98
10/06/2021 14:06	64.7	ppm	D8	362.17	12.14	436.35	453.85	<LOD	14.57	<LOD	408.55	119.05
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	<LOD	7.29	<LOD	#VALUE!	<LOD	6.28	<LOD	<LOD	1649.66
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	<LOD	5.90	<LOD	#VALUE!	<LOD	4.80	<LOD	-	-
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	<LOD	6.71	<LOD	#VALUE!	<LOD	5.64	<LOD	<LOD	843.19
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	<LOD	5.91	<LOD	#VALUE!	<LOD	4.82	<LOD	<LOD	646.31
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	94.23	7.06	113.53	118.08	<LOD	8.62	<LOD	<LOD	645.23
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	<LOD	153.77	<LOD	#VALUE!	<LOD	119.06	<LOD	-	-
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	50.85	6.51	61.27	63.72	<LOD	8.03	<LOD	<LOD	1109.03
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	63.38	8.15	76.36	79.42	11.76	6.82	14.17	<LOD	937.89
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	65.31	6.51	78.69	81.84	<LOD	7.97	<LOD	887.86	436.20
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	62.25	6.56	75.00	78.01	<LOD	7.98	<LOD	1262.54	654.35
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	182.95	9.29	220.42	229.26	<LOD	10.91	<LOD	1120.04	427.82
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	28.41	4.84	34.23	35.60	<LOD	5.80	<LOD	805.52	520.54
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	229.62	9.94	382.70	287.74	<LOD	11.96	<LOD	<LOD	662.94
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	55.38	6.16	66.72	69.40	<LOD	7.57	<LOD	<LOD	535.36
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	<LOD	6.67	<LOD	#VALUE!	13.41	4.04	16.16	<LOD	903.65
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	<LOD	5.38	<LOD	#VALUE!	<LOD	4.58	<LOD	<LOD	651.89
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	<LOD	5.25	<LOD	#VALUE!	<LOD	4.53	<LOD	1209.22	799.65
10/06/2021 15:15	60.97	ppm	SiO2	<LOD	3.90	<LOD	#VALUE!	<LOD	3.27	<LOD	<LOD	1025.57
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	2359.12	28.99	2842.31	2956.29	<LOD	33.69	<LOD	<LOD	528.04
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	38.85	5.78	46.81	48.68	12.02	4.93	14.48	2186.46	1126.17
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	11.57	4.36	13.94	14.50	<LOD	5.38	<LOD	974.71	370.80
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	<LOD	6.54	<LOD	#VALUE!	8.38	3.84	10.10	1021.00	560.88
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	<LOD	5.47	<LOD	#VALUE!	4.92	3.19	5.93	<LOD	869.65
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	764.37	16.79	920.93	957.86	<LOD	19.77	<LOD	<LOD	454.25
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	102.54	8.97	123.54	128.50	12.30	7.39	14.82	<LOD	886.16
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	349.41	12.27	420.98	437.86	28.77	10.00	34.66	<LOD	405.86

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	18.69	4.84	22.52	23.42	7.86	4.10	9.47	<LOD	760.69
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	449.97	12.49	542.13	563.87	16.94	10.01	20.41	<LOD	395.69
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	1255.97	22.74	1427.24	1573.90	<LOD	26.62	<LOD	<LOD	454.84
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	365.08	12.64	439.86	457.49	21.83	10.22	26.30	<LOD	551.84
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	238.19	10.92	286.98	298.48	22.45	8.95	27.05	<LOD	662.49
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	229.22	10.42	276.17	287.24	27.26	8.62	32.84	<LOD	792.79
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	528.73	14.37	637.02	662.57	<LOD	17.14	<LOD	655.05	352.80
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	96.44	7.45	116.19	120.85	12.51	6.17	15.07	<LOD	880.83
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	<LOD	6.20	<LOD	#VALUE!	7.33	3.61	8.83	871.93	482.91
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	<LOD	5.97	<LOD	#VALUE!	6.73	3.47	8.11	817.28	482.31
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	12.84	4.44	15.47	16.09	6.03	3.77	7.27	<LOD	1202.70
1/06/2021 7:55	60.34	%	si02	<LOD	0.01	<LOD	#VALUE!	-	-	NC	-	-
1/06/2021 7:57	61.21	%	rcra	0.75	0.05	0.91	0.94	-	-	NC	-	-
1/06/2021 8:00	60.45	ppm	rcra	492.27	18.38	593.10	616.88	428.94	17.99	516.80	-	-
1/06/2021 8:02	60.53	ppm	si02	<LOD	3.51	<LOD	#VALUE!	<LOD	3.03	<LOD	-	-
1/06/2021 8:30	60.24	ppm	R_S1B	57.10	22.33	68.80	71.55	<LOD	28.09	<LOD	-	-
1/06/2021 8:41	60.77	ppm	R_S2B	190.55	20.72	229.58	238.78	<LOD	24.96	<LOD	-	-
1/06/2021 8:45	60.37	ppm	R_S3B	428.89	21.47	516.73	537.46	<LOD	25.39	<LOD	-	-
1/06/2021 8:50	60.69	ppm	R_S4B	26.68	10.91	32.14	33.43	<LOD	13.03	<LOD	<LOD	4273.19
1/06/2021 8:55	60.63	ppm	R_S5B	606.44	22.10	730.65	759.95	<LOD	26.14	<LOD	-	-
1/06/2021 8:59	60.26	ppm	R_S6B	1153.65	40.11	1389.94	1445.68	<LOD	46.82	<LOD	-	-
1/06/2021 9:14	60.48	ppm	R_S7B	150.44	9.07	181.25	188.52	12.24	7.41	14.75	-	-
1/06/2021 9:21	60.81	ppm	R_S8B	820.27	23.39	988.28	1027.91	<LOD	27.81	<LOD	-	-
1/06/2021 9:35	60.58	ppm	R_S9B	751.91	19.63	905.92	942.24	33.07	15.77	39.84	-	-
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	55.71	6.56	67.12	69.81	<LOD	7.93	<LOD	-	-
1/06/2021 10:00	60.77	ppm	rcra	484.11	18.19	583.27	606.65	446.44	17.99	537.88	-	-
1/06/2021 10:02	60.28	ppm	si02	<LOD	3.89	<LOD	#VALUE!	<LOD	3.14	<LOD	-	-
1/06/2021 10:21	60.35	ppm	R_S11B	128.17	14.10	154.42	160.61	<LOD	16.71	<LOD	-	-
1/06/2021 10:26	60.79	ppm	R_S12B	98.61	9.48	118.81	123.57	<LOD	11.54	<LOD	-	-
1/06/2021 10:35	60.67	ppm	R_S13B	1254.53	48.85	1511.48	1572.09	<LOD	57.08	<LOD	-	-
1/06/2021 10:42	60.55	ppm	R_S14B	105.67	9.77	127.31	132.42	14.57	8.14	17.55	-	-
1/06/2021 10:51	60.75	ppm	R_S15B	381.52	16.30	459.66	478.10	<LOD	19.53	<LOD	<LOD	1103.25
1/06/2021 10:59	60.43	ppm	R_S16B	23.16	5.03	27.90	29.02	9.06	4.32	10.92	-	-
1/06/2021 11:37	60.36	ppm	R_S17B	10.61	4.03	12.78	13.30	<LOD	5.11	<LOD	-	-
1/06/2021 11:42	60.13	ppm	R_S18B	<LOD	7.53	<LOD	#VALUE!	19.84	4.89	23.90	-	-
1/06/2021 11:50	60.22	ppm	R_S19B	740.12	22.06	891.71	927.47	32.12	17.71	38.70	-	-
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	28.62	5.57	29.14	35.86	8.97	4.76	9.13	-	-
1/06/2021 12:13	60.43	ppm	rcra	487.12	18.30	586.89	610.43	442.55	18.04	533.19	-	-
1/06/2021 12:15	60.09	ppm	si02	<LOD	3.52	<LOD	#VALUE!	<LOD	3.03	<LOD	-	-
1/06/2021 12:21	60.43	ppm	R_S21B	28.40	5.60	34.22	35.59	<LOD	7.06	<LOD	-	-
1/06/2021 12:31	60.49	ppm	-	106.37	10.56	128.16	133.30	<LOD	12.14	<LOD	-	-
1/06/2021 13:43	60.28	ppm	R_S23B	45.91	7.31	55.31	57.53	<LOD	8.89	<LOD	-	-
1/06/2021 13:47	60.47	ppm	R_S24B	121.14	9.72	145.95	151.80	<LOD	11.95	<LOD	-	-
1/06/2021 13:52	60.53	ppm	R_S25B	13.55	5.19	16.33	16.98	<LOD	6.48	<LOD	-	-
1/06/2021 14:04	60.51	ppm	R_S26B	104.86	8.24	126.34	131.40	<LOD	9.92	<LOD	-	-
1/06/2021 14:10	60.47	ppm	R_S27B	227.61	15.32	274.23	285.23	<LOD	17.96	<LOD	-	-
1/06/2021 14:19	60.56	ppm	R_S28B	<LOD	7.46	<LOD	#VALUE!	10.67	4.48	12.86	-	-
1/06/2021 14:34	60.98	ppm	R_S29B	9.50	4.56	11.45	11.90	<LOD	5.75	<LOD	-	-
1/06/2021 14:42	60.43	ppm	R_S30B	291.51	12.78	359.89	365.30	<LOD	15.35	<LOD	-	-
1/06/2021 14:47	60.54	ppm	rcra	467.80	16.33	563.61	586.22	449.03	16.31	541.00	-	-
1/06/2021 14:53	61.88	ppm	si02	<LOD	3.54	<LOD	#VALUE!	<LOD	2.99	<LOD	<LOD	517.17
1/06/2021 15:06	60.22	ppm	R_S31B	50.30	6.39	60.60	63.03	<LOD	7.72	<LOD	-	-
1/06/2021 15:15	60.85	ppm	R_S32B	297.38	12.74	358.29	372.66	<LOD	15.22	<LOD	<LOD	1260.19
1/06/2021 15:18	60.47	ppm	R_S33B	620.99	17.12	748.18	778.18	<LOD	19.64	<LOD	-	-
1/06/2021 15:26	60.49	ppm	R_S34B	30.24	8.40	36.43	37.89	<LOD	10.36	<LOD	-	-
1/06/2021 15:35	60.96	ppm	R_S35B	548.64	19.60	661.01	687.52	<LOD	23.52	<LOD	<LOD	1363.05
1/06/2021 16:08	61.29	ppm	R_S36B	200.85	10.42	241.99	251.69	<LOD	12.35	<LOD	1703.20	715.70
1/06/2021 16:12	60.69	ppm	R_S37B	<LOD	6.05	<LOD	#VALUE!	10.77	3.64	12.98	-	-
1/06/2021 16:18	64.56	ppm	R_S38B	1615.81	32.98	1946.76	2024.82	420.84	28.91	507.04	2363.31	192.96
1/06/2021 16:27	60.83	ppm	R_S39B	69.86	6.74	84.17	87.54	<LOD	8.27	<LOD	-	-
1/06/2021 16:41	60.39	ppm	R_S40B	<LOD	9.15	<LOD	#VALUE!	<LOD	7.84	<LOD	-	-
2/06/2021 8:13	60.34	ppm	rcra	484.32	18.32	583.52	606.92	436.70	18.05	526.14	-	-
2/06/2021 8:14	60.28	ppm	si02	<LOD	3.88	<LOD	#VALUE!	<LOD	3.08	<LOD	-	-
2/06/2021 8:19	60.75	ppm	R_S41B	933.25	26.34	1124.40	1169.49	<LOD	31.05	<LOD	-	-
2/06/2021 8:28	60.46	ppm	R_S42B	259.60	11.31	312.77	325.31	18.36	9.18	22.12	-	-
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	70.15	7.95	84.52	87.91	<LOD	9.62	<LOD	-	-
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	267.45	11.23	322.23	335.15	<LOD	13.41	<LOD	<LOD	2581.09
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	304.54	12.66	366.92	381.63	19.76	10.28	23.81	-	-
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	85.44	8.77	102.94	107.07	12.10	7.32	14.58	-	-
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	230.50	12.51	277.71	288.85	<LOD	15.16	<LOD	-	-
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	133.73	8.92	161.12	167.58	<LOD	10.87	<LOD	-	-
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	522.35	19.48	629.34	654.57	<LOD	22.88	<LOD	-	-
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	391.06	13.36	471.16	490.05	<LOD	16.06	<LOD	-	-
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	318.72	12.78	384.00	399.40	<LOD	15.35	<LOD	-	-
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	1673.48	28.91	2016.24	2097.09	<LOD	34.41	<LOD	-	-
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	498.24	14.96	600.29	624.36	23.02	12.02	27.73	-	-
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	95.63	7.39	115.22	119.84	9.19	6.05	11.07	-	-
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	434.39	16.95	523.36	544.35	25.68	13.70	30.94	-	-
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	611.76	16.41	737.06	766.62	40.90	13.31	49.28	-	-
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	80.58	6.93	97.08	100.98	12.01	5.76	14.47	-	-

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	659.94	19.27	795.11	826.99	27.31	15.47	32.90	-	-
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	112.57	8.77	135.63	141.07	<LOD	10.24	<LOD	-	-
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	1991.55	30.44	2399.46	2495.68	59.71	24.28	71.94	-	-
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	11351.41	103.47	13676.40	14224.82	324.64	82.45	391.13	-	-
2/06/2021 10:15	60.54	ppm	R_S49B	12966.65	196.09	15622.47	16248.93	<LOD	228.89	<LOD	-	-
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	1699.28	27.52	2047.33	2129.42	109.98	22.29	132.51	-	-
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	2001.09	35.77	2410.95	2507.63	131.33	28.99	158.23	-	-
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	<LOD	4124.52	<LOD	#VALUE!	<LOD	2493.71	<LOD	-	-
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	3140.84	37.92	3784.14	3935.89	107.69	30.30	129.75	-	-
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	932.98	19.92	1124.07	1169.15	69.75	16.21	84.04	-	-
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	535.75	15.34	558.07	671.37	<LOD	18.32	<LOD	-	-
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	878.33	22.69	1058.23	1100.66	<LOD	27.01	<LOD	<LOD	1789.91
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	273.36	11.59	329.35	342.56	41.28	9.70	49.73	-	-
2/06/2021 11:16	60.18	ppm	rcra	492.58	18.42	593.47	617.27	431.59	18.06	519.99	-	-
2/06/2021 11:17	60.54	ppm	si02	<LOD	3.59	<LOD	#VALUE!	<LOD	3.02	<LOD	-	-
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	248.04	10.75	298.84	310.83	13.56	8.67	16.34	-	-
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	127.45	8.29	153.55	159.71	27.63	7.08	33.29	-	-
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	714.57	17.85	860.93	895.45	<LOD	21.29	<LOD	-	-
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	817.53	19.75	984.98	1024.47	35.49	15.84	42.76	-	-
2/06/2021 11:47	60.85	ppm	R_S53_0.0	144.11	8.33	173.63	180.59	17.15	6.88	20.66	<LOD	1076.22
2/06/2021 11:53	60.45	ppm	R_S53_0.1	84.58	7.88	101.90	105.99	10.01	6.51	12.06	-	-
2/06/2021 11:56	60.18	ppm	R_S53_0.25	20.83	5.15	25.10	26.10	11.26	4.47	13.57	-	-
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	304.89	15.74	367.34	382.07	25.34	12.88	30.53	-	-
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	309.27	30.60	372.61	387.56	<LOD	35.06	<LOD	-	-
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	460.93	14.21	555.34	577.61	36.42	11.58	43.88	-	-
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	542.45	20.55	653.55	679.76	<LOD	24.14	<LOD	-	-
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	241.73	12.91	291.24	302.92	20.57	10.56	24.78	-	-
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	441.80	15.16	532.29	553.63	40.16	12.42	48.39	-	-
2/06/2021 13:20	53.96	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 13:21	53.45	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 13:23	60.58	ppm	rcra	502.60	18.57	605.54	629.82	433.48	18.15	522.27	-	-
2/06/2021 13:24	60.64	ppm	si02	<LOD	3.75	<LOD	#VALUE!	<LOD	3.32	<LOD	-	-
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	4719.95	52.26	5686.69	5914.72	140.08	41.66	168.77	-	-
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	3225.05	41.68	3885.60	4041.42	123.29	33.36	148.54	-	-
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	2065.45	32.99	2488.49	2588.28	<LOD	39.16	<LOD	-	-
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	1825.55	29.22	2199.46	2287.66	78.37	23.44	94.42	-	-
2/06/2021 13:49	60.83	ppm	R_S57_0.0	2600.03	36.00	3023.29	3258.18	<LOD	42.51	<LOD	-	-
2/06/2021 13:53	60.6	ppm	R_S57_0.1	1953.63	30.16	2353.77	2448.16	58.10	24.04	70.00	-	-
2/06/2021 13:59	60.67	ppm	R_S57_0.25	567.54	20.51	683.78	711.20	115.94	17.55	139.69	-	-
2/06/2021 14:04	60.78	ppm	R_S58_0.0	1264.35	25.38	1523.31	1584.40	33.78	20.21	40.70	-	-
2/06/2021 14:07	60.74	ppm	R_S58_0.1	1019.75	21.91	1228.61	1277.88	41.88	17.56	50.46	-	-
2/06/2021 14:15	60.39	ppm	R_S58_0.25	1778.72	29.71	2143.04	2228.97	<LOD	35.30	<LOD	-	-
2/06/2021 14:22	60.74	ppm	R_S59_0.0	1299.02	25.07	1565.08	1627.84	41.14	20.01	49.57	-	-
2/06/2021 14:25	60.51	ppm	R_S59_0.1	1900.24	31.31	2289.45	2381.25	106.73	25.26	128.59	-	-
2/06/2021 14:31	60.71	ppm	R_S59_0.25	844.78	22.46	1017.81	1058.62	82.57	18.45	99.48	-	-
2/06/2021 14:39	60.54	ppm	R_S60_0.0	749.05	18.56	902.47	938.66	33.62	14.90	40.51	-	-
2/06/2021 14:42	60.67	ppm	R_S60_0.1	389.37	13.18	469.12	487.93	22.28	10.65	26.84	-	-
2/06/2021 14:47	60.2	ppm	R_S60_0.25	1493.42	26.80	1799.30	1871.45	<LOD	31.40	<LOD	-	-
2/06/2021 15:21	60.76	ppm	rcra	494.65	18.51	595.96	619.86	431.76	18.13	520.19	-	-
2/06/2021 15:23	60.22	ppm	si02	<LOD	3.78	<LOD	#VALUE!	<LOD	3.15	<LOD	-	-
2/06/2021 15:24	56.44	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 15:26	56.22	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 15:28	60.82	ppm	R_61B_0.0	18.58	4.92	22.39	23.28	<LOD	5.99	<LOD	-	-
2/06/2021 15:32	60.08	ppm	R_61B_0.1	34.11	5.82	41.10	42.74	13.66	5.04	16.46	-	-
2/06/2021 15:36	60.45	ppm	R_61B_0.2	3953.51	48.49	4763.27	4954.27	235.22	39.18	283.40	-	-
2/06/2021 15:45	60.65	ppm	R_62B_0.0	486.30	15.65	585.90	609.40	21.22	12.57	25.57	-	-
2/06/2021 15:48	60.26	ppm	R_62B_0.1	563.32	17.84	678.70	705.91	37.11	14.46	44.71	-	-
2/06/2021 15:54	60.82	ppm	R_62B_0.15	3686.71	59.49	4441.82	4619.94	<LOD	70.52	<LOD	-	-
2/06/2021 15:58	60.81	ppm	R_63B_0.0	102.38	7.60	123.35	128.30	<LOD	9.19	<LOD	-	-
2/06/2021 16:01	60.13	ppm	R_63B_0.1	30.94	5.29	37.28	38.77	32.69	5.07	39.39	-	-
2/06/2021 16:07	60.69	ppm	R_63B_0.2	4136.75	64.85	4984.04	5183.90	187.35	52.08	225.72	-	-
2/06/2021 16:14	60.27	ppm	sio2	<LOD	3.42	<LOD	#VALUE!	<LOD	2.88	<LOD	-	-
2/06/2021 16:16	60.2	ppm	rcra	476.54	18.01	574.14	597.17	428.40	17.71	516.14	-	-
2/06/2021 16:17	53.99	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 16:19	53.65	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
2/06/2021 16:20	60.2	ppm	R_64B_0.0	289.58	12.42	296.40	362.88	<LOD	15.00	<LOD	-	-
2/06/2021 16:22	60.75	ppm	R_64B_0.1	92.04	7.43	110.89	115.34	21.99	6.36	26.49	-	-
2/06/2021 16:28	60.27	ppm	R_64B_0.22	4190.62	49.78	5048.94	5251.40	196.69	39.99	236.98	-	-
4/06/2021 8:58	46.39	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
4/06/2021 8:59	55.93	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
4/06/2021 9:01	61.12	ppm	R_S65b_0m	79.66	10.33	95.98	99.82	<LOD	12.39	<LOD	<LOD	1783.92
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	202.79	12.67	244.33	254.12	<LOD	15.25	<LOD	<LOD	756.56
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	178.89	9.79	215.53	224.17	<LOD	11.91	<LOD	<LOD	761.88
4/06/2021 9:23	62.06	ppm	R_S66b_0m	3468.58	44.66	4179.01	4346.59	280.45	36.43	337.89	1042.02	508.70
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	947.28	22.16	1141.30	1187.07	59.50	17.94	71.69	<LOD	1335.31
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	1116.75	22.50	1345.48	1399.44	82.13	18.30	98.95	<LOD	1125.63
4/06/2021 9:37	60.5	ppm	R_S67b_0m	658.28	20.22	793.11	824.91	51.79	16.49	62.40	<LOD	1949.03
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	1702.88	28.70	2051.66	2133.93	154.92	23.51	186.65	<LOD	1086.18
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	3803.16	52.82	4582.12	4765.86	226.55	42.69	272.95	<LOD	1229.61
4/06/2021 9:53	60.65	ppm	SiO2	<LOD	3.80	<LOD	#VALUE!	<LOD	3.14	<LOD	<LOD	807.93

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	502.71	18.40	605.67	629.96	443.21	18.10	533.99	<LOD	563.05
4/06/2021 10:17	62.12	ppm	R_S68b_0m	25.40	5.66	30.60	31.83	<LOD	6.73	<LOD	<LOD	613.91
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	<LOD	21.78	<LOD	#VALUE!	<LOD	17.93	<LOD	<LOD	2190.21
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	7.60	4.53	8.64	9.52	<LOD	5.60	<LOD	<LOD	654.25
4/06/2021 10:34	62.27	ppm	R_S69b_0m	12.34	4.38	14.87	15.46	7.00	3.80	8.43	<LOD	461.91
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	23.23	5.39	27.99	29.11	7.31	4.59	8.81	<LOD	685.44
4/06/2021 10:40	61.98	ppm	R_S70b_0m	<LOD	9.15	<LOD	#VALUE!	<LOD	7.79	<LOD	<LOD	884.84
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	<LOD	6.23	<LOD	#VALUE!	<LOD	5.28	<LOD	<LOD	824.75
4/06/2021 10:45	58.8	cps	-	-	-	NC	#VALUE!	-	-	NC	<LOD	824.75
4/06/2021 10:46	50.97	cps	-	-	-	NC	#VALUE!	-	-	NC	<LOD	824.75
4/06/2021 10:48	61.94	ppm	SiO2	<LOD	3.69	<LOD	#VALUE!	<LOD	3.21	<LOD	<LOD	455.02
4/06/2021 10:49	62.11	ppm	RCRA	466.94	18.13	562.58	585.14	428.56	17.93	516.34	<LOD	523.22
4/06/2021 11:09	61.73	ppm	R_S71b_0m	53.49	5.80	64.45	67.03	<LOD	7.17	<LOD	<LOD	634.47
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	17.24	6.46	20.77	21.60	<LOD	8.02	<LOD	<LOD	672.13
4/06/2021 11:15	61.05	ppm	R_S72b_0m	185.33	10.50	223.29	232.24	22.75	8.72	27.41	<LOD	1558.51
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	77.47	8.28	93.34	97.08	<LOD	10.22	<LOD	<LOD	273.00
4/06/2021 11:23	61.74	ppm	R_S73b_0m	80.92	6.38	97.49	101.40	8.33	5.23	10.04	<LOD	526.96
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	34.46	5.17	40.78	43.18	<LOD	6.43	<LOD	<LOD	657.24
4/06/2021 11:31	61.9	ppm	SiO2	<LOD	3.61	<LOD	#VALUE!	<LOD	3.10	<LOD	<LOD	476.60
4/06/2021 11:33	61.96	ppm	RCRA	500.32	18.64	602.80	626.97	450.40	18.37	542.65	<LOD	577.62
4/06/2021 11:35	54.1	cps	-	-	-	NC	#VALUE!	-	-	NC	<LOD	577.62
4/06/2021 11:37	53.49	cps	-	-	-	NC	#VALUE!	-	-	NC	<LOD	577.62
4/06/2021 11:45	60.98	ppm	R_S74b_0m	<LOD	4.78	<LOD	#VALUE!	<LOD	4.12	<LOD	<LOD	1203.06
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	10.66	4.10	12.84	13.36	<LOD	5.11	<LOD	<LOD	513.75
4/06/2021 11:51	60.99	ppm	R_S75b_0m	<LOD	5.81	<LOD	#VALUE!	7.18	3.44	8.65	<LOD	1166.13
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	<LOD	13.45	<LOD	#VALUE!	<LOD	11.83	<LOD	<LOD	1765.35
4/06/2021 11:58	61.97	ppm	R_S76b_0m	<LOD	18.44	<LOD	#VALUE!	<LOD	16.74	<LOD	<LOD	2278.20
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	<LOD	6.27	<LOD	#VALUE!	6.86	3.68	8.27	<LOD	688.05
4/06/2021 12:07	61.84	ppm	SiO2	<LOD	3.65	<LOD	#VALUE!	<LOD	3.14	<LOD	<LOD	479.66
4/06/2021 12:09	60.85	ppm	RCRA	484.34	18.25	583.54	606.94	426.25	17.89	513.55	<LOD	1014.68
4/06/2021 12:22	61.31	ppm	R_S77b_0m	<LOD	5.31	<LOD	#VALUE!	<LOD	4.47	<LOD	<LOD	712.05
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	<LOD	6.97	<LOD	#VALUE!	<LOD	6.02	<LOD	<LOD	782.60
4/06/2021 12:27	61.26	ppm	R_S78b_0m	17.80	4.28	21.45	22.31	<LOD	5.34	<LOD	<LOD	627.59
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	10.91	4.57	13.14	13.67	<LOD	5.68	<LOD	1260.96	788.12
31/05/2021 14:11	62.07	%	test	<LOD	0.08	<LOD	#VALUE!	-	-	NC	-	-
31/05/2021 14:55	60.27	%	R_S1a	4.55	0.16	5.48	5.70	-	-	NC	-	-
31/05/2021 14:56	1.23	%	R_S1a	<LOD	0.03	<LOD	#VALUE!	-	-	NC	-	-
31/05/2021 14:56	0.7	ppm	-	3.63	0.13	4.37	4.55	<LOD	0.17	<LOD	-	-
31/05/2021 14:56	0.41	ppm	-	3.63	0.10	4.37	4.55	<LOD	0.15	<LOD	-	-
31/05/2021 14:59	60.2	ppm	R_S1a	1984.93	25.69	2391.48	2487.38	47.48	20.49	57.20	-	-
31/05/2021 15:05	60.12	ppm	R_S2a	776.16	13.12	935.13	972.63	36.08	10.57	43.47	-	-
31/05/2021 15:24	60.96	ppm	R_S4a	586.87	12.56	707.07	735.43	<LOD	14.95	<LOD	-	-
31/05/2021 15:34	0.15	ppm	R_S6a	3.63	0.10	4.37	4.55	<LOD	0.15	<LOD	-	-
31/05/2021 15:35	60.18	ppm	R_S6a	563.21	16.41	678.57	705.78	37.71	13.35	45.43	-	-
31/05/2021 15:40	60.2	ppm	R_S5a	559.05	11.36	673.55	700.56	42.09	9.27	50.71	-	-
31/05/2021 15:51	60.25	ppm	R_S7a	1774.28	21.15	2137.69	2223.41	82.09	17.04	98.90	-	-
31/05/2021 16:08	60.21	ppm	R_S8a	69756.95	251.66	84044.52	87414.72	1469.84	200.39	1770.89	-	-
31/05/2021 16:19	60.18	ppm	R_S9a	1288.98	19.33	1552.99	1615.26	85.90	15.71	103.49	-	-
1/06/2021 7:47	60.19	ppm	SiO2	<LOD	5.34	<LOD	#VALUE!	<LOD	4.21	<LOD	-	-
1/06/2021 7:50	60.18	ppm	RCRA	457.24	11.41	550.89	572.98	474.59	11.62	571.80	-	-
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	114.73	6.75	119.39	143.77	11.65	5.55	12.12	-	-
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	<LOD	20.59	<LOD	#VALUE!	<LOD	3.05	<LOD	-	-
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	<LOD	20.27	<LOD	#VALUE!	<LOD	2.99	<LOD	-	-
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	109.58	6.14	114.03	137.32	<LOD	7.50	<LOD	-	-
1/06/2021 8:29	60.23	ppm	R_S11a	1941.97	28.79	2339.72	2433.55	63.63	23.06	76.66	-	-
1/06/2021 8:33	60.2	ppm	R_S12a	388.98	13.93	468.65	487.44	29.24	11.38	35.23	-	-
1/06/2021 8:53	0.72	ppm	R_S13a	<LOD	48.80	<LOD	#VALUE!	<LOD	21.67	<LOD	-	-
1/06/2021 8:54	60.18	ppm	R_S13a	400.96	18.98	483.08	502.46	<LOD	23.11	<LOD	-	-
1/06/2021 8:59	60.66	ppm	R_S14a	1264.93	19.67	1524.01	1585.13	59.35	15.85	71.51	-	-
1/06/2021 9:02	61.21	ppm	R_S15a	1941.71	23.58	2339.41	2433.22	79.27	18.95	95.51	-	-
1/06/2021 9:08	60.33	ppm	R_S16a	<LOD	4.43	<LOD	#VALUE!	4.08	2.51	4.92	-	-
1/06/2021 9:14	60.19	ppm	R_S17a	404.29	10.41	487.10	506.63	40.61	8.58	48.93	-	-
1/06/2021 9:21	60.17	ppm	R_S18a	220.93	9.25	266.18	276.85	11.81	7.50	14.23	-	-
1/06/2021 9:26	60.19	ppm	R_S19a	110.26	6.06	132.84	138.17	9.48	4.95	11.42	-	-
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	971.98	15.77	1040.66	1218.02	117.21	13.12	125.49	-	-
1/06/2021 9:52	60.14	ppm	SiO2	<LOD	2.77	<LOD	#VALUE!	<LOD	2.34	<LOD	-	-
1/06/2021 9:56	60.16	ppm	RCRA	486.24	13.08	585.83	609.32	436.75	12.94	526.20	-	-
1/06/2021 10:09	60.25	ppm	R_S21a	44.94	4.21	54.14	56.32	7.54	3.52	9.08	-	-
1/06/2021 10:15	60.21	ppm	R_S22a	72.10	4.82	86.87	90.35	11.27	4.03	13.58	-	-
1/06/2021 10:21	60.21	ppm	R_S23a	84.22	5.17	101.47	105.54	8.42	4.24	10.14	-	-
1/06/2021 10:27	60.16	ppm	R_S24a	101.68	5.65	122.51	127.42	<LOD	6.88	<LOD	-	-
1/06/2021 10:33	60.16	ppm	R_S25a	19.29	3.28	23.24	24.17	7.32	2.79	8.82	-	-
1/06/2021 11:38	60.17	ppm	R_S26a	1490.51	22.34	1795.80	1867.81	30.38	17.79	36.60	-	-
1/06/2021 11:59	60.12	ppm	R_S27a	578.63	13.00	697.14	725.10	46.45	10.63	55.96	-	-
1/06/2021 12:12	60.19	ppm	R_S28a	253.53	8.43	305.46	317.71	<LOD	10.00	<LOD	-	-
1/06/2021 12:26	60.11	ppm	R_S29a	4.56	2.94	5.49	5.71	5.31	2.53	6.40	-	-
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	117.07	4.78	141.05	146.70	9.14	3.90	11.01	-	-
1/06/2021 12:39	60.01	ppm	SiO2	<LOD	2.69	<LOD	#VALUE!	<LOD	2.27	<LOD	-	-
1/06/2021 12:41	60.23	ppm	RCRA	468.70	11.49	564.70	587.34	462.61	11.59	557.36	-	-
1/06/2021 13:28	60.17	ppm	R_S31a	66.59	4.88	80.23	83.45	11.31	4.08	13.63	-	-

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

1/06/2021 13:33	60.16	ppm	R_S32a	29.24	4.03	35.23	36.64	11.14	3.50	13.42	-	-
1/06/2021 13:37	60.17	ppm	R_S33a	72.08	4.65	86.84	90.33	<LOD	5.53	<LOD	-	-
1/06/2021 13:49	60.19	ppm	R_S34a	27.41	4.10	33.02	34.35	6.42	3.42	7.73	-	-
1/06/2021 13:54	60.19	ppm	R_S35a	314.34	9.21	378.72	393.91	<LOD	10.73	<LOD	-	-
1/06/2021 13:59	60.21	ppm	R_S36a	29.97	3.69	36.11	37.56	7.88	3.12	9.49	-	-
1/06/2021 14:05	60.18	ppm	R_S37a	47.80	4.01	57.59	59.90	9.63	3.37	11.60	-	-
1/06/2021 14:18	60.21	ppm	R_S38a	34.45	3.86	41.51	43.17	16.43	3.42	19.80	-	-
1/06/2021 14:22	60.2	ppm	R_S39a	23.55	3.70	28.37	29.51	7.47	3.16	9.00	-	-
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	95.12	4.81	114.60	119.20	<LOD	5.83	<LOD	-	-
1/06/2021 14:42	60.99	ppm	SiO2	<LOD	2.69	<LOD	#VALUE!	<LOD	2.24	<LOD	-	-
1/06/2021 14:44	60.66	ppm	RCRA	456.21	11.37	549.65	571.69	467.31	11.54	563.02	-	-
1/06/2021 14:53	61.16	ppm	R_S41a	52.03	4.30	62.69	65.20	10.29	3.62	12.40	-	-
1/06/2021 15:10	61.12	ppm	R_S42a	481.43	9.62	580.04	603.30	16.45	7.72	19.82	-	-
1/06/2021 15:16	61.28	ppm	R_S43a	28.80	3.58	34.70	36.09	5.57	3.00	6.71	-	-
1/06/2021 15:21	61.56	ppm	R_S44a	128.01	6.50	154.23	160.41	11.43	5.33	13.77	-	-
1/06/2021 15:50	61.57	ppm	R_S45a	<LOD	2.59	<LOD	#VALUE!	<LOD	2.14	<LOD	-	-
1/06/2021 15:53	0.7	ppm	R_S46a	3.63	0.32	4.37	4.55	<LOD	0.20	<LOD	-	-
1/06/2021 15:55	61.45	ppm	R_S46a	12.21	2.25	14.71	15.30	5.75	1.94	6.93	-	-
1/06/2021 15:59	61.58	ppm	R_S47a	76.69	4.53	92.40	96.10	<LOD	5.53	<LOD	-	-
1/06/2021 16:03	61.91	ppm	R_S48a	80.92	4.19	97.49	101.40	27.92	3.71	33.64	-	-
1/06/2021 16:09	61.32	ppm	R_S49a	331.76	11.14	399.71	415.74	118.23	10.07	142.45	-	-
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	1994.23	89.43	2128.31	2499.04	124.91	72.61	133.31	-	-
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	3209.58	37.65	3866.96	4022.03	316.82	31.04	381.71	-	-
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	3.63	0.10	4.37	4.55	<LOD	0.15	<LOD	-	-
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	4501.46	37.53	5423.45	5640.93	438.39	30.92	528.18	-	-
2/06/2021 8:18	60.9	ppm	SiO2	<LOD	2.63	<LOD	#VALUE!	<LOD	2.23	<LOD	-	-
2/06/2021 8:20	61.22	ppm	RCRA	464.49	11.42	559.63	582.07	456.87	11.52	550.45	-	-
2/06/2021 8:26	61.27	ppm	R_S51a_0m	798.68	16.33	962.27	1000.85	69.50	13.39	83.73	-	-
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	3372.78	39.29	4063.59	4226.54	188.77	31.79	227.43	-	-
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	3520.40	36.19	4241.45	4411.53	366.36	29.90	441.40	-	-
2/06/2021 8:41	61.49	ppm	R_S52a_0m	117.01	6.14	140.98	146.63	19.92	5.18	24.00	-	-
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	2656.60	31.96	3200.72	3329.07	123.93	25.75	149.31	-	-
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	2073.02	23.29	2497.61	2597.77	207.24	19.20	249.69	-	-
2/06/2021 8:59	61.13	ppm	R_S53a_0m	1526.44	22.54	1839.08	1912.83	64.62	18.13	77.86	-	-
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	1905.80	22.86	2296.14	2388.22	187.59	18.84	226.01	-	-
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	2203.59	25.95	2654.93	2761.39	184.23	21.26	221.96	-	-
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	452.77	9.07	707.45	567.38	28.49	7.36	44.52	-	-
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	453.49	14.01	546.37	568.28	28.67	11.38	34.54	-	-
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	403.48	9.99	486.12	505.61	31.83	8.17	38.35	-	-
2/06/2021 9:49	60.92	ppm	SiO2	<LOD	2.62	<LOD	#VALUE!	<LOD	2.22	<LOD	-	-
2/06/2021 9:50	61.29	ppm	RCRA	464.52	11.44	559.66	582.11	454.66	11.53	547.78	-	-
2/06/2021 9:59	60.99	ppm	R_S55a_0m	150.57	6.79	181.41	188.68	16.17	5.61	19.48	-	-
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	83.89	8.33	101.07	105.13	13.09	7.00	15.77	-	-
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	85.93	5.58	103.53	107.68	17.86	4.75	21.52	-	-
2/06/2021 10:30	61.29	ppm	R_S56a_0m	95.40	4.83	114.94	119.55	8.16	3.96	9.83	-	-
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	443.11	10.31	533.87	555.28	<LOD	12.22	<LOD	-	-
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	86.54	5.08	104.27	108.45	8.51	4.16	10.25	-	-
2/06/2021 10:57	61.59	ppm	R_S57a_0m	30.26	4.98	36.46	37.92	6.75	4.24	8.13	-	-
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	45.54	3.77	54.87	57.07	6.62	3.12	7.98	-	-
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	38.31	4.25	46.16	48.01	8.52	3.60	10.27	-	-
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	63.25	4.20	76.20	79.26	<LOD	5.14	<LOD	-	-
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	53.66	4.16	64.65	67.24	<LOD	5.11	<LOD	-	-
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	59.45	7.14	71.63	74.50	<LOD	8.85	<LOD	-	-
2/06/2021 11:28	61.6	ppm	SiO2	<LOD	2.68	<LOD	#VALUE!	<LOD	2.19	<LOD	-	-
2/06/2021 11:30	60.97	ppm	RCRA	454.35	11.34	547.41	569.36	450.73	11.44	543.05	-	-
2/06/2021 11:36	60.97	ppm	R_S59a_0m	371.48	11.01	447.57	465.51	16.35	8.87	19.70	-	-
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	<LOD	11142.40	<LOD	#VALUE!	<LOD	6082.61	<LOD	-	-
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	<LOD	6433.48	<LOD	#VALUE!	<LOD	3512.12	<LOD	-	-
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	1092.35	34.73	1316.08	1368.86	<LOD	40.16	<LOD	-	-
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	4643.97	65.80	5595.14	5819.51	308.35	53.50	371.51	-	-
2/06/2021 12:00	60.67	ppm	R_S60a_0m	70.60	5.11	85.06	88.47	7.84	4.21	9.45	-	-
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	62.96	6.69	75.86	78.90	<LOD	8.28	<LOD	-	-
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	87.76	4.94	105.73	109.97	6.07	4.01	7.31	-	-
2/06/2021 13:09	61.57	ppm	R_S61a_0m	28.38	3.32	34.19	35.56	4.61	2.75	5.55	-	-
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	29.29	3.70	35.29	36.70	9.01	3.15	10.86	-	-
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	26.18	4.20	31.54	32.81	6.40	3.55	7.71	-	-
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	16.12	3.39	23.71	20.20	8.60	2.93	12.65	-	-
2/06/2021 13:32	61	ppm	R_S62a_0.1m	17.16	3.78	20.67	21.50	11.99	3.36	14.45	-	-
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	27.45	3.55	33.07	34.40	8.58	3.01	10.34	-	-
2/06/2021 13:43	60.61	ppm	SiO2	<LOD	2.61	<LOD	#VALUE!	<LOD	2.22	<LOD	-	-
2/06/2021 13:44	61.11	ppm	RCRA	461.49	11.44	556.01	578.31	465.36	11.58	560.67	-	-
2/06/2021 13:50	61.44	ppm	R_S63a_0m	73.92	6.92	89.06	92.63	9.07	5.76	10.93	-	-
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	24.20	3.43	29.16	30.33	5.37	2.87	6.47	-	-
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	42.00	3.89	50.60	52.63	10.43	3.28	12.57	-	-
2/06/2021 14:04	60.55	ppm	R_S64a_0m	24.90	3.09	30.00	31.20	7.13	2.61	8.59	-	-
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	31.36	3.55	37.78	39.30	7.40	2.99	8.92	-	-
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	<LOD	4.12	<LOD	#VALUE!	5.82	2.38	7.01	-	-
2/06/2021 14:22	62.2	ppm	R_S65a_0m	24.60	3.12	29.64	30.83	4.11	2.59	4.95	-	-
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	27.35	3.27	32.95	34.27	6.06	2.74	7.30	-	-
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	26.27	4.35	31.65	32.92	6.54	3.67	7.88	-	-

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	286.46	8.65	345.13	358.97	<LOD	10.36	<LOD	-	-
2/06/2021 14:34	62.08	ppm	R_S67a_0m	7.69	3.78	9.27	9.64	5.75	3.27	6.93	-	-
2/06/2021 14:40	61.18	ppm	SiO2	<LOD	2.61	<LOD	#VALUE!	<LOD	2.24	<LOD	-	-
2/06/2021 14:42	61.89	ppm	RCRA	459.15	11.36	553.19	575.38	456.16	11.47	549.59	-	-
2/06/2021 15:16	61.89	ppm	R_S68a_0m	3528.93	43.32	4251.72	4422.22	236.52	35.22	284.96	-	-
2/06/2021 15:28	61.57	ppm	R_S69a_0m	1837.71	28.97	2214.11	2302.89	89.66	23.37	108.02	-	-
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	5238.54	76.59	6311.49	6564.59	<LOD	90.37	<LOD	-	-
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	339.53	9.08	409.07	425.48	48.63	7.61	58.59	-	-
2/06/2021 15:42	62.1	ppm	R_S70a_0m	3130.21	32.31	3771.34	3922.57	89.30	25.81	107.59	-	-
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	3630.01	63.06	4373.51	4548.88	<LOD	74.63	<LOD	-	-
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	732.01	13.08	881.94	917.31	75.14	10.79	90.53	-	-
2/06/2021 16:01	62.18	ppm	R_S71a_0m	5148.38	40.30	6202.87	6451.60	302.80	32.65	364.82	-	-
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	1064.87	34.62	1282.98	1334.42	<LOD	40.93	<LOD	-	-
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	2834.00	26.99	3414.46	3551.38	39.15	21.42	47.17	-	-
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	1945.75	68.17	2262.50	2438.28	97.68	55.02	113.58	-	-
3/06/2021 8:25	60.77	ppm	SiO2	<LOD	2.65	<LOD	#VALUE!	<LOD	2.22	<LOD	-	-
3/06/2021 8:27	61.24	ppm	RCRA	465.89	11.44	561.31	583.82	461.70	11.56	556.27	-	-
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	4743.97	50.01	5715.63	5944.82	184.18	40.15	221.90	-	-
3/06/2021 8:42	60.99	ppm	R_S73a_0m	939.82	21.36	1132.31	1177.72	100.59	17.67	121.19	-	-
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	925.73	15.92	1115.34	1160.06	131.92	13.35	158.94	-	-
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	<LOD	29.28	<LOD	#VALUE!	<LOD	6.13	<LOD	-	-
3/06/2021 8:56	60.82	ppm	R_S74a_0m	741.05	14.25	892.83	928.63	72.80	11.74	87.71	-	-
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	438.96	20.97	528.87	550.08	<LOD	25.11	<LOD	-	-
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	486.98	11.99	586.72	610.25	37.40	9.79	45.06	-	-
3/06/2021 11:29	1.78	ppm	R_S75a_0m	<LOD	100.16	<LOD	#VALUE!	<LOD	58.89	<LOD	-	-
3/06/2021 11:31	1.58	ppm	R_S75a_0m	<LOD	340.45	<LOD	#VALUE!	<LOD	186.51	<LOD	-	-
3/06/2021 11:31	0.95	ppm	R_S75a_0m	<LOD	1533.33	<LOD	#VALUE!	<LOD	914.32	<LOD	-	-
3/06/2021 11:33	62.07	ppm	R_S75a_0m	440.63	21.47	530.88	552.17	58.81	17.91	70.86	<LOD	804.72
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	285.46	18.15	343.93	357.72	128.70	17.64	155.06	-	-
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	222.09	12.43	267.58	278.31	59.81	10.87	72.06	<LOD	492.14
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	182.80	10.95	247.03	229.07	15.64	8.95	21.14	1430.86	696.21
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	142.05	8.82	171.14	178.01	13.32	7.23	16.05	<LOD	776.17
3/06/2021 12:22	62.29	%	-	0.02	0.00	0.02	0.02	<LOD	0.00	<LOD	<LOD	0.13
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	84.97	9.75	102.37	106.48	13.68	8.21	16.48	<LOD	828.11
3/06/2021 12:39	62.14	ppm	R_S77a_0m	79.68	8.23	96.00	99.85	<LOD	10.23	<LOD	<LOD	665.82
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	84.47	7.16	101.77	105.85	11.72	5.95	14.12	<LOD	613.70
3/06/2021 13:01	61.49	ppm	SiO2	<LOD	3.95	<LOD	#VALUE!	<LOD	3.17	<LOD	<LOD	533.36
3/06/2021 13:04	62.17	ppm	RCRA	510.55	18.80	615.12	639.79	426.10	18.28	513.37	715.47	421.67
3/06/2021 14:04	61.78	ppm	R_S78a_0m	648.63	42.90	781.48	812.82	218.70	38.64	263.49	3651.72	1210.74
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	409.64	14.00	493.54	513.33	147.38	12.65	177.57	4066.69	669.11
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	390.05	14.23	469.94	488.78	106.53	12.48	128.35	4795.74	1234.75
3/06/2021 14:27	62.28	ppm	R_S79a_0m	5541.08	51.09	6676.00	6943.71	62.13	40.39	74.86	<LOD	489.83
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	3916.11	50.86	4718.20	4907.41	390.57	41.84	470.57	<LOD	828.82
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	4812.39	46.65	5798.06	6030.56	379.69	38.03	457.46	<LOD	453.01
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	487.94	14.25	587.88	611.45	124.16	12.45	149.59	<LOD	652.37
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	515.08	19.34	620.58	645.46	119.67	16.76	144.18	<LOD	1195.36
3/06/2021 15:16	61.09	ppm	R_S81a_0m	1460.39	38.57	1759.51	1830.06	97.18	31.30	117.08	<LOD	1074.36
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	1961.47	37.11	2363.22	2457.98	102.81	29.90	123.87	<LOD	1149.57
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	3351.52	39.92	4037.98	4199.90	194.12	32.24	233.88	<LOD	790.85
3/06/2021 15:34	61.12	ppm	R_S82a__0m	130.34	9.17	157.04	163.33	16.12	7.64	19.42	<LOD	636.42
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	641.47	16.67	772.86	803.85	108.37	14.10	130.57	<LOD	666.67
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	330.70	24.63	398.43	414.41	70.51	21.22	84.95	<LOD	2388.03
3/06/2021 16:06	61.46	ppm	SiO2	<LOD	3.73	<LOD	#VALUE!	<LOD	3.06	<LOD	<LOD	490.01
3/06/2021 16:08	61.58	ppm	RCRA	495.02	18.21	596.41	620.33	427.60	17.82	515.18	<LOD	776.33
3/06/2021 16:35	61.77	ppm	R_S83a_0m	<LOD	7.19	<LOD	#VALUE!	<LOD	6.03	<LOD	<LOD	1062.22
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	<LOD	7.04	<LOD	#VALUE!	<LOD	5.78	<LOD	<LOD	821.32
15/06/2021 12:52	56.51	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
15/06/2021 12:54	56.13	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
15/06/2021 13:07	61.3	ppm	SiO2	<LOD	3.68	<LOD	#VALUE!	<LOD	3.16	<LOD	<LOD	517.77
15/06/2021 13:09	61.75	ppm	RCRA	500.35	18.30	602.83	627.01	437.11	17.93	526.64	<LOD	700.32
16/06/2021 8:06	63.49	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
16/06/2021 8:07	58.37	cps	-	-	-	NC	#VALUE!	-	-	NC	-	-
16/06/2021 8:13	60.36	ppm	sio2	<LOD	3.58	<LOD	#VALUE!	<LOD	3.01	<LOD	-	-
16/06/2021 8:15	60.19	ppm	rcra	498.87	18.43	601.05	625.15	417.25	17.93	502.71	-	-
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	452.13	14.14	544.73	566.58	50.58	11.67	60.94	-	-
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	812.61	22.54	979.05	1018.31	<LOD	26.93	<LOD	-	-
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	1161.08	26.41	1398.89	1454.99	72.86	21.37	87.78	-	-
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	414.36	13.86	499.23	519.25	22.14	11.17	26.67	-	-
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	757.89	19.43	913.12	949.74	24.34	15.51	29.33	-	-
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	505.23	16.08	608.71	633.12	28.33	12.97	34.13	-	-
16/06/2021 10:03	61.29	ppm	SiO2	<LOD	4.06	<LOD	#VALUE!	<LOD	3.38	<LOD	<LOD	663.16
16/06/2021 10:06	61.85	ppm	RCRA	479.51	18.21	577.72	600.89	437.15	17.95	526.69	903.18	534.17
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	413.86	15.14	498.63	518.62	48.46	12.53	58.39	<LOD	939.41
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	2409.49	35.41	2903.00	3019.41	133.09	28.56	160.35	760.72	448.01
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	1195.47	27.53	1440.33	1498.08	83.51	22.34	100.61	1554.57	637.87
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	206.66	10.08	248.99	258.97	20.26	8.27	24.41	<LOD	589.42
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	176.48	10.22	212.63	221.15	<LOD	12.43	<LOD	<LOD	851.94
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	196.17	102.82	236.35	245.83	<LOD	120.42	<LOD	-	-
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	190.20	9.73	229.16	238.35	<LOD	11.77	<LOD	<LOD	472.98
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	812.53	19.33	978.95	1018.21	29.25	15.46	35.24	<LOD	531.73

Client: Department of Regional NSW
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	413.50	14.15	498.19	518.17	40.21	11.62	48.45	<LOD	651.50
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	102.28	7.40	123.23	128.17	17.36	6.20	20.92	<LOD	690.27
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	2993.30	38.05	3606.39	3751.00	<LOD	45.04	<LOD	867.01	502.69
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	6200.37	64.21	7470.33	7769.89	394.74	51.98	475.59	706.69	460.64
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	14754.39	117.86	17776.37	18489.21	380.70	93.77	458.67	<LOD	856.22
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	209624.75	846.53	252559.94	262687.66	3446.11	670.65	4151.94	2360.43	920.66
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	19884.79	122.22	22596.35	24918.28	1549.57	99.59	1760.88	<LOD	942.40
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	552.33	16.72	665.46	692.14	122.18	14.41	147.20	1502.74	671.04
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	16662.51	108.39	20075.31	20880.34	194.52	85.67	234.36	<LOD	938.53
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	1817.92	28.24	2190.27	2278.10	67.81	22.59	81.70	<LOD	802.32
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	192.86	10.92	232.36	241.68	<LOD	13.24	<LOD	<LOD	989.71
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	10489.25	79.66	12340.29	13144.42	<LOD	94.26	<LOD	<LOD	685.78
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	339.74	15.59	409.33	425.74	<LOD	18.81	<LOD	<LOD	1105.03
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	236.56	10.31	285.01	296.44	22.41	8.44	27.00	<LOD	698.68
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	2622.44	37.51	3159.57	3286.27	66.81	29.85	80.49	<LOD	683.86
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	995.44	22.42	1199.33	1247.42	102.24	18.45	123.18	<LOD	928.55
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	119.64	8.01	144.14	149.92	32.59	6.92	39.27	<LOD	982.93
16/06/2021 12:57	63.85	ppm	SiO2	<LOD	3.71	<LOD	#VALUE!	<LOD	3.19	<LOD	<LOD	199.06
16/06/2021 12:58	61.79	ppm	RCRA	487.75	18.40	587.65	611.22	433.43	18.10	522.20	<LOD	737.47
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	891.55	20.39	1074.16	1117.23	61.37	16.54	73.94	696.35	141.47
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	1991.49	31.43	2399.39	2495.60	<LOD	37.16	<LOD	829.77	209.96
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	178.37	9.19	214.90	223.52	<LOD	11.04	<LOD	<LOD	711.39
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	620.09	17.01	747.10	777.06	28.17	13.66	33.94	<LOD	669.05
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	831.65	20.95	1001.99	1042.17	<LOD	24.98	<LOD	<LOD	672.22
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	133.19	8.31	160.47	166.90	15.30	6.85	18.43	<LOD	565.09
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	264.06	11.86	318.14	330.90	<LOD	14.28	<LOD	<LOD	665.35
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	431.69	15.16	520.11	540.96	19.28	12.17	23.23	<LOD	1211.83
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	<LOD	77.88	<LOD	#VALUE!	<LOD	17201.02	<LOD	-	-
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	133.13	8.79	160.40	166.83	<LOD	10.50	<LOD	762.56	110.93
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	514.05	16.05	619.34	644.17	<LOD	19.09	<LOD	1446.78	598.46
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	2844.86	55.91	3427.54	3564.99	<LOD	63.37	<LOD	1227.63	607.74
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	103.11	7.65	124.23	129.21	13.18	6.32	15.88	<LOD	641.80
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	232.45	12.66	280.06	291.29	22.41	10.39	27.00	<LOD	699.19
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	845.96	20.82	1019.23	1060.10	64.52	16.94	77.73	-	-
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	2827.71	35.15	3406.88	3543.50	128.16	28.23	154.41	1015.88	473.85
16/06/2021 14:48	62.5	ppm	R_S10OA_01	4773.19	48.35	5750.83	5981.44	90.02	38.35	108.46	1114.56	508.98
16/06/2021 14:52	62.2	ppm	R_S10OA_03	3135.21	40.39	3777.36	3928.83	<LOD	46.67	<LOD	1073.93	419.43
16/06/2021 15:00	8.99	ppm	SiO2	1244.18	44.30	1499.01	1559.12	<LOD	52.82	<LOD	-	-
16/06/2021 15:04	20.77	ppm	SiO2	<LOD	4.99	<LOD	#VALUE!	<LOD	4.09	<LOD	-	-
16/06/2021 15:04	0.15	ppm	SiO2	<LOD	222.03	<LOD	#VALUE!	<LOD	176.52	<LOD	-	-
16/06/2021 15:05	61.18	ppm	SiO2	<LOD	3.99	<LOD	#VALUE!	<LOD	3.23	<LOD	<LOD	1073.54
16/06/2021 15:07	61.33	ppm	RCRA	489.14	18.11	589.33	612.96	407.20	17.61	490.60	<LOD	699.18
16/06/2021 15:18	0.55	ppm	RCRA	<LOD	504.24	<LOD	#VALUE!	<LOD	303.33	<LOD	-	-
16/06/2021 15:20	0.56	ppm	R_S10IA	<LOD	1201.01	<LOD	#VALUE!	<LOD	727.44	<LOD	-	-
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	<LOD	4216.91	<LOD	#VALUE!	<LOD	2298.03	<LOD	-	-
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	97.67	7.56	117.67	122.39	<LOD	9.16	<LOD	<LOD	882.95
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	209.79	9.92	252.76	262.89	20.36	8.14	24.53	<LOD	480.16
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	<LOD	3298.09	<LOD	#VALUE!	<LOD	1993.44	<LOD	-	-
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	1103.88	21.41	1329.98	1383.31	26.39	17.03	31.80	750.45	470.36
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	346.38	11.65	417.33	434.06	<LOD	13.92	<LOD	<LOD	436.77
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	205.05	16.47	247.05	256.95	<LOD	20.25	<LOD	-	-
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	211.41	10.52	254.71	264.92	23.03	8.66	27.75	901.34	502.36
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	141.07	11.55	169.96	176.78	22.40	9.66	26.99	-	-
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	94.73	15.04	114.13	118.71	<LOD	18.85	<LOD	-	-
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	195.01	9.74	234.95	244.37	20.52	8.01	24.72	<LOD	730.44
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	106.44	7.03	128.24	133.38	<LOD	8.50	<LOD	<LOD	479.27
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	224.59	10.04	270.59	281.44	12.50	8.11	15.06	<LOD	573.78
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	97.16	7.52	117.06	121.75	15.79	6.28	19.02	941.31	374.30
17/06/2021 8:30	49.35	ppm	RCRA	411.60	15.75	495.90	515.79	361.72	15.43	435.81	-	-
17/06/2021 8:31	61.65	ppm	RCRA	484.85	18.28	584.16	607.58	413.21	17.83	497.84	<LOD	658.78
17/06/2021 8:36	61.36	ppm	R_S104_0.0	2346.86	34.37	2827.54	2940.93	93.49	27.52	112.64	1563.13	517.12
17/06/2021 8:38	61.76	ppm	R_S104_0.1	1985.11	30.92	2391.70	2487.61	69.29	24.71	83.48	1935.35	580.56
17/06/2021 8:41	61.51	ppm	R_S104_0.25	2810.27	36.25	3385.87	3521.64	104.97	29.00	126.47	2232.18	1025.45
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	4340.62	47.04	5229.66	5439.37	153.63	37.60	185.10	774.33	436.93
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	5318.24	53.14	6407.52	6664.46	<LOD	62.99	<LOD	1139.57	500.70
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	4837.98	51.50	5828.89	6062.63	126.99	40.99	153.00	<LOD	1301.95
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	49.70	5.24	81.48	62.28	<LOD	6.19	<LOD	<LOD	594.68
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	50.60	6.29	60.96	63.41	<LOD	7.71	<LOD	<LOD	757.94
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	55.32	5.91	66.65	69.32	<LOD	7.27	<LOD	626.42	346.20
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	127.11	7.22	153.14	159.29	<LOD	8.63	<LOD	<LOD	333.47
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	302.94	11.32	364.99	379.62	32.12	9.32	38.70	<LOD	573.56
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	423.92	16.16	510.75	531.23	148.09	14.54	178.42	1801.81	605.73
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	426.67	12.60	514.06	534.67	19.42	10.13	23.40	<LOD	369.40
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	734.79	17.56	885.29	920.79	<LOD	20.91	<LOD	1041.07	538.35
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	1109.03	24.49	1336.18	1389.76	47.64	19.65	57.40	1060.45	441.66
17/06/2021 9:53	62.25	ppm	RCRA	489.40	18.25	589.64	613.28	421.87	17.85	508.28	870.05	456.27
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	84.28	6.22	101.54	105.61	10.34	5.14	12.46	<LOD	663.19
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	41.45	5.89	49.94	51.94	29.53	5.45	35.58	<LOD	908.14
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	87.06	7.30	104.89	109.10	63.96	7.08	77.06	1418.79	487.02
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	87.79	6.06	146.32	110.01	<LOD	7.25	<LOD	<LOD	337.55

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	73.29	6.52	88.30	91.84	<LOD	8.02	<LOD	1057.48	411.72
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	30.12	5.56	36.29	37.74	21.58	5.06	26.00	1479.39	608.57
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	79.26	34.63	132.10	99.32	<LOD	40.71	<LOD	-	-
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	88.39	6.54	106.49	110.76	<LOD	8.00	<LOD	952.05	453.12
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	125.23	7.55	150.88	156.93	10.67	6.16	12.86	<LOD	903.13
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	57.12	6.38	68.82	71.58	39.11	5.97	47.12	1836.92	640.88
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	129.04	7.74	155.47	161.70	<LOD	9.44	<LOD	<LOD	615.49
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	104.93	7.51	126.42	131.49	16.16	6.26	19.47	1379.09	400.89
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	30.06	5.06	36.22	37.67	<LOD	6.31	<LOD	773.40	380.16
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	103.29	6.77	124.45	129.44	<LOD	8.27	<LOD	<LOD	732.34
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	189.09	9.86	255.53	236.95	13.25	8.01	17.91	671.24	350.06
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	169.79	9.21	204.57	212.77	14.49	7.51	17.46	838.37	472.92
17/06/2021 11:18	61.77	ppm	RCRA	477.82	18.09	575.69	598.77	427.66	17.79	515.25	<LOD	601.01
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	142.74	7.80	171.98	178.87	<LOD	9.47	<LOD	<LOD	435.26
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	249.77	10.49	300.93	312.99	<LOD	12.68	<LOD	<LOD	505.76
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	129.45	8.01	155.96	162.22	<LOD	9.71	<LOD	<LOD	625.82
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	37.37	4.94	45.02	46.83	<LOD	6.00	<LOD	<LOD	413.27
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	57.90	6.00	69.76	72.56	8.77	4.96	10.57	<LOD	426.93
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	37.82	5.27	45.57	47.39	9.88	4.45	11.90	<LOD	796.00
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	51.33	5.68	65.81	64.32	<LOD	6.92	<LOD	<LOD	651.15
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	20.84	4.80	25.11	26.12	<LOD	5.99	<LOD	661.10	373.91
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	21.94	5.11	26.43	27.49	17.15	4.60	20.66	1571.74	891.61
						209.00	213.00					

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Dry Weight (moisture corrected) Ba	Cd	Cd Error	Dry Weight (moisture corrected) Cd	Co	Co Error	Dry Weight (moisture corrected) Co	Cr	Cr Error
7/06/2021 10:55	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:56	53.57	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:58	61.59	ppm	SiO2	<LOD	<LOD	122.46	<LOD	<LOD	19.06	<LOD	<LOD	10.73
7/06/2021 11:21	60.43	ppm	GW1_0.0	NC	-	-	NC	<LOD	67.70	<LOD	39.99	10.53
7/06/2021 11:30	60.61	ppm	GW1_0.1	NC	-	-	NC	79.11	49.45	95.31	<LOD	18.27
7/06/2021 11:31	19.12	ppm	GW1_0.1	NC	-	-	NC	<LOD	93.67	<LOD	-	-
7/06/2021 11:32	60.66	ppm	GW1_0.2	<LOD	<LOD	190.77	<LOD	111.78	52.17	134.67	<LOD	21.06
7/06/2021 11:32	0.53	ppm	GW1_0.2	NC	-	-	NC	<LOD	1459.67	<LOD	-	-
7/06/2021 11:33	60.47	ppm	GW1_0.3	NC	-	-	NC	<LOD	91.33	<LOD	<LOD	10.49
7/06/2021 11:35	60.68	ppm	GW1_0.4	<LOD	<LOD	161.68	<LOD	104.36	48.31	125.73	<LOD	19.57
7/06/2021 11:37	60.76	ppm	GW1_0.5	NC	-	-	NC	119.05	54.46	143.43	39.72	12.13
7/06/2021 11:38	61.01	ppm	GW1_1.0	<LOD	<LOD	115.93	<LOD	<LOD	75.14	<LOD	33.81	14.34
7/06/2021 11:40	60.76	ppm	GW1_2.0	<LOD	<LOD	253.97	<LOD	96.57	62.31	116.35	<LOD	13.88
7/06/2021 11:41	60.67	ppm	GW1_3.0	2499.08	<LOD	293.94	<LOD	<LOD	97.32	<LOD	<LOD	18.45
7/06/2021 11:42	6.84	ppm	GW1_4.0	NC	-	-	NC	<LOD	192.75	<LOD	-	-
7/06/2021 11:43	61.37	ppm	GW1_4.0	979.72	<LOD	180.91	<LOD	<LOD	79.03	<LOD	<LOD	20.24
7/06/2021 13:21	60.51	ppm	GW3_0.1	NC	-	-	NC	<LOD	104.11	<LOD	<LOD	22.83
7/06/2021 13:26	60.77	ppm	GW3_0.0	<LOD	<LOD	145.40	<LOD	<LOD	80.09	<LOD	<LOD	23.57
7/06/2021 13:28	60.6	ppm	GW3_0.2	NC	-	-	NC	<LOD	94.64	<LOD	<LOD	18.57
7/06/2021 13:29	72.5	ppm	GW3_0.3	933.95	<LOD	17.01	<LOD	<LOD	91.32	<LOD	<LOD	16.97
7/06/2021 13:31	60.51	ppm	GW3_0.44	NC	-	-	NC	<LOD	90.48	<LOD	<LOD	24.25
7/06/2021 13:33	63.3	ppm	GW3_0.5	1096.86	<LOD	64.18	<LOD	<LOD	95.62	<LOD	<LOD	28.36
7/06/2021 13:34	60.96	ppm	GW3_1.0	<LOD	<LOD	186.81	<LOD	<LOD	95.79	<LOD	<LOD	27.49
7/06/2021 13:41	60.6	ppm	GW3_2.0	NC	-	-	NC	<LOD	96.06	<LOD	<LOD	26.85
7/06/2021 13:58	60.47	ppm	SiO2	NC	-	-	NC	<LOD	18.37	<LOD	<LOD	10.44
7/06/2021 14:00	60.77	ppm	RCRA	NC	-	-	NC	149.13	98.96	179.67	478.11	26.05
7/06/2021 15:09	60.72	ppm	D1	NC	-	-	NC	<LOD	62.23	<LOD	<LOD	20.56
7/06/2021 15:12	60.52	ppm	GW3_0.0	NC	-	-	NC	<LOD	62.41	<LOD	<LOD	21.05
7/06/2021 15:24	60.98	ppm	GW3_0.1	2494.83	<LOD	319.80	<LOD	501.79	151.01	604.57	<LOD	42.02
7/06/2021 15:26	60.5	ppm	GW3_0.2	<LOD	<LOD	406.84	<LOD	<LOD	112.29	<LOD	<LOD	32.11
7/06/2021 15:28	61.05	ppm	GW3_0.3	2276.88	<LOD	252.29	<LOD	<LOD	152.21	<LOD	<LOD	31.07
7/06/2021 15:29	71.47	ppm	GW3_0.4	1360.92	<LOD	19.17	<LOD	<LOD	103.21	<LOD	<LOD	19.39
7/06/2021 15:31	62.46	ppm	GW3_0.5	2115.81	<LOD	111.99	<LOD	<LOD	143.45	<LOD	<LOD	33.22
7/06/2021 15:32	64.68	ppm	GW3_1.0	1174.00	<LOD	34.10	<LOD	146.19	72.06	176.13	<LOD	32.66
7/06/2021 15:34	61.4	ppm	GW3_2.0	<LOD	<LOD	154.80	<LOD	189.11	77.70	227.84	29.46	15.82
7/06/2021 15:37	61.39	ppm	GW3_3.0	<LOD	<LOD	258.61	<LOD	<LOD	79.18	<LOD	23.25	13.39
8/06/2021 7:48	53.82	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 7:49	56.02	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 8:00	60.96	ppm	SiO2	<LOD	<LOD	226.57	<LOD	<LOD	18.36	<LOD	<LOD	10.45
8/06/2021 8:02	61.12	ppm	RCRA	<LOD	626.50	234.26	754.82	<LOD	152.09	<LOD	491.87	26.12
8/06/2021 8:08	61.74	ppm	GW4_0.0	<LOD	<LOD	105.85	<LOD	187.59	79.34	226.01	59.70	14.44
8/06/2021 8:09	61.95	ppm	GW4_0.1	2431.34	<LOD	95.81	<LOD	166.49	93.28	200.59	<LOD	25.39
8/06/2021 8:14	61.41	ppm	GW4_0.2	2959.96	<LOD	222.12	<LOD	226.41	123.96	269.54	<LOD	30.94
8/06/2021 8:16	62.26	ppm	GW4_0.3	1048.02	<LOD	104.49	<LOD	<LOD	107.55	<LOD	<LOD	21.43
8/06/2021 8:17	61.51	ppm	GW4_0.4	<LOD	<LOD	126.42	<LOD	<LOD	68.08	<LOD	17.29	8.99
8/06/2021 8:19	61.85	ppm	GW4_0.5	936.29	<LOD	89.85	<LOD	<LOD	74.23	<LOD	<LOD	20.05
8/06/2021 8:20	65.48	ppm	GW4_1.0	880.33	<LOD	26.86	<LOD	<LOD	79.25	<LOD	46.17	17.97
8/06/2021 8:22	62.3	ppm	GW4_2.0	618.35	<LOD	102.85	<LOD	90.53	57.69	109.07	<LOD	24.75
8/06/2021 9:13	62.15	ppm	GW5_0.0	<LOD	<LOD	63.96	<LOD	<LOD	57.57	<LOD	<LOD	24.86
8/06/2021 9:14	61.79	ppm	GW5_0.1	1830.54	<LOD	139.16	<LOD	150.72	59.45	181.59	<LOD	14.74
8/06/2021 9:19	61.88	ppm	GW5_0.2	<LOD	<LOD	144.79	<LOD	113.86	72.46	137.18	<LOD	13.94
8/06/2021 9:20	61.76	ppm	GW5_0.3	745.90	<LOD	95.49	<LOD	75.63	47.80	91.12	<LOD	23.18
8/06/2021 9:22	61.8	ppm	GW5_0.4	<LOD	<LOD	98.93	<LOD	<LOD	55.50	<LOD	<LOD	11.74
8/06/2021 9:24	80.71	ppm	GW5_0.5	546.92	<LOD	10.34	<LOD	<LOD	71.73	<LOD	<LOD	22.68
8/06/2021 9:25	61.79	ppm	GW5_1.0	757.04	<LOD	87.82	<LOD	100.60	50.38	121.20	34.17	16.89
8/06/2021 9:51	61.71	ppm	SiO2	<LOD	<LOD	100.88	<LOD	<LOD	18.36	<LOD	<LOD	11.01
8/06/2021 9:55	30	ppm	RCRA	NC	-	-	NC	<LOD	121.11	<LOD	-	-
8/06/2021 9:56	62.23	ppm	RCRA	<LOD	601.36	156.14	724.53	207.60	100.31	250.12	495.49	26.86
8/06/2021 10:04	62.28	ppm	D2	<LOD	<LOD	85.25	<LOD	<LOD	65.18	<LOD	<LOD	17.07
8/06/2021 10:05	61.74	ppm	GW6_0.0	<LOD	<LOD	98.74	<LOD	<LOD	64.65	<LOD	<LOD	17.31
8/06/2021 10:11	61.88	ppm	GW6_0.1	915.30	<LOD	103.59	<LOD	<LOD	72.70	<LOD	<LOD	17.77
8/06/2021 10:13	60.96	ppm	GW6_0.2	<LOD	<LOD	136.43	<LOD	<LOD	67.02	<LOD	<LOD	17.65
8/06/2021 10:14	61.3	ppm	GW6_0.3	1837.51	<LOD	254.88	<LOD	<LOD	50.33	<LOD	<LOD	10.13
8/06/2021 10:16	70.43	ppm	GW6_0.4	714.02	<LOD	15.14	<LOD	57.04	37.90	68.72	<LOD	19.38
8/06/2021 10:18	74.28	ppm	GW6_0.5	676.12	<LOD	13.65	<LOD	205.49	62.03	247.58	23.87	15.54
8/06/2021 10:20	61.98	ppm	GW6_1.0	1366.36	<LOD	153.84	<LOD	120.27	58.69	144.90	<LOD	14.39
8/06/2021 11:33	61.81	ppm	GW7_0.00	<LOD	<LOD	78.28	<LOD	101.05	53.14	121.75	<LOD	23.89
8/06/2021 11:56	61.46	ppm	GW7_0.1	1900.31	<LOD	161.34	<LOD	<LOD	123.21	<LOD	130.51	20.65
8/06/2021 12:00	62.24	ppm	GW7_0.2	885.03	<LOD	99.08	<LOD	<LOD	126.00	<LOD	101.31	18.12
8/06/2021 12:06	61.24	ppm	GW7_0.3	<LOD	<LOD	138.53	<LOD	<LOD	119.38	<LOD	98.70	19.30
8/06/2021 12:07	61.12	ppm	GW7_0.4	1931.60	<LOD	209.38	<LOD	<LOD	126.07	<LOD	119.59	19.12
8/06/2021 12:08	41.19	ppm	GW7_0.3	NC	-	-	NC	143.10	94.85	172.41	146.36	35.36
8/06/2021 12:09	64.87	ppm	GW7_0.4	1387.25	<LOD	40.76	<LOD	214.17	109.40	258.04	198.26	23.78
8/06/2021 12:11	61.83	ppm	GW7_1.0	1118.30	<LOD	119.90	<LOD	<LOD	91.85	<LOD	57.47	15.29
8/06/2021 12:13	61.67	ppm	GW7_2.0	1513.17	<LOD	137.39	<LOD	<LOD	153.88	<LOD	139.89	21.97

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	2093.34	<LOD	135.46	<LOD	<LOD	150.78	<LOD	95.48	22.51
8/06/2021 12:16	61.51	ppm	GW7_5.0	6014.57	<LOD	179.12	<LOD	<LOD	141.90	<LOD	244.17	26.25
8/06/2021 12:36	61.77	ppm	SiO2	<LOD	<LOD	94.56	<LOD	<LOD	18.30	<LOD	<LOD	11.73
8/06/2021 12:37	61.84	ppm	RCRA	968.41	521.98	152.19	628.89	189.58	101.34	228.41	517.10	27.20
8/06/2021 14:21	61.47	ppm	GW8_0.0	<LOD	<LOD	119.91	<LOD	<LOD	85.32	<LOD	<LOD	24.69
8/06/2021 14:37	0.15	ppm	GW8_0.0	NC	-	-	NC	<LOD	60.85	<LOD	-	-
8/06/2021 15:02	61.45	ppm	GW8_0.1	1679.12	<LOD	101.35	<LOD	183.19	92.70	220.71	26.39	16.06
8/06/2021 15:03	61.03	ppm	GW8_0.2	3338.41	<LOD	278.19	<LOD	131.50	87.43	158.43	40.33	18.63
8/06/2021 15:05	61.09	ppm	GW8_0.3	1423.60	<LOD	140.11	<LOD	155.14	75.65	186.92	<LOD	25.30
8/06/2021 15:06	61.68	ppm	GW8_0.4	1849.24	<LOD	96.62	<LOD	238.67	96.78	287.55	<LOD	25.05
8/06/2021 15:07	62.15	ppm	GW8_0.5	2196.00	<LOD	114.85	<LOD	<LOD	112.86	<LOD	<LOD	28.22
8/06/2021 15:09	62.56	ppm	GW8_1.0	1131.00	<LOD	105.78	<LOD	195.07	89.08	235.02	30.68	15.86
8/06/2021 15:13	61.78	ppm	GW8_2.0	940.93	<LOD	106.47	<LOD	<LOD	122.41	<LOD	<LOD	19.73
8/06/2021 15:14	62.22	ppm	D3	1092.35	<LOD	108.57	<LOD	175.79	89.39	211.80	<LOD	29.20
8/06/2021 15:16	61.01	ppm	GW8_5.0	6135.84	<LOD	330.72	<LOD	276.39	98.16	333.00	58.40	18.53
9/06/2021 7:45	53.9	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:46	53.54	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:50	62.07	ppm	SiO2	<LOD	<LOD	81.00	<LOD	<LOD	19.29	<LOD	<LOD	11.85
9/06/2021 7:52	61.73	ppm	RCRA	<LOD	353.22	127.55	425.57	244.24	100.72	294.27	475.96	26.69
9/06/2021 7:59	61.51	ppm	GW10_0.0	<LOD	<LOD	100.15	<LOD	<LOD	66.98	<LOD	<LOD	22.87
9/06/2021 8:10	61.66	ppm	GW10_0.1	1257.28	<LOD	121.04	<LOD	73.95	49.18	89.10	<LOD	15.74
9/06/2021 8:12	66.09	ppm	GW10_0.2	696.41	<LOD	25.67	<LOD	<LOD	85.56	<LOD	<LOD	19.94
9/06/2021 8:13	34.99	ppm	GW10_0.3	NC	-	-	NC	<LOD	77.75	<LOD	<LOD	66.58
9/06/2021 8:21	65.81	ppm	GW10_0.4	372.87	<LOD	25.77	<LOD	<LOD	81.65	<LOD	<LOD	20.36
9/06/2021 8:23	62.2	ppm	GW10_0.5	809.59	<LOD	106.11	<LOD	<LOD	80.07	<LOD	<LOD	19.83
9/06/2021 8:24	61.66	ppm	GW10_1.0	764.96	<LOD	98.57	<LOD	<LOD	74.08	<LOD	<LOD	20.44
9/06/2021 8:26	61.56	ppm	GW10_2.0	<LOD	<LOD	98.20	<LOD	<LOD	102.29	<LOD	<LOD	25.68
9/06/2021 8:27	61.17	ppm	GW10_4.0	1182.31	<LOD	132.21	<LOD	186.12	80.94	224.24	110.18	20.66
9/06/2021 11:18	61.42	ppm	GW9_0.0	<LOD	<LOD	171.18	<LOD	<LOD	72.67	<LOD	<LOD	16.39
9/06/2021 11:25	61.58	ppm	GW9_0.1	<LOD	<LOD	93.23	<LOD	<LOD	101.31	<LOD	<LOD	23.35
9/06/2021 11:27	61.71	ppm	GW9_0.2	<LOD	<LOD	101.13	<LOD	<LOD	102.13	<LOD	<LOD	22.70
9/06/2021 11:41	64.9	ppm	GW9_0.3	873.83	<LOD	32.71	<LOD	<LOD	99.57	<LOD	<LOD	23.35
9/06/2021 11:42	62.1	ppm	GW9_0.4	<LOD	<LOD	94.76	<LOD	<LOD	98.25	<LOD	<LOD	24.78
9/06/2021 11:44	61.49	ppm	GW9_0.5	1629.78	<LOD	179.23	<LOD	<LOD	98.33	<LOD	<LOD	17.34
9/06/2021 11:45	61.63	ppm	GW9_1.0	<LOD	<LOD	87.11	<LOD	<LOD	95.74	<LOD	<LOD	22.82
9/06/2021 12:01	61.32	ppm	SiO2	<LOD	<LOD	89.07	<LOD	<LOD	18.95	<LOD	<LOD	11.49
9/06/2021 12:51	63.56	ppm	RCRA	623.18	533.83	76.07	643.17	196.27	101.77	236.47	498.60	26.86
10/06/2021 7:32	61.73	ppm	SiO2	<LOD	<LOD	99.95	<LOD	<LOD	20.18	<LOD	<LOD	11.65
10/06/2021 7:34	61.78	ppm	RCRA	<LOD	663.61	198.11	799.53	165.61	100.24	199.53	461.18	26.04
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	<LOD	<LOD	23.09	<LOD	<LOD	75.07	<LOD	20.96	2.93
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	<LOD	<LOD	66.43	<LOD	<LOD	59.40	<LOD	<LOD	24.44
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	1542.71	<LOD	122.20	<LOD	<LOD	153.80	<LOD	<LOD	33.64
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	<LOD	<LOD	127.37	<LOD	157.21	60.98	189.41	<LOD	23.63
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	<LOD	<LOD	142.29	<LOD	473.42	143.60	570.39	<LOD	25.33
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	1221.28	<LOD	119.74	<LOD	<LOD	103.97	<LOD	42.15	16.76
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	1027.90	<LOD	117.12	<LOD	136.56	76.32	175.08	<LOD	23.60
10/06/2021 9:05	63.11	ppm	D4	1005.08	<LOD	60.36	<LOD	120.13	69.99	144.73	<LOD	28.18
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	NC	-	-	NC	<LOD	63.12	<LOD	-	-
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	881.41	<LOD	120.50	<LOD	202.78	97.28	244.31	<LOD	24.12
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	1142.43	<LOD	84.40	<LOD	<LOD	122.68	<LOD	<LOD	30.31
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	1064.65	<LOD	125.50	<LOD	<LOD	121.58	<LOD	<LOD	25.59
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	1904.98	<LOD	171.08	<LOD	<LOD	82.69	<LOD	<LOD	15.88
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	<LOD	<LOD	98.56	<LOD	<LOD	99.18	<LOD	<LOD	29.21
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	1639.70	<LOD	165.35	<LOD	259.47	97.85	312.61	29.97	18.30
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	2710.29	<LOD	128.48	<LOD	<LOD	110.37	<LOD	<LOD	26.00
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	845.70	<LOD	115.01	<LOD	157.93	52.96	190.28	45.83	13.59
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	<LOD	<LOD	148.74	<LOD	226.63	90.85	273.05	64.87	17.61
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	3271.76	<LOD	226.84	<LOD	<LOD	231.57	<LOD	<LOD	23.63
10/06/2021 9:41	61.9	ppm	D5	1841.64	<LOD	194.09	<LOD	<LOD	230.81	<LOD	<LOD	23.62
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	8364.55	<LOD	171.74	<LOD	<LOD	204.70	<LOD	<LOD	23.44
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	2508.92	<LOD	119.96	<LOD	361.89	185.37	436.01	<LOD	44.12
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	755.94	<LOD	41.56	<LOD	<LOD	76.00	<LOD	24.34	14.80
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	<LOD	<LOD	123.01	<LOD	161.12	76.98	194.12	<LOD	14.85
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	<LOD	<LOD	92.60	<LOD	119.99	52.76	144.57	<LOD	27.02
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	<LOD	<LOD	127.36	<LOD	<LOD	79.87	<LOD	<LOD	24.15
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	<LOD	<LOD	90.62	<LOD	<LOD	111.27	<LOD	51.44	20.75
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	<LOD	<LOD	97.82	<LOD	<LOD	66.98	<LOD	20.10	11.54
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	<LOD	<LOD	184.93	<LOD	<LOD	138.30	<LOD	41.95	12.46
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	713.24	<LOD	11.39	<LOD	<LOD	88.55	<LOD	<LOD	26.47
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	<LOD	<LOD	75.64	<LOD	<LOD	64.54	<LOD	<LOD	21.45
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	<LOD	<LOD	122.45	<LOD	<LOD	61.63	<LOD	<LOD	18.24
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	<LOD	<LOD	84.41	<LOD	<LOD	76.24	<LOD	35.32	15.22
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	<LOD	<LOD	89.82	<LOD	<LOD	85.22	<LOD	30.40	15.72
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	<LOD	<LOD	79.25	<LOD	<LOD	72.48	<LOD	<LOD	21.63
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	1044.81	<LOD	147.58	<LOD	138.78	74.63	167.20	<LOD	20.63
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	9752.58	<LOD	247.40	<LOD	1411.43	560.51	1700.52	<LOD	60.51
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	887.35	<LOD	90.38	<LOD	<LOD	87.84	<LOD	<LOD	33.25
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	<LOD	<LOD	122.04	<LOD	<LOD	125.00	<LOD	52.42	8.67
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	1231.29	<LOD	74.97	<LOD	228.91	80.00	275.80	<LOD	23.06
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	2114.31	<LOD	120.72	<LOD	<LOD	92.63	<LOD	<LOD	20.23

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	<LOD	<LOD	133.02	<LOD	<LOD	65.70	<LOD	<LOD	20.86
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	<LOD	<LOD	102.67	<LOD	<LOD	85.52	<LOD	<LOD	19.88
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	<LOD	<LOD	89.31	<LOD	<LOD	89.78	<LOD	<LOD	21.53
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	1135.25	<LOD	84.83	<LOD	<LOD	92.35	<LOD	<LOD	26.59
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	1483.72	<LOD	106.91	<LOD	<LOD	110.46	<LOD	<LOD	19.26
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	2592.45	<LOD	97.08	<LOD	<LOD	130.74	<LOD	<LOD	21.08
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	<LOD	<LOD	112.21	<LOD	<LOD	87.21	<LOD	25.52	15.16
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	<LOD	<LOD	106.54	<LOD	<LOD	92.29	<LOD	77.80	18.09
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	297.46	<LOD	18.03	<LOD	107.66	44.42	129.71	<LOD	14.44
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	<LOD	<LOD	130.24	<LOD	<LOD	70.40	<LOD	<LOD	20.52
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	568.49	<LOD	30.02	<LOD	<LOD	75.44	<LOD	<LOD	25.43
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	977.25	<LOD	136.78	<LOD	<LOD	85.15	<LOD	64.61	17.15
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	<LOD	<LOD	72.70	<LOD	<LOD	60.83	<LOD	34.95	13.40
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	<LOD	<LOD	78.93	<LOD	103.26	51.79	137.68	<LOD	9.81
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	<LOD	<LOD	105.60	<LOD	<LOD	60.15	<LOD	<LOD	19.87
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	<LOD	<LOD	112.31	<LOD	<LOD	103.15	<LOD	34.58	18.25
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	<LOD	<LOD	108.57	<LOD	<LOD	71.48	<LOD	49.78	14.38
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	619.84	<LOD	74.88	<LOD	<LOD	56.80	<LOD	<LOD	19.56
10/06/2021 11:52	62.04	ppm	SiO2	<LOD	<LOD	77.88	<LOD	<LOD	19.42	<LOD	<LOD	11.28
10/06/2021 11:54	61.67	ppm	RCRA	<LOD	551.17	211.59	664.06	<LOD	148.16	<LOD	468.93	25.74
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	<LOD	<LOD	71.99	<LOD	<LOD	49.32	<LOD	<LOD	18.32
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	1435.43	<LOD	132.58	<LOD	103.18	58.15	124.31	<LOD	18.81
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	<LOD	<LOD	104.13	<LOD	<LOD	92.49	<LOD	<LOD	27.12
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	<LOD	<LOD	86.50	<LOD	<LOD	72.07	<LOD	<LOD	23.41
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	<LOD	<LOD	120.82	<LOD	<LOD	115.79	<LOD	49.06	19.71
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	<LOD	<LOD	97.42	<LOD	100.20	57.94	113.86	<LOD	15.26
10/06/2021 12:26	66.34	ppm	D6	894.88	<LOD	25.70	<LOD	<LOD	100.50	<LOD	<LOD	22.11
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	2157.82	<LOD	132.79	<LOD	<LOD	103.15	<LOD	<LOD	20.69
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	<LOD	<LOD	203.06	<LOD	132.61	86.17	159.77	<LOD	17.93
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	1568.27	<LOD	92.34	<LOD	145.52	89.52	175.33	<LOD	31.75
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	352.94	<LOD	29.48	<LOD	<LOD	67.23	<LOD	37.60	15.94
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	<LOD	<LOD	180.08	<LOD	<LOD	77.47	<LOD	34.38	16.29
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	1628.03	<LOD	200.12	<LOD	<LOD	214.11	<LOD	25.69	10.90
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	2595.04	<LOD	217.95	<LOD	<LOD	271.04	<LOD	37.84	17.10
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	<LOD	<LOD	81.91	<LOD	<LOD	66.58	<LOD	29.42	16.51
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	1444.18	<LOD	192.54	<LOD	<LOD	155.48	<LOD	31.18	11.15
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	978.14	<LOD	123.75	<LOD	<LOD	94.97	<LOD	<LOD	22.92
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	<LOD	<LOD	116.66	<LOD	<LOD	67.15	<LOD	39.62	9.59
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	<LOD	<LOD	123.98	<LOD	<LOD	81.94	<LOD	28.21	16.51
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	1569.22	<LOD	139.33	<LOD	143.26	78.88	172.60	45.68	22.22
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	1321.49	<LOD	108.74	<LOD	<LOD	83.73	<LOD	33.76	15.30
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	<LOD	<LOD	134.84	<LOD	<LOD	164.30	<LOD	56.74	17.39
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	1612.87	<LOD	78.06	<LOD	<LOD	92.08	<LOD	<LOD	22.12
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	2075.87	<LOD	138.47	<LOD	<LOD	134.22	<LOD	<LOD	18.96
10/06/2021 13:33	61.81	ppm	D7	993.19	<LOD	90.74	<LOD	136.13	76.54	164.01	<LOD	21.47
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	1513.24	<LOD	115.77	<LOD	<LOD	106.66	<LOD	<LOD	19.74
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	1505.34	<LOD	97.36	<LOD	<LOD	78.96	<LOD	<LOD	20.87
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	688.37	<LOD	42.75	<LOD	<LOD	60.58	<LOD	<LOD	14.84
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	1483.64	<LOD	253.35	<LOD	<LOD	101.78	<LOD	<LOD	17.91
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	<LOD	<LOD	143.74	<LOD	<LOD	69.11	<LOD	<LOD	20.34
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	<LOD	<LOD	123.86	<LOD	<LOD	75.42	<LOD	<LOD	18.97
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	910.67	<LOD	70.90	<LOD	78.30	48.80	94.34	<LOD	16.15
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	<LOD	<LOD	78.62	<LOD	<LOD	74.30	<LOD	<LOD	20.33
10/06/2021 14:06	64.7	ppm	D8	492.23	<LOD	32.70	<LOD	<LOD	68.57	<LOD	<LOD	20.29
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	<LOD	<LOD	327.20	<LOD	<LOD	87.77	<LOD	26.55	7.06
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	NC	-	-	NC	<LOD	57.24	<LOD	<LOD	17.83
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	<LOD	<LOD	151.69	<LOD	<LOD	74.52	<LOD	<LOD	11.02
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	<LOD	<LOD	109.28	<LOD	<LOD	60.12	<LOD	<LOD	15.87
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	<LOD	<LOD	122.84	<LOD	82.38	47.22	99.25	<LOD	20.19
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	NC	-	-	NC	<LOD	990.46	<LOD	-	-
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	<LOD	<LOD	216.57	<LOD	<LOD	83.37	<LOD	15.56	6.65
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	<LOD	<LOD	150.02	<LOD	131.42	83.53	158.34	26.54	7.80
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	1069.71	<LOD	108.63	<LOD	89.56	46.31	107.90	<LOD	14.67
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	1521.13	<LOD	149.88	<LOD	146.50	68.97	176.51	<LOD	17.61
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	1349.45	<LOD	118.93	<LOD	72.93	40.18	87.87	<LOD	17.92
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	970.51	<LOD	141.17	<LOD	<LOD	53.47	<LOD	<LOD	16.63
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	<LOD	<LOD	122.58	<LOD	<LOD	58.75	<LOD	<LOD	14.39
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	<LOD	<LOD	99.67	<LOD	<LOD	85.80	<LOD	<LOD	24.36
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	<LOD	<LOD	175.90	<LOD	<LOD	132.57	<LOD	30.37	18.22
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	<LOD	<LOD	131.10	<LOD	<LOD	92.92	<LOD	<LOD	28.71
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	1456.89	<LOD	194.06	<LOD	<LOD	87.08	<LOD	17.69	7.81
10/06/2021 15:15	60.97	ppm	SiO2	<LOD	<LOD	153.22	<LOD	<LOD	21.66	<LOD	<LOD	11.90
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	<LOD	<LOD	100.49	<LOD	<LOD	48.77	<LOD	<LOD	23.95
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	2634.29	<LOD	353.15	<LOD	179.28	74.99	216.00	80.76	18.08
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	1174.35	<LOD	114.67	<LOD	<LOD	81.34	<LOD	54.70	14.90
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	1230.12	<LOD	165.40	<LOD	121.15	65.01	145.96	46.95	14.83
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	<LOD	<LOD	124.80	<LOD	<LOD	90.38	<LOD	<LOD	13.99
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	<LOD	<LOD	79.18	<LOD	<LOD	53.33	<LOD	<LOD	19.89
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	<LOD	<LOD	158.06	<LOD	127.68	62.62	153.83	60.31	14.63
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	<LOD	<LOD	69.67	<LOD	168.08	56.31	202.51	<LOD	22.92

Client: Department of Regional NSW
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Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	<LOD	<LOD	143.25	<LOD	115.86	70.44	139.59	32.70	18.03
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	<LOD	<LOD	73.18	<LOD	<LOD	50.63	<LOD	<LOD	22.31
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	<LOD	<LOD	84.63	<LOD	90.66	50.56	103.02	<LOD	20.06
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	<LOD	<LOD	101.81	<LOD	91.21	50.93	109.89	<LOD	19.89
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	<LOD	<LOD	118.90	<LOD	104.95	57.99	126.45	<LOD	19.33
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	<LOD	<LOD	156.60	<LOD	<LOD	80.98	<LOD	<LOD	16.48
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	789.22	<LOD	100.76	<LOD	<LOD	56.05	<LOD	<LOD	18.38
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	<LOD	<LOD	159.74	<LOD	99.47	56.60	119.84	28.70	15.61
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	1050.52	<LOD	127.39	<LOD	111.51	70.38	134.35	46.74	15.10
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	984.67	<LOD	114.66	<LOD	<LOD	87.42	<LOD	24.51	12.13
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	<LOD	<LOD	228.63	<LOD	<LOD	102.85	<LOD	<LOD	22.73
1/06/2021 7:55	60.34	%	si02	NC	<LOD	0.03	<LOD	<LOD	0.06	<LOD	<LOD	0.34
1/06/2021 7:57	61.21	%	rcra	NC	0.47	0.04	0.57	0.24	0.11	0.29	<LOD	0.27
1/06/2021 8:00	60.45	ppm	rcra	NC	-	-	NC	215.15	101.54	259.22	516.48	27.28
1/06/2021 8:02	60.53	ppm	si02	NC	-	-	NC	<LOD	18.18	<LOD	<LOD	11.42
1/06/2021 8:30	60.24	ppm	R_S1B	NC	-	-	NC	<LOD	201.76	<LOD	12.40	4.22
1/06/2021 8:41	60.77	ppm	R_S2B	NC	-	-	NC	<LOD	161.06	<LOD	22.97	3.87
1/06/2021 8:45	60.37	ppm	R_S3B	NC	-	-	NC	<LOD	110.21	<LOD	27.28	5.75
1/06/2021 8:50	60.69	ppm	R_S4B	<LOD	<LOD	1138.02	<LOD	<LOD	128.40	<LOD	19.97	4.10
1/06/2021 8:55	60.63	ppm	R_S5B	NC	-	-	NC	<LOD	100.93	<LOD	20.20	6.68
1/06/2021 8:59	60.26	ppm	R_S6B	NC	-	-	NC	217.85	107.97	262.47	19.93	4.37
1/06/2021 9:14	60.48	ppm	R_S7B	NC	-	-	NC	<LOD	66.12	<LOD	<LOD	14.95
1/06/2021 9:21	60.81	ppm	R_S8B	NC	-	-	NC	115.54	67.82	139.20	13.85	7.66
1/06/2021 9:35	60.58	ppm	R_S9B	NC	-	-	NC	<LOD	83.03	<LOD	<LOD	12.50
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	NC	-	-	NC	<LOD	56.06	<LOD	<LOD	10.07
1/06/2021 10:00	60.77	ppm	rcra	NC	-	-	NC	<LOD	149.91	<LOD	514.46	27.07
1/06/2021 10:02	60.28	ppm	si02	NC	-	-	NC	<LOD	19.05	<LOD	<LOD	11.29
1/06/2021 10:21	60.35	ppm	R_S11B	NC	-	-	NC	<LOD	101.50	<LOD	15.69	4.65
1/06/2021 10:26	60.79	ppm	R_S12B	NC	-	-	NC	149.43	81.17	180.04	27.13	7.62
1/06/2021 10:35	60.67	ppm	R_S13B	NC	-	-	NC	331.25	171.81	399.10	31.28	4.49
1/06/2021 10:42	60.55	ppm	R_S14B	NC	-	-	NC	<LOD	100.93	<LOD	34.49	8.40
1/06/2021 10:51	60.75	ppm	R_S15B	<LOD	<LOD	192.51	<LOD	157.57	80.00	189.84	26.56	8.32
1/06/2021 10:59	60.43	ppm	R_S16B	NC	-	-	NC	<LOD	90.44	<LOD	23.02	11.19
1/06/2021 11:37	60.36	ppm	R_S17B	NC	-	-	NC	<LOD	40.70	<LOD	<LOD	16.66
1/06/2021 11:42	60.13	ppm	R_S18B	NC	-	-	NC	<LOD	66.18	<LOD	33.19	8.63
1/06/2021 11:50	60.22	ppm	R_S19B	NC	-	-	NC	<LOD	117.66	<LOD	<LOD	15.21
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	NC	-	-	NC	<LOD	101.86	<LOD	<LOD	15.42
1/06/2021 12:13	60.43	ppm	rcra	NC	-	-	NC	248.95	101.92	299.94	505.43	26.67
1/06/2021 12:15	60.09	ppm	si02	NC	-	-	NC	<LOD	18.07	<LOD	<LOD	11.81
1/06/2021 12:21	60.43	ppm	R_S21B	NC	-	-	NC	<LOD	82.83	<LOD	69.81	11.27
1/06/2021 12:31	60.49	ppm	-	NC	-	-	NC	<LOD	109.11	<LOD	13.20	7.86
1/06/2021 13:43	60.28	ppm	R_S23B	NC	-	-	NC	119.36	77.56	143.81	17.59	8.10
1/06/2021 13:47	60.47	ppm	R_S24B	NC	-	-	NC	<LOD	108.42	<LOD	41.45	8.42
1/06/2021 13:52	60.53	ppm	R_S25B	NC	-	-	NC	<LOD	83.86	<LOD	<LOD	9.98
1/06/2021 14:04	60.51	ppm	R_S26B	NC	-	-	NC	<LOD	90.39	<LOD	<LOD	15.91
1/06/2021 14:10	60.47	ppm	R_S27B	NC	-	-	NC	180.90	82.99	217.95	15.01	6.27
1/06/2021 14:19	60.56	ppm	R_S28B	NC	-	-	NC	133.99	72.44	161.43	50.38	8.08
1/06/2021 14:34	60.98	ppm	R_S29B	NC	-	-	NC	<LOD	80.67	<LOD	<LOD	18.11
1/06/2021 14:42	60.43	ppm	R_S30B	NC	-	-	NC	<LOD	96.61	<LOD	28.99	9.29
1/06/2021 14:47	60.54	ppm	rcra	NC	-	-	NC	<LOD	76.69	<LOD	729.84	23.02
1/06/2021 14:53	61.88	ppm	si02	<LOD	<LOD	99.90	<LOD	<LOD	17.72	<LOD	<LOD	11.31
1/06/2021 15:06	60.22	ppm	R_S31B	NC	-	-	NC	<LOD	84.44	<LOD	<LOD	16.31
1/06/2021 15:15	60.85	ppm	R_S32B	<LOD	<LOD	254.62	<LOD	<LOD	77.93	<LOD	<LOD	14.36
1/06/2021 15:18	60.47	ppm	R_S33B	NC	-	-	NC	156.16	56.99	188.14	<LOD	19.25
1/06/2021 15:26	60.49	ppm	R_S34B	NC	-	-	NC	<LOD	128.42	<LOD	9.05	5.02
1/06/2021 15:35	60.96	ppm	R_S35B	<LOD	<LOD	180.77	<LOD	<LOD	92.20	<LOD	23.50	7.50
1/06/2021 16:08	61.29	ppm	R_S36B	2052.05	<LOD	142.54	<LOD	129.37	73.12	155.87	<LOD	18.99
1/06/2021 16:12	60.69	ppm	R_S37B	NC	-	-	NC	117.49	64.44	141.55	28.47	13.10
1/06/2021 16:18	64.56	ppm	R_S38B	2847.36	<LOD	39.95	<LOD	566.68	183.06	682.75	<LOD	32.04
1/06/2021 16:27	60.83	ppm	R_S39B	NC	-	-	NC	125.94	55.79	151.73	25.27	10.87
1/06/2021 16:41	60.39	ppm	R_S40B	NC	-	-	NC	97.09	59.41	116.98	16.38	4.84
2/06/2021 8:13	60.34	ppm	rcra	NC	-	-	NC	239.59	101.75	288.66	501.66	27.00
2/06/2021 8:14	60.28	ppm	si02	NC	-	-	NC	<LOD	18.37	<LOD	<LOD	11.85
2/06/2021 8:19	60.75	ppm	R_S41B	NC	-	-	NC	<LOD	102.82	<LOD	<LOD	8.82
2/06/2021 8:28	60.46	ppm	R_S42B	NC	-	-	NC	<LOD	88.03	<LOD	37.75	13.98
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	NC	-	-	NC	<LOD	82.96	<LOD	<LOD	9.27
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	<LOD	<LOD	388.08	<LOD	<LOD	85.33	<LOD	<LOD	17.87
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	NC	-	-	NC	<LOD	70.69	<LOD	<LOD	11.13
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	NC	-	-	NC	<LOD	83.44	<LOD	<LOD	9.59
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	NC	-	-	NC	<LOD	88.64	<LOD	11.14	6.41
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	NC	-	-	NC	<LOD	78.11	<LOD	<LOD	13.11
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	NC	-	-	NC	<LOD	87.12	<LOD	<LOD	8.58
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	NC	-	-	NC	<LOD	76.02	<LOD	<LOD	16.47
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	NC	-	-	NC	<LOD	92.50	<LOD	<LOD	15.37
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	NC	-	-	NC	<LOD	126.71	<LOD	<LOD	16.42
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	NC	-	-	NC	<LOD	79.37	<LOD	<LOD	19.75
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	NC	-	-	NC	<LOD	70.72	<LOD	<LOD	14.67
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	NC	-	-	NC	195.36	70.73	235.37	11.02	6.54
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	NC	-	-	NC	<LOD	89.77	<LOD	<LOD	17.25
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	NC	-	-	NC	<LOD	82.86	<LOD	<LOD	19.90

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	NC	-	-	NC	<LOD	83.57	<LOD	<LOD	10.46
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	NC	-	-	NC	<LOD	91.12	<LOD	<LOD	11.95
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	NC	-	-	NC	136.45	74.40	164.40	<LOD	22.77
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	NC	-	-	NC	769.70	233.42	927.35	<LOD	25.06
2/06/2021 10:15	60.54	ppm	R_S49B	NC	-	-	NC	2997.72	486.92	3611.71	32.37	5.62
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	NC	-	-	NC	<LOD	76.53	<LOD	<LOD	18.18
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	NC	-	-	NC	<LOD	90.66	<LOD	<LOD	9.23
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	NC	-	-	NC	<LOD	261.60	<LOD	-	-
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	NC	-	-	NC	127.73	60.68	153.89	<LOD	16.96
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	NC	-	-	NC	<LOD	81.86	<LOD	<LOD	18.71
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	NC	-	-	NC	<LOD	74.27	<LOD	<LOD	18.67
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	<LOD	<LOD	268.21	<LOD	<LOD	95.09	<LOD	<LOD	10.70
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	NC	-	-	NC	<LOD	81.53	<LOD	<LOD	16.26
2/06/2021 11:16	60.18	ppm	rcra	NC	-	-	NC	223.76	101.07	269.59	511.16	27.26
2/06/2021 11:17	60.54	ppm	si02	NC	-	-	NC	<LOD	17.45	<LOD	<LOD	11.35
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	NC	-	-	NC	87.34	56.88	105.23	<LOD	18.95
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	NC	-	-	NC	<LOD	92.66	<LOD	<LOD	22.18
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	NC	-	-	NC	125.96	63.17	151.76	36.14	15.76
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	NC	-	-	NC	200.11	70.86	241.10	<LOD	18.82
2/06/2021 11:47	60.85	ppm	R_S53_0.0	<LOD	<LOD	237.43	<LOD	<LOD	83.44	<LOD	<LOD	20.13
2/06/2021 11:53	60.45	ppm	R_S53_0.1	NC	-	-	NC	<LOD	91.06	<LOD	32.91	8.62
2/06/2021 11:56	60.18	ppm	R_S53_0.25	NC	-	-	NC	210.56	73.92	253.69	59.09	16.90
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	NC	-	-	NC	<LOD	92.80	<LOD	30.13	6.24
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	NC	-	-	NC	<LOD	163.47	<LOD	27.76	3.22
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	NC	-	-	NC	<LOD	92.33	<LOD	<LOD	17.00
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	NC	-	-	NC	<LOD	92.50	<LOD	21.02	5.97
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	NC	-	-	NC	<LOD	83.85	<LOD	23.68	5.15
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	NC	-	-	NC	<LOD	69.88	<LOD	<LOD	11.99
2/06/2021 13:20	53.96	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:21	53.45	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:23	60.58	ppm	rcra	NC	-	-	NC	157.81	101.07	190.13	485.38	26.74
2/06/2021 13:24	60.64	ppm	si02	NC	-	-	NC	<LOD	17.92	<LOD	<LOD	11.05
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	NC	-	-	NC	<LOD	144.37	<LOD	25.58	15.87
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	NC	-	-	NC	<LOD	128.16	<LOD	<LOD	25.83
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	NC	-	-	NC	184.33	88.67	222.08	<LOD	26.26
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	NC	-	-	NC	<LOD	111.42	<LOD	<LOD	22.13
2/06/2021 13:49	60.83	ppm	R_S57_0.0	NC	-	-	NC	<LOD	99.87	<LOD	<LOD	16.97
2/06/2021 13:53	60.6	ppm	R_S57_0.1	NC	-	-	NC	124.51	72.05	150.01	<LOD	19.36
2/06/2021 13:59	60.67	ppm	R_S57_0.25	NC	-	-	NC	<LOD	183.06	<LOD	51.75	19.06
2/06/2021 14:04	60.78	ppm	R_S58_0.0	NC	-	-	NC	<LOD	107.60	<LOD	<LOD	21.05
2/06/2021 14:07	60.74	ppm	R_S58_0.1	NC	-	-	NC	<LOD	111.37	<LOD	37.42	17.61
2/06/2021 14:15	60.39	ppm	R_S58_0.25	NC	-	-	NC	<LOD	110.67	<LOD	25.25	16.49
2/06/2021 14:22	60.74	ppm	R_S59_0.0	NC	-	-	NC	<LOD	111.37	<LOD	<LOD	24.21
2/06/2021 14:25	60.51	ppm	R_S59_0.1	NC	-	-	NC	<LOD	118.84	<LOD	24.57	13.05
2/06/2021 14:31	60.71	ppm	R_S59_0.25	NC	-	-	NC	172.05	87.16	207.29	19.94	10.97
2/06/2021 14:39	60.54	ppm	R_S60_0.0	NC	-	-	NC	<LOD	106.07	<LOD	<LOD	25.34
2/06/2021 14:42	60.67	ppm	R_S60_0.1	NC	-	-	NC	<LOD	86.58	<LOD	<LOD	18.14
2/06/2021 14:47	60.2	ppm	R_S60_0.25	NC	-	-	NC	132.04	75.49	159.08	<LOD	20.92
2/06/2021 15:21	60.76	ppm	rcra	NC	-	-	NC	248.22	101.83	299.06	492.63	26.85
2/06/2021 15:23	60.22	ppm	si02	NC	-	-	NC	<LOD	19.13	<LOD	<LOD	11.59
2/06/2021 15:24	56.44	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:26	56.22	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:28	60.82	ppm	R_61B_0.0	NC	-	-	NC	<LOD	128.44	<LOD	<LOD	23.73
2/06/2021 15:32	60.08	ppm	R_61B_0.1	NC	-	-	NC	<LOD	117.45	<LOD	19.74	12.82
2/06/2021 15:36	60.45	ppm	R_61B_0.2	NC	-	-	NC	<LOD	211.16	<LOD	<LOD	33.64
2/06/2021 15:45	60.65	ppm	R_62B_0.0	NC	-	-	NC	<LOD	98.00	<LOD	<LOD	17.59
2/06/2021 15:48	60.26	ppm	R_62B_0.1	NC	-	-	NC	<LOD	103.44	<LOD	<LOD	13.55
2/06/2021 15:54	60.82	ppm	R_62B_0.15	NC	-	-	NC	403.58	163.17	486.24	38.72	9.50
2/06/2021 15:58	60.81	ppm	R_63B_0.0	NC	-	-	NC	<LOD	80.32	<LOD	35.05	15.06
2/06/2021 16:01	60.13	ppm	R_63B_0.1	NC	-	-	NC	<LOD	68.52	<LOD	53.01	14.84
2/06/2021 16:07	60.69	ppm	R_63B_0.2	NC	-	-	NC	<LOD	199.87	<LOD	31.90	6.58
2/06/2021 16:14	60.27	ppm	sio2	NC	-	-	NC	<LOD	17.87	<LOD	<LOD	11.35
2/06/2021 16:16	60.2	ppm	rcra	NC	-	-	NC	194.55	99.10	234.40	496.07	27.05
2/06/2021 16:17	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:19	53.65	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:20	60.2	ppm	R_64B_0.0	NC	-	-	NC	<LOD	114.95	<LOD	<LOD	16.53
2/06/2021 16:22	60.75	ppm	R_64B_0.1	NC	-	-	NC	<LOD	93.33	<LOD	<LOD	20.17
2/06/2021 16:28	60.27	ppm	R_64B_0.22	NC	-	-	NC	261.83	142.35	315.46	<LOD	30.91
4/06/2021 8:58	46.39	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 8:59	55.93	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 9:01	61.12	ppm	R_S65b_0m	<LOD	<LOD	479.57	<LOD	<LOD	100.35	<LOD	12.19	4.41
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	<LOD	<LOD	150.77	<LOD	<LOD	112.85	<LOD	26.51	6.64
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	<LOD	<LOD	130.31	<LOD	<LOD	109.84	<LOD	<LOD	17.75
4/06/2021 9:23	62.06	ppm	R_S66b_0m	1255.45	<LOD	133.27	<LOD	194.26	117.38	234.05	24.20	16.04
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	<LOD	<LOD	332.92	<LOD	<LOD	100.51	<LOD	21.20	7.66
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	<LOD	<LOD	174.20	<LOD	<LOD	99.04	<LOD	<LOD	18.24
4/06/2021 9:37	60.5	ppm	R_S67b_0m	<LOD	<LOD	259.45	<LOD	<LOD	125.93	<LOD	22.47	9.33
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	<LOD	<LOD	131.91	<LOD	<LOD	127.74	<LOD	<LOD	18.84
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	<LOD	<LOD	202.91	<LOD	<LOD	150.24	<LOD	19.55	7.24
4/06/2021 9:53	60.65	ppm	SiO2	<LOD	<LOD	147.64	<LOD	<LOD	18.61	<LOD	<LOD	11.31

Client: Department of Regional NSW
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Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	<LOD	364.85	123.74	439.58	256.83	100.58	309.43	508.52	27.41
4/06/2021 10:17	62.12	ppm	R_S68b_0m	<LOD	<LOD	100.27	<LOD	117.11	63.67	141.10	30.87	8.15
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	<LOD	<LOD	309.94	<LOD	<LOD	196.55	<LOD	31.27	3.09
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	<LOD	<LOD	132.32	<LOD	142.80	77.83	162.27	46.90	12.80
4/06/2021 10:34	62.27	ppm	R_S69b_0m	<LOD	<LOD	92.54	<LOD	<LOD	73.47	<LOD	<LOD	16.04
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	<LOD	<LOD	145.33	<LOD	216.66	64.10	261.04	<LOD	12.04
4/06/2021 10:40	61.98	ppm	R_S70b_0m	<LOD	<LOD	161.56	<LOD	<LOD	65.24	<LOD	6.15	4.00
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	<LOD	<LOD	169.39	<LOD	<LOD	60.21	<LOD	<LOD	10.35
4/06/2021 10:45	58.8	cps	-	<LOD	<LOD	169.39	<LOD	-	-	NC	-	-
4/06/2021 10:46	50.97	cps	-	<LOD	<LOD	169.39	<LOD	-	-	NC	-	-
4/06/2021 10:48	61.94	ppm	SiO2	<LOD	<LOD	97.70	<LOD	<LOD	18.71	<LOD	<LOD	11.57
4/06/2021 10:49	62.11	ppm	RCRA	<LOD	338.05	115.46	407.29	<LOD	150.26	<LOD	478.61	26.07
4/06/2021 11:09	61.73	ppm	R_S71b_0m	<LOD	<LOD	130.65	<LOD	69.71	42.07	83.99	<LOD	14.04
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	<LOD	<LOD	112.12	<LOD	<LOD	82.54	<LOD	8.09	5.32
4/06/2021 11:15	61.05	ppm	R_S72b_0m	<LOD	<LOD	218.17	<LOD	<LOD	72.83	<LOD	<LOD	10.73
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	<LOD	<LOD	53.04	<LOD	72.06	45.50	86.82	14.30	5.57
4/06/2021 11:23	61.74	ppm	R_S73b_0m	<LOD	<LOD	98.13	<LOD	<LOD	65.47	<LOD	<LOD	18.96
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	<LOD	<LOD	95.05	<LOD	<LOD	62.03	<LOD	<LOD	12.49
4/06/2021 11:31	61.9	ppm	SiO2	<LOD	<LOD	118.76	<LOD	<LOD	19.15	<LOD	<LOD	11.12
4/06/2021 11:33	61.96	ppm	RCRA	<LOD	350.86	132.09	422.72	<LOD	152.22	<LOD	496.67	27.10
4/06/2021 11:35	54.1	cps	-	<LOD	350.86	132.09	422.72	-	-	NC	-	-
4/06/2021 11:37	53.49	cps	-	<LOD	350.86	132.09	422.72	-	-	NC	-	-
4/06/2021 11:45	60.98	ppm	R_S74b_0m	<LOD	<LOD	196.88	<LOD	<LOD	40.96	<LOD	<LOD	8.49
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	<LOD	<LOD	93.30	<LOD	<LOD	71.51	<LOD	31.19	12.65
4/06/2021 11:51	60.99	ppm	R_S75b_0m	<LOD	<LOD	269.13	<LOD	108.64	66.27	130.89	<LOD	17.59
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	<LOD	<LOD	284.96	<LOD	<LOD	160.20	<LOD	25.24	3.48
4/06/2021 11:58	61.97	ppm	R_S76b_0m	<LOD	<LOD	288.38	<LOD	<LOD	186.43	<LOD	29.47	3.12
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	<LOD	<LOD	135.56	<LOD	155.71	69.60	187.60	29.75	8.89
4/06/2021 12:07	61.84	ppm	SiO2	<LOD	<LOD	110.52	<LOD	<LOD	18.00	<LOD	<LOD	11.13
4/06/2021 12:09	60.85	ppm	RCRA	<LOD	519.60	243.43	626.02	197.48	100.49	237.93	483.12	26.66
4/06/2021 12:22	61.31	ppm	R_S77b_0m	<LOD	<LOD	141.80	<LOD	51.97	33.38	62.61	47.62	10.81
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	<LOD	<LOD	173.26	<LOD	<LOD	74.76	<LOD	9.99	5.99
4/06/2021 12:27	61.26	ppm	R_S78b_0m	<LOD	<LOD	131.49	<LOD	<LOD	64.46	<LOD	<LOD	16.30
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	1519.23	<LOD	236.12	<LOD	<LOD	63.02	<LOD	13.46	5.87
31/05/2021 14:11	62.07	%	test	NC	<LOD	0.17	<LOD	<LOD	0.59	<LOD	<LOD	0.72
31/05/2021 14:55	60.27	%	R_S1a	NC	<LOD	0.05	<LOD	<LOD	0.30	<LOD	<LOD	0.12
31/05/2021 14:56	1.23	%	R_S1a	NC	<LOD	1.16	<LOD	<LOD	0.23	<LOD	<LOD	0.53
31/05/2021 14:56	0.7	ppm	-	NC	-	-	NC	2.36	0.65	2.84	-	-
31/05/2021 14:56	0.41	ppm	-	NC	-	-	NC	2.36	0.10	2.84	-	-
31/05/2021 14:59	60.2	ppm	R_S1a	NC	-	-	NC	<LOD	133.46	<LOD	-	-
31/05/2021 15:05	60.12	ppm	R_S2a	NC	-	-	NC	<LOD	62.89	<LOD	-	-
31/05/2021 15:24	60.96	ppm	R_S4a	NC	-	-	NC	<LOD	83.40	<LOD	<LOD	165.27
31/05/2021 15:34	0.15	ppm	R_S6a	NC	-	-	NC	2.36	0.10	2.84	-	-
31/05/2021 15:35	60.18	ppm	R_S6a	NC	-	-	NC	<LOD	111.76	<LOD	-	-
31/05/2021 15:40	60.2	ppm	R_S5a	NC	-	-	NC	130.32	49.55	157.01	-	-
31/05/2021 15:51	60.25	ppm	R_S7a	NC	-	-	NC	<LOD	118.31	<LOD	-	-
31/05/2021 16:08	60.21	ppm	R_S8a	NC	-	-	NC	<LOD	452.25	<LOD	-	-
31/05/2021 16:19	60.18	ppm	R_S9a	NC	-	-	NC	<LOD	129.92	<LOD	-	-
1/06/2021 7:47	60.19	ppm	SiO2	NC	-	-	NC	<LOD	34.86	<LOD	-	-
1/06/2021 7:50	60.18	ppm	RCRA	NC	-	-	NC	<LOD	68.06	<LOD	-	-
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	NC	-	-	NC	<LOD	78.20	<LOD	-	-
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	NC	-	-	NC	<LOD	24024.99	<LOD	-	-
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	NC	-	-	NC	<LOD	105.65	<LOD	-	-
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	NC	-	-	NC	<LOD	73.78	<LOD	-	-
1/06/2021 8:29	60.23	ppm	R_S11a	NC	-	-	NC	329.72	125.75	397.25	-	-
1/06/2021 8:33	60.2	ppm	R_S12a	NC	-	-	NC	<LOD	102.57	<LOD	-	-
1/06/2021 8:53	0.72	ppm	R_S13a	NC	-	-	NC	<LOD	6209.18	<LOD	-	-
1/06/2021 8:54	60.18	ppm	R_S13a	NC	-	-	NC	138.82	86.93	167.25	-	-
1/06/2021 8:59	60.66	ppm	R_S14a	NC	-	-	NC	<LOD	105.19	<LOD	<LOD	54.71
1/06/2021 9:02	61.21	ppm	R_S15a	NC	-	-	NC	101.70	63.26	122.53	<LOD	189.12
1/06/2021 9:08	60.33	ppm	R_S16a	NC	-	-	NC	<LOD	107.36	<LOD	<LOD	99.51
1/06/2021 9:14	60.19	ppm	R_S17a	NC	-	-	NC	<LOD	89.37	<LOD	-	-
1/06/2021 9:21	60.17	ppm	R_S18a	NC	-	-	NC	86.53	49.11	104.25	-	-
1/06/2021 9:26	60.19	ppm	R_S19a	NC	-	-	NC	110.97	61.97	133.70	-	-
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	NC	-	-	NC	<LOD	83.85	<LOD	-	-
1/06/2021 9:52	60.14	ppm	SiO2	NC	-	-	NC	<LOD	17.31	<LOD	-	-
1/06/2021 9:56	60.16	ppm	RCRA	NC	-	-	NC	160.73	89.14	193.65	-	-
1/06/2021 10:09	60.25	ppm	R_S21a	NC	-	-	NC	<LOD	64.69	<LOD	-	-
1/06/2021 10:15	60.21	ppm	R_S22a	NC	-	-	NC	<LOD	63.22	<LOD	-	-
1/06/2021 10:21	60.21	ppm	R_S23a	NC	-	-	NC	<LOD	82.37	<LOD	-	-
1/06/2021 10:27	60.16	ppm	R_S24a	NC	-	-	NC	<LOD	76.30	<LOD	-	-
1/06/2021 10:33	60.16	ppm	R_S25a	NC	-	-	NC	129.95	45.06	156.57	-	-
1/06/2021 11:38	60.17	ppm	R_S26a	NC	-	-	NC	<LOD	135.86	<LOD	-	-
1/06/2021 11:59	60.12	ppm	R_S27a	NC	-	-	NC	<LOD	78.94	<LOD	-	-
1/06/2021 12:12	60.19	ppm	R_S28a	NC	-	-	NC	<LOD	81.70	<LOD	-	-
1/06/2021 12:26	60.11	ppm	R_S29a	NC	-	-	NC	<LOD	94.92	<LOD	-	-
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	NC	-	-	NC	<LOD	52.50	<LOD	-	-
1/06/2021 12:39	60.01	ppm	SiO2	NC	-	-	NC	<LOD	16.48	<LOD	-	-
1/06/2021 12:41	60.23	ppm	RCRA	NC	-	-	NC	<LOD	67.74	<LOD	<LOD	665.54
1/06/2021 13:28	60.17	ppm	R_S31a	NC	-	-	NC	<LOD	86.89	<LOD	-	-

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

1/06/2021 13:33	60.16	ppm	R_S32a	NC	-	-	NC	<LOD	74.05	<LOD	-	-
1/06/2021 13:37	60.17	ppm	R_S33a	NC	-	-	NC	<LOD	77.12	<LOD	-	-
1/06/2021 13:49	60.19	ppm	R_S34a	NC	-	-	NC	300.45	86.81	361.99	-	-
1/06/2021 13:54	60.19	ppm	R_S35a	NC	-	-	NC	154.74	65.63	186.43	-	-
1/06/2021 13:59	60.21	ppm	R_S36a	NC	-	-	NC	<LOD	74.86	<LOD	-	-
1/06/2021 14:05	60.18	ppm	R_S37a	NC	-	-	NC	<LOD	68.70	<LOD	-	-
1/06/2021 14:18	60.21	ppm	R_S38a	NC	-	-	NC	<LOD	62.74	<LOD	-	-
1/06/2021 14:22	60.2	ppm	R_S39a	NC	-	-	NC	88.56	42.92	106.70	-	-
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	NC	-	-	NC	100.01	40.03	120.49	<LOD	74.92
1/06/2021 14:42	60.99	ppm	SiO2	NC	-	-	NC	<LOD	16.63	<LOD	<LOD	34.46
1/06/2021 14:44	60.66	ppm	RCRA	NC	-	-	NC	110.19	46.12	132.76	<LOD	340.86
1/06/2021 14:53	61.16	ppm	R_S41a	NC	-	-	NC	143.74	63.61	173.18	<LOD	191.67
1/06/2021 15:10	61.12	ppm	R_S42a	NC	-	-	NC	<LOD	61.08	<LOD	<LOD	116.44
1/06/2021 15:16	61.28	ppm	R_S43a	NC	-	-	NC	<LOD	48.54	<LOD	<LOD	75.25
1/06/2021 15:21	61.56	ppm	R_S44a	NC	-	-	NC	<LOD	75.39	<LOD	<LOD	123.48
1/06/2021 15:50	61.57	ppm	R_S45a	NC	-	-	NC	<LOD	21.30	<LOD	<LOD	148.54
1/06/2021 15:53	0.7	ppm	R_S46a	NC	-	-	NC	2.36	1.17	2.84	-	-
1/06/2021 15:55	61.45	ppm	R_S46a	NC	-	-	NC	<LOD	29.71	<LOD	<LOD	178.31
1/06/2021 15:59	61.58	ppm	R_S47a	NC	-	-	NC	<LOD	56.80	<LOD	<LOD	163.13
1/06/2021 16:03	61.91	ppm	R_S48a	NC	-	-	NC	<LOD	53.84	<LOD	<LOD	153.55
1/06/2021 16:09	61.32	ppm	R_S49a	NC	-	-	NC	128.87	64.51	155.27	<LOD	160.33
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	NC	-	-	NC	<LOD	461.45	<LOD	<LOD	124.28
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	NC	-	-	NC	<LOD	215.92	<LOD	<LOD	170.91
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	NC	-	-	NC	2.36	0.10	2.84	-	-
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	NC	-	-	NC	<LOD	189.06	<LOD	<LOD	226.97
2/06/2021 8:18	60.9	ppm	SiO2	NC	-	-	NC	<LOD	16.48	<LOD	<LOD	147.19
2/06/2021 8:20	61.22	ppm	RCRA	NC	-	-	NC	<LOD	67.46	<LOD	420.69	228.12
2/06/2021 8:26	61.27	ppm	R_S51a_0m	NC	-	-	NC	<LOD	118.63	<LOD	<LOD	143.11
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	NC	-	-	NC	<LOD	172.21	<LOD	<LOD	143.56
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	NC	-	-	NC	<LOD	219.01	<LOD	<LOD	178.29
2/06/2021 8:41	61.49	ppm	R_S52a_0m	NC	-	-	NC	<LOD	60.08	<LOD	<LOD	182.88
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	NC	-	-	NC	<LOD	173.72	<LOD	<LOD	126.15
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	NC	-	-	NC	<LOD	139.05	<LOD	<LOD	240.16
2/06/2021 8:59	61.13	ppm	R_S53a_0m	NC	-	-	NC	118.37	76.03	142.61	<LOD	189.18
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	NC	-	-	NC	<LOD	108.23	<LOD	<LOD	198.15
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	NC	-	-	NC	<LOD	118.93	<LOD	<LOD	92.51
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	NC	-	-	NC	<LOD	55.61	<LOD	<LOD	205.19
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	NC	-	-	NC	<LOD	99.86	<LOD	<LOD	31.16
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	NC	-	-	NC	<LOD	75.85	<LOD	<LOD	145.87
2/06/2021 9:49	60.92	ppm	SiO2	NC	-	-	NC	<LOD	16.54	<LOD	<LOD	39.60
2/06/2021 9:50	61.29	ppm	RCRA	NC	-	-	NC	<LOD	68.03	<LOD	423.54	230.79
2/06/2021 9:59	60.99	ppm	R_S55a_0m	NC	-	-	NC	<LOD	76.00	<LOD	<LOD	143.44
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	NC	-	-	NC	161.33	78.57	194.37	<LOD	90.07
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	NC	-	-	NC	99.82	56.97	120.27	<LOD	140.10
2/06/2021 10:30	61.29	ppm	R_S56a_0m	NC	-	-	NC	<LOD	61.52	<LOD	<LOD	208.50
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	NC	-	-	NC	146.88	63.36	176.96	<LOD	208.60
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	NC	-	-	NC	90.70	55.42	109.28	<LOD	136.97
2/06/2021 10:57	61.59	ppm	R_S57a_0m	NC	-	-	NC	<LOD	75.17	<LOD	<LOD	17.93
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	NC	-	-	NC	<LOD	68.62	<LOD	<LOD	182.72
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	NC	-	-	NC	102.11	57.48	123.02	<LOD	130.59
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	NC	-	-	NC	<LOD	57.38	<LOD	<LOD	170.58
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	NC	-	-	NC	<LOD	56.87	<LOD	<LOD	104.63
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	NC	-	-	NC	114.16	62.52	137.54	<LOD	18.37
2/06/2021 11:28	61.6	ppm	SiO2	NC	-	-	NC	<LOD	16.43	<LOD	<LOD	124.77
2/06/2021 11:30	60.97	ppm	RCRA	NC	-	-	NC	76.47	45.15	92.13	<LOD	339.42
2/06/2021 11:36	60.97	ppm	R_S59a_0m	NC	-	-	NC	<LOD	85.88	<LOD	<LOD	176.29
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	NC	-	-	NC	<LOD	7604.30	<LOD	-	-
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	NC	-	-	NC	<LOD	5416.70	<LOD	-	-
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	NC	-	-	NC	316.83	130.57	381.72	<LOD	72.10
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	NC	-	-	NC	889.74	263.98	1071.98	<LOD	180.98
2/06/2021 12:00	60.67	ppm	R_S60a_0m	NC	-	-	NC	<LOD	76.77	<LOD	<LOD	34.92
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	NC	-	-	NC	<LOD	89.55	<LOD	<LOD	97.22
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	NC	-	-	NC	<LOD	59.20	<LOD	<LOD	128.11
2/06/2021 13:09	61.57	ppm	R_S61a_0m	NC	-	-	NC	<LOD	70.67	<LOD	<LOD	179.81
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	NC	-	-	NC	158.83	58.13	191.36	<LOD	212.48
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	NC	-	-	NC	<LOD	86.42	<LOD	<LOD	104.54
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	NC	-	-	NC	167.13	62.15	245.78	<LOD	208.06
2/06/2021 13:32	61	ppm	R_S62a_0.1m	NC	-	-	NC	220.25	77.40	265.36	<LOD	34.13
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	NC	-	-	NC	103.88	60.91	125.16	<LOD	164.64
2/06/2021 13:43	60.61	ppm	SiO2	NC	-	-	NC	<LOD	16.82	<LOD	<LOD	222.62
2/06/2021 13:44	61.11	ppm	RCRA	NC	-	-	NC	71.65	45.45	86.33	<LOD	297.94
2/06/2021 13:50	61.44	ppm	R_S63a_0m	NC	-	-	NC	155.60	62.28	187.47	<LOD	96.56
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	NC	-	-	NC	78.39	48.13	94.45	<LOD	126.41
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	NC	-	-	NC	<LOD	89.90	<LOD	<LOD	186.12
2/06/2021 14:04	60.55	ppm	R_S64a_0m	NC	-	-	NC	89.75	44.33	108.13	<LOD	318.92
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	NC	-	-	NC	80.58	50.20	97.08	<LOD	181.42
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	NC	-	-	NC	11275.36	101.31	13584.77	<LOD	53.75
2/06/2021 14:22	62.2	ppm	R_S65a_0m	NC	-	-	NC	<LOD	60.69	<LOD	<LOD	174.46
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	NC	-	-	NC	<LOD	64.20	<LOD	<LOD	147.76
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	NC	-	-	NC	115.12	65.22	138.70	<LOD	66.25

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	NC	-	-	NC	<LOD	65.49	<LOD	<LOD	163.79
2/06/2021 14:34	62.08	ppm	R_S67a_0m	NC	-	-	NC	106.01	69.75	127.72	<LOD	112.86
2/06/2021 14:40	61.18	ppm	SiO2	NC	-	-	NC	<LOD	16.20	<LOD	<LOD	124.48
2/06/2021 14:42	61.89	ppm	RCRA	NC	-	-	NC	<LOD	67.06	<LOD	297.45	162.17
2/06/2021 15:16	61.89	ppm	R_S68a_0m	NC	-	-	NC	206.68	128.41	249.01	<LOD	99.19
2/06/2021 15:28	61.57	ppm	R_S69a_0m	NC	-	-	NC	<LOD	145.89	<LOD	<LOD	132.05
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	NC	-	-	NC	<LOD	219.36	<LOD	<LOD	107.91
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	NC	-	-	NC	<LOD	83.92	<LOD	<LOD	121.52
2/06/2021 15:42	62.1	ppm	R_S70a_0m	NC	-	-	NC	<LOD	179.60	<LOD	<LOD	131.39
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	NC	-	-	NC	<LOD	271.89	<LOD	<LOD	113.83
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	NC	-	-	NC	<LOD	98.76	<LOD	<LOD	184.05
2/06/2021 16:01	62.18	ppm	R_S71a_0m	NC	-	-	NC	<LOD	118.22	<LOD	<LOD	158.28
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	NC	-	-	NC	191.67	112.13	230.93	<LOD	16.79
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	NC	-	-	NC	146.72	70.26	176.77	<LOD	173.31
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	NC	-	-	NC	<LOD	386.31	<LOD	<LOD	171.07
3/06/2021 8:25	60.77	ppm	SiO2	NC	-	-	NC	<LOD	16.27	<LOD	<LOD	35.85
3/06/2021 8:27	61.24	ppm	RCRA	NC	-	-	NC	75.53	45.29	91.00	<LOD	296.26
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	NC	-	-	NC	318.17	132.84	383.34	<LOD	123.29
3/06/2021 8:42	60.99	ppm	R_S73a_0m	NC	-	-	NC	<LOD	123.33	<LOD	<LOD	143.73
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	NC	-	-	NC	<LOD	106.02	<LOD	<LOD	116.51
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	NC	-	-	NC	<LOD	337.83	<LOD	-	-
3/06/2021 8:56	60.82	ppm	R_S74a_0m	NC	-	-	NC	<LOD	88.07	<LOD	<LOD	216.51
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	NC	-	-	NC	<LOD	114.82	<LOD	<LOD	19.32
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	NC	-	-	NC	<LOD	74.81	<LOD	<LOD	156.78
3/06/2021 11:29	1.78	ppm	R_S75a_0m	NC	-	-	NC	<LOD	976.21	<LOD	-	-
3/06/2021 11:31	1.58	ppm	R_S75a_0m	NC	-	-	NC	<LOD	2322.21	<LOD	-	-
3/06/2021 11:31	0.95	ppm	R_S75a_0m	NC	-	-	NC	<LOD	5245.44	<LOD	-	-
3/06/2021 11:33	62.07	ppm	R_S75a_0m	<LOD	<LOD	190.06	<LOD	145.63	94.13	175.46	15.46	4.98
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	NC	<LOD	17.89	<LOD	368.13	146.51	443.53	14.16	4.52
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	<LOD	<LOD	92.83	<LOD	103.19	61.67	124.33	13.48	6.53
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	1933.59	<LOD	187.17	<LOD	83.88	49.97	113.35	<LOD	9.91
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	<LOD	<LOD	140.78	<LOD	<LOD	77.27	<LOD	<LOD	11.05
3/06/2021 12:22	62.29	%	-	<LOD	<LOD	0.02	<LOD	<LOD	0.01	<LOD	0.01	0.00
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	<LOD	<LOD	151.72	<LOD	<LOD	87.20	<LOD	26.51	5.97
3/06/2021 12:39	62.14	ppm	R_S77a_0m	<LOD	<LOD	100.09	<LOD	112.15	62.25	135.12	60.98	8.20
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	<LOD	<LOD	120.43	<LOD	196.26	61.71	236.46	55.43	13.11
3/06/2021 13:01	61.49	ppm	SiO2	<LOD	<LOD	124.53	<LOD	<LOD	19.24	<LOD	<LOD	11.23
3/06/2021 13:04	62.17	ppm	RCRA	862.01	448.19	139.92	539.99	220.76	102.39	265.98	524.34	27.83
3/06/2021 14:04	61.78	ppm	R_S78a_0m	4399.66	<LOD	306.41	<LOD	<LOD	189.33	<LOD	20.52	5.25
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	4899.63	<LOD	121.41	<LOD	114.90	44.10	138.43	41.25	13.09
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	5778.00	<LOD	214.20	<LOD	72.49	46.41	87.34	22.78	9.57
3/06/2021 14:27	62.28	ppm	R_S79a_0m	<LOD	<LOD	100.27	<LOD	585.55	85.65	705.48	<LOD	21.75
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	<LOD	<LOD	146.95	<LOD	162.82	88.38	196.17	15.94	7.60
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	<LOD	<LOD	95.09	<LOD	<LOD	116.12	<LOD	<LOD	18.75
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	<LOD	<LOD	109.95	<LOD	<LOD	64.20	<LOD	<LOD	16.33
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	<LOD	<LOD	256.20	<LOD	<LOD	80.93	<LOD	16.53	5.78
3/06/2021 15:16	61.09	ppm	R_S81a_0m	<LOD	<LOD	213.00	<LOD	<LOD	105.94	<LOD	14.17	5.38
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	<LOD	<LOD	206.63	<LOD	<LOD	93.57	<LOD	18.43	6.06
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	<LOD	<LOD	133.58	<LOD	127.78	67.63	153.95	<LOD	18.18
3/06/2021 15:34	61.12	ppm	R_S82a__0m	<LOD	<LOD	135.11	<LOD	<LOD	36.99	<LOD	<LOD	9.58
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	<LOD	<LOD	138.22	<LOD	<LOD	76.24	<LOD	<LOD	14.65
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	<LOD	<LOD	561.49	<LOD	<LOD	127.63	<LOD	21.49	3.63
3/06/2021 16:06	61.46	ppm	SiO2	<LOD	<LOD	110.04	<LOD	<LOD	18.96	<LOD	<LOD	11.43
3/06/2021 16:08	61.58	ppm	RCRA	<LOD	508.84	181.03	613.06	228.19	100.59	274.93	480.79	25.98
3/06/2021 16:35	61.77	ppm	R_S83a_0m	<LOD	<LOD	129.71	<LOD	<LOD	101.83	<LOD	25.59	5.16
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	<LOD	<LOD	151.98	<LOD	116.57	58.00	140.45	32.93	6.87
15/06/2021 12:52	56.51	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 12:54	56.13	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 13:07	61.3	ppm	SiO2	<LOD	<LOD	105.54	<LOD	<LOD	18.92	<LOD	<LOD	10.83
15/06/2021 13:09	61.75	ppm	RCRA	<LOD	473.39	162.79	570.35	181.05	99.80	218.13	469.66	27.07
16/06/2021 8:06	63.49	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:07	58.37	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:13	60.36	ppm	sio2	NC	-	-	NC	<LOD	19.31	<LOD	<LOD	11.10
16/06/2021 8:15	60.19	ppm	rcra	NC	-	-	NC	<LOD	150.69	<LOD	479.97	26.73
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	NC	-	-	NC	<LOD	88.53	<LOD	<LOD	16.59
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	NC	-	-	NC	<LOD	104.25	<LOD	<LOD	9.90
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	NC	-	-	NC	<LOD	92.28	<LOD	<LOD	9.57
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	NC	-	-	NC	<LOD	79.97	<LOD	<LOD	17.49
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	NC	-	-	NC	<LOD	126.23	<LOD	<LOD	23.81
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	NC	-	-	NC	<LOD	99.79	<LOD	<LOD	14.33
16/06/2021 10:03	61.29	ppm	SiO2	<LOD	<LOD	114.00	<LOD	<LOD	21.20	<LOD	<LOD	11.21
16/06/2021 10:06	61.85	ppm	RCRA	1088.17	551.42	185.78	664.36	220.95	101.66	266.20	502.88	27.04
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	<LOD	<LOD	146.47	<LOD	263.66	102.17	317.66	<LOD	21.73
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	916.53	<LOD	128.61	<LOD	<LOD	160.92	<LOD	<LOD	24.96
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	1872.98	<LOD	197.41	<LOD	<LOD	153.07	<LOD	<LOD	13.65
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	<LOD	<LOD	121.20	<LOD	131.93	69.03	158.95	<LOD	21.45
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	<LOD	<LOD	126.77	<LOD	111.00	71.61	133.73	<LOD	14.91
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	NC	-	-	NC	<LOD	1393.53	<LOD	-	-
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	<LOD	<LOD	94.94	<LOD	<LOD	127.58	<LOD	<LOD	35.20
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	<LOD	<LOD	114.77	<LOD	<LOD	113.75	<LOD	<LOD	22.29

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	<LOD	<LOD	146.02	<LOD	<LOD	68.11	<LOD	<LOD	12.25
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	<LOD	<LOD	111.86	<LOD	137.05	50.20	165.12	<LOD	17.93
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	1044.59	<LOD	130.47	<LOD	<LOD	110.49	<LOD	<LOD	16.11
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	851.43	<LOD	123.50	<LOD	<LOD	236.10	<LOD	<LOD	23.43
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	<LOD	<LOD	209.01	<LOD	478.53	222.17	576.54	<LOD	23.27
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	2843.89	<LOD	255.50	<LOD	<LOD	476.19	<LOD	<LOD	20.55
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	<LOD	<LOD	154.27	<LOD	<LOD	149.60	<LOD	28.16	18.68
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	1810.53	<LOD	139.12	<LOD	<LOD	103.15	<LOD	<LOD	12.63
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	<LOD	<LOD	165.19	<LOD	<LOD	179.08	<LOD	<LOD	23.72
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	<LOD	<LOD	169.40	<LOD	<LOD	68.13	<LOD	<LOD	14.06
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	<LOD	<LOD	199.76	<LOD	<LOD	89.35	<LOD	<LOD	11.00
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	<LOD	<LOD	134.20	<LOD	<LOD	162.03	<LOD	54.55	20.63
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	<LOD	<LOD	223.82	<LOD	<LOD	106.04	<LOD	40.33	7.13
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	<LOD	<LOD	123.42	<LOD	<LOD	100.14	<LOD	38.80	13.91
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	<LOD	<LOD	133.49	<LOD	<LOD	159.61	<LOD	33.27	16.13
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	<LOD	<LOD	141.98	<LOD	<LOD	158.15	<LOD	<LOD	28.98
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	<LOD	<LOD	205.45	<LOD	<LOD	112.01	<LOD	30.92	17.04
16/06/2021 12:57	63.85	ppm	SiO2	<LOD	<LOD	39.57	<LOD	<LOD	19.34	<LOD	<LOD	11.74
16/06/2021 12:58	61.79	ppm	RCRA	<LOD	633.12	186.68	762.80	176.02	101.02	212.07	496.39	26.95
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	838.98	<LOD	38.57	<LOD	<LOD	125.38	<LOD	<LOD	26.73
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	999.72	<LOD	50.49	<LOD	186.22	89.66	224.36	<LOD	21.12
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	<LOD	<LOD	117.66	<LOD	<LOD	75.41	<LOD	<LOD	13.78
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	<LOD	<LOD	137.69	<LOD	<LOD	92.53	<LOD	<LOD	17.20
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	<LOD	<LOD	98.80	<LOD	88.79	59.10	106.98	<LOD	11.62
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	<LOD	<LOD	86.34	<LOD	<LOD	77.83	<LOD	<LOD	17.97
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	<LOD	<LOD	124.38	<LOD	<LOD	115.93	<LOD	<LOD	17.11
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	<LOD	<LOD	147.12	<LOD	<LOD	119.96	<LOD	<LOD	17.82
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	NC	-	-	NC	<LOD	18873.81	<LOD	-	-
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	918.75	<LOD	29.82	<LOD	<LOD	83.33	<LOD	<LOD	12.63
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	1743.11	<LOD	157.39	<LOD	<LOD	112.80	<LOD	<LOD	17.30
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	1479.07	<LOD	194.39	<LOD	190.25	123.77	229.22	<LOD	11.53
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	<LOD	<LOD	116.85	<LOD	<LOD	91.69	<LOD	<LOD	17.67
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	<LOD	<LOD	142.18	<LOD	<LOD	96.81	<LOD	14.64	5.89
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	NC	-	-	NC	215.58	80.03	259.73	<LOD	18.37
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	1223.95	<LOD	133.01	<LOD	<LOD	103.70	<LOD	<LOD	23.35
16/06/2021 14:48	62.5	ppm	R_S10OA_01	1342.84	<LOD	132.39	<LOD	<LOD	107.78	<LOD	<LOD	18.02
16/06/2021 14:52	62.2	ppm	R_S10OA_03	1293.89	<LOD	95.37	<LOD	114.61	63.63	138.08	<LOD	11.88
16/06/2021 15:00	8.99	ppm	SiO2	NC	-	-	NC	<LOD	110.40	<LOD	-	-
16/06/2021 15:04	20.77	ppm	SiO2	NC	-	-	NC	<LOD	23.22	<LOD	-	-
16/06/2021 15:04	0.15	ppm	SiO2	NC	-	-	NC	<LOD	203.29	<LOD	-	-
16/06/2021 15:05	61.18	ppm	SiO2	<LOD	<LOD	188.15	<LOD	<LOD	19.68	<LOD	<LOD	10.95
16/06/2021 15:07	61.33	ppm	RCRA	<LOD	411.39	171.24	495.65	216.08	96.91	260.34	517.67	26.75
16/06/2021 15:18	0.55	ppm	RCRA	NC	-	-	NC	<LOD	184.24	<LOD	-	-
16/06/2021 15:20	0.56	ppm	R_S10IA	NC	-	-	NC	<LOD	21179.07	<LOD	-	-
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	NC	-	-	NC	<LOD	13098.05	<LOD	-	-
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	<LOD	<LOD	161.70	<LOD	<LOD	71.37	<LOD	45.69	10.55
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	<LOD	<LOD	89.78	<LOD	126.98	60.29	152.99	84.04	15.84
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	NC	-	-	NC	<LOD	59025.16	<LOD	-	-
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	904.16	<LOD	136.68	<LOD	<LOD	89.52	<LOD	49.06	13.58
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	<LOD	<LOD	80.32	<LOD	75.92	42.15	91.47	<LOD	26.66
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	NC	-	-	NC	<LOD	134.11	<LOD	-	-
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	1085.95	<LOD	144.25	<LOD	114.41	60.94	137.84	108.79	11.96
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	NC	-	-	NC	<LOD	124.35	<LOD	-	-
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	NC	-	-	NC	<LOD	185.67	<LOD	-	-
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	<LOD	<LOD	144.80	<LOD	<LOD	87.96	<LOD	72.43	14.13
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	<LOD	<LOD	94.17	<LOD	71.49	41.38	86.13	<LOD	22.64
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	<LOD	<LOD	98.48	<LOD	84.24	54.55	101.49	51.83	15.41
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	1134.11	<LOD	91.62	<LOD	137.61	63.63	165.80	95.76	16.48
17/06/2021 8:30	49.35	ppm	RCRA	NC	-	-	NC	162.75	85.28	196.08	397.31	33.20
17/06/2021 8:31	61.65	ppm	RCRA	<LOD	485.38	156.01	584.80	207.30	99.34	249.76	523.86	27.25
17/06/2021 8:36	61.36	ppm	R_S104_0.0	1883.29	<LOD	108.92	<LOD	183.87	87.74	221.53	<LOD	25.54
17/06/2021 8:38	61.76	ppm	R_S104_0.1	2331.75	<LOD	166.49	<LOD	<LOD	142.04	<LOD	<LOD	25.48
17/06/2021 8:41	61.51	ppm	R_S104_0.25	2689.37	<LOD	242.37	<LOD	<LOD	127.90	<LOD	<LOD	20.41
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	932.93	<LOD	122.02	<LOD	168.60	87.50	203.13	<LOD	25.21
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	1372.98	<LOD	146.37	<LOD	284.96	94.29	343.33	<LOD	21.24
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	<LOD	<LOD	239.75	<LOD	312.51	100.86	376.52	28.24	15.95
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	<LOD	<LOD	106.80	<LOD	<LOD	59.97	<LOD	<LOD	24.56
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	<LOD	<LOD	143.95	<LOD	115.31	66.95	138.93	52.49	11.26
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	754.72	<LOD	85.40	<LOD	95.74	54.61	115.35	73.50	17.25
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	<LOD	<LOD	65.94	<LOD	61.11	36.55	73.63	<LOD	26.94
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	<LOD	<LOD	104.03	<LOD	187.07	58.17	225.39	32.91	20.32
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	2170.86	<LOD	134.61	<LOD	<LOD	109.44	<LOD	73.17	9.60
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	<LOD	<LOD	59.08	<LOD	<LOD	68.06	<LOD	38.73	18.55
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	1254.30	<LOD	140.13	<LOD	107.23	62.22	129.19	139.73	22.64
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	1277.65	<LOD	89.18	<LOD	<LOD	120.33	<LOD	160.58	14.58
17/06/2021 9:53	62.25	ppm	RCRA	1048.25	500.36	153.96	602.84	<LOD	149.85	<LOD	470.53	26.39
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	<LOD	<LOD	144.20	<LOD	<LOD	55.66	<LOD	<LOD	27.06
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	<LOD	<LOD	166.33	<LOD	<LOD	82.54	<LOD	92.99	11.87
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	1709.39	<LOD	151.11	<LOD	232.85	89.12	280.54	246.58	25.25
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	<LOD	<LOD	71.15	<LOD	<LOD	46.24	<LOD	<LOD	27.65

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	1274.07	<LOD	97.73	<LOD	142.99	57.53	172.28	50.11	17.53
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	1782.40	<LOD	160.76	<LOD	<LOD	98.36	<LOD	89.37	13.39
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	NC	-	-	NC	<LOD	373.81	<LOD	-	-
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	1147.05	<LOD	99.38	<LOD	<LOD	60.58	<LOD	65.91	16.64
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	<LOD	<LOD	196.47	<LOD	96.06	49.04	115.73	31.73	17.63
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	2213.16	<LOD	114.39	<LOD	202.80	85.58	244.34	146.57	20.80
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	<LOD	<LOD	121.96	<LOD	134.52	54.13	162.07	37.75	17.33
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	1661.55	<LOD	100.22	<LOD	<LOD	86.03	<LOD	115.52	19.78
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	931.81	<LOD	102.78	<LOD	113.27	55.98	136.47	77.44	16.47
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	<LOD	<LOD	141.56	<LOD	<LOD	62.13	<LOD	<LOD	29.81
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	907.08	<LOD	87.41	<LOD	137.56	62.11	185.89	78.91	12.89
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	1010.08	<LOD	121.16	<LOD	98.02	61.38	118.10	83.95	18.64
17/06/2021 11:18	61.77	ppm	RCRA	<LOD	497.84	152.46	599.81	175.92	97.73	211.95	490.75	26.43
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	<LOD	<LOD	91.13	<LOD	<LOD	57.62	<LOD	<LOD	22.92
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	<LOD	<LOD	86.77	<LOD	88.35	55.17	106.45	99.64	20.98
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	<LOD	<LOD	128.69	<LOD	157.08	57.69	189.25	34.53	16.19
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	<LOD	<LOD	89.68	<LOD	68.21	39.99	82.18	<LOD	26.61
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	<LOD	<LOD	83.82	<LOD	126.54	57.15	152.46	61.46	18.10
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	<LOD	<LOD	152.91	<LOD	<LOD	81.09	<LOD	46.55	13.15
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	<LOD	<LOD	140.48	<LOD	<LOD	77.44	<LOD	44.75	17.85
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	796.51	<LOD	104.42	<LOD	<LOD	91.40	<LOD	89.85	16.97
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	1893.66	<LOD	217.46	<LOD	288.66	97.85	347.78	200.98	26.32

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Dry Weight (moisture corrected) Cr	Cu	Cu Error	Dry Weight (moisture corrected) Cu	Fe	Fe Error	Dry Weight (moisture corrected) Fe	Mo	Mo Error
7/06/2021 10:55	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:56	53.57	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:58	61.59	ppm	SiO2	<LOD	<LOD	12.19	<LOD	<LOD	35.14	<LOD	<LOD	2.35
7/06/2021 11:21	60.43	ppm	GW1_0.0	48.18	28.55	10.90	34.40	11554.08	144.44	13920.58	<LOD	3.04
7/06/2021 11:30	60.61	ppm	GW1_0.1	<LOD	49.20	11.27	59.28	13953.61	157.63	16811.58	<LOD	3.03
7/06/2021 11:31	19.12	ppm	GW1_0.1	NC	49.28	14.66	59.37	12972.62	198.83	15629.66	<LOD	3.96
7/06/2021 11:32	60.66	ppm	GW1_0.2	<LOD	62.35	11.33	75.12	15434.54	165.78	18595.83	<LOD	3.06
7/06/2021 11:32	0.53	ppm	GW1_0.2	NC	<LOD	384.89	<LOD	21472.47	3798.80	25870.45	<LOD	55.91
7/06/2021 11:33	60.47	ppm	GW1_0.3	<LOD	62.18	14.12	74.92	17178.92	195.57	20697.49	<LOD	3.40
7/06/2021 11:35	60.68	ppm	GW1_0.4	<LOD	37.78	10.53	45.52	13428.43	152.72	16178.83	<LOD	2.96
7/06/2021 11:37	60.76	ppm	GW1_0.5	47.86	29.64	10.86	35.71	16859.90	173.51	20313.13	3.36	2.04
7/06/2021 11:38	61.01	ppm	GW1_1.0	40.73	27.83	10.46	33.53	14862.99	161.70	17907.22	<LOD	3.01
7/06/2021 11:40	60.76	ppm	GW1_2.0	<LOD	43.24	13.34	52.10	18139.72	199.86	21855.08	<LOD	3.43
7/06/2021 11:41	60.67	ppm	GW1_3.0	<LOD	106.13	13.58	127.87	23083.36	210.76	27811.28	<LOD	3.09
7/06/2021 11:42	6.84	ppm	GW1_4.0	NC	53.96	29.04	65.01	15281.57	415.28	18411.53	<LOD	7.43
7/06/2021 11:43	61.37	ppm	GW1_4.0	<LOD	52.19	11.28	62.88	16314.86	170.91	19656.46	3.05	2.00
7/06/2021 13:21	60.51	ppm	GW3_0.1	<LOD	77.58	12.47	93.47	27702.12	226.23	33376.05	<LOD	3.01
7/06/2021 13:26	60.77	ppm	GW3_0.0	<LOD	73.53	11.53	88.59	17330.11	173.18	20879.65	<LOD	2.93
7/06/2021 13:28	60.6	ppm	GW3_0.2	<LOD	92.15	12.89	111.02	23238.74	207.64	27998.48	<LOD	3.11
7/06/2021 13:29	72.5	ppm	GW3_0.3	<LOD	80.82	12.18	97.37	22693.39	199.14	27341.43	<LOD	2.96
7/06/2021 13:31	60.51	ppm	GW3_0.44	<LOD	73.56	12.22	88.63	20604.82	196.96	24825.08	<LOD	3.09
7/06/2021 13:33	63.3	ppm	GW3_0.5	<LOD	87.59	12.58	105.53	22646.48	207.27	27284.92	<LOD	3.22
7/06/2021 13:34	60.96	ppm	GW3_1.0	<LOD	80.12	12.01	96.53	24809.70	210.29	29891.20	<LOD	3.12
7/06/2021 13:41	60.6	ppm	GW3_2.0	<LOD	88.68	12.64	106.84	23180.13	208.84	27927.87	<LOD	3.20
7/06/2021 13:58	60.47	ppm	SiO2	<LOD	<LOD	12.32	<LOD	<LOD	34.81	<LOD	<LOD	2.37
7/06/2021 14:00	60.77	ppm	RCRA	576.04	49.11	13.51	59.17	47620.97	324.70	57374.66	<LOD	3.45
7/06/2021 15:09	60.72	ppm	D1	<LOD	140.03	12.87	168.71	10987.68	135.80	13238.17	<LOD	2.79
7/06/2021 15:12	60.52	ppm	GW3_0.0	<LOD	140.02	12.74	168.70	11035.67	134.45	13295.99	<LOD	2.64
7/06/2021 15:24	60.98	ppm	GW3_0.1	<LOD	611.75	29.97	737.05	81969.84	491.00	98758.84	<LOD	3.93
7/06/2021 15:26	60.5	ppm	GW3_0.2	<LOD	353.30	19.25	425.66	30489.96	245.96	36734.89	<LOD	3.15
7/06/2021 15:28	61.05	ppm	GW3_0.3	<LOD	569.06	26.89	685.61	43317.92	332.38	52190.27	3.88	2.45
7/06/2021 15:29	71.47	ppm	GW3_0.4	<LOD	201.72	16.72	243.04	24281.97	223.97	29255.39	<LOD	3.21
7/06/2021 15:31	62.46	ppm	GW3_0.5	<LOD	393.41	21.83	473.99	43133.79	313.08	51968.42	<LOD	3.44
7/06/2021 15:32	64.68	ppm	GW3_1.0	<LOD	293.74	18.07	353.90	27175.22	232.79	32741.23	<LOD	3.12
7/06/2021 15:34	61.4	ppm	GW3_2.0	35.49	322.83	19.51	388.95	30582.46	250.56	36846.34	3.25	2.16
7/06/2021 15:37	61.39	ppm	GW3_3.0	28.01	34.33	10.79	41.36	16628.28	172.15	20034.07	<LOD	3.00
8/06/2021 7:48	53.82	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 7:49	56.02	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 8:00	60.96	ppm	SiO2	<LOD	<LOD	12.66	<LOD	106.29	25.94	128.06	<LOD	2.37
8/06/2021 8:02	61.12	ppm	RCRA	592.61	35.78	13.56	43.11	47472.45	333.61	57195.72	5.32	2.41
8/06/2021 8:08	61.74	ppm	GW4_0.0	71.93	26.14	12.14	31.49	30934.64	256.24	37270.65	<LOD	3.15
8/06/2021 8:09	61.95	ppm	GW4_0.1	<LOD	261.82	18.56	315.45	42925.88	304.64	51717.93	4.78	2.27
8/06/2021 8:14	61.41	ppm	GW4_0.2	<LOD	311.21	21.45	370.49	66970.14	406.96	79726.36	9.19	2.51
8/06/2021 8:16	62.26	ppm	GW4_0.3	<LOD	123.14	13.89	148.36	28950.96	233.80	34880.67	<LOD	2.96
8/06/2021 8:17	61.51	ppm	GW4_0.4	20.83	<LOD	15.84	<LOD	11384.85	145.94	13716.69	4.49	2.15
8/06/2021 8:19	61.85	ppm	GW4_0.5	<LOD	34.63	10.54	41.72	14397.62	158.77	17346.53	3.10	2.06
8/06/2021 8:20	65.48	ppm	GW4_1.0	55.63	27.91	10.15	33.63	16913.50	171.63	20377.71	<LOD	3.01
8/06/2021 8:22	62.3	ppm	GW4_2.0	<LOD	15.79	10.07	19.02	19139.87	185.87	23060.08	<LOD	3.15
8/06/2021 9:13	62.15	ppm	GW5_0.0	<LOD	<LOD	11.77	<LOD	10803.11	122.98	13015.80	<LOD	2.43
8/06/2021 9:14	61.79	ppm	GW5_0.1	<LOD	53.19	12.79	64.08	16948.52	188.26	20419.90	<LOD	3.09
8/06/2021 9:19	61.88	ppm	GW5_0.2	<LOD	29.32	13.21	35.33	24434.01	234.38	29438.57	<LOD	3.23
8/06/2021 9:20	61.76	ppm	GW5_0.3	<LOD	34.29	10.39	41.31	13232.41	152.10	15942.66	<LOD	3.05
8/06/2021 9:22	61.8	ppm	GW5_0.4	<LOD	<LOD	15.20	<LOD	7108.46	115.50	8564.41	<LOD	3.08
8/06/2021 9:24	80.71	ppm	GW5_0.5	<LOD	<LOD	14.09	<LOD	13870.08	153.76	16710.94	<LOD	2.94
8/06/2021 9:25	61.79	ppm	GW5_1.0	41.17	<LOD	14.19	<LOD	14148.11	159.87	17045.92	<LOD	3.05
8/06/2021 9:51	61.71	ppm	SiO2	<LOD	<LOD	12.28	<LOD	68.34	24.33	82.34	<LOD	2.30
8/06/2021 9:55	30	ppm	RCRA	NC	39.64	12.07	47.76	35132.46	263.97	42328.27	4.87	2.14
8/06/2021 9:56	62.23	ppm	RCRA	596.98	29.83	12.93	35.94	47767.41	327.59	57551.10	3.57	2.32
8/06/2021 10:04	62.28	ppm	D2	<LOD	<LOD	13.53	<LOD	11676.77	140.80	14068.40	<LOD	2.69
8/06/2021 10:05	61.74	ppm	GW6_0.0	<LOD	<LOD	13.90	<LOD	11957.51	139.50	14406.64	<LOD	2.74
8/06/2021 10:11	61.88	ppm	GW6_0.1	<LOD	41.98	10.33	50.58	14947.87	158.23	18009.48	<LOD	2.80
8/06/2021 10:13	60.96	ppm	GW6_0.2	<LOD	47.03	10.74	56.66	11721.88	142.90	14122.75	<LOD	2.96
8/06/2021 10:14	61.3	ppm	GW6_0.3	<LOD	<LOD	15.39	<LOD	5975.28	105.22	7199.13	<LOD	2.92
8/06/2021 10:16	70.43	ppm	GW6_0.4	<LOD	<LOD	12.77	<LOD	8007.06	118.04	9647.06	<LOD	2.95
8/06/2021 10:18	74.28	ppm	GW6_0.5	28.76	16.69	10.18	20.11	21160.81	196.58	25494.95	<LOD	3.14
8/06/2021 10:20	61.98	ppm	GW6_1.0	<LOD	<LOD	17.03	<LOD	16850.92	186.86	20302.31	<LOD	3.08
8/06/2021 11:33	61.81	ppm	GW7_0.00	<LOD	<LOD	14.13	<LOD	17129.67	170.09	20638.16	3.10	1.91
8/06/2021 11:56	61.46	ppm	GW7_0.1	157.24	50.23	12.66	60.52	35815.04	272.67	43150.65	<LOD	3.29
8/06/2021 12:00	62.24	ppm	GW7_0.2	107.78	51.03	12.90	54.29	37196.30	276.94	39570.53	<LOD	3.33
8/06/2021 12:06	61.24	ppm	GW7_0.3	118.92	64.93	12.83	78.23	34566.54	263.96	41646.43	<LOD	3.32
8/06/2021 12:07	61.12	ppm	GW7_0.4	144.08	45.32	12.53	54.60	36824.08	277.27	44366.36	<LOD	3.30
8/06/2021 12:08	41.19	ppm	GW7_0.3	176.34	65.17	14.50	78.52	40688.55	310.64	49022.35	<LOD	3.55
8/06/2021 12:09	64.87	ppm	GW7_0.4	238.87	86.94	15.20	104.75	53280.81	358.16	64193.75	<LOD	3.80
8/06/2021 12:11	61.83	ppm	GW7_1.0	69.24	16.89	11.16	20.35	19374.67	198.14	23342.98	<LOD	3.17
8/06/2021 12:13	61.67	ppm	GW7_2.0	168.54	88.28	15.08	106.36	50820.16	343.17	61229.11	<LOD	3.48

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	115.04	51.72	14.31	62.31	46992.14	341.55	56617.04	<LOD	3.53
8/06/2021 12:16	61.51	ppm	GW7_5.0	294.18	121.51	17.53	146.40	43045.13	342.12	51861.60	<LOD	3.52
8/06/2021 12:36	61.77	ppm	SiO2	<LOD	<LOD	11.82	<LOD	74.92	24.55	90.27	<LOD	2.30
8/06/2021 12:37	61.84	ppm	RCRA	623.01	41.37	13.46	49.84	48181.71	331.48	58050.25	<LOD	3.50
8/06/2021 14:21	61.47	ppm	GW8_0.0	<LOD	40.42	10.35	48.70	20736.52	184.57	24983.76	<LOD	2.79
8/06/2021 14:37	0.15	ppm	GW8_0.0	NC	<LOD	767.55	<LOD	<LOD	282.33	<LOD	<LOD	24.12
8/06/2021 15:02	61.45	ppm	GW8_0.1	31.80	37.58	12.85	45.28	42860.98	302.57	51639.73	<LOD	3.44
8/06/2021 15:03	61.03	ppm	GW8_0.2	48.59	33.77	12.81	40.69	35697.09	285.49	43008.54	<LOD	3.46
8/06/2021 15:05	61.09	ppm	GW8_0.3	<LOD	29.58	11.85	35.64	28973.98	244.86	34908.41	<LOD	3.24
8/06/2021 15:06	61.68	ppm	GW8_0.4	<LOD	69.30	13.74	83.49	45937.28	314.94	55346.12	3.63	2.34
8/06/2021 15:07	62.15	ppm	GW8_0.5	<LOD	28.36	11.62	34.17	29656.97	245.15	35731.29	<LOD	3.28
8/06/2021 15:09	62.56	ppm	GW8_1.0	36.96	27.77	12.58	33.46	39565.73	289.95	47669.55	<LOD	3.40
8/06/2021 15:13	61.78	ppm	GW8_2.0	<LOD	20.86	12.23	25.13	33779.76	266.96	40698.51	<LOD	3.32
8/06/2021 15:14	62.22	ppm	D3	<LOD	35.93	12.53	43.29	40608.43	291.57	48925.82	<LOD	3.25
8/06/2021 15:16	61.01	ppm	GW8_5.0	70.36	<LOD	17.97	<LOD	46101.18	319.99	55543.59	3.97	2.29
9/06/2021 7:45	53.9	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:46	53.54	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:50	62.07	ppm	SiO2	<LOD	<LOD	11.89	<LOD	81.56	25.02	98.27	<LOD	2.32
9/06/2021 7:52	61.73	ppm	RCRA	573.45	52.55	13.71	63.31	47838.79	327.98	57637.10	<LOD	3.47
9/06/2021 7:59	61.51	ppm	GW10_0.0	<LOD	206.87	14.57	249.24	12485.23	143.49	15042.45	3.32	1.84
9/06/2021 8:10	61.66	ppm	GW10_0.1	<LOD	<LOD	14.36	<LOD	13723.21	156.85	16533.99	<LOD	3.12
9/06/2021 8:12	66.09	ppm	GW10_0.2	<LOD	<LOD	14.39	<LOD	18974.77	185.19	22861.17	<LOD	3.13
9/06/2021 8:13	34.99	ppm	GW10_0.3	<LOD	16.00	9.84	19.28	16025.11	166.93	19307.36	<LOD	2.93
9/06/2021 8:21	65.81	ppm	GW10_0.4	<LOD	<LOD	14.10	<LOD	17475.43	175.54	21054.73	<LOD	3.04
9/06/2021 8:23	62.2	ppm	GW10_0.5	<LOD	<LOD	14.12	<LOD	17301.37	171.80	20845.02	<LOD	3.07
9/06/2021 8:24	61.66	ppm	GW10_1.0	<LOD	28.60	10.66	34.46	13741.00	159.84	16555.42	<LOD	3.15
9/06/2021 8:26	61.56	ppm	GW10_2.0	<LOD	<LOD	14.98	<LOD	27052.48	223.21	32593.35	<LOD	2.98
9/06/2021 8:27	61.17	ppm	GW10_4.0	132.75	25.74	11.44	31.01	34502.86	262.43	41569.71	<LOD	3.09
9/06/2021 11:18	61.42	ppm	GW9_0.0	<LOD	<LOD	14.25	<LOD	13929.05	155.73	16781.99	4.20	2.14
9/06/2021 11:25	61.58	ppm	GW9_0.1	<LOD	<LOD	14.22	<LOD	26165.40	220.74	31524.58	<LOD	3.11
9/06/2021 11:27	61.71	ppm	GW9_0.2	<LOD	<LOD	14.12	<LOD	28235.67	224.05	34018.88	<LOD	3.06
9/06/2021 11:41	64.9	ppm	GW9_0.3	<LOD	<LOD	14.43	<LOD	25654.72	216.44	30909.30	<LOD	3.12
9/06/2021 11:42	62.1	ppm	GW9_0.4	<LOD	<LOD	15.12	<LOD	24425.80	213.75	29428.67	<LOD	3.09
9/06/2021 11:44	61.49	ppm	GW9_0.5	<LOD	<LOD	15.69	<LOD	23391.21	213.50	28182.18	<LOD	3.16
9/06/2021 11:45	61.63	ppm	GW9_1.0	<LOD	<LOD	14.43	<LOD	23823.84	207.92	28703.42	<LOD	3.06
9/06/2021 12:01	61.32	ppm	SiO2	<LOD	<LOD	11.98	<LOD	88.63	24.94	106.78	<LOD	2.30
9/06/2021 12:51	63.56	ppm	RCRA	600.72	42.68	13.56	51.42	48043.64	332.70	57883.90	<LOD	3.51
10/06/2021 7:32	61.73	ppm	SiO2	<LOD	<LOD	12.87	<LOD	73.67	26.77	88.76	<LOD	2.50
10/06/2021 7:34	61.78	ppm	RCRA	555.64	45.56	13.66	54.89	46882.65	328.34	56485.12	4.79	2.34
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	25.25	<LOD	88.83	<LOD	534.26	123.91	643.69	9.49	5.39
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	<LOD	215.83	14.14	260.04	10049.61	126.08	12107.96	<LOD	2.53
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	<LOD	139.86	17.45	168.51	45405.05	340.62	54704.88	<LOD	3.64
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	<LOD	20.29	10.30	24.45	20891.55	194.74	25170.54	<LOD	3.07
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	<LOD	87.39	16.57	105.29	83259.90	468.07	100313.13	<LOD	3.73
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	50.78	31.04	11.54	37.40	27215.89	232.68	32790.23	<LOD	3.24
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	<LOD	197.01	16.74	252.58	29640.69	247.48	38000.88	8.24	2.20
10/06/2021 9:05	63.11	ppm	D4	<LOD	146.98	14.09	177.08	27955.81	227.12	33681.70	<LOD	3.02
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	NC	<LOD	72.98	<LOD	<LOD	282.44	<LOD	<LOD	185.03
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	<LOD	332.82	20.53	400.99	44456.31	316.86	53561.82	<LOD	3.37
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	<LOD	406.71	21.52	490.01	33660.48	271.49	40554.80	<LOD	3.34
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	<LOD	121.04	14.83	145.83	34510.86	268.56	41579.35	<LOD	3.32
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	<LOD	65.18	11.98	78.53	17368.93	177.90	20926.42	<LOD	2.96
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	<LOD	316.85	17.50	381.75	26232.04	216.41	31604.87	<LOD	2.88
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	36.11	241.54	18.96	291.01	43847.73	317.04	52828.59	6.10	2.41
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	<LOD	371.48	20.83	447.57	27147.86	241.92	32708.27	<LOD	3.17
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	55.22	165.61	14.73	199.53	14649.97	165.96	17650.57	<LOD	3.03
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	78.16	160.51	16.34	193.39	40344.84	294.75	48608.24	<LOD	3.28
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	<LOD	417.02	28.11	548.71	82232.25	510.67	108200.33	8.31	2.83
10/06/2021 9:41	61.9	ppm	D5	<LOD	332.36	25.15	400.43	82940.74	512.38	99928.60	4.06	2.67
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	<LOD	438.97	26.46	528.88	71363.13	450.89	85979.67	4.52	2.60
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	<LOD	752.42	33.22	906.53	124832.33	611.49	150400.40	<LOD	3.81
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	29.33	509.68	21.50	614.07	15076.69	167.36	18164.69	<LOD	3.01
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	<LOD	304.63	20.33	367.02	27308.23	248.03	32901.48	6.84	2.40
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	<LOD	304.13	16.17	366.42	17590.41	168.12	21193.27	<LOD	2.65
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	<LOD	235.72	15.13	284.00	18046.99	172.54	21743.36	3.29	1.97
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	61.98	130.05	13.69	156.69	31863.34	241.99	38389.57	<LOD	3.13
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	24.22	76.79	12.17	92.52	10990.15	142.62	13241.14	3.52	2.15
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	50.54	174.99	16.10	210.83	44927.79	302.34	54129.87	5.03	2.24
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	<LOD	542.33	21.49	653.41	20559.20	192.46	24770.12	<LOD	2.95
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	<LOD	87.09	11.35	104.93	11842.21	138.61	14267.72	<LOD	2.78
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	<LOD	30.47	10.32	36.71	9839.21	131.46	11854.47	3.38	2.00
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	42.55	22.91	10.69	27.60	14353.13	163.54	17292.93	4.13	2.12
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	36.63	54.25	11.86	65.36	17799.84	184.07	21445.59	3.93	2.14
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	<LOD	132.38	12.85	159.49	14372.43	155.15	17316.18	<LOD	2.84
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	<LOD	543.55	24.33	654.88	26160.40	240.85	31518.55	4.12	2.29
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	<LOD	1729.13	86.90	2083.29	377349.78	1845.35	454638.29	57.00	6.43
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	<LOD	121.32	12.45	146.17	22112.94	191.90	26642.10	<LOD	2.76
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	63.16	85.39	17.44	102.88	26489.02	271.08	31914.48	6.20	2.56
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	<LOD	124.05	14.93	149.46	31836.50	257.30	38357.23	<LOD	3.10
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	<LOD	629.08	24.32	757.93	20128.63	200.05	24251.36	<LOD	3.18

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	<LOD	60.89	11.22	73.36	11031.83	138.56	13291.36	<LOD	2.89
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	<LOD	22.54	10.89	27.16	18244.76	185.15	21981.64	3.89	2.08
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	<LOD	19.91	10.48	23.99	21147.64	195.32	25479.08	<LOD	2.96
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	<LOD	86.09	12.30	103.72	22047.01	200.45	26562.66	<LOD	3.02
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	<LOD	237.09	17.89	285.65	26839.24	240.03	32336.43	<LOD	3.23
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	<LOD	963.01	32.84	1160.25	32580.32	284.07	39253.40	4.31	2.40
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	30.75	318.93	18.80	384.25	18074.25	190.13	21776.20	<LOD	3.18
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	93.73	94.56	13.83	113.93	19228.32	200.15	23166.65	<LOD	3.32
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	<LOD	55.98	11.08	67.45	11494.02	138.92	13848.22	<LOD	2.65
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	<LOD	343.47	18.07	413.82	12563.79	150.99	15137.10	<LOD	2.92
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	<LOD	20.65	9.80	24.88	15666.55	163.28	18875.36	<LOD	2.97
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	77.84	19.65	10.08	23.67	19497.14	185.80	23490.53	3.22	2.06
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	42.11	<LOD	14.38	<LOD	10065.40	131.89	12126.99	<LOD	3.04
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	<LOD	131.46	14.30	175.28	13808.48	163.91	18411.31	3.91	2.12
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	<LOD	<LOD	13.82	<LOD	9535.21	127.53	11488.20	<LOD	2.93
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	41.66	21.96	10.61	26.46	28423.22	226.44	34244.84	<LOD	3.05
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	59.98	16.97	9.85	20.45	13441.31	153.49	16194.35	3.91	2.03
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	<LOD	16.16	9.58	19.47	8310.26	120.20	10012.36	3.71	2.06
10/06/2021 11:52	62.04	ppm	SiO2	<LOD	<LOD	11.53	<LOD	171.50	27.36	206.63	<LOD	2.34
10/06/2021 11:54	61.67	ppm	RCRA	564.98	39.86	13.28	48.02	47524.39	325.23	57258.30	<LOD	3.44
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	<LOD	<LOD	12.83	<LOD	6690.03	102.81	8060.28	<LOD	2.54
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	<LOD	44.83	11.02	54.01	19500.98	187.05	23495.16	<LOD	2.97
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	<LOD	<LOD	13.99	<LOD	23784.19	204.19	28655.65	<LOD	3.00
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	<LOD	<LOD	13.74	<LOD	14023.75	154.22	16896.08	<LOD	2.97
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	59.11	<LOD	16.02	<LOD	34908.32	258.52	42058.22	<LOD	3.14
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	<LOD	123.30	13.99	140.11	18403.20	185.87	20912.73	<LOD	2.95
10/06/2021 12:26	66.34	ppm	D6	<LOD	107.58	13.21	129.61	25940.76	220.79	31253.93	<LOD	2.91
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	<LOD	117.67	14.16	141.77	25359.24	223.72	30553.30	<LOD	3.08
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	<LOD	184.61	16.60	222.42	37294.54	281.46	44933.18	3.90	2.34
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	<LOD	624.18	25.28	752.02	39635.20	292.31	47753.25	3.38	2.24
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	45.30	30.85	10.23	37.17	12229.39	143.04	14734.20	<LOD	2.97
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	41.42	82.94	12.06	99.93	16328.16	168.66	19672.48	<LOD	2.89
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	29.19	439.86	26.58	499.84	79706.67	476.08	90575.76	<LOD	3.81
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	45.59	425.14	28.01	512.22	116415.97	605.92	140260.20	3.96	2.62
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	35.45	179.68	14.22	216.48	11832.44	144.14	14255.95	<LOD	3.02
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	37.57	422.82	24.94	509.42	43955.27	339.03	52958.16	6.72	2.50
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	<LOD	352.56	19.16	424.77	21850.03	205.83	26325.34	<LOD	3.16
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	47.73	43.66	11.97	52.60	11013.02	146.45	13268.70	<LOD	3.12
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	33.99	76.88	12.56	92.63	16469.76	177.98	19843.08	<LOD	3.26
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	55.04	59.46	12.01	71.64	34683.94	256.94	41787.88	<LOD	3.22
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	40.67	<LOD	16.47	<LOD	17829.22	184.74	21480.99	<LOD	3.13
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	68.36	28.51	12.36	34.35	60907.29	361.07	73382.28	<LOD	3.26
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	<LOD	160.07	14.14	192.86	24056.70	203.97	28983.98	<LOD	2.95
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	<LOD	324.52	21.06	351.21	37356.36	292.38	40428.96	7.98	2.39
10/06/2021 13:33	61.81	ppm	D7	<LOD	292.09	19.04	351.92	29540.24	248.20	35590.65	5.43	2.23
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	<LOD	223.58	16.52	269.37	28170.93	233.93	33940.88	<LOD	3.08
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	<LOD	124.21	13.30	149.65	16497.42	170.22	19876.41	<LOD	2.95
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	<LOD	<LOD	14.57	<LOD	9417.47	130.47	11346.35	2.99	1.95
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	<LOD	<LOD	16.49	<LOD	25759.13	223.38	31035.10	<LOD	3.12
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	<LOD	<LOD	14.53	<LOD	12990.68	148.47	15651.42	<LOD	2.78
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	<LOD	35.59	9.84	42.88	17344.55	164.00	20897.05	<LOD	2.78
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	<LOD	44.73	10.46	53.89	14922.17	156.00	17978.52	<LOD	2.93
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	<LOD	124.09	13.11	149.51	14740.99	160.48	17760.23	<LOD	2.99
10/06/2021 14:06	64.7	ppm	D8	<LOD	74.00	11.30	89.16	13430.52	148.11	16181.35	<LOD	2.83
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	31.99	<LOD	19.73	<LOD	13563.39	188.88	16341.43	<LOD	3.62
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	<LOD	<LOD	13.76	<LOD	8074.21	119.10	9727.96	<LOD	3.05
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	<LOD	<LOD	17.98	<LOD	10573.12	159.35	12738.70	<LOD	3.58
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	<LOD	<LOD	13.74	<LOD	9373.35	127.24	11293.19	4.18	2.08
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	<LOD	<LOD	13.91	<LOD	13135.34	149.98	15825.71	<LOD	2.68
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	NC	<LOD	269.33	<LOD	11227.06	1899.28	13526.58	<LOD	37.02
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	18.75	<LOD	17.93	<LOD	14483.41	177.29	17449.89	<LOD	3.08
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	31.98	<LOD	23.09	<LOD	25458.59	269.93	30673.00	5.85	2.57
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	<LOD	<LOD	14.80	<LOD	11265.15	145.55	13572.47	<LOD	3.00
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	<LOD	<LOD	16.10	<LOD	26021.57	222.68	31351.29	3.15	2.07
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	<LOD	<LOD	13.75	<LOD	8843.36	125.17	10654.65	<LOD	2.66
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	<LOD	<LOD	13.32	<LOD	7378.85	112.16	8890.18	<LOD	2.66
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	<LOD	<LOD	14.00	<LOD	9246.96	124.21	15411.60	<LOD	2.68
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	<LOD	28.11	10.60	33.87	19340.81	188.23	23302.18	<LOD	2.95
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	36.59	<LOD	16.32	<LOD	42167.52	290.39	50804.24	<LOD	3.25
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	<LOD	<LOD	13.23	<LOD	24523.61	203.00	29546.52	<LOD	2.72
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	21.31	<LOD	15.44	<LOD	18590.29	194.63	22397.94	<LOD	3.02
10/06/2021 15:15	60.97	ppm	SiO2	<LOD	<LOD	11.79	<LOD	381.92	32.90	460.14	<LOD	2.37
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	<LOD	22.81	9.12	27.48	6500.63	101.49	7832.08	4.19	1.73
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	97.30	<LOD	15.98	<LOD	30309.01	242.64	36516.88	<LOD	3.08
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	65.90	<LOD	15.04	<LOD	17305.27	175.29	20849.72	<LOD	2.93
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	56.57	<LOD	17.06	<LOD	21299.20	209.08	25661.69	<LOD	3.19
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	<LOD	<LOD	16.11	<LOD	18307.73	193.96	22057.51	<LOD	3.03
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	<LOD	<LOD	12.98	<LOD	7725.33	110.64	9307.63	<LOD	2.61
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	72.66	<LOD	19.47	<LOD	15511.33	198.39	18688.35	<LOD	3.47
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	<LOD	<LOD	14.76	<LOD	18643.58	178.89	22462.14	<LOD	2.86

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	39.40	<LOD	15.01	<LOD	28288.33	228.98	34082.33	<LOD	3.06
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	<LOD	29.66	8.90	35.73	8134.37	108.43	9800.45	3.03	1.65
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	<LOD	24.33	10.41	27.65	14736.69	161.26	16746.24	3.54	1.92
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	<LOD	22.56	10.29	27.18	15033.40	162.63	18112.53	4.15	1.94
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	<LOD	23.72	11.07	28.58	18086.24	185.94	21790.65	3.63	2.00
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	<LOD	<LOD	15.28	<LOD	16733.86	173.62	20161.28	3.33	1.96
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	<LOD	<LOD	13.00	<LOD	8622.72	118.85	10388.82	<LOD	2.64
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	34.58	<LOD	15.29	<LOD	17803.56	181.44	21450.07	<LOD	2.95
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	56.31	<LOD	15.66	<LOD	26664.96	228.40	32126.46	<LOD	3.08
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	29.53	<LOD	15.18	<LOD	19423.47	188.91	23401.77	<LOD	2.96
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	<LOD	<LOD	15.05	<LOD	27772.66	223.54	33461.04	<LOD	2.91
1/06/2021 7:55	60.34	%	si02	<LOD	<LOD	0.04	<LOD	<LOD	0.13	<LOD	<LOD	0.01
1/06/2021 7:57	61.21	%	rcra	<LOD	<LOD	0.06	<LOD	31.63	0.82	38.11	<LOD	0.02
1/06/2021 8:00	60.45	ppm	rcra	622.27	58.49	13.89	70.47	48545.00	331.54	58487.95	6.64	2.39
1/06/2021 8:02	60.53	ppm	si02	<LOD	<LOD	12.39	<LOD	<LOD	33.51	<LOD	<LOD	2.35
1/06/2021 8:30	60.24	ppm	R_S1B	14.94	<LOD	81.04	<LOD	7315.93	424.46	8814.37	<LOD	10.42
1/06/2021 8:41	60.77	ppm	R_S2B	27.67	<LOD	62.20	<LOD	13630.59	335.31	16422.40	10.59	4.66
1/06/2021 8:45	60.37	ppm	R_S3B	32.87	76.61	24.79	92.30	12484.93	234.39	15042.08	15.00	3.30
1/06/2021 8:50	60.69	ppm	R_S4B	24.06	<LOD	57.54	<LOD	8740.23	265.16	10530.40	6.91	4.38
1/06/2021 8:55	60.63	ppm	R_S5B	24.34	74.45	19.77	89.70	13554.85	213.20	16331.14	10.83	3.03
1/06/2021 8:59	60.26	ppm	R_S6B	24.01	159.66	35.07	192.36	19239.18	337.99	23179.73	13.41	3.92
1/06/2021 9:14	60.48	ppm	R_S7B	<LOD	35.73	11.83	43.05	9744.72	139.09	11740.63	3.16	2.07
1/06/2021 9:21	60.81	ppm	R_S8B	16.69	183.09	20.50	220.59	16553.71	215.56	19944.23	4.05	2.48
1/06/2021 9:35	60.58	ppm	R_S9B	<LOD	98.51	14.71	118.69	14728.09	178.08	17744.69	8.18	2.46
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	<LOD	<LOD	18.79	<LOD	6356.94	119.32	7658.96	4.46	2.07
1/06/2021 10:00	60.77	ppm	rcra	619.83	56.98	13.79	68.65	47913.23	327.97	57726.78	3.73	2.28
1/06/2021 10:02	60.28	ppm	si02	<LOD	<LOD	12.46	<LOD	<LOD	33.69	<LOD	<LOD	2.31
1/06/2021 10:21	60.35	ppm	R_S11B	18.90	<LOD	41.21	<LOD	8045.73	209.65	9693.65	6.62	3.54
1/06/2021 10:26	60.79	ppm	R_S12B	32.69	31.68	16.31	38.17	23437.51	260.58	28237.96	7.18	2.83
1/06/2021 10:35	60.67	ppm	R_S13B	37.69	243.04	48.28	292.82	37469.03	548.02	45143.41	12.94	5.35
1/06/2021 10:42	60.55	ppm	R_S14B	41.55	38.74	16.83	46.67	15892.58	217.09	19147.69	4.19	2.54
1/06/2021 10:51	60.75	ppm	R_S15B	32.00	93.36	17.80	112.48	23806.96	256.53	28683.08	7.74	2.60
1/06/2021 10:59	60.43	ppm	R_S16B	27.73	<LOD	16.39	<LOD	20227.56	196.22	24370.55	4.66	2.09
1/06/2021 11:37	60.36	ppm	R_S17B	<LOD	<LOD	14.13	<LOD	3970.19	83.91	4783.36	4.20	1.82
1/06/2021 11:42	60.13	ppm	R_S18B	39.99	<LOD	21.33	<LOD	6972.95	137.63	8401.14	15.47	2.61
1/06/2021 11:50	60.22	ppm	R_S19B	<LOD	230.47	21.42	277.67	23644.31	254.35	28487.12	8.25	2.53
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	<LOD	<LOD	17.78	<LOD	23018.82	220.37	23440.75	5.78	2.40
1/06/2021 12:13	60.43	ppm	rcra	608.95	37.47	13.29	45.14	48821.25	331.96	58820.78	<LOD	3.46
1/06/2021 12:15	60.09	ppm	si02	<LOD	<LOD	12.35	<LOD	<LOD	33.70	<LOD	<LOD	2.35
1/06/2021 12:21	60.43	ppm	R_S21B	84.11	<LOD	18.19	<LOD	15476.63	182.98	18646.54	7.69	2.46
1/06/2021 12:31	60.49	ppm	-	15.90	<LOD	27.92	<LOD	15621.59	232.17	18821.19	5.40	2.79
1/06/2021 13:43	60.28	ppm	R_S23B	21.19	31.68	16.26	38.17	21678.81	249.50	26119.05	7.16	2.58
1/06/2021 13:47	60.47	ppm	R_S24B	49.94	23.85	15.03	28.73	20589.91	234.08	24807.12	7.05	2.50
1/06/2021 13:52	60.53	ppm	R_S25B	<LOD	<LOD	19.40	<LOD	12530.35	177.94	15096.81	4.01	2.29
1/06/2021 14:04	60.51	ppm	R_S26B	<LOD	33.91	12.63	40.86	17658.51	193.48	21275.31	6.06	2.30
1/06/2021 14:10	60.47	ppm	R_S27B	18.08	44.06	21.43	53.08	17400.34	261.02	20964.27	6.39	2.93
1/06/2021 14:19	60.56	ppm	R_S28B	60.70	<LOD	21.49	<LOD	20986.88	232.12	25285.40	5.06	2.58
1/06/2021 14:34	60.98	ppm	R_S29B	<LOD	<LOD	17.04	<LOD	14860.29	173.56	17903.96	8.11	2.43
1/06/2021 14:42	60.43	ppm	R_S30B	35.79	53.08	13.65	65.53	19842.37	208.12	24496.75	3.46	2.20
1/06/2021 14:47	60.54	ppm	rcra	879.33	<LOD	15.76	<LOD	14248.30	165.01	17166.63	<LOD	3.31
1/06/2021 14:53	61.88	ppm	si02	<LOD	<LOD	12.64	<LOD	<LOD	34.17	<LOD	<LOD	2.33
1/06/2021 15:06	60.22	ppm	R_S31B	<LOD	<LOD	17.64	<LOD	16148.30	183.73	19455.78	6.01	2.25
1/06/2021 15:15	60.85	ppm	R_S32B	<LOD	40.96	12.98	49.35	12768.84	166.19	15384.14	4.13	2.24
1/06/2021 15:18	60.47	ppm	R_S33B	<LOD	73.01	13.22	87.96	16438.74	179.65	19805.71	5.38	2.09
1/06/2021 15:26	60.49	ppm	R_S34B	10.90	37.00	24.24	44.58	16753.24	276.21	20184.63	5.92	3.22
1/06/2021 15:35	60.96	ppm	R_S35B	28.31	138.80	19.46	167.23	13425.76	197.22	16175.61	7.18	2.57
1/06/2021 16:08	61.29	ppm	R_S36B	<LOD	69.17	13.10	83.34	28209.07	237.14	33986.83	3.91	2.11
1/06/2021 16:12	60.69	ppm	R_S37B	34.30	<LOD	15.63	<LOD	24074.40	208.44	29005.30	3.64	1.97
1/06/2021 16:18	64.56	ppm	R_S38B	<LOD	71.81	16.43	86.52	128068.85	600.74	154299.82	7.56	2.69
1/06/2021 16:27	60.83	ppm	R_S39B	30.45	29.30	11.41	35.30	16540.27	177.20	19928.04	5.62	2.12
1/06/2021 16:41	60.39	ppm	R_S40B	19.73	<LOD	28.96	<LOD	8648.58	182.13	10419.98	6.62	2.90
2/06/2021 8:13	60.34	ppm	rcra	604.41	56.37	13.95	67.92	48160.20	331.57	58024.34	4.15	2.38
2/06/2021 8:14	60.28	ppm	si02	<LOD	<LOD	11.81	<LOD	<LOD	33.48	<LOD	<LOD	2.30
2/06/2021 8:19	60.75	ppm	R_S41B	<LOD	146.23	21.05	176.18	15560.27	221.29	18747.31	6.73	2.72
2/06/2021 8:28	60.46	ppm	R_S42B	45.48	82.63	12.86	99.55	19349.52	191.07	23312.67	6.41	2.38
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	<LOD	<LOD	21.76	<LOD	12079.40	178.42	14553.49	6.27	2.56
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	<LOD	82.68	12.41	99.61	18657.83	184.20	22479.31	6.54	2.21
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	<LOD	40.27	12.77	48.52	11103.44	153.09	13377.64	4.08	2.06
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	<LOD	<LOD	22.89	<LOD	11207.67	178.36	13503.22	5.68	2.65
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	13.42	53.38	15.50	64.31	14254.27	192.29	17173.82	6.09	2.49
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	<LOD	39.21	12.47	47.24	13983.91	169.99	16848.08	7.03	2.37
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	<LOD	62.42	17.66	75.20	11081.44	182.91	13351.13	4.62	2.60
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	<LOD	65.39	11.85	78.78	14528.92	163.50	17504.72	<LOD	3.11
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	<LOD	58.21	12.91	70.13	19760.79	199.69	23808.18	6.35	2.24
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	<LOD	416.05	21.68	501.27	36017.43	276.12	43394.49	5.57	2.31
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	<LOD	98.93	12.84	119.19	16443.45	173.69	19811.39	<LOD	2.96
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	<LOD	40.76	11.36	49.11	12474.80	151.41	15029.88	<LOD	3.29
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	13.28	113.73	17.72	137.02	18566.95	222.78	22369.82	<LOD	3.60
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	<LOD	152.62	14.19	183.88	21232.58	196.32	25581.42	3.34	2.01
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	<LOD	32.07	10.83	38.64	17686.69	178.70	21309.27	6.55	2.21

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	<LOD	123.15	16.39	148.37	13754.39	179.98	16571.55	3.58	2.26
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	<LOD	25.53	13.19	30.76	16993.98	196.85	20474.67	8.22	2.54
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	<LOD	242.66	17.25	292.36	29342.19	241.16	35352.04	3.44	2.15
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	<LOD	694.36	38.76	836.58	144275.50	762.86	173825.90	16.33	3.26
2/06/2021 10:15	60.54	ppm	R_S49B	39.00	1352.22	102.77	1629.18	183735.27	1527.47	221367.80	37.56	6.81
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	<LOD	312.33	18.03	376.30	13929.54	163.42	16782.58	<LOD	3.08
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	<LOD	367.19	24.34	442.40	13369.14	192.45	16107.40	3.71	2.46
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	NC	<LOD	55666.14	<LOD	<LOD	444.68	<LOD	<LOD	30.01
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	<LOD	501.04	22.18	603.66	18965.28	193.62	22849.73	3.26	2.15
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	<LOD	173.05	14.52	208.49	17349.79	176.30	20903.36	<LOD	2.90
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	<LOD	146.39	13.92	152.49	13858.85	158.53	14436.30	4.15	1.98
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	<LOD	237.28	19.88	285.88	17091.66	205.33	20592.36	7.97	2.38
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	<LOD	184.92	15.53	222.80	16731.48	178.32	20158.41	<LOD	3.17
2/06/2021 11:16	60.18	ppm	rcra	615.86	57.50	13.92	69.28	47699.82	329.63	57469.66	4.73	2.36
2/06/2021 11:17	60.54	ppm	si02	<LOD	<LOD	12.30	<LOD	<LOD	33.23	<LOD	<LOD	2.32
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	<LOD	17.46	10.20	21.04	18831.12	183.20	22688.10	3.85	1.95
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	<LOD	37.47	11.19	45.14	21779.13	200.60	26239.92	5.27	2.11
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	43.54	69.54	12.19	83.78	22383.55	203.35	26968.13	<LOD	3.07
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	<LOD	80.34	13.19	96.80	25949.77	226.84	31264.78	<LOD	3.14
2/06/2021 11:47	60.85	ppm	R_S53_0.0	<LOD	34.31	10.48	41.34	19256.71	180.63	23200.86	3.27	2.02
2/06/2021 11:53	60.45	ppm	R_S53_0.1	39.65	<LOD	19.00	<LOD	17151.90	197.37	20664.94	4.34	2.34
2/06/2021 11:56	60.18	ppm	R_S53_0.25	71.19	<LOD	16.60	<LOD	28120.47	237.26	33880.08	<LOD	3.32
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	36.30	44.89	18.04	54.08	12062.66	197.13	14533.33	5.79	2.95
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	33.45	<LOD	85.40	<LOD	8988.24	330.97	10829.20	<LOD	8.16
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	<LOD	104.17	12.98	125.51	22790.81	200.85	27458.81	<LOD	3.07
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	25.33	92.73	19.66	111.72	12066.73	197.41	14538.23	7.72	2.93
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	28.53	124.31	17.79	149.77	12316.80	180.96	14839.52	4.51	2.44
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	<LOD	195.29	16.97	235.29	10331.53	148.74	12447.63	<LOD	3.21
2/06/2021 13:20	53.96	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:21	53.45	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:23	60.58	ppm	rcra	584.80	47.71	13.70	57.48	48393.63	331.48	58305.58	5.27	2.38
2/06/2021 13:24	60.64	ppm	si02	<LOD	<LOD	12.24	<LOD	54.13	23.94	65.22	<LOD	2.33
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	30.82	828.83	30.99	998.59	40981.41	319.77	49375.19	4.77	2.54
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	<LOD	763.28	28.61	919.61	33859.06	279.58	40794.05	<LOD	3.49
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	<LOD	288.60	19.47	347.71	37077.95	288.19	44672.23	<LOD	3.31
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	<LOD	301.47	18.53	363.22	30135.48	244.90	36307.81	<LOD	3.12
2/06/2021 13:49	60.83	ppm	R_S57_0.0	<LOD	236.90	18.01	275.47	21597.54	215.12	25113.42	<LOD	3.34
2/06/2021 13:53	60.6	ppm	R_S57_0.1	<LOD	223.86	16.97	269.71	27486.08	233.47	33115.76	<LOD	3.22
2/06/2021 13:59	60.67	ppm	R_S57_0.25	62.35	108.93	19.04	131.24	55562.69	407.00	66943.00	8.31	3.11
2/06/2021 14:04	60.78	ppm	R_S58_0.0	<LOD	214.54	17.44	258.48	25851.74	235.80	31146.67	<LOD	3.59
2/06/2021 14:07	60.74	ppm	R_S58_0.1	45.08	223.64	16.59	269.45	29736.50	242.14	35827.11	3.37	2.20
2/06/2021 14:15	60.39	ppm	R_S58_0.25	30.42	214.61	17.09	258.57	27202.01	239.70	32773.51	<LOD	3.29
2/06/2021 14:22	60.74	ppm	R_S59_0.0	<LOD	139.94	14.84	168.60	28685.50	242.02	34560.84	<LOD	3.24
2/06/2021 14:25	60.51	ppm	R_S59_0.1	29.60	333.11	20.49	401.34	30616.29	259.38	36887.10	5.65	2.34
2/06/2021 14:31	60.71	ppm	R_S59_0.25	24.02	135.43	17.45	163.17	32142.28	282.17	38725.64	5.16	2.47
2/06/2021 14:39	60.54	ppm	R_S60_0.0	<LOD	75.21	12.49	90.61	27873.94	230.33	33583.06	<LOD	3.02
2/06/2021 14:42	60.67	ppm	R_S60_0.1	<LOD	46.79	11.39	56.37	20311.93	190.84	24472.20	3.88	1.93
2/06/2021 14:47	60.2	ppm	R_S60_0.25	<LOD	121.53	14.48	146.42	29470.42	245.17	35506.53	<LOD	3.35
2/06/2021 15:21	60.76	ppm	rcra	593.53	48.33	13.68	58.23	48011.70	331.53	57845.42	4.73	2.37
2/06/2021 15:23	60.22	ppm	si02	<LOD	<LOD	12.39	<LOD	43.74	23.99	52.70	<LOD	2.33
2/06/2021 15:24	56.44	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:26	56.22	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:28	60.82	ppm	R_61B_0.0	<LOD	45.47	12.02	54.78	42665.99	286.50	51404.81	<LOD	2.95
2/06/2021 15:32	60.08	ppm	R_61B_0.1	23.78	49.01	12.85	59.05	32188.16	258.31	38780.92	10.44	2.27
2/06/2021 15:36	60.45	ppm	R_61B_0.2	<LOD	434.25	24.35	523.19	85301.03	464.66	102772.33	5.30	2.45
2/06/2021 15:45	60.65	ppm	R_62B_0.0	<LOD	122.52	14.81	147.61	22636.65	215.05	27273.07	4.94	2.13
2/06/2021 15:48	60.26	ppm	R_62B_0.1	<LOD	154.54	17.09	186.19	22125.14	226.33	26656.80	<LOD	3.26
2/06/2021 15:54	60.82	ppm	R_62B_0.15	46.65	1016.17	45.78	1224.30	68581.89	529.90	82628.78	10.83	3.33
2/06/2021 15:58	60.81	ppm	R_63B_0.0	42.23	119.63	13.28	144.13	16347.06	172.97	19695.25	12.00	2.07
2/06/2021 16:01	60.13	ppm	R_63B_0.1	63.87	76.08	12.00	91.66	11493.41	145.62	13847.48	14.87	2.11
2/06/2021 16:07	60.69	ppm	R_63B_0.2	38.43	285.94	31.21	344.51	43536.95	435.49	52454.16	6.22	3.22
2/06/2021 16:14	60.27	ppm	sio2	<LOD	<LOD	12.22	<LOD	<LOD	35.17	<LOD	<LOD	2.34
2/06/2021 16:16	60.2	ppm	rcra	597.67	53.47	13.72	64.42	47000.08	323.84	56626.60	4.94	2.33
2/06/2021 16:17	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:19	53.65	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:20	60.2	ppm	R_64B_0.0	<LOD	64.27	13.22	65.78	30575.35	250.66	31295.14	<LOD	3.08
2/06/2021 16:22	60.75	ppm	R_64B_0.1	<LOD	103.16	13.52	124.29	22420.08	206.14	27012.14	3.09	2.04
2/06/2021 16:28	60.27	ppm	R_64B_0.22	<LOD	456.58	24.74	550.10	87376.47	468.77	105272.86	6.06	2.48
4/06/2021 8:58	46.39	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 8:59	55.93	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 9:01	61.12	ppm	R_S65b_0m	14.69	<LOD	31.87	<LOD	10947.92	212.17	13190.27	<LOD	4.51
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	31.94	30.40	16.35	36.63	19949.16	241.48	24035.13	6.83	2.69
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	<LOD	37.66	11.90	45.37	29602.72	239.53	35665.93	<LOD	3.17
4/06/2021 9:23	62.06	ppm	R_S66b_0m	29.16	319.27	21.70	384.66	60658.02	385.34	73081.95	4.03	2.37
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	25.54	163.26	16.54	196.70	22083.87	219.09	26607.07	<LOD	3.17
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	<LOD	146.79	14.58	176.86	24246.27	215.13	29212.37	<LOD	3.07
4/06/2021 9:37	60.5	ppm	R_S67b_0m	27.07	158.83	18.43	191.36	29615.97	275.17	35681.89	<LOD	3.48
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	<LOD	275.10	18.49	331.45	38788.20	281.60	46732.77	<LOD	3.17
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	23.55	388.91	27.25	468.57	34290.82	328.40	41314.24	<LOD	4.02
4/06/2021 9:53	60.65	ppm	SiO2	<LOD	<LOD	12.44	<LOD	<LOD	35.35	<LOD	<LOD	2.36

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	612.67	38.96	13.24	46.94	47727.21	327.17	57502.66	4.09	2.36
4/06/2021 10:17	62.12	ppm	R_S68b_0m	37.19	<LOD	19.36	<LOD	17485.56	203.08	21066.94	<LOD	3.34
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	37.67	<LOD	105.31	<LOD	8903.84	382.67	10727.52	<LOD	9.36
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	53.30	19.00	11.89	21.59	30929.66	252.66	35147.34	<LOD	3.16
4/06/2021 10:34	62.27	ppm	R_S69b_0m	<LOD	<LOD	15.38	<LOD	13798.74	160.59	16624.99	6.88	2.01
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	<LOD	<LOD	17.93	<LOD	18424.05	201.02	22197.65	<LOD	3.28
4/06/2021 10:40	61.98	ppm	R_S70b_0m	7.41	<LOD	36.65	<LOD	3139.11	131.51	3782.06	4.98	3.31
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	<LOD	<LOD	16.65	<LOD	7511.68	127.94	9050.22	3.71	2.29
4/06/2021 10:45	58.8	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:46	50.97	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:48	61.94	ppm	SiO2	<LOD	<LOD	12.17	<LOD	45.82	23.98	55.20	<LOD	2.35
4/06/2021 10:49	62.11	ppm	RCRA	576.64	29.67	13.17	35.75	46879.48	329.58	56481.30	4.04	2.35
4/06/2021 11:09	61.73	ppm	R_S71b_0m	<LOD	<LOD	14.76	<LOD	10125.76	132.45	12199.71	4.84	1.99
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	9.75	<LOD	26.96	<LOD	8184.90	171.41	9861.33	6.06	2.88
4/06/2021 11:15	61.05	ppm	R_S72b_0m	<LOD	21.10	12.72	25.42	10661.35	154.55	12845.00	5.51	2.27
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	17.23	<LOD	22.35	<LOD	6923.05	138.88	8341.02	4.24	2.54
4/06/2021 11:23	61.74	ppm	R_S73b_0m	<LOD	<LOD	13.38	<LOD	12612.72	140.08	15196.05	<LOD	2.88
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	<LOD	<LOD	14.72	<LOD	9746.36	130.38	11534.15	4.05	2.06
4/06/2021 11:31	61.9	ppm	SiO2	<LOD	<LOD	12.20	<LOD	<LOD	34.60	<LOD	<LOD	2.39
4/06/2021 11:33	61.96	ppm	RCRA	598.40	51.12	13.83	61.59	48373.61	333.23	58281.46	3.70	2.36
4/06/2021 11:35	54.1	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:37	53.49	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:45	60.98	ppm	R_S74b_0m	<LOD	<LOD	16.14	<LOD	3340.79	84.08	4025.05	<LOD	2.87
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	37.58	<LOD	14.34	<LOD	14041.92	154.11	16917.98	<LOD	2.85
4/06/2021 11:51	60.99	ppm	R_S75b_0m	<LOD	<LOD	16.53	<LOD	23452.35	214.27	28255.84	4.12	2.14
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	30.41	<LOD	58.61	<LOD	13296.06	333.17	16019.35	<LOD	6.60
4/06/2021 11:58	61.97	ppm	R_S76b_0m	35.51	<LOD	89.70	<LOD	11295.47	386.06	13609.00	<LOD	8.98
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	35.84	<LOD	18.17	<LOD	22693.03	222.94	27341.00	3.56	2.32
4/06/2021 12:07	61.84	ppm	SiO2	<LOD	<LOD	12.39	<LOD	<LOD	35.50	<LOD	<LOD	2.36
4/06/2021 12:09	60.85	ppm	RCRA	582.07	42.11	13.48	50.73	47602.83	328.43	57352.81	<LOD	3.45
4/06/2021 12:22	61.31	ppm	R_S77b_0m	57.37	<LOD	14.35	<LOD	6384.68	102.48	7692.39	4.53	1.80
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	12.04	<LOD	19.23	<LOD	10273.58	157.80	12377.81	<LOD	3.31
4/06/2021 12:27	61.26	ppm	R_S78b_0m	<LOD	<LOD	13.69	<LOD	11994.99	138.79	14451.80	2.88	1.85
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	16.22	<LOD	17.12	<LOD	8197.18	132.35	9876.12	<LOD	3.09
31/05/2021 14:11	62.07	%	test	<LOD	<LOD	0.24	<LOD	18.44	1.33	22.21	<LOD	0.04
31/05/2021 14:55	60.27	%	R_S1a	<LOD	0.67	0.06	0.81	31.35	0.56	37.77	<LOD	0.01
31/05/2021 14:56	1.23	%	R_S1a	<LOD	<LOD	0.85	<LOD	<LOD	2.39	<LOD	<LOD	0.26
31/05/2021 14:56	0.7	ppm	-	NC	1.06	0.27	1.28	2.60	0.72	3.13	<LOD	0.15
31/05/2021 14:56	0.41	ppm	-	NC	1.06	0.10	1.28	2.60	0.10	3.13	<LOD	0.15
31/05/2021 14:59	60.2	ppm	R_S1a	NC	514.49	19.64	619.87	39250.57	235.11	47289.84	7.11	1.89
31/05/2021 15:05	60.12	ppm	R_S2a	NC	206.29	11.00	248.54	12516.68	108.33	15080.34	3.21	1.49
31/05/2021 15:24	60.96	ppm	R_S4a	<LOD	104.39	10.65	125.77	19378.79	146.82	23347.94	5.74	1.68
31/05/2021 15:34	0.15	ppm	R_S6a	NC	1.06	0.10	1.28	2.60	0.10	3.13	<LOD	0.15
31/05/2021 15:35	60.18	ppm	R_S6a	NC	156.86	17.40	188.99	19379.48	196.14	23348.77	5.56	2.16
31/05/2021 15:40	60.2	ppm	R_S5a	NC	64.52	8.73	77.73	17114.22	127.88	20619.54	3.46	1.44
31/05/2021 15:51	60.25	ppm	R_S7a	NC	151.55	11.23	182.59	41704.11	210.57	50245.92	5.38	1.55
31/05/2021 16:08	60.21	ppm	R_S8a	NC	6034.00	97.80	7269.88	171443.03	815.57	206557.87	15.11	3.75
31/05/2021 16:19	60.18	ppm	R_S9a	NC	180.13	12.77	217.02	43540.69	229.97	52458.66	<LOD	2.46
1/06/2021 7:47	60.19	ppm	SiO2	NC	<LOD	17.97	<LOD	<LOD	53.50	<LOD	<LOD	3.56
1/06/2021 7:50	60.18	ppm	RCRA	NC	23.30	7.74	28.07	14585.23	117.91	17572.57	5.36	1.62
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	NC	65.41	10.58	68.06	13656.09	137.43	14210.29	6.28	1.94
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	NC	<LOD	10265.56	<LOD	<LOD	1963.53	<LOD	<LOD	39.17
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	NC	<LOD	68.15	<LOD	<LOD	236.48	<LOD	<LOD	38.60
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	NC	50.45	10.03	52.50	13987.14	129.33	14554.78	5.11	1.75
1/06/2021 8:29	60.23	ppm	R_S11a	NC	386.14	20.98	465.23	61031.50	331.40	73531.93	10.49	2.22
1/06/2021 8:33	60.2	ppm	R_S12a	NC	49.61	15.23	59.77	15656.52	178.81	18863.28	4.56	2.16
1/06/2021 8:53	0.72	ppm	R_S13a	NC	<LOD	156.20	<LOD	<LOD	46337.55	<LOD	<LOD	923.89
1/06/2021 8:54	60.18	ppm	R_S13a	NC	54.96	25.33	66.22	12833.97	219.61	15462.61	6.67	3.00
1/06/2021 8:59	60.66	ppm	R_S14a	<LOD	219.23	13.99	264.13	26899.63	186.38	32409.19	4.17	1.78
1/06/2021 9:02	61.21	ppm	R_S15a	<LOD	178.31	12.78	214.83	22358.46	165.47	26937.90	6.68	1.77
1/06/2021 9:08	60.33	ppm	R_S16a	<LOD	<LOD	13.26	<LOD	31393.18	191.38	37823.11	<LOD	2.41
1/06/2021 9:14	60.19	ppm	R_S17a	NC	56.65	9.42	68.25	22615.82	156.59	27247.98	4.22	1.57
1/06/2021 9:21	60.17	ppm	R_S18a	NC	27.99	11.37	33.72	10119.91	124.56	12192.66	4.32	1.86
1/06/2021 9:26	60.19	ppm	R_S19a	NC	36.56	9.26	44.05	23291.27	162.28	28061.77	4.24	1.68
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	NC	105.49	10.35	112.94	19955.09	146.76	21365.19	3.77	1.67
1/06/2021 9:52	60.14	ppm	SiO2	NC	<LOD	9.28	<LOD	<LOD	25.75	<LOD	<LOD	1.72
1/06/2021 9:56	60.16	ppm	RCRA	NC	57.82	10.03	69.66	47871.86	236.42	57676.94	<LOD	2.56
1/06/2021 10:09	60.25	ppm	R_S21a	NC	41.66	8.87	50.19	11985.97	113.05	14440.93	3.80	1.54
1/06/2021 10:15	60.21	ppm	R_S22a	NC	13.97	7.90	16.83	12176.33	111.12	14670.28	2.67	1.47
1/06/2021 10:21	60.21	ppm	R_S23a	NC	18.26	8.12	22.00	20237.21	143.79	24382.18	2.49	1.50
1/06/2021 10:27	60.16	ppm	R_S24a	NC	21.72	8.47	26.17	16597.47	133.04	19996.95	3.72	1.55
1/06/2021 10:33	60.16	ppm	R_S25a	NC	16.99	7.60	20.47	13822.58	115.21	16653.71	<LOD	2.20
1/06/2021 11:38	60.17	ppm	R_S26a	NC	334.97	17.07	403.58	41233.55	241.16	49678.98	6.42	1.88
1/06/2021 11:59	60.12	ppm	R_S27a	NC	84.54	10.78	101.86	16032.60	139.56	19316.39	9.40	1.71
1/06/2021 12:12	60.19	ppm	R_S28a	NC	28.89	8.82	34.81	18517.25	142.37	22309.94	5.00	1.62
1/06/2021 12:26	60.11	ppm	R_S29a	NC	20.90	8.70	25.18	25690.83	167.33	30952.81	<LOD	2.33
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	NC	10.51	5.88	12.66	12080.05	91.59	14554.28	<LOD	1.80
1/06/2021 12:39	60.01	ppm	SiO2	NC	<LOD	9.03	<LOD	<LOD	25.73	<LOD	<LOD	1.70
1/06/2021 12:41	60.23	ppm	RCRA	<LOD	22.10	7.69	26.63	14630.24	117.91	17626.80	3.51	1.60
1/06/2021 13:28	60.17	ppm	R_S31a	NC	26.10	8.64	31.45	22045.86	153.73	26561.28	4.17	1.66

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

1/06/2021 13:33	60.16	ppm	R_S32a	NC	28.81	9.49	34.71	13523.14	127.96	16292.94	5.54	1.77
1/06/2021 13:37	60.17	ppm	R_S33a	NC	35.00	7.81	42.17	19928.88	135.16	24010.70	<LOD	2.18
1/06/2021 13:49	60.19	ppm	R_S34a	NC	44.83	10.15	54.01	42648.58	227.43	51383.83	4.86	1.76
1/06/2021 13:54	60.19	ppm	R_S35a	NC	74.40	9.68	89.64	27801.41	171.85	33495.67	2.88	1.58
1/06/2021 13:59	60.21	ppm	R_S36a	NC	14.39	7.83	17.34	17009.58	130.24	20493.47	<LOD	2.31
1/06/2021 14:05	60.18	ppm	R_S37a	NC	46.30	7.96	55.78	15874.60	119.92	19126.02	3.98	1.51
1/06/2021 14:18	60.21	ppm	R_S38a	NC	34.12	8.42	41.11	11654.71	109.37	14041.82	9.94	1.55
1/06/2021 14:22	60.2	ppm	R_S39a	NC	21.66	8.91	26.10	10299.99	109.01	12409.63	5.20	1.78
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	<LOD	32.78	7.13	39.49	12816.24	102.64	15441.25	2.08	1.35
1/06/2021 14:42	60.99	ppm	SiO2	<LOD	<LOD	8.84	<LOD	<LOD	25.46	<LOD	<LOD	1.70
1/06/2021 14:44	60.66	ppm	RCRA	<LOD	27.95	7.81	33.67	14840.67	118.62	17880.33	3.92	1.59
1/06/2021 14:53	61.16	ppm	R_S41a	<LOD	24.42	8.00	29.42	28563.21	166.92	34413.51	<LOD	2.26
1/06/2021 15:10	61.12	ppm	R_S42a	<LOD	80.67	7.97	97.19	14347.37	106.78	17285.99	2.45	1.30
1/06/2021 15:16	61.28	ppm	R_S43a	<LOD	<LOD	11.44	<LOD	6846.25	83.23	8248.49	<LOD	2.14
1/06/2021 15:21	61.56	ppm	R_S44a	<LOD	39.04	9.60	47.04	14621.96	131.12	17616.82	5.98	1.82
1/06/2021 15:50	61.57	ppm	R_S45a	<LOD	<LOD	9.13	<LOD	1081.42	33.19	1302.92	6.26	1.23
1/06/2021 15:53	0.7	ppm	R_S46a	NC	<LOD	1.34	<LOD	<LOD	3.86	<LOD	<LOD	1.44
1/06/2021 15:55	61.45	ppm	R_S46a	<LOD	43.41	5.73	52.30	3950.81	49.24	4760.01	5.12	1.08
1/06/2021 15:59	61.58	ppm	R_S47a	<LOD	40.23	7.53	48.47	11109.17	97.75	13384.54	3.34	1.36
1/06/2021 16:03	61.91	ppm	R_S48a	<LOD	444.63	12.20	535.70	12353.48	93.65	14883.71	7.34	1.25
1/06/2021 16:09	61.32	ppm	R_S49a	<LOD	26.43	11.31	31.84	18691.63	167.25	22520.04	4.76	2.07
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	<LOD	372.39	65.69	397.43	38813.43	814.00	41423.08	11.88	7.00
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	<LOD	465.00	22.43	560.24	78882.24	383.82	95038.84	11.93	2.18
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	NC	1.06	0.10	1.28	2.60	0.10	3.13	<LOD	0.15
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	<LOD	644.82	20.47	776.89	87086.13	339.63	104923.05	6.08	1.79
2/06/2021 8:18	60.9	ppm	SiO2	<LOD	<LOD	8.88	<LOD	<LOD	25.61	<LOD	<LOD	1.69
2/06/2021 8:20	61.22	ppm	RCRA	506.86	21.02	7.67	25.33	14428.12	117.04	17383.28	3.30	1.59
2/06/2021 8:26	61.27	ppm	R_S51a_0m	<LOD	119.95	12.80	144.52	31286.56	208.37	37694.65	4.29	1.88
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	<LOD	395.38	21.87	476.36	48870.88	308.45	58880.58	5.37	2.18
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	<LOD	585.80	21.83	705.78	98030.48	392.44	118109.01	6.82	1.98
2/06/2021 8:41	61.49	ppm	R_S52a_0m	<LOD	220.35	12.73	265.48	9263.33	103.39	11160.64	4.86	1.68
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	<LOD	324.98	18.33	391.54	59258.73	310.39	71396.06	7.65	2.04
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	<LOD	332.31	14.37	400.37	56894.30	250.25	68547.35	3.36	1.58
2/06/2021 8:59	61.13	ppm	R_S53a_0m	<LOD	161.59	13.78	194.69	28292.45	199.74	34087.29	4.72	1.83
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	<LOD	215.86	13.01	260.07	32827.68	195.24	39551.42	3.48	1.61
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	<LOD	221.74	14.08	267.16	34254.77	210.82	41270.81	6.05	1.75
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	<LOD	77.65	7.53	121.33	12742.53	97.81	19910.20	2.21	1.28
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	<LOD	151.73	15.90	182.81	16823.85	173.03	20269.70	4.79	2.07
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	<LOD	134.30	10.35	161.81	17679.69	133.31	21300.83	<LOD	2.21
2/06/2021 9:49	60.92	ppm	SiO2	<LOD	<LOD	8.69	<LOD	<LOD	25.48	<LOD	<LOD	1.69
2/06/2021 9:50	61.29	ppm	RCRA	510.29	17.72	7.64	21.35	14534.89	117.69	17511.92	5.83	1.62
2/06/2021 9:59	60.99	ppm	R_S55a_0m	<LOD	34.38	9.22	41.42	15456.71	132.12	18622.54	3.33	1.60
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	<LOD	47.92	18.96	57.73	14923.44	199.82	17980.05	<LOD	3.76
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	<LOD	35.49	9.54	42.76	18614.72	148.22	22427.37	<LOD	2.38
2/06/2021 10:30	61.29	ppm	R_S56a_0m	<LOD	15.42	6.86	18.58	13840.02	107.29	16674.72	<LOD	1.97
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	<LOD	91.03	9.34	109.67	28595.07	166.18	34451.89	<LOD	2.26
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	<LOD	47.05	8.38	56.69	22141.66	145.28	26676.70	<LOD	2.24
2/06/2021 10:57	61.59	ppm	R_S57a_0m	<LOD	<LOD	19.51	<LOD	8391.28	127.20	10109.98	<LOD	2.99
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	<LOD	17.18	6.77	20.70	17298.42	119.47	20841.47	2.69	1.38
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	<LOD	26.18	9.28	31.54	19108.47	149.71	23022.25	<LOD	2.45
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	<LOD	13.50	6.85	16.27	11699.30	99.73	14095.54	<LOD	2.05
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	<LOD	<LOD	11.03	<LOD	10399.43	98.75	12529.43	<LOD	2.11
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	<LOD	<LOD	26.17	<LOD	9385.15	156.33	11307.41	<LOD	3.61
2/06/2021 11:28	61.6	ppm	SiO2	<LOD	<LOD	8.89	<LOD	<LOD	25.94	<LOD	<LOD	1.67
2/06/2021 11:30	60.97	ppm	RCRA	<LOD	22.72	7.71	27.37	14304.50	116.71	17234.34	3.06	1.59
2/06/2021 11:36	60.97	ppm	R_S59a_0m	<LOD	100.37	11.93	120.93	17257.62	151.04	20792.31	3.02	1.78
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	NC	<LOD	178.10	<LOD	<LOD	54836.13	<LOD	<LOD	48.31
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	NC	<LOD	607.38	<LOD	<LOD	38775.11	<LOD	<LOD	103.69
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	<LOD	242.04	36.92	291.61	23100.37	331.06	27831.77	8.37	3.55
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	<LOD	1250.67	51.91	1506.83	121398.69	693.19	146263.48	19.07	3.55
2/06/2021 12:00	60.67	ppm	R_S60a_0m	<LOD	17.25	8.91	20.78	15837.05	134.55	19080.78	<LOD	2.36
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	<LOD	30.18	15.23	36.36	11427.51	156.81	13768.08	<LOD	3.30
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	<LOD	19.66	7.35	23.69	11385.28	102.05	13717.20	<LOD	2.06
2/06/2021 13:09	61.57	ppm	R_S61a_0m	<LOD	13.79	6.97	16.61	18333.90	124.39	22089.04	2.09	1.38
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	<LOD	24.50	8.14	29.52	22769.23	151.17	27432.81	<LOD	2.31
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	<LOD	17.90	10.50	21.57	15990.66	149.45	19265.86	<LOD	2.63
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	<LOD	<LOD	12.42	<LOD	24255.83	161.80	35670.34	<LOD	2.30
2/06/2021 13:32	61	ppm	R_S62a_0.1m	<LOD	18.97	10.02	22.86	31434.46	202.09	37872.84	<LOD	2.53
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	<LOD	20.99	7.72	25.29	27315.27	160.57	32909.96	<LOD	2.17
2/06/2021 13:43	60.61	ppm	SiO2	<LOD	<LOD	8.84	<LOD	<LOD	26.10	<LOD	<LOD	1.68
2/06/2021 13:44	61.11	ppm	RCRA	<LOD	19.04	7.65	22.94	14536.27	117.67	17513.58	2.71	1.59
2/06/2021 13:50	61.44	ppm	R_S63a_0m	<LOD	<LOD	21.42	<LOD	11865.68	156.55	14296.00	<LOD	3.18
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	<LOD	22.34	7.80	26.92	16232.03	125.13	19556.66	<LOD	2.22
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	<LOD	21.13	7.39	25.46	28211.12	158.74	33989.30	<LOD	2.19
2/06/2021 14:04	60.55	ppm	R_S64a_0m	<LOD	15.86	6.49	19.11	17184.40	115.30	20704.10	<LOD	1.98
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	<LOD	23.94	7.54	28.84	19036.22	131.17	22935.20	2.39	1.45
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	<LOD	107.30	9.88	129.28	5550.42	75.19	6687.25	<LOD	2.06
2/06/2021 14:22	62.2	ppm	R_S65a_0m	<LOD	14.04	6.58	16.92	13780.28	105.17	16602.75	<LOD	1.99
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	<LOD	23.89	7.01	28.78	14876.97	111.34	17924.06	<LOD	2.02
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	<LOD	26.07	11.15	31.41	19542.63	169.51	23545.34	<LOD	2.80

Client: Department of Regional NSW
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Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	<LOD	63.24	9.18	76.19	12245.15	113.11	14753.19	4.59	1.66
2/06/2021 14:34	62.08	ppm	R_S67a_0m	<LOD	19.47	12.04	23.46	20181.18	181.71	24314.67	3.80	2.09
2/06/2021 14:40	61.18	ppm	SiO2	<LOD	<LOD	8.93	<LOD	27.37	17.38	32.98	<LOD	1.68
2/06/2021 14:42	61.89	ppm	RCRA	358.37	16.77	7.56	20.20	14189.85	115.91	17096.20	2.92	1.59
2/06/2021 15:16	61.89	ppm	R_S68a_0m	<LOD	378.42	23.79	455.93	50961.27	339.37	61399.12	12.17	2.66
2/06/2021 15:28	61.57	ppm	R_S69a_0m	<LOD	194.20	18.02	233.98	34361.89	257.99	41399.87	<LOD	3.37
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	<LOD	227.81	37.47	274.47	29576.81	380.20	35634.71	<LOD	5.37
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	<LOD	66.24	8.78	79.81	22812.49	148.29	27484.93	<LOD	2.32
2/06/2021 15:42	62.1	ppm	R_S70a_0m	<LOD	386.85	17.67	466.08	73781.32	322.42	88893.16	3.51	1.91
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	<LOD	375.87	40.09	452.86	48219.93	475.98	58096.30	8.81	3.67
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	<LOD	131.53	10.06	158.47	31920.14	175.39	38458.00	<LOD	2.29
2/06/2021 16:01	62.18	ppm	R_S71a_0m	<LOD	1192.15	26.45	1436.33	32057.78	208.20	38623.83	5.33	1.90
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	<LOD	151.98	34.99	183.11	16423.42	283.93	19787.25	<LOD	5.07
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	<LOD	430.61	15.59	518.81	31131.70	184.58	37508.07	<LOD	2.48
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	<LOD	149.42	37.24	173.74	45018.30	674.18	52346.86	8.93	5.24
3/06/2021 8:25	60.77	ppm	SiO2	<LOD	<LOD	8.98	<LOD	30.66	17.51	36.94	<LOD	1.70
3/06/2021 8:27	61.24	ppm	RCRA	<LOD	30.25	7.86	36.45	14457.84	117.16	17419.08	4.62	1.60
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	<LOD	199.51	20.32	240.37	54299.49	349.33	65421.07	6.14	2.42
3/06/2021 8:42	60.99	ppm	R_S73a_0m	<LOD	94.37	16.44	113.70	22787.00	215.96	27454.22	<LOD	3.21
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	<LOD	116.66	11.09	140.55	30694.49	187.09	36981.31	<LOD	2.36
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	NC	<LOD	10265.64	<LOD	<LOD	1898.91	<LOD	<LOD	850.15
3/06/2021 8:56	60.82	ppm	R_S74a_0m	<LOD	210.90	12.71	254.10	21330.20	156.05	25699.04	<LOD	2.47
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	<LOD	124.08	29.91	149.49	8375.70	191.73	10091.20	<LOD	4.71
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	<LOD	125.16	11.61	150.80	13856.57	130.20	16694.66	3.32	1.70
3/06/2021 11:29	1.78	ppm	R_S75a_0m	NC	<LOD	1289.80	<LOD	<LOD	242.20	<LOD	<LOD	115.12
3/06/2021 11:31	1.58	ppm	R_S75a_0m	NC	<LOD	1409.56	<LOD	<LOD	4801.26	<LOD	<LOD	88.77
3/06/2021 11:31	0.95	ppm	R_S75a_0m	NC	<LOD	18949.07	<LOD	<LOD	48702.34	<LOD	<LOD	1167.59
3/06/2021 11:33	62.07	ppm	R_S75a_0m	18.63	<LOD	31.77	<LOD	21448.40	300.84	25841.45	5.45	3.06
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	17.06	<LOD	300000.00	<LOD	29492.98	440.54	35533.71	<LOD	300000.00
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	16.24	<LOD	21.22	<LOD	14396.89	195.29	17345.65	3.98	2.36
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	<LOD	20.58	13.66	27.81	9901.31	155.70	13380.15	<LOD	3.39
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	<LOD	17.21	11.16	20.73	14025.25	164.66	16897.89	4.41	2.10
3/06/2021 12:22	62.29	%	-	0.01	<LOD	0.00	<LOD	1.67	0.02	2.01	<LOD	0.00
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	31.94	<LOD	27.49	<LOD	9572.44	184.58	11533.06	4.34	2.75
3/06/2021 12:39	62.14	ppm	R_S77a_0m	73.47	<LOD	21.97	<LOD	14768.49	196.95	17793.36	5.61	2.38
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	66.78	24.08	11.16	29.01	20335.69	195.38	24500.83	<LOD	2.88
3/06/2021 13:01	61.49	ppm	SiO2	<LOD	<LOD	11.84	<LOD	131.61	26.45	158.57	<LOD	2.31
3/06/2021 13:04	62.17	ppm	RCRA	631.73	53.03	13.83	63.89	48477.96	334.16	58407.18	3.57	2.37
3/06/2021 14:04	61.78	ppm	R_S78a_0m	24.72	<LOD	49.07	<LOD	12883.64	391.62	15522.46	9.30	5.35
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	49.70	23.69	10.84	28.54	9423.20	135.73	11353.25	<LOD	3.03
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	27.45	<LOD	16.94	<LOD	10028.73	145.40	12082.81	3.60	2.18
3/06/2021 14:27	62.28	ppm	R_S79a_0m	<LOD	136.25	15.17	164.16	35002.87	266.26	42172.13	5.86	2.10
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	19.20	98.51	18.35	118.69	28580.18	284.89	34433.95	4.73	2.46
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	<LOD	158.99	15.19	191.55	32804.80	252.42	39523.86	<LOD	2.95
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	<LOD	27.68	10.51	33.35	10979.76	137.56	13228.63	3.76	1.86
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	19.92	<LOD	24.36	<LOD	9704.76	171.47	11692.48	<LOD	3.73
3/06/2021 15:16	61.09	ppm	R_S81a_0m	17.07	<LOD	33.91	<LOD	11234.38	223.09	13535.40	5.39	3.16
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	22.20	31.87	16.91	38.40	13446.72	202.20	16200.87	7.15	2.66
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	<LOD	80.51	13.47	97.00	23149.40	217.61	27890.84	<LOD	3.27
3/06/2021 15:34	61.12	ppm	R_S82a__0m	<LOD	<LOD	19.59	<LOD	1885.23	70.86	2271.36	8.07	2.14
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	<LOD	63.30	11.95	76.27	14699.67	162.71	17710.45	4.72	2.04
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	25.89	<LOD	54.73	<LOD	8972.96	258.58	10810.80	8.45	4.22
3/06/2021 16:06	61.46	ppm	SiO2	<LOD	<LOD	12.56	<LOD	36.64	23.97	44.14	<LOD	2.39
3/06/2021 16:08	61.58	ppm	RCRA	579.27	45.29	13.39	54.57	48456.14	328.11	58380.89	6.31	2.34
3/06/2021 16:35	61.77	ppm	R_S83a_0m	30.83	<LOD	24.16	<LOD	15188.14	215.66	18298.96	<LOD	3.87
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	39.67	<LOD	21.20	<LOD	12893.89	182.10	15534.81	<LOD	3.50
15/06/2021 12:52	56.51	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 12:54	56.13	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 13:07	61.3	ppm	SiO2	<LOD	<LOD	11.29	<LOD	197.34	28.08	237.76	<LOD	2.33
15/06/2021 13:09	61.75	ppm	RCRA	565.86	30.97	12.91	37.31	48230.21	326.73	58108.69	3.67	2.31
16/06/2021 8:06	63.49	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:07	58.37	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:13	60.36	ppm	sio2	<LOD	<LOD	11.45	<LOD	194.96	28.11	234.89	<LOD	2.32
16/06/2021 8:15	60.19	ppm	rcra	578.28	22.59	12.72	27.22	48425.97	330.95	58344.54	4.00	2.35
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	<LOD	53.18	11.52	64.07	21230.44	194.68	25578.84	<LOD	2.80
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	<LOD	38.84	15.11	46.80	19623.32	226.36	23642.55	<LOD	3.58
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	<LOD	55.05	15.34	66.33	15794.03	200.94	19028.95	<LOD	3.39
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	<LOD	35.63	11.14	42.93	16300.84	174.58	19639.57	<LOD	2.93
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	<LOD	74.48	13.15	89.73	37717.89	278.72	45443.24	<LOD	3.16
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	<LOD	44.92	12.74	54.12	23069.25	218.95	27794.28	<LOD	3.22
16/06/2021 10:03	61.29	ppm	SiO2	<LOD	<LOD	12.64	<LOD	199.70	30.86	240.60	<LOD	2.58
16/06/2021 10:06	61.85	ppm	RCRA	605.88	39.50	13.33	47.59	48589.36	331.78	58541.40	4.68	2.36
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	<LOD	140.09	15.98	168.78	50359.67	332.52	60674.30	<LOD	3.29
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	<LOD	172.49	16.65	207.82	56965.42	354.46	68633.04	3.57	2.25
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	<LOD	103.16	17.37	124.29	42392.27	335.29	51075.02	<LOD	3.49
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	<LOD	32.52	11.15	39.18	27470.66	223.57	33097.18	<LOD	2.99
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	<LOD	<LOD	18.03	<LOD	25196.78	231.90	30357.57	<LOD	3.17
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	NC	<LOD	189.69	<LOD	46472.45	2981.18	55990.90	<LOD	31.57
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	<LOD	43.62	11.18	52.55	43464.28	279.72	52366.60	<LOD	2.89
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	<LOD	77.13	12.73	92.93	32459.12	248.59	39107.37	5.40	2.16

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	<LOD	<LOD	16.70	<LOD	10656.29	145.06	12838.90	<LOD	3.21
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	<LOD	40.24	10.56	48.48	14250.25	157.80	17168.98	4.05	2.13
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	<LOD	120.80	14.95	145.54	28243.14	241.91	34027.88	8.36	2.38
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	<LOD	362.35	24.83	436.57	98540.91	528.73	118723.99	<LOD	4.19
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	<LOD	641.41	37.25	772.78	132473.30	730.59	159606.39	7.58	3.32
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	<LOD	566.47	87.39	682.49	70842.31	1033.86	85352.18	15.00	7.50
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	32.00	164.11	21.35	186.49	32202.35	324.13	36593.58	<LOD	4.31
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	<LOD	22.18	12.03	26.72	24117.08	223.10	29056.72	<LOD	3.30
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	<LOD	183.41	21.08	220.98	50520.85	391.83	60868.49	<LOD	4.46
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	<LOD	53.83	11.79	64.86	10990.94	144.67	13242.10	<LOD	3.29
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	<LOD	26.90	13.10	32.41	16695.69	195.17	20115.29	<LOD	3.48
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	64.18	305.22	21.88	359.08	48763.50	356.16	57368.82	<LOD	3.71
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	48.59	47.29	16.46	56.98	19279.26	232.98	23228.02	<LOD	3.71
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	46.75	100.44	12.48	121.01	28031.44	217.48	33772.82	<LOD	2.88
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	40.08	130.90	16.34	157.71	54012.75	350.77	65075.60	<LOD	3.83
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	<LOD	95.66	13.97	115.25	58033.29	348.65	69919.63	<LOD	3.25
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	37.25	86.44	12.49	104.14	34054.30	245.78	41029.28	3.56	2.03
16/06/2021 12:57	63.85	ppm	SiO2	<LOD	<LOD	11.46	<LOD	172.39	27.81	207.70	<LOD	2.33
16/06/2021 12:58	61.79	ppm	RCRA	598.06	32.63	13.25	39.31	47617.98	330.73	57371.06	<LOD	3.46
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	<LOD	150.33	14.90	181.12	38652.55	273.54	46569.34	3.67	2.16
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	<LOD	227.92	17.94	274.60	40420.67	292.01	48699.60	6.27	2.33
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	<LOD	<LOD	13.99	<LOD	15382.48	163.33	18533.11	<LOD	2.83
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	<LOD	20.91	10.84	25.19	21111.19	201.48	25435.17	<LOD	3.08
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	<LOD	<LOD	18.12	<LOD	16096.76	188.97	19393.69	3.74	2.24
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	<LOD	<LOD	15.11	<LOD	16535.24	172.51	19921.98	<LOD	2.80
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	<LOD	33.69	12.08	40.59	32863.74	257.72	39594.87	<LOD	3.17
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	<LOD	35.93	12.29	43.29	33767.26	267.77	40683.45	<LOD	3.32
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	NC	<LOD	74.47	<LOD	<LOD	175509.91	<LOD	<LOD	4162.00
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	<LOD	<LOD	15.65	<LOD	16488.70	181.89	19865.90	<LOD	3.01
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	<LOD	48.61	12.61	58.57	29925.63	246.58	36054.98	<LOD	3.08
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	<LOD	<LOD	34.92	<LOD	34015.74	399.97	40982.82	10.66	3.51
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	<LOD	16.27	10.64	19.60	21623.85	199.03	26052.83	<LOD	3.02
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	17.64	<LOD	21.41	<LOD	16361.44	206.97	19712.58	4.09	2.50
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	<LOD	132.11	15.32	159.17	31202.98	257.58	37593.95	<LOD	3.39
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	<LOD	340.05	18.67	409.70	27175.81	225.73	32741.94	<LOD	3.05
16/06/2021 14:48	62.5	ppm	R_S10OA_01	<LOD	345.31	20.08	416.04	25865.07	234.50	31162.73	<LOD	3.20
16/06/2021 14:52	62.2	ppm	R_S10OA_03	<LOD	224.23	18.25	270.16	18373.69	203.43	22136.98	<LOD	3.20
16/06/2021 15:00	8.99	ppm	SiO2	NC	106.88	24.03	128.77	8132.68	236.36	9798.41	<LOD	4.98
16/06/2021 15:04	20.77	ppm	SiO2	NC	<LOD	14.45	<LOD	130.16	32.21	156.82	<LOD	2.85
16/06/2021 15:04	0.15	ppm	SiO2	NC	<LOD	41.40	<LOD	<LOD	1869.93	<LOD	<LOD	75.15
16/06/2021 15:05	61.18	ppm	SiO2	<LOD	<LOD	11.40	<LOD	148.54	26.85	178.96	<LOD	2.33
16/06/2021 15:07	61.33	ppm	RCRA	623.70	28.12	12.67	33.88	44616.83	315.70	53755.22	<LOD	3.43
16/06/2021 15:18	0.55	ppm	RCRA	NC	<LOD	6734.58	<LOD	<LOD	455.65	<LOD	<LOD	77.87
16/06/2021 15:20	0.56	ppm	R_S10IA	NC	<LOD	1356.50	<LOD	<LOD	705.97	<LOD	<LOD	129.24
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	NC	<LOD	6999.86	<LOD	<LOD	18174.31	<LOD	<LOD	88.59
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	55.05	<LOD	15.69	<LOD	11921.76	151.46	14363.57	<LOD	2.98
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	101.25	53.14	11.32	64.02	21452.37	193.73	25846.23	3.91	1.98
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	NC	<LOD	3629.16	<LOD	<LOD	80941.37	<LOD	<LOD	117.53
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	59.11	134.24	13.64	161.73	21448.63	193.84	25841.72	3.26	2.00
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	<LOD	37.44	9.59	45.11	11183.28	132.97	13473.83	<LOD	2.61
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	NC	44.29	18.77	53.36	17345.76	292.54	20898.51	<LOD	4.86
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	131.07	34.38	11.80	41.42	19588.48	195.52	23600.58	<LOD	3.04
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	NC	<LOD	21.97	<LOD	22049.70	268.85	26565.90	<LOD	4.08
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	NC	36.70	22.81	44.22	20690.36	397.89	24928.14	<LOD	5.95
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	87.27	37.31	10.91	44.95	20110.33	189.90	24229.31	<LOD	2.90
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	<LOD	<LOD	13.15	<LOD	10813.16	130.48	13027.90	<LOD	2.63
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	62.45	24.94	10.04	30.05	18160.20	175.54	21879.76	<LOD	2.82
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	115.37	43.53	11.50	52.45	22551.88	204.50	27170.94	<LOD	3.05
17/06/2021 8:30	49.35	ppm	RCRA	478.69	36.14	11.89	43.54	39167.95	278.21	47190.30	3.90	2.12
17/06/2021 8:31	61.65	ppm	RCRA	631.16	33.81	13.07	40.73	46032.25	324.16	55460.54	4.50	2.34
17/06/2021 8:36	61.36	ppm	R_S104_0.0	<LOD	211.79	17.24	255.17	37991.86	285.15	45773.33	4.58	2.30
17/06/2021 8:38	61.76	ppm	R_S104_0.1	<LOD	202.23	16.64	243.65	47716.26	311.87	57489.47	4.10	2.19
17/06/2021 8:41	61.51	ppm	R_S104_0.25	<LOD	216.60	16.89	260.96	39506.77	280.60	47598.52	5.59	2.16
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	<LOD	167.22	16.42	201.47	37000.41	284.67	44578.81	5.04	2.37
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	<LOD	219.12	18.43	264.00	40512.81	304.39	48810.61	<LOD	3.48
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	34.02	292.89	20.26	352.88	45130.76	326.09	54374.41	<LOD	3.44
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	<LOD	<LOD	12.12	<LOD	11187.05	128.19	18339.43	<LOD	2.48
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	63.24	<LOD	16.81	<LOD	23362.04	216.15	28147.04	3.45	2.08
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	88.55	19.55	9.87	23.55	18149.07	175.40	21866.35	<LOD	2.85
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	<LOD	<LOD	12.18	<LOD	9001.29	114.59	10844.93	<LOD	2.46
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	39.65	19.57	9.37	23.58	20624.69	184.95	24849.02	<LOD	2.73
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	88.16	<LOD	20.22	<LOD	23139.46	238.90	27878.87	3.55	2.36
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	46.66	13.17	8.64	15.87	14072.00	146.84	16954.22	<LOD	2.56
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	168.35	32.42	10.24	39.06	23212.30	201.72	27966.63	<LOD	2.83
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	193.47	27.95	13.22	33.67	30152.70	262.53	36328.55	<LOD	3.27
17/06/2021 9:53	62.25	ppm	RCRA	566.90	27.88	12.87	33.59	47728.66	328.27	57504.41	<LOD	3.48
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	<LOD	<LOD	11.71	<LOD	9552.29	118.52	11508.78	<LOD	2.50
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	112.04	22.61	11.37	27.24	15999.08	176.85	19276.00	10.30	2.19
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	297.08	39.74	11.42	47.88	44423.43	289.78	53522.20	3.22	1.93
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	<LOD	<LOD	10.90	<LOD	6730.66	96.54	11217.77	<LOD	2.35

Client: Department of Regional NSW
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	60.37	18.90	9.81	22.77	19740.21	183.73	23783.39	<LOD	2.80
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	107.67	<LOD	17.22	<LOD	22245.65	212.60	26801.99	<LOD	3.10
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	NC	<LOD	57.68	<LOD	12351.73	761.99	20586.22	<LOD	15.07
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	79.41	<LOD	12.91	<LOD	10564.27	128.62	12728.04	<LOD	2.60
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	38.23	<LOD	13.00	<LOD	15617.29	156.63	18816.01	<LOD	2.64
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	176.59	26.85	10.98	32.35	41423.78	278.47	49908.17	<LOD	3.04
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	45.48	15.54	9.16	18.72	18535.20	172.80	22331.57	<LOD	2.67
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	139.18	22.19	10.12	26.73	19543.27	185.43	23546.11	<LOD	2.89
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	93.30	<LOD	14.15	<LOD	18844.20	179.53	22703.86	<LOD	2.97
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	<LOD	<LOD	12.33	<LOD	12036.32	133.62	14501.59	<LOD	2.48
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	106.64	<LOD	15.92	<LOD	20908.09	199.13	28254.18	3.97	2.03
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	101.14	<LOD	14.85	<LOD	21869.81	198.52	26349.17	3.68	2.03
17/06/2021 11:18	61.77	ppm	RCRA	591.27	33.47	12.96	40.33	45314.33	319.59	54595.58	3.96	2.34
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	<LOD	<LOD	12.53	<LOD	9723.68	122.15	11715.28	<LOD	2.48
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	120.05	20.87	9.56	25.14	18638.13	177.67	22455.58	<LOD	2.76
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	41.60	17.89	9.77	21.55	19831.15	183.92	23892.95	<LOD	2.89
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	<LOD	<LOD	12.18	<LOD	10370.51	125.99	12494.59	<LOD	2.53
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	74.05	<LOD	13.86	<LOD	19935.15	183.23	24018.25	<LOD	2.81
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	56.08	<LOD	13.86	<LOD	18423.40	174.73	22196.87	<LOD	2.83
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	57.37	<LOD	13.41	<LOD	16790.33	166.43	21526.06	<LOD	2.70
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	108.25	<LOD	14.69	<LOD	22198.76	198.98	26745.49	<LOD	2.94
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	242.14	25.00	11.13	30.12	52682.35	318.37	63472.71	<LOD	3.11

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

Client: Department of Regional NSW
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Dry Weight (moisture corrected) Mo	Mn	Mn Error	Dry Weight (moisture corrected) Mn	Hg	Hg Error	Dry Weight (moisture corrected) Hg	Ni	Ni Error
7/06/2021 10:55	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:56	53.57	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:58	61.59	ppm	SiO2	<LOD	<LOD	47.38	<LOD	<LOD	6.70	<LOD	<LOD	24.87
7/06/2021 11:21	60.43	ppm	GW1_0.0	<LOD	139.86	40.49	168.51	<LOD	7.74	<LOD	<LOD	29.24
7/06/2021 11:30	60.61	ppm	GW1_0.1	<LOD	309.80	45.78	373.25	<LOD	7.83	<LOD	38.66	19.94
7/06/2021 11:31	19.12	ppm	GW1_0.1	<LOD	250.88	58.14	302.27	<LOD	10.33	<LOD	73.69	26.77
7/06/2021 11:32	60.66	ppm	GW1_0.2	<LOD	286.30	45.49	344.94	<LOD	7.48	<LOD	39.85	19.54
7/06/2021 11:32	0.53	ppm	GW1_0.2	<LOD	<LOD	1325.07	<LOD	<LOD	201.39	<LOD	<LOD	662.61
7/06/2021 11:33	60.47	ppm	GW1_0.3	<LOD	264.94	50.62	319.20	<LOD	9.38	<LOD	<LOD	35.68
7/06/2021 11:35	60.68	ppm	GW1_0.4	<LOD	293.73	44.67	353.89	<LOD	7.50	<LOD	<LOD	28.63
7/06/2021 11:37	60.76	ppm	GW1_0.5	4.05	317.76	46.39	382.84	<LOD	7.66	<LOD	<LOD	29.43
7/06/2021 11:38	61.01	ppm	GW1_1.0	<LOD	<LOD	57.39	<LOD	<LOD	7.67	<LOD	<LOD	28.70
7/06/2021 11:40	60.76	ppm	GW1_2.0	<LOD	205.76	48.34	247.90	<LOD	9.45	<LOD	<LOD	35.07
7/06/2021 11:41	60.67	ppm	GW1_3.0	<LOD	261.11	47.95	314.59	<LOD	8.67	<LOD	42.52	21.35
7/06/2021 11:42	6.84	ppm	GW1_4.0	<LOD	319.12	117.63	384.48	<LOD	21.06	<LOD	<LOD	72.51
7/06/2021 11:43	61.37	ppm	GW1_4.0	3.67	270.38	45.36	325.76	<LOD	7.97	<LOD	33.64	19.66
7/06/2021 13:21	60.51	ppm	GW3_0.1	<LOD	514.25	54.34	619.58	<LOD	8.46	<LOD	51.57	21.11
7/06/2021 13:26	60.77	ppm	GW3_0.0	<LOD	453.73	49.38	546.66	<LOD	7.76	<LOD	<LOD	27.67
7/06/2021 13:28	60.6	ppm	GW3_0.2	<LOD	393.97	50.67	474.66	<LOD	8.41	<LOD	41.31	20.68
7/06/2021 13:29	72.5	ppm	GW3_0.3	<LOD	640.80	54.61	772.05	<LOD	8.01	<LOD	<LOD	29.46
7/06/2021 13:31	60.51	ppm	GW3_0.44	<LOD	349.55	49.88	421.14	<LOD	8.23	<LOD	65.28	20.92
7/06/2021 13:33	63.3	ppm	GW3_0.5	<LOD	235.70	47.30	283.98	<LOD	8.35	<LOD	42.96	20.51
7/06/2021 13:34	60.96	ppm	GW3_1.0	<LOD	186.67	44.03	224.90	<LOD	7.76	<LOD	34.39	19.70
7/06/2021 13:41	60.6	ppm	GW3_2.0	<LOD	266.75	47.69	321.39	<LOD	8.37	<LOD	39.85	20.50
7/06/2021 13:58	60.47	ppm	SiO2	<LOD	<LOD	45.13	<LOD	<LOD	6.89	<LOD	<LOD	24.30
7/06/2021 14:00	60.77	ppm	RCRA	<LOD	871.81	71.53	1050.37	<LOD	11.07	<LOD	64.42	25.25
7/06/2021 15:09	60.72	ppm	D1	<LOD	94.06	37.60	113.33	<LOD	7.19	<LOD	<LOD	26.65
7/06/2021 15:12	60.52	ppm	GW3_0.0	<LOD	151.32	38.82	182.31	<LOD	7.15	<LOD	<LOD	26.31
7/06/2021 15:24	60.98	ppm	GW3_0.1	<LOD	410.29	75.68	494.33	<LOD	14.74	<LOD	59.49	31.42
7/06/2021 15:26	60.5	ppm	GW3_0.2	<LOD	218.81	48.96	263.63	<LOD	9.19	<LOD	<LOD	30.59
7/06/2021 15:28	61.05	ppm	GW3_0.3	4.67	297.21	61.44	358.08	<LOD	13.24	<LOD	58.57	27.13
7/06/2021 15:29	71.47	ppm	GW3_0.4	<LOD	154.04	47.42	185.59	<LOD	9.42	<LOD	91.13	23.55
7/06/2021 15:31	62.46	ppm	GW3_0.5	<LOD	197.87	54.60	238.40	<LOD	11.37	<LOD	61.68	24.82
7/06/2021 15:32	64.68	ppm	GW3_1.0	<LOD	229.57	49.06	276.59	<LOD	8.87	<LOD	39.20	21.49
7/06/2021 15:34	61.4	ppm	GW3_2.0	3.92	226.95	49.89	273.43	<LOD	10.10	<LOD	<LOD	34.56
7/06/2021 15:37	61.39	ppm	GW3_3.0	<LOD	<LOD	58.99	<LOD	<LOD	7.46	<LOD	<LOD	28.93
8/06/2021 7:48	53.82	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 7:49	56.02	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 8:00	60.96	ppm	SiO2	<LOD	<LOD	45.57	<LOD	<LOD	6.75	<LOD	<LOD	25.45
8/06/2021 8:02	61.12	ppm	RCRA	6.41	851.17	72.94	1025.51	<LOD	10.91	<LOD	89.41	26.55
8/06/2021 8:08	61.74	ppm	GW4_0.0	<LOD	321.55	53.40	387.41	<LOD	9.05	<LOD	56.63	23.59
8/06/2021 8:09	61.95	ppm	GW4_0.1	5.76	234.59	53.35	282.64	<LOD	9.94	<LOD	<LOD	35.17
8/06/2021 8:14	61.41	ppm	GW4_0.2	10.94	202.59	60.01	241.18	<LOD	11.50	<LOD	80.76	27.82
8/06/2021 8:16	62.26	ppm	GW4_0.3	<LOD	100.88	43.81	121.54	<LOD	8.39	<LOD	<LOD	31.63
8/06/2021 8:17	61.51	ppm	GW4_0.4	5.41	150.79	41.50	181.67	<LOD	8.01	<LOD	<LOD	29.21
8/06/2021 8:19	61.85	ppm	GW4_0.5	3.73	217.94	43.21	262.58	<LOD	7.52	<LOD	36.33	19.43
8/06/2021 8:20	65.48	ppm	GW4_1.0	<LOD	165.46	42.16	199.35	<LOD	7.32	<LOD	45.62	19.35
8/06/2021 8:22	62.3	ppm	GW4_2.0	<LOD	277.37	46.35	334.18	<LOD	7.73	<LOD	52.33	20.20
8/06/2021 9:13	62.15	ppm	GW5_0.0	<LOD	<LOD	46.66	<LOD	<LOD	5.82	<LOD	<LOD	22.23
8/06/2021 9:14	61.79	ppm	GW5_0.1	<LOD	468.74	55.34	564.75	<LOD	8.73	<LOD	85.16	23.40
8/06/2021 9:19	61.88	ppm	GW5_0.2	<LOD	325.08	54.08	391.66	<LOD	9.45	<LOD	<LOD	36.46
8/06/2021 9:20	61.76	ppm	GW5_0.3	<LOD	180.25	41.76	217.17	<LOD	7.46	<LOD	<LOD	28.29
8/06/2021 9:22	61.8	ppm	GW5_0.4	<LOD	249.97	44.00	301.17	<LOD	7.78	<LOD	<LOD	29.52
8/06/2021 9:24	80.71	ppm	GW5_0.5	<LOD	987.34	59.99	1189.57	<LOD	7.09	<LOD	34.16	18.73
8/06/2021 9:25	61.79	ppm	GW5_1.0	<LOD	275.03	45.96	331.36	<LOD	7.34	<LOD	57.76	19.89
8/06/2021 9:51	61.71	ppm	SiO2	<LOD	<LOD	45.00	<LOD	<LOD	6.61	<LOD	<LOD	24.15
8/06/2021 9:55	30	ppm	RCRA	5.87	595.33	59.30	717.27	<LOD	9.30	<LOD	<LOD	32.86
8/06/2021 9:56	62.23	ppm	RCRA	4.30	865.85	71.75	1043.19	<LOD	10.86	<LOD	48.61	25.15
8/06/2021 10:04	62.28	ppm	D2	<LOD	147.70	39.23	177.95	<LOD	7.12	<LOD	<LOD	27.34
8/06/2021 10:05	61.74	ppm	GW6_0.0	<LOD	160.36	38.80	193.20	<LOD	7.05	<LOD	<LOD	27.12
8/06/2021 10:11	61.88	ppm	GW6_0.1	<LOD	261.68	43.17	315.28	<LOD	6.93	<LOD	<LOD	26.47
8/06/2021 10:13	60.96	ppm	GW6_0.2	<LOD	421.90	47.93	508.31	<LOD	7.39	<LOD	34.09	19.00
8/06/2021 10:14	61.3	ppm	GW6_0.3	<LOD	162.86	39.59	196.22	<LOD	7.44	<LOD	<LOD	28.98
8/06/2021 10:16	70.43	ppm	GW6_0.4	<LOD	191.97	40.98	231.29	<LOD	7.16	<LOD	32.95	18.57
8/06/2021 10:18	74.28	ppm	GW6_0.5	<LOD	166.64	43.77	200.77	<LOD	7.99	<LOD	<LOD	29.28
8/06/2021 10:20	61.98	ppm	GW6_1.0	<LOD	203.78	47.66	245.52	<LOD	8.52	<LOD	93.28	23.62
8/06/2021 11:33	61.81	ppm	GW7_0.00	3.73	193.43	41.44	233.05	<LOD	7.31	<LOD	<LOD	27.22
8/06/2021 11:56	61.46	ppm	GW7_0.1	<LOD	1475.72	79.25	1777.98	<LOD	9.73	<LOD	75.38	23.38
8/06/2021 12:00	62.24	ppm	GW7_0.2	<LOD	1604.58	81.21	1707.00	<LOD	9.47	<LOD	65.62	23.62
8/06/2021 12:06	61.24	ppm	GW7_0.3	<LOD	1341.35	75.26	1616.08	<LOD	9.22	<LOD	<LOD	32.95
8/06/2021 12:07	61.12	ppm	GW7_0.4	<LOD	1866.32	86.56	2248.58	<LOD	9.42	<LOD	104.80	24.11
8/06/2021 12:08	41.19	ppm	GW7_0.3	<LOD	1679.79	90.11	2023.84	<LOD	11.11	<LOD	160.08	27.73
8/06/2021 12:09	64.87	ppm	GW7_0.4	<LOD	1166.98	82.34	1406.00	<LOD	10.59	<LOD	131.67	27.66
8/06/2021 12:11	61.83	ppm	GW7_1.0	<LOD	697.34	60.42	840.17	<LOD	8.59	<LOD	91.64	22.79
8/06/2021 12:13	61.67	ppm	GW7_2.0	<LOD	6311.61	151.14	7604.35	<LOD	11.14	<LOD	106.74	26.46

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	<LOD	8054.96	173.94	9704.77	<LOD	11.15	<LOD	170.81	27.99
8/06/2021 12:16	61.51	ppm	GW7_5.0	<LOD	36301.91	358.05	43737.24	25.33	8.52	30.52	657.27	37.01
8/06/2021 12:36	61.77	ppm	SiO2	<LOD	<LOD	45.89	<LOD	<LOD	6.64	<LOD	<LOD	24.10
8/06/2021 12:37	61.84	ppm	RCRA	<LOD	804.65	71.26	969.46	<LOD	10.83	<LOD	66.55	25.75
8/06/2021 14:21	61.47	ppm	GW8_0.0	<LOD	793.20	55.38	955.66	<LOD	7.56	<LOD	<LOD	26.80
8/06/2021 14:37	0.15	ppm	GW8_0.0	<LOD	<LOD	136.77	<LOD	<LOD	732.70	<LOD	<LOD	65.75
8/06/2021 15:02	61.45	ppm	GW8_0.1	<LOD	976.46	70.87	1176.46	<LOD	10.01	<LOD	<LOD	35.43
8/06/2021 15:03	61.03	ppm	GW8_0.2	<LOD	908.38	71.55	1094.43	<LOD	10.67	<LOD	96.65	25.30
8/06/2021 15:05	61.09	ppm	GW8_0.3	<LOD	659.27	61.67	794.30	<LOD	9.48	<LOD	61.57	22.98
8/06/2021 15:06	61.68	ppm	GW8_0.4	4.37	905.46	70.21	1090.92	<LOD	10.28	<LOD	56.33	24.47
8/06/2021 15:07	62.15	ppm	GW8_0.5	<LOD	388.09	54.11	467.58	<LOD	9.28	<LOD	44.83	22.26
8/06/2021 15:09	62.56	ppm	GW8_1.0	<LOD	1240.12	75.35	1494.12	<LOD	10.09	<LOD	<LOD	34.90
8/06/2021 15:13	61.78	ppm	GW8_2.0	<LOD	486.56	58.05	586.22	<LOD	9.80	<LOD	<LOD	35.14
8/06/2021 15:14	62.22	ppm	D3	<LOD	910.01	68.49	1096.40	<LOD	9.87	<LOD	<LOD	34.35
8/06/2021 15:16	61.01	ppm	GW8_5.0	4.78	4406.85	126.14	5309.46	<LOD	10.07	<LOD	92.63	25.41
9/06/2021 7:45	53.9	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:46	53.54	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:50	62.07	ppm	SiO2	<LOD	<LOD	45.49	<LOD	<LOD	6.60	<LOD	<LOD	25.15
9/06/2021 7:52	61.73	ppm	RCRA	<LOD	857.56	71.63	1033.20	<LOD	10.92	<LOD	57.12	25.45
9/06/2021 7:59	61.51	ppm	GW10_0.0	4.00	129.44	38.39	155.95	<LOD	8.86	<LOD	<LOD	26.00
9/06/2021 8:10	61.66	ppm	GW10_0.1	<LOD	277.90	45.54	334.82	<LOD	7.65	<LOD	30.03	19.72
9/06/2021 8:12	66.09	ppm	GW10_0.2	<LOD	286.98	46.63	345.76	<LOD	7.71	<LOD	43.75	20.14
9/06/2021 8:13	34.99	ppm	GW10_0.3	<LOD	247.32	43.86	297.98	<LOD	7.22	<LOD	34.21	19.27
9/06/2021 8:21	65.81	ppm	GW10_0.4	<LOD	288.26	45.43	347.30	<LOD	7.46	<LOD	<LOD	28.31
9/06/2021 8:23	62.2	ppm	GW10_0.5	<LOD	218.54	42.87	263.30	<LOD	7.28	<LOD	<LOD	28.43
9/06/2021 8:24	61.66	ppm	GW10_1.0	<LOD	212.34	44.55	255.83	<LOD	7.75	<LOD	41.79	20.05
9/06/2021 8:26	61.56	ppm	GW10_2.0	<LOD	297.84	48.41	358.84	<LOD	7.75	<LOD	44.70	20.57
9/06/2021 8:27	61.17	ppm	GW10_4.0	<LOD	428.08	55.21	515.76	<LOD	8.63	<LOD	51.05	22.35
9/06/2021 11:18	61.42	ppm	GW9_0.0	5.06	132.38	40.15	159.49	<LOD	7.44	<LOD	<LOD	27.92
9/06/2021 11:25	61.58	ppm	GW9_0.1	<LOD	252.22	47.11	303.88	<LOD	7.78	<LOD	44.24	20.69
9/06/2021 11:27	61.71	ppm	GW9_0.2	<LOD	239.24	45.67	288.24	<LOD	7.58	<LOD	<LOD	29.15
9/06/2021 11:41	64.9	ppm	GW9_0.3	<LOD	241.89	46.44	291.43	<LOD	7.69	<LOD	<LOD	29.65
9/06/2021 11:42	62.1	ppm	GW9_0.4	<LOD	224.18	46.17	270.10	<LOD	7.80	<LOD	<LOD	30.20
9/06/2021 11:44	61.49	ppm	GW9_0.5	<LOD	172.50	45.22	207.83	<LOD	8.05	<LOD	<LOD	31.94
9/06/2021 11:45	61.63	ppm	GW9_1.0	<LOD	206.75	44.73	249.10	<LOD	7.70	<LOD	34.84	20.06
9/06/2021 12:01	61.32	ppm	SiO2	<LOD	<LOD	45.22	<LOD	<LOD	6.52	<LOD	<LOD	24.03
9/06/2021 12:51	63.56	ppm	RCRA	<LOD	835.56	72.22	1006.70	<LOD	11.27	<LOD	58.41	25.71
10/06/2021 7:32	61.73	ppm	SiO2	<LOD	<LOD	49.24	<LOD	<LOD	7.30	<LOD	<LOD	26.76
10/06/2021 7:34	61.78	ppm	RCRA	5.77	835.20	71.64	1006.27	<LOD	11.37	<LOD	60.22	25.68
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	11.43	<LOD	110.24	<LOD	<LOD	41.14	<LOD	<LOD	148.13
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	<LOD	884.38	54.50	1065.52	<LOD	7.27	<LOD	<LOD	24.73
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	<LOD	345.00	63.42	415.66	<LOD	13.54	<LOD	82.98	27.47
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	<LOD	217.77	44.73	262.37	<LOD	7.52	<LOD	<LOD	29.32
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	<LOD	282.04	66.06	339.81	<LOD	10.45	<LOD	46.72	29.24
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	<LOD	195.85	47.67	235.96	<LOD	8.40	<LOD	40.62	21.41
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	10.56	162.74	47.85	208.64	<LOD	9.59	<LOD	<LOD	33.89
10/06/2021 9:05	63.11	ppm	D4	<LOD	201.82	46.25	243.16	<LOD	8.24	<LOD	<LOD	30.32
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	<LOD	<LOD	159.04	<LOD	<LOD	25818.08	<LOD	<LOD	209.38
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	<LOD	179.07	53.41	215.75	<LOD	10.50	<LOD	<LOD	35.21
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	<LOD	286.99	54.16	345.77	<LOD	10.24	<LOD	<LOD	34.14
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	<LOD	4368.75	120.68	5263.55	<LOD	9.37	<LOD	<LOD	34.14
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	<LOD	190.55	43.42	229.58	<LOD	8.11	<LOD	<LOD	29.44
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	<LOD	92.66	41.67	111.64	<LOD	9.19	<LOD	<LOD	27.72
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	7.35	155.12	53.41	186.89	<LOD	11.25	<LOD	66.55	25.93
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	<LOD	157.37	49.17	189.60	<LOD	10.67	<LOD	44.41	23.35
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	<LOD	250.24	45.77	301.49	<LOD	8.16	<LOD	<LOD	30.48
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	<LOD	454.30	59.02	547.35	<LOD	9.53	<LOD	50.63	24.29
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	10.93	385.46	77.47	507.18	<LOD	17.09	<LOD	104.90	35.49
10/06/2021 9:41	61.9	ppm	D5	4.89	214.81	70.73	258.81	<LOD	13.83	<LOD	<LOD	46.19
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	5.45	340.28	70.32	409.98	<LOD	14.29	<LOD	92.80	31.48
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	<LOD	302.19	77.93	364.08	<LOD	15.07	<LOD	149.26	35.11
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	<LOD	<LOD	59.11	<LOD	<LOD	8.90	<LOD	<LOD	30.41
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	8.24	124.32	48.43	149.78	<LOD	10.51	<LOD	<LOD	35.62
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	<LOD	<LOD	53.19	<LOD	<LOD	7.89	<LOD	<LOD	25.66
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	3.96	129.53	39.55	156.06	<LOD	7.27	<LOD	<LOD	26.77
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	<LOD	117.96	44.02	142.12	<LOD	8.16	<LOD	31.82	20.51
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	4.24	67.48	38.75	81.30	<LOD	7.87	<LOD	<LOD	29.11
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	6.06	164.86	49.34	198.63	<LOD	8.66	<LOD	<LOD	33.55
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	<LOD	186.74	43.46	224.99	<LOD	8.63	<LOD	<LOD	27.77
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	<LOD	238.37	41.20	287.19	<LOD	7.13	<LOD	<LOD	26.52
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	4.07	83.28	38.22	100.34	<LOD	7.39	<LOD	<LOD	28.10
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	4.98	118.81	41.65	143.14	<LOD	8.26	<LOD	33.75	20.23
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	4.73	154.92	43.91	186.65	<LOD	8.40	<LOD	31.51	20.58
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	<LOD	180.63	41.08	217.63	<LOD	7.38	<LOD	<LOD	27.81
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	4.96	109.18	47.75	131.54	<LOD	9.92	<LOD	<LOD	34.94
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	68.67	613.94	207.33	739.69	<LOD	52.62	<LOD	<LOD	127.84
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	<LOD	61.80	38.71	74.46	<LOD	7.05	<LOD	40.53	18.71
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	7.47	111.31	53.38	134.11	<LOD	11.09	<LOD	<LOD	42.67
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	<LOD	377.27	54.54	454.54	<LOD	9.53	<LOD	<LOD	34.43
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	<LOD	166.47	45.72	200.57	<LOD	9.76	<LOD	<LOD	32.85

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	<LOD	337.99	45.40	407.22	<LOD	7.56	<LOD	<LOD	27.89
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	4.69	220.14	45.26	265.23	<LOD	8.15	<LOD	37.87	20.70
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	<LOD	151.96	43.01	183.08	<LOD	8.04	<LOD	35.54	20.15
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	<LOD	303.11	47.82	365.19	<LOD	7.94	<LOD	<LOD	29.66
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	<LOD	593.52	60.71	715.08	<LOD	10.01	<LOD	69.53	23.57
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	5.19	244.06	56.44	294.05	<LOD	12.23	<LOD	<LOD	39.15
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	<LOD	2489.94	91.70	2999.93	<LOD	9.59	<LOD	<LOD	32.16
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	<LOD	2151.07	88.79	2591.65	<LOD	10.13	<LOD	<LOD	33.13
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	<LOD	186.36	40.20	224.53	<LOD	7.58	<LOD	<LOD	27.34
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	<LOD	358.33	47.59	431.72	<LOD	8.20	<LOD	<LOD	28.93
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	<LOD	140.60	40.45	169.40	<LOD	7.33	<LOD	<LOD	27.33
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	3.88	263.27	45.26	317.19	<LOD	7.36	<LOD	<LOD	28.47
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	<LOD	89.35	38.03	107.65	<LOD	7.40	<LOD	<LOD	27.61
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	5.21	314.55	47.31	419.40	<LOD	7.87	<LOD	<LOD	29.26
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	<LOD	219.65	41.53	264.64	<LOD	7.31	<LOD	30.66	18.64
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	<LOD	779.96	59.53	939.71	<LOD	8.13	<LOD	46.61	20.63
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	4.71	128.11	39.93	154.35	<LOD	7.01	<LOD	<LOD	27.20
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	4.47	95.33	38.25	114.86	<LOD	7.31	<LOD	<LOD	27.64
10/06/2021 11:52	62.04	ppm	SiO2	<LOD	<LOD	45.09	<LOD	<LOD	6.58	<LOD	<LOD	24.89
10/06/2021 11:54	61.67	ppm	RCRA	<LOD	866.64	71.23	1044.14	<LOD	10.55	<LOD	75.63	25.51
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	<LOD	62.61	34.34	75.43	<LOD	6.57	<LOD	<LOD	25.67
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	<LOD	329.15	47.36	396.57	<LOD	8.11	<LOD	33.83	19.84
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	<LOD	1653.67	73.83	1992.37	<LOD	7.32	<LOD	<LOD	28.54
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	<LOD	141.19	40.03	170.11	<LOD	7.13	<LOD	<LOD	27.88
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	<LOD	244.55	48.79	294.64	<LOD	8.06	<LOD	34.06	20.98
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	<LOD	175.59	43.51	199.53	<LOD	8.24	<LOD	<LOD	30.43
10/06/2021 12:26	66.34	ppm	D6	<LOD	220.08	46.63	265.16	<LOD	8.25	<LOD	<LOD	29.99
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	<LOD	324.60	50.99	391.08	<LOD	8.97	<LOD	81.50	22.66
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	4.70	422.56	57.32	509.11	<LOD	9.67	<LOD	36.05	23.23
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	4.07	304.25	55.24	366.57	<LOD	10.40	<LOD	48.09	23.53
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	<LOD	202.37	41.44	243.82	<LOD	7.50	<LOD	<LOD	28.04
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	<LOD	170.76	42.07	205.73	<LOD	7.72	<LOD	<LOD	29.04
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	<LOD	390.34	71.37	443.57	<LOD	13.39	<LOD	<LOD	45.33
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	4.77	303.60	77.63	365.78	<LOD	13.40	<LOD	<LOD	50.19
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	<LOD	151.40	40.68	182.41	<LOD	7.49	<LOD	<LOD	27.91
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	8.10	294.96	61.72	355.37	<LOD	13.12	<LOD	<LOD	42.70
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	<LOD	409.74	52.25	493.66	<LOD	8.91	<LOD	47.04	21.52
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	<LOD	350.30	48.49	422.05	<LOD	8.23	<LOD	34.01	21.04
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	<LOD	323.38	48.98	389.61	<LOD	8.06	<LOD	38.22	20.72
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	<LOD	215.51	48.44	259.65	<LOD	8.16	<LOD	56.83	21.61
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	<LOD	106.93	42.26	128.83	<LOD	8.17	<LOD	75.56	21.87
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	<LOD	464.76	61.19	559.95	<LOD	9.01	<LOD	61.76	24.49
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	<LOD	395.81	48.94	476.88	<LOD	9.11	<LOD	<LOD	28.65
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	8.64	542.83	62.61	587.48	<LOD	11.72	<LOD	<LOD	36.09
10/06/2021 13:33	61.81	ppm	D7	6.54	333.34	53.13	401.61	<LOD	9.96	<LOD	43.33	23.25
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	<LOD	213.61	47.54	257.36	42.22	7.12	50.87	41.80	21.52
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	<LOD	353.25	47.11	425.60	<LOD	8.17	<LOD	<LOD	29.20
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	3.60	245.66	43.52	295.98	<LOD	7.51	<LOD	<LOD	29.13
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	<LOD	284.94	49.01	343.30	<LOD	8.34	<LOD	<LOD	31.62
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	<LOD	457.04	48.07	550.65	<LOD	7.40	<LOD	43.79	19.11
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	<LOD	288.53	42.02	347.63	<LOD	6.81	<LOD	<LOD	25.59
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	<LOD	221.36	41.30	266.70	<LOD	7.03	<LOD	<LOD	27.39
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	<LOD	398.55	47.45	480.18	<LOD	7.50	<LOD	<LOD	27.56
10/06/2021 14:06	64.7	ppm	D8	<LOD	277.61	42.73	334.47	<LOD	7.23	<LOD	<LOD	27.52
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	<LOD	383.35	57.87	461.87	<LOD	10.13	<LOD	<LOD	40.49
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	<LOD	160.51	40.29	193.39	<LOD	7.06	<LOD	34.55	18.72
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	<LOD	281.15	51.55	338.73	<LOD	9.51	<LOD	<LOD	36.15
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	5.04	121.11	38.91	145.92	<LOD	6.96	<LOD	<LOD	28.15
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	<LOD	154.13	40.57	185.70	<LOD	6.89	<LOD	32.03	18.57
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	<LOD	<LOD	994.71	<LOD	<LOD	146.57	<LOD	<LOD	373.23
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	<LOD	166.09	46.04	200.11	<LOD	8.82	<LOD	<LOD	34.15
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	7.05	621.18	70.21	748.41	<LOD	11.58	<LOD	73.36	30.20
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	<LOD	242.48	45.22	292.14	<LOD	7.82	<LOD	58.86	20.77
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	3.80	505.98	54.33	609.61	<LOD	8.21	<LOD	<LOD	31.32
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	<LOD	204.15	41.91	245.96	<LOD	7.14	<LOD	56.97	19.37
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	<LOD	188.40	40.16	226.99	<LOD	6.93	<LOD	40.82	18.25
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	<LOD	125.07	37.34	208.45	<LOD	6.75	<LOD	<LOD	25.94
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	<LOD	1410.78	70.85	1699.73	<LOD	7.76	<LOD	46.39	20.08
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	<LOD	369.02	54.63	444.60	<LOD	8.41	<LOD	72.42	22.91
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	<LOD	<LOD	57.98	<LOD	<LOD	6.83	<LOD	<LOD	27.64
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	<LOD	<LOD	61.10	<LOD	<LOD	8.11	<LOD	<LOD	31.19
10/06/2021 15:15	60.97	ppm	SiO2	<LOD	<LOD	45.57	<LOD	<LOD	6.78	<LOD	<LOD	25.07
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	5.05	<LOD	47.35	<LOD	<LOD	6.93	<LOD	<LOD	23.50
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	<LOD	1083.07	68.43	1304.90	<LOD	8.13	<LOD	61.87	22.14
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	<LOD	617.02	54.11	743.40	<LOD	7.35	<LOD	55.01	20.29
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	<LOD	324.28	51.24	390.70	<LOD	7.98	<LOD	48.92	22.79
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	<LOD	105.30	44.02	126.87	<LOD	8.38	<LOD	35.05	22.41
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	<LOD	130.19	36.03	156.86	<LOD	6.66	<LOD	<LOD	25.28
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	<LOD	643.03	65.22	774.73	<LOD	9.78	<LOD	51.83	26.63
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	<LOD	964.98	60.24	1162.63	<LOD	7.34	<LOD	<LOD	28.91

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	<LOD	374.42	50.63	451.11	<LOD	7.70	<LOD	46.61	20.85
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	3.65	105.38	33.75	126.96	<LOD	5.93	<LOD	<LOD	22.43
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	4.02	595.54	52.95	676.75	<LOD	7.82	<LOD	31.54	19.73
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	5.00	621.72	53.38	749.06	<LOD	7.70	<LOD	<LOD	29.28
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	4.37	395.64	50.24	476.67	<LOD	8.16	<LOD	<LOD	30.46
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	4.01	401.72	48.67	484.00	<LOD	7.66	<LOD	<LOD	29.81
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	<LOD	<LOD	51.28	<LOD	<LOD	6.56	<LOD	<LOD	25.07
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	<LOD	185.03	43.91	222.93	<LOD	7.48	<LOD	<LOD	30.60
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	<LOD	155.15	46.10	186.93	<LOD	7.98	<LOD	40.54	21.99
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	<LOD	<LOD	60.00	<LOD	<LOD	7.77	<LOD	<LOD	30.72
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	<LOD	145.35	43.44	175.12	<LOD	7.68	<LOD	42.21	20.56
1/06/2021 7:55	60.34	%	si02	<LOD	<LOD	0.20	<LOD	-	-	NC	<LOD	0.08
1/06/2021 7:57	61.21	%	rcra	<LOD	0.48	0.09	0.58	-	-	NC	<LOD	0.14
1/06/2021 8:00	60.45	ppm	rcra	8.00	837.52	71.68	1009.06	11.08	7.24	13.35	54.49	25.36
1/06/2021 8:02	60.53	ppm	si02	<LOD	<LOD	45.75	<LOD	<LOD	6.87	<LOD	<LOD	24.28
1/06/2021 8:30	60.24	ppm	R_S1B	<LOD	<LOD	223.35	<LOD	<LOD	36.21	<LOD	<LOD	136.66
1/06/2021 8:41	60.77	ppm	R_S2B	12.76	242.92	97.18	292.67	<LOD	29.63	<LOD	167.00	73.14
1/06/2021 8:45	60.37	ppm	R_S3B	18.07	193.19	66.85	232.76	<LOD	16.92	<LOD	<LOD	61.36
1/06/2021 8:50	60.69	ppm	R_S4B	8.33	405.03	102.41	487.99	<LOD	26.86	<LOD	197.59	70.16
1/06/2021 8:55	60.63	ppm	R_S5B	13.05	164.05	57.49	197.65	<LOD	12.99	<LOD	<LOD	48.80
1/06/2021 8:59	60.26	ppm	R_S6B	16.16	232.24	81.64	279.81	<LOD	22.17	<LOD	<LOD	80.53
1/06/2021 9:14	60.48	ppm	R_S7B	3.81	192.14	44.05	231.49	<LOD	8.39	<LOD	<LOD	31.32
1/06/2021 9:21	60.81	ppm	R_S8B	4.88	248.60	55.54	299.52	<LOD	12.11	<LOD	<LOD	41.65
1/06/2021 9:35	60.58	ppm	R_S9B	9.86	<LOD	62.91	<LOD	<LOD	9.07	<LOD	<LOD	33.26
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	5.37	160.74	42.59	193.66	<LOD	9.00	<LOD	<LOD	32.06
1/06/2021 10:00	60.77	ppm	rcra	4.49	879.62	72.09	1059.78	<LOD	10.83	<LOD	66.09	25.37
1/06/2021 10:02	60.28	ppm	si02	<LOD	<LOD	45.91	<LOD	<LOD	6.47	<LOD	<LOD	24.21
1/06/2021 10:21	60.35	ppm	R_S11B	7.98	<LOD	100.38	<LOD	<LOD	19.13	<LOD	130.21	50.19
1/06/2021 10:26	60.79	ppm	R_S12B	8.65	376.37	62.90	453.46	<LOD	11.55	<LOD	<LOD	43.83
1/06/2021 10:35	60.67	ppm	R_S13B	15.59	388.78	111.40	468.41	<LOD	31.12	<LOD	<LOD	107.79
1/06/2021 10:42	60.55	ppm	R_S14B	5.05	212.90	56.20	256.51	<LOD	12.03	<LOD	<LOD	44.18
1/06/2021 10:51	60.75	ppm	R_S15B	9.33	233.94	56.90	281.86	<LOD	12.02	<LOD	<LOD	42.16
1/06/2021 10:59	60.43	ppm	R_S16B	5.61	333.74	48.67	402.10	<LOD	8.20	<LOD	<LOD	30.50
1/06/2021 11:37	60.36	ppm	R_S17B	5.06	<LOD	47.68	<LOD	<LOD	6.97	<LOD	<LOD	26.04
1/06/2021 11:42	60.13	ppm	R_S18B	18.64	<LOD	67.81	<LOD	<LOD	10.70	<LOD	<LOD	39.47
1/06/2021 11:50	60.22	ppm	R_S19B	9.94	606.62	67.27	730.87	<LOD	12.08	<LOD	<LOD	42.34
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	5.89	245.24	49.61	249.74	<LOD	9.08	<LOD	<LOD	34.30
1/06/2021 12:13	60.43	ppm	rcra	<LOD	835.61	71.56	1006.76	<LOD	10.68	<LOD	61.18	25.66
1/06/2021 12:15	60.09	ppm	si02	<LOD	<LOD	45.16	<LOD	<LOD	6.70	<LOD	<LOD	25.13
1/06/2021 12:21	60.43	ppm	R_S21B	9.27	<LOD	62.97	<LOD	<LOD	8.97	<LOD	<LOD	32.70
1/06/2021 12:31	60.49	ppm	-	6.51	253.27	61.90	305.14	<LOD	13.17	<LOD	52.79	34.11
1/06/2021 13:43	60.28	ppm	R_S23B	8.63	453.41	64.32	546.28	<LOD	11.22	<LOD	<LOD	44.18
1/06/2021 13:47	60.47	ppm	R_S24B	8.49	446.11	61.38	537.48	<LOD	10.95	<LOD	<LOD	41.16
1/06/2021 13:52	60.53	ppm	R_S25B	4.83	140.07	48.61	168.76	10.80	6.83	13.01	<LOD	38.22
1/06/2021 14:04	60.51	ppm	R_S26B	7.30	146.27	45.85	176.23	<LOD	8.84	<LOD	<LOD	32.91
1/06/2021 14:10	60.47	ppm	R_S27B	7.70	590.48	79.58	711.42	<LOD	14.83	<LOD	<LOD	56.32
1/06/2021 14:19	60.56	ppm	R_S28B	6.10	251.21	54.42	302.66	<LOD	10.27	<LOD	<LOD	40.03
1/06/2021 14:34	60.98	ppm	R_S29B	9.77	382.01	51.32	460.25	<LOD	8.48	<LOD	<LOD	32.05
1/06/2021 14:42	60.43	ppm	R_S30B	4.27	882.63	65.93	1089.67	<LOD	9.33	<LOD	<LOD	33.60
1/06/2021 14:47	60.54	ppm	rcra	<LOD	72.57	42.15	87.43	<LOD	9.41	<LOD	32.63	20.85
1/06/2021 14:53	61.88	ppm	si02	<LOD	<LOD	43.70	<LOD	<LOD	6.68	<LOD	<LOD	24.15
1/06/2021 15:06	60.22	ppm	R_S31B	7.24	199.77	46.75	240.69	<LOD	8.69	<LOD	<LOD	33.01
1/06/2021 15:15	60.85	ppm	R_S32B	4.98	298.99	49.64	360.23	<LOD	9.11	<LOD	<LOD	32.98
1/06/2021 15:18	60.47	ppm	R_S33B	6.48	139.43	42.86	167.99	<LOD	8.96	<LOD	<LOD	30.18
1/06/2021 15:26	60.49	ppm	R_S34B	7.13	333.18	75.53	401.42	<LOD	16.70	<LOD	88.87	43.45
1/06/2021 15:35	60.96	ppm	R_S35B	8.65	109.31	51.01	131.70	<LOD	11.65	<LOD	<LOD	42.75
1/06/2021 16:08	61.29	ppm	R_S36B	4.71	323.25	51.67	389.46	<LOD	9.30	<LOD	53.72	22.64
1/06/2021 16:12	60.69	ppm	R_S37B	4.39	519.92	53.12	626.41	<LOD	7.89	<LOD	34.77	20.59
1/06/2021 16:18	64.56	ppm	R_S38B	9.11	869.82	89.24	1047.98	<LOD	12.54	<LOD	<LOD	46.61
1/06/2021 16:27	60.83	ppm	R_S39B	6.77	135.91	42.75	163.75	<LOD	8.33	<LOD	<LOD	31.44
1/06/2021 16:41	60.39	ppm	R_S40B	7.98	102.49	55.73	123.48	<LOD	13.64	<LOD	<LOD	52.87
2/06/2021 8:13	60.34	ppm	rcra	5.00	934.69	73.86	1126.13	<LOD	10.89	<LOD	70.05	25.91
2/06/2021 8:14	60.28	ppm	si02	<LOD	<LOD	43.34	<LOD	<LOD	6.57	<LOD	<LOD	23.94
2/06/2021 8:19	60.75	ppm	R_S41B	8.11	<LOD	78.73	<LOD	<LOD	12.60	<LOD	51.97	31.66
2/06/2021 8:28	60.46	ppm	R_S42B	7.72	391.59	50.64	471.80	<LOD	8.66	<LOD	<LOD	31.17
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	7.55	240.11	53.03	289.29	<LOD	10.36	<LOD	<LOD	39.50
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	7.88	276.92	46.20	333.64	<LOD	8.10	<LOD	<LOD	30.26
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	4.92	412.90	50.97	497.47	<LOD	8.60	<LOD	<LOD	31.03
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	6.84	240.70	54.52	290.00	<LOD	11.13	<LOD	<LOD	42.36
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	7.34	247.26	52.61	297.90	<LOD	10.11	<LOD	<LOD	38.36
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	8.47	359.93	50.82	433.65	<LOD	8.31	<LOD	<LOD	32.52
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	5.57	239.61	56.36	288.69	<LOD	12.00	<LOD	<LOD	44.59
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	<LOD	297.01	46.20	357.84	<LOD	7.67	<LOD	<LOD	29.45
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	7.65	197.01	46.00	237.36	<LOD	8.74	<LOD	<LOD	32.16
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	6.71	630.22	61.96	759.30	<LOD	9.95	<LOD	<LOD	34.32
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	<LOD	128.62	41.62	154.96	<LOD	8.27	<LOD	<LOD	29.02
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	<LOD	413.27	48.93	497.92	<LOD	7.98	<LOD	<LOD	29.91
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	<LOD	266.66	55.47	321.28	<LOD	10.61	<LOD	<LOD	40.28
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	4.02	413.30	50.27	497.95	<LOD	7.85	<LOD	<LOD	29.40
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	7.89	365.72	48.17	440.63	<LOD	8.07	<LOD	<LOD	29.61

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	4.31	68.19	44.38	82.16	<LOD	10.17	<LOD	<LOD	35.84
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	9.90	331.58	53.00	399.49	<LOD	9.61	<LOD	<LOD	35.94
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	4.14	100.22	45.09	120.75	<LOD	9.47	<LOD	34.84	22.06
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	19.67	344.07	95.07	414.54	<LOD	19.56	<LOD	<LOD	64.68
2/06/2021 10:15	60.54	ppm	R_S49B	45.25	494.65	190.62	595.96	<LOD	55.61	<LOD	<LOD	174.15
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	<LOD	101.41	41.67	122.18	<LOD	8.85	<LOD	<LOD	30.60
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	4.47	80.07	48.84	96.47	<LOD	11.97	<LOD	<LOD	40.72
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	<LOD	<LOD	230.72	<LOD	<LOD	2327.16	<LOD	<LOD	71437.09
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	3.93	102.80	43.32	123.86	<LOD	9.99	<LOD	<LOD	32.36
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	<LOD	119.70	41.26	144.22	<LOD	8.00	<LOD	<LOD	29.52
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	4.32	200.03	43.59	208.36	<LOD	8.44	<LOD	<LOD	29.38
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	9.60	155.52	49.95	187.37	<LOD	10.89	<LOD	<LOD	37.90
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	<LOD	135.11	42.95	162.78	<LOD	8.62	<LOD	<LOD	30.18
2/06/2021 11:16	60.18	ppm	rcra	5.70	807.74	71.04	973.18	<LOD	11.08	<LOD	57.36	25.53
2/06/2021 11:17	60.54	ppm	si02	<LOD	<LOD	45.36	<LOD	<LOD	6.48	<LOD	<LOD	24.70
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	4.64	219.18	44.22	264.07	<LOD	8.23	<LOD	<LOD	29.54
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	6.35	253.01	46.86	304.83	<LOD	8.08	<LOD	46.89	20.76
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	<LOD	268.42	47.53	323.40	<LOD	8.50	<LOD	66.15	21.30
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	<LOD	257.81	49.29	310.61	<LOD	8.82	<LOD	51.18	22.39
2/06/2021 11:47	60.85	ppm	R_S53_0.0	3.94	420.47	47.99	506.59	<LOD	7.34	<LOD	<LOD	27.85
2/06/2021 11:53	60.45	ppm	R_S53_0.1	5.23	316.60	52.13	381.45	<LOD	9.31	<LOD	<LOD	34.78
2/06/2021 11:56	60.18	ppm	R_S53_0.25	<LOD	432.88	54.76	521.54	<LOD	8.64	<LOD	68.20	22.62
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	6.98	128.78	55.17	155.16	<LOD	12.44	<LOD	<LOD	46.06
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	<LOD	235.74	114.11	284.02	<LOD	39.00	<LOD	262.66	101.66
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	<LOD	109.26	41.02	131.64	<LOD	7.82	<LOD	<LOD	29.14
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	9.30	89.73	52.93	108.11	<LOD	12.83	<LOD	<LOD	46.62
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	5.43	<LOD	69.98	<LOD	<LOD	10.27	<LOD	<LOD	38.53
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	<LOD	128.50	43.97	154.82	<LOD	8.82	<LOD	<LOD	34.03
2/06/2021 13:20	53.96	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:21	53.45	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:23	60.58	ppm	rcra	6.35	898.31	72.90	1082.30	<LOD	11.15	<LOD	77.14	25.94
2/06/2021 13:24	60.64	ppm	si02	<LOD	<LOD	43.72	<LOD	<LOD	6.48	<LOD	<LOD	24.09
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	5.75	2029.30	98.31	2444.94	<LOD	12.60	<LOD	39.84	26.53
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	<LOD	553.14	63.77	666.43	<LOD	11.46	<LOD	78.78	25.40
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	<LOD	691.33	66.21	832.93	<LOD	9.96	<LOD	56.44	24.37
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	<LOD	422.91	54.84	509.53	<LOD	9.17	<LOD	<LOD	32.49
2/06/2021 13:49	60.83	ppm	R_S57_0.0	<LOD	244.48	50.46	284.28	<LOD	10.21	<LOD	54.73	23.61
2/06/2021 13:53	60.6	ppm	R_S57_0.1	<LOD	250.95	49.37	302.35	<LOD	9.55	<LOD	38.53	22.37
2/06/2021 13:59	60.67	ppm	R_S57_0.25	10.01	1063.96	89.02	1281.88	<LOD	13.25	<LOD	152.85	32.99
2/06/2021 14:04	60.78	ppm	R_S58_0.0	<LOD	346.27	54.47	417.19	<LOD	9.94	<LOD	47.73	23.15
2/06/2021 14:07	60.74	ppm	R_S58_0.1	4.06	404.73	53.75	487.63	<LOD	8.81	<LOD	33.89	21.54
2/06/2021 14:15	60.39	ppm	R_S58_0.25	<LOD	525.47	58.76	633.10	<LOD	9.66	<LOD	59.21	23.05
2/06/2021 14:22	60.74	ppm	R_S59_0.0	<LOD	290.23	51.34	349.67	<LOD	9.29	<LOD	<LOD	32.80
2/06/2021 14:25	60.51	ppm	R_S59_0.1	6.81	714.13	64.84	860.40	<LOD	10.37	<LOD	<LOD	35.20
2/06/2021 14:31	60.71	ppm	R_S59_0.25	6.22	291.92	57.90	351.71	<LOD	10.60	<LOD	82.68	27.57
2/06/2021 14:39	60.54	ppm	R_S60_0.0	<LOD	418.99	52.48	504.81	<LOD	8.59	<LOD	<LOD	31.31
2/06/2021 14:42	60.67	ppm	R_S60_0.1	4.67	833.54	58.91	1004.27	<LOD	7.98	<LOD	<LOD	28.92
2/06/2021 14:47	60.2	ppm	R_S60_0.25	<LOD	651.50	60.79	784.94	<LOD	9.09	<LOD	42.70	22.43
2/06/2021 15:21	60.76	ppm	rcra	5.70	891.67	73.32	1074.30	<LOD	11.23	<LOD	49.68	25.53
2/06/2021 15:23	60.22	ppm	si02	<LOD	<LOD	46.04	<LOD	<LOD	6.66	<LOD	<LOD	24.90
2/06/2021 15:24	56.44	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:26	56.22	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:28	60.82	ppm	R_61B_0.0	<LOD	754.71	62.30	909.29	<LOD	8.71	<LOD	54.75	21.95
2/06/2021 15:32	60.08	ppm	R_61B_0.1	12.58	486.95	57.30	586.69	<LOD	9.17	<LOD	<LOD	34.04
2/06/2021 15:36	60.45	ppm	R_61B_0.2	6.39	492.43	71.33	593.29	<LOD	12.66	<LOD	49.86	27.94
2/06/2021 15:45	60.65	ppm	R_62B_0.0	5.95	311.78	51.03	375.64	<LOD	9.65	<LOD	<LOD	33.09
2/06/2021 15:48	60.26	ppm	R_62B_0.1	<LOD	225.59	51.27	271.80	<LOD	10.10	<LOD	46.78	24.88
2/06/2021 15:54	60.82	ppm	R_62B_0.15	13.05	186.42	78.17	224.60	<LOD	20.92	<LOD	<LOD	61.25
2/06/2021 15:58	60.81	ppm	R_63B_0.0	14.46	212.39	44.60	255.89	<LOD	8.27	<LOD	29.95	19.80
2/06/2021 16:01	60.13	ppm	R_63B_0.1	17.92	140.26	41.99	168.99	<LOD	7.95	<LOD	53.21	20.04
2/06/2021 16:07	60.69	ppm	R_63B_0.2	7.49	250.35	77.99	301.63	<LOD	18.45	<LOD	83.32	43.36
2/06/2021 16:14	60.27	ppm	sio2	<LOD	<LOD	46.15	<LOD	<LOD	6.61	<LOD	<LOD	24.70
2/06/2021 16:16	60.2	ppm	rcra	5.95	789.78	70.04	951.54	<LOD	11.12	<LOD	69.78	25.55
2/06/2021 16:17	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:19	53.65	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:20	60.2	ppm	R_64B_0.0	<LOD	128.94	46.39	131.98	<LOD	8.63	<LOD	<LOD	33.01
2/06/2021 16:22	60.75	ppm	R_64B_0.1	3.72	178.67	45.17	215.27	<LOD	8.23	<LOD	64.97	21.63
2/06/2021 16:28	60.27	ppm	R_64B_0.22	7.30	271.06	65.08	326.58	<LOD	12.37	<LOD	84.04	28.81
4/06/2021 8:58	46.39	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 8:59	55.93	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 9:01	61.12	ppm	R_S65b_0m	<LOD	156.35	62.23	188.37	<LOD	15.18	<LOD	<LOD	56.56
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	8.23	<LOD	75.97	<LOD	<LOD	11.15	<LOD	<LOD	43.84
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	<LOD	158.48	46.07	190.94	<LOD	8.10	<LOD	48.10	22.11
4/06/2021 9:23	62.06	ppm	R_S66b_0m	4.86	161.02	57.16	194.00	<LOD	11.47	<LOD	<LOD	40.13
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	<LOD	<LOD	65.97	<LOD	<LOD	9.34	<LOD	<LOD	33.84
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	<LOD	96.44	43.05	116.19	<LOD	8.43	<LOD	<LOD	30.51
4/06/2021 9:37	60.5	ppm	R_S67b_0m	<LOD	<LOD	74.28	<LOD	<LOD	10.78	<LOD	<LOD	38.52
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	<LOD	121.35	47.53	146.20	<LOD	9.38	<LOD	<LOD	34.20
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	<LOD	<LOD	83.53	<LOD	<LOD	14.01	<LOD	<LOD	47.23
4/06/2021 9:53	60.65	ppm	SiO2	<LOD	<LOD	43.99	<LOD	<LOD	6.82	<LOD	<LOD	25.09

Client: Department of Regional NSW
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	4.93	861.82	71.78	1038.34	<LOD	11.04	<LOD	66.63	25.60
4/06/2021 10:17	62.12	ppm	R_S68b_0m	<LOD	190.79	49.24	229.87	<LOD	9.52	<LOD	<LOD	35.93
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	<LOD	<LOD	191.73	<LOD	<LOD	51.80	<LOD	239.85	130.23
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	<LOD	207.27	49.21	235.53	<LOD	8.69	<LOD	<LOD	33.89
4/06/2021 10:34	62.27	ppm	R_S69b_0m	8.29	1173.75	65.42	1414.16	<LOD	7.54	<LOD	<LOD	28.41
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	<LOD	123.38	45.25	148.65	<LOD	9.08	<LOD	<LOD	34.44
4/06/2021 10:40	61.98	ppm	R_S70b_0m	6.00	<LOD	85.98	<LOD	<LOD	18.36	<LOD	<LOD	67.39
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	4.47	<LOD	59.78	<LOD	<LOD	8.72	<LOD	<LOD	32.74
4/06/2021 10:45	58.8	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:46	50.97	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:48	61.94	ppm	SiO2	<LOD	<LOD	45.82	<LOD	<LOD	6.71	<LOD	<LOD	25.23
4/06/2021 10:49	62.11	ppm	RCRA	4.87	792.49	71.27	954.81	<LOD	11.01	<LOD	50.99	25.47
4/06/2021 11:09	61.73	ppm	R_S71b_0m	5.83	523.03	49.31	630.16	<LOD	7.21	<LOD	<LOD	27.16
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	7.30	287.92	62.19	346.89	<LOD	13.05	<LOD	<LOD	50.16
4/06/2021 11:15	61.05	ppm	R_S72b_0m	6.64	496.53	55.28	598.23	<LOD	8.74	<LOD	<LOD	33.58
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	5.11	230.20	51.78	277.35	<LOD	10.30	<LOD	<LOD	39.31
4/06/2021 11:23	61.74	ppm	R_S73b_0m	<LOD	99.80	36.27	120.24	<LOD	6.76	<LOD	<LOD	25.26
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	4.79	101.54	38.03	120.17	<LOD	7.63	<LOD	<LOD	28.51
4/06/2021 11:31	61.9	ppm	SiO2	<LOD	<LOD	46.48	<LOD	<LOD	6.63	<LOD	<LOD	24.62
4/06/2021 11:33	61.96	ppm	RCRA	4.46	851.37	72.26	1025.75	<LOD	11.35	<LOD	82.74	26.08
4/06/2021 11:35	54.1	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:37	53.49	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:45	60.98	ppm	R_S74b_0m	<LOD	84.12	37.52	101.35	<LOD	7.59	<LOD	<LOD	29.49
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	<LOD	56.37	36.89	67.92	<LOD	6.91	<LOD	<LOD	27.44
4/06/2021 11:51	60.99	ppm	R_S75b_0m	4.96	212.95	46.43	256.57	<LOD	8.26	<LOD	<LOD	31.52
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	<LOD	<LOD	133.57	<LOD	<LOD	27.63	<LOD	<LOD	107.64
4/06/2021 11:58	61.97	ppm	R_S76b_0m	<LOD	<LOD	167.25	<LOD	<LOD	41.03	<LOD	<LOD	160.74
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	4.29	69.92	44.70	84.24	<LOD	8.99	<LOD	<LOD	34.41
4/06/2021 12:07	61.84	ppm	SiO2	<LOD	<LOD	46.41	<LOD	<LOD	6.66	<LOD	<LOD	23.94
4/06/2021 12:09	60.85	ppm	RCRA	<LOD	899.28	73.03	1083.47	<LOD	10.94	<LOD	103.02	26.42
4/06/2021 12:22	61.31	ppm	R_S77b_0m	5.46	126.80	35.87	152.77	<LOD	6.94	<LOD	<LOD	25.50
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	<LOD	228.29	48.92	275.05	<LOD	9.44	<LOD	<LOD	37.19
4/06/2021 12:27	61.26	ppm	R_S78b_0m	3.47	118.38	36.97	142.63	<LOD	7.02	<LOD	<LOD	25.67
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	<LOD	69.63	40.11	83.89	<LOD	8.74	<LOD	<LOD	32.36
31/05/2021 14:11	62.07	%	test	<LOD	<LOD	0.71	<LOD	-	-	NC	<LOD	0.48
31/05/2021 14:55	60.27	%	R_S1a	<LOD	<LOD	0.11	<LOD	-	-	NC	<LOD	0.10
31/05/2021 14:56	1.23	%	R_S1a	<LOD	<LOD	0.22	<LOD	-	-	NC	<LOD	2.10
31/05/2021 14:56	0.7	ppm	-	<LOD	3.49	1.01	4.20	<LOD	0.25	<LOD	0.92	0.24
31/05/2021 14:56	0.41	ppm	-	<LOD	3.49	0.10	4.20	<LOD	0.15	<LOD	0.92	0.10
31/05/2021 14:59	60.2	ppm	R_S1a	8.57	150.14	39.67	180.89	<LOD	9.72	<LOD	<LOD	23.12
31/05/2021 15:05	60.12	ppm	R_S2a	3.87	262.08	31.60	315.76	<LOD	6.15	<LOD	38.55	11.72
31/05/2021 15:24	60.96	ppm	R_S4a	6.92	158.59	32.72	191.07	<LOD	7.07	<LOD	<LOD	18.95
31/05/2021 15:34	0.15	ppm	R_S6a	<LOD	3.49	0.10	4.20	<LOD	0.15	<LOD	0.92	0.10
31/05/2021 15:35	60.18	ppm	R_S6a	6.70	125.15	42.74	150.78	<LOD	10.65	<LOD	<LOD	28.89
31/05/2021 15:40	60.2	ppm	R_S5a	4.17	183.01	30.38	220.49	<LOD	5.89	<LOD	<LOD	16.90
31/05/2021 15:51	60.25	ppm	R_S7a	6.48	147.83	34.36	178.11	<LOD	7.10	<LOD	<LOD	19.46
31/05/2021 16:08	60.21	ppm	R_S8a	18.20	510.84	110.66	615.47	<LOD	34.77	<LOD	<LOD	60.74
31/05/2021 16:19	60.18	ppm	R_S9a	<LOD	176.87	37.25	213.10	<LOD	7.36	<LOD	<LOD	20.56
1/06/2021 7:47	60.19	ppm	SiO2	<LOD	<LOD	64.16	<LOD	<LOD	10.25	<LOD	<LOD	29.96
1/06/2021 7:50	60.18	ppm	RCRA	6.46	74.63	28.98	89.92	<LOD	6.91	<LOD	<LOD	17.55
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	6.53	244.13	37.70	254.04	<LOD	7.62	<LOD	<LOD	20.70
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	<LOD	<LOD	550.80	<LOD	<LOD	46.49	<LOD	<LOD	1037.99
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	<LOD	<LOD	276.53	<LOD	<LOD	25.73	<LOD	<LOD	603.13
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	5.32	192.73	33.78	200.55	<LOD	7.28	<LOD	<LOD	19.88
1/06/2021 8:29	60.23	ppm	R_S11a	12.64	357.93	53.54	431.24	<LOD	12.54	<LOD	<LOD	29.71
1/06/2021 8:33	60.2	ppm	R_S12a	5.49	244.06	46.74	294.05	<LOD	10.64	<LOD	44.71	20.73
1/06/2021 8:53	0.72	ppm	R_S13a	<LOD	<LOD	36981.34	<LOD	<LOD	63.19	<LOD	<LOD	771.86
1/06/2021 8:54	60.18	ppm	R_S13a	8.04	166.86	60.17	201.04	<LOD	17.23	<LOD	57.97	33.36
1/06/2021 8:59	60.66	ppm	R_S14a	5.02	166.35	36.35	200.42	<LOD	7.77	<LOD	<LOD	20.96
1/06/2021 9:02	61.21	ppm	R_S15a	8.05	294.78	37.98	355.16	<LOD	7.58	<LOD	<LOD	19.96
1/06/2021 9:08	60.33	ppm	R_S16a	<LOD	345.45	38.99	416.20	<LOD	6.70	<LOD	<LOD	19.92
1/06/2021 9:14	60.19	ppm	R_S17a	5.08	425.11	38.00	512.18	<LOD	6.47	<LOD	<LOD	18.24
1/06/2021 9:21	60.17	ppm	R_S18a	5.20	211.92	37.84	255.33	<LOD	7.92	<LOD	<LOD	23.01
1/06/2021 9:26	60.19	ppm	R_S19a	5.11	394.73	38.56	475.58	<LOD	6.81	<LOD	<LOD	19.60
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	4.04	458.73	38.76	491.15	<LOD	6.74	<LOD	<LOD	18.88
1/06/2021 9:52	60.14	ppm	SiO2	<LOD	<LOD	32.62	<LOD	<LOD	5.07	<LOD	<LOD	14.54
1/06/2021 9:56	60.16	ppm	RCRA	<LOD	859.84	50.82	1035.95	<LOD	8.21	<LOD	64.92	14.75
1/06/2021 10:09	60.25	ppm	R_S21a	4.58	181.09	31.50	218.18	<LOD	6.13	<LOD	<LOD	18.28
1/06/2021 10:15	60.21	ppm	R_S22a	3.22	175.31	30.31	211.22	<LOD	5.87	<LOD	<LOD	17.21
1/06/2021 10:21	60.21	ppm	R_S23a	3.00	364.66	35.90	439.35	<LOD	6.05	<LOD	<LOD	18.51
1/06/2021 10:27	60.16	ppm	R_S24a	4.48	236.02	33.20	284.36	<LOD	6.23	<LOD	<LOD	18.16
1/06/2021 10:33	60.16	ppm	R_S25a	<LOD	169.78	30.17	204.55	<LOD	5.74	<LOD	<LOD	17.07
1/06/2021 11:38	60.17	ppm	R_S26a	7.73	338.95	44.19	408.37	<LOD	9.49	<LOD	<LOD	23.85
1/06/2021 11:59	60.12	ppm	R_S27a	11.33	183.46	34.80	221.04	<LOD	7.06	<LOD	<LOD	20.20
1/06/2021 12:12	60.19	ppm	R_S28a	6.02	253.85	34.35	305.84	<LOD	6.57	<LOD	<LOD	18.69
1/06/2021 12:26	60.11	ppm	R_S29a	<LOD	390.59	38.15	470.59	<LOD	6.39	<LOD	30.10	13.20
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	<LOD	241.04	25.63	290.41	<LOD	4.44	<LOD	<LOD	12.74
1/06/2021 12:39	60.01	ppm	SiO2	<LOD	<LOD	31.22	<LOD	<LOD	5.00	<LOD	<LOD	14.23
1/06/2021 12:41	60.23	ppm	RCRA	4.23	95.70	29.36	115.30	<LOD	6.86	<LOD	<LOD	17.42
1/06/2021 13:28	60.17	ppm	R_S31a	5.02	1280.34	51.80	1542.58	<LOD	6.66	<LOD	34.95	12.97

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

1/06/2021 13:33	60.16	ppm	R_S32a	6.67	226.08	35.21	272.39	<LOD	6.78	<LOD	<LOD	20.33
1/06/2021 13:37	60.17	ppm	R_S33a	<LOD	469.62	35.96	565.81	<LOD	6.04	<LOD	53.74	11.86
1/06/2021 13:49	60.19	ppm	R_S34a	5.86	710.70	48.27	856.27	<LOD	7.32	<LOD	88.48	15.50
1/06/2021 13:54	60.19	ppm	R_S35a	3.47	390.86	38.25	470.92	<LOD	6.87	<LOD	26.34	12.98
1/06/2021 13:59	60.21	ppm	R_S36a	<LOD	230.61	32.33	277.84	<LOD	6.10	<LOD	<LOD	17.88
1/06/2021 14:05	60.18	ppm	R_S37a	4.80	353.64	32.96	426.07	<LOD	5.83	<LOD	<LOD	16.66
1/06/2021 14:18	60.21	ppm	R_S38a	11.98	230.64	31.98	277.88	<LOD	6.08	<LOD	<LOD	17.82
1/06/2021 14:22	60.2	ppm	R_S39a	6.27	217.02	33.59	261.47	<LOD	6.58	<LOD	<LOD	19.44
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	2.51	225.49	28.41	271.67	<LOD	5.27	<LOD	<LOD	15.33
1/06/2021 14:42	60.99	ppm	SiO2	<LOD	<LOD	30.88	<LOD	<LOD	4.89	<LOD	<LOD	13.91
1/06/2021 14:44	60.66	ppm	RCRA	4.72	82.71	29.26	99.65	<LOD	6.83	<LOD	<LOD	17.45
1/06/2021 14:53	61.16	ppm	R_S41a	<LOD	296.19	34.61	356.86	<LOD	6.18	<LOD	<LOD	18.08
1/06/2021 15:10	61.12	ppm	R_S42a	2.95	311.85	29.66	375.72	<LOD	5.34	<LOD	<LOD	15.19
1/06/2021 15:16	61.28	ppm	R_S43a	<LOD	121.14	28.43	145.95	<LOD	5.92	<LOD	<LOD	17.04
1/06/2021 15:21	61.56	ppm	R_S44a	7.20	239.01	34.67	287.96	<LOD	6.87	<LOD	<LOD	19.62
1/06/2021 15:50	61.57	ppm	R_S45a	7.54	<LOD	30.01	<LOD	<LOD	4.27	<LOD	<LOD	12.45
1/06/2021 15:53	0.7	ppm	R_S46a	<LOD	<LOD	4.54	<LOD	<LOD	1.59	<LOD	<LOD	3.58
1/06/2021 15:55	61.45	ppm	R_S46a	6.17	138.37	20.84	166.71	<LOD	3.93	<LOD	<LOD	10.71
1/06/2021 15:59	61.58	ppm	R_S47a	4.02	166.74	27.57	200.89	<LOD	5.50	<LOD	<LOD	15.25
1/06/2021 16:03	61.91	ppm	R_S48a	8.84	296.85	27.13	357.65	<LOD	4.62	<LOD	<LOD	13.17
1/06/2021 16:09	61.32	ppm	R_S49a	5.73	721.64	50.97	869.45	<LOD	8.51	<LOD	<LOD	24.36
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	12.68	255.26	145.61	272.42	<LOD	32.36	<LOD	<LOD	92.33
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	14.37	127.30	50.32	153.37	<LOD	11.07	<LOD	<LOD	30.36
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	<LOD	3.49	0.10	4.20	<LOD	0.15	<LOD	0.92	0.10
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	7.33	145.74	43.50	175.59	<LOD	9.09	<LOD	27.93	15.99
2/06/2021 8:18	60.9	ppm	SiO2	<LOD	<LOD	30.99	<LOD	<LOD	4.93	<LOD	<LOD	14.17
2/06/2021 8:20	61.22	ppm	RCRA	3.98	118.66	29.92	142.96	<LOD	6.89	<LOD	<LOD	17.47
2/06/2021 8:26	61.27	ppm	R_S51a_0m	5.17	185.03	38.99	222.93	<LOD	7.88	<LOD	<LOD	22.90
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	6.47	124.77	46.93	150.33	<LOD	11.14	<LOD	<LOD	30.46
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	8.22	210.10	50.04	253.13	<LOD	10.09	<LOD	30.89	18.23
2/06/2021 8:41	61.49	ppm	R_S52a_0m	5.86	63.78	29.67	76.84	<LOD	6.62	<LOD	<LOD	18.88
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	9.22	82.08	43.28	98.89	<LOD	9.65	<LOD	<LOD	26.70
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	4.05	139.54	36.87	168.12	<LOD	7.42	<LOD	72.47	14.13
2/06/2021 8:59	61.13	ppm	R_S53a_0m	5.69	132.89	37.59	160.11	<LOD	8.14	<LOD	<LOD	23.42
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	4.19	<LOD	48.30	<LOD	<LOD	7.19	<LOD	<LOD	19.77
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	7.29	74.60	35.50	89.88	<LOD	7.94	<LOD	<LOD	21.68
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	3.45	172.20	25.79	269.06	<LOD	4.74	<LOD	<LOD	13.47
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	5.77	145.32	40.63	175.08	<LOD	9.36	<LOD	<LOD	27.62
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	<LOD	154.87	30.80	186.59	<LOD	6.05	<LOD	<LOD	17.74
2/06/2021 9:49	60.92	ppm	SiO2	<LOD	<LOD	31.16	<LOD	<LOD	4.97	<LOD	<LOD	13.99
2/06/2021 9:50	61.29	ppm	RCRA	7.02	92.00	29.48	110.84	<LOD	6.97	<LOD	29.55	11.91
2/06/2021 9:59	60.99	ppm	R_S55a_0m	4.01	420.64	37.73	506.80	<LOD	6.54	<LOD	<LOD	19.12
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	<LOD	232.74	53.11	280.41	<LOD	13.25	<LOD	58.60	25.76
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	<LOD	143.36	33.46	172.72	<LOD	6.76	<LOD	<LOD	19.98
2/06/2021 10:30	61.29	ppm	R_S56a_0m	<LOD	130.05	26.49	156.69	<LOD	4.99	<LOD	<LOD	14.82
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	<LOD	248.32	33.58	299.18	<LOD	6.29	<LOD	<LOD	17.80
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	<LOD	208.09	31.87	250.71	<LOD	6.30	<LOD	66.95	12.46
2/06/2021 10:57	61.59	ppm	R_S57a_0m	<LOD	<LOD	54.81	<LOD	<LOD	9.59	<LOD	<LOD	27.82
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	3.24	209.28	28.69	252.14	<LOD	5.13	<LOD	<LOD	15.06
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	<LOD	310.40	36.94	373.98	<LOD	6.77	<LOD	<LOD	19.80
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	<LOD	162.35	27.42	195.60	<LOD	5.14	<LOD	<LOD	15.11
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	<LOD	132.04	28.01	159.08	<LOD	5.68	<LOD	<LOD	16.69
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	<LOD	274.44	51.76	330.65	<LOD	12.46	<LOD	66.06	24.76
2/06/2021 11:28	61.6	ppm	SiO2	<LOD	<LOD	30.84	<LOD	<LOD	4.92	<LOD	<LOD	14.01
2/06/2021 11:30	60.97	ppm	RCRA	3.69	98.60	29.53	118.80	<LOD	6.95	<LOD	23.07	11.80
2/06/2021 11:36	60.97	ppm	R_S59a_0m	3.64	431.62	41.73	520.02	<LOD	7.73	<LOD	<LOD	21.52
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	<LOD	<LOD	5043.67	<LOD	<LOD	121.18	<LOD	<LOD	567.64
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	<LOD	<LOD	622.99	<LOD	<LOD	88.33	<LOD	<LOD	465.12
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	10.08	183.51	70.55	221.10	<LOD	23.82	<LOD	65.66	42.14
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	22.98	1016.12	111.31	1224.24	<LOD	27.88	<LOD	207.07	42.44
2/06/2021 12:00	60.67	ppm	R_S60a_0m	<LOD	143.66	31.80	173.08	<LOD	6.50	<LOD	<LOD	19.14
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	<LOD	117.86	42.63	142.00	<LOD	10.77	<LOD	33.33	21.05
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	<LOD	286.81	31.70	345.55	<LOD	5.81	<LOD	87.46	12.01
2/06/2021 13:09	61.57	ppm	R_S61a_0m	2.52	125.22	26.95	150.87	<LOD	5.14	<LOD	<LOD	15.14
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	<LOD	253.23	33.42	305.10	<LOD	6.09	<LOD	<LOD	17.74
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	<LOD	179.21	37.02	215.92	<LOD	7.67	<LOD	40.49	15.67
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	<LOD	205.50	33.81	302.21	<LOD	6.20	<LOD	<LOD	18.91
2/06/2021 13:32	61	ppm	R_S62a_0.1m	<LOD	264.78	39.51	319.01	<LOD	7.33	<LOD	34.85	15.21
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	<LOD	941.47	44.35	1134.30	<LOD	5.80	<LOD	40.48	12.09
2/06/2021 13:43	60.61	ppm	SiO2	<LOD	<LOD	31.18	<LOD	<LOD	4.90	<LOD	<LOD	14.15
2/06/2021 13:44	61.11	ppm	RCRA	3.27	95.82	29.52	115.45	<LOD	6.90	<LOD	22.74	11.82
2/06/2021 13:50	61.44	ppm	R_S63a_0m	<LOD	102.66	41.24	123.69	<LOD	10.51	<LOD	<LOD	30.11
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	<LOD	167.25	30.41	201.51	<LOD	5.82	<LOD	<LOD	17.35
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	<LOD	173.42	30.71	208.94	<LOD	5.84	<LOD	31.15	11.52
2/06/2021 14:04	60.55	ppm	R_S64a_0m	<LOD	120.92	25.78	145.69	<LOD	5.03	<LOD	<LOD	14.76
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	2.88	154.67	28.94	186.35	<LOD	5.60	<LOD	<LOD	16.37
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	<LOD	243.65	32.60	293.55	66.46	4.78	80.07	234.47	19.50
2/06/2021 14:22	62.2	ppm	R_S65a_0m	<LOD	86.37	25.15	104.06	<LOD	4.96	<LOD	<LOD	14.57
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	<LOD	136.59	27.16	164.57	<LOD	5.21	<LOD	<LOD	15.61
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	<LOD	155.61	37.59	187.48	<LOD	7.94	<LOD	<LOD	23.60

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	5.53	319.49	34.20	384.93	<LOD	6.32	<LOD	<LOD	17.99
2/06/2021 14:34	62.08	ppm	R_S67a_0m	4.58	198.53	41.09	239.19	<LOD	8.76	<LOD	<LOD	26.05
2/06/2021 14:40	61.18	ppm	SiO2	<LOD	<LOD	30.99	<LOD	<LOD	4.94	<LOD	<LOD	14.05
2/06/2021 14:42	61.89	ppm	RCRA	3.52	76.98	29.09	92.75	<LOD	6.87	<LOD	19.51	11.72
2/06/2021 15:16	61.89	ppm	R_S68a_0m	14.66	202.15	54.32	243.55	<LOD	12.88	<LOD	<LOD	34.82
2/06/2021 15:28	61.57	ppm	R_S69a_0m	<LOD	135.57	45.41	163.34	<LOD	10.71	<LOD	<LOD	30.25
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	<LOD	146.53	74.67	176.54	<LOD	24.52	<LOD	128.16	44.57
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	<LOD	127.84	30.48	154.02	<LOD	6.08	<LOD	31.30	12.01
2/06/2021 15:42	62.1	ppm	R_S70a_0m	4.23	281.01	46.80	338.57	<LOD	9.33	<LOD	81.79	17.22
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	10.61	232.60	80.57	280.24	<LOD	23.28	<LOD	151.96	44.31
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	<LOD	183.14	32.72	220.65	<LOD	6.25	<LOD	64.13	12.56
2/06/2021 16:01	62.18	ppm	R_S71a_0m	6.42	210.81	40.19	253.99	<LOD	9.15	<LOD	<LOD	22.66
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	<LOD	125.73	68.45	151.48	<LOD	23.37	<LOD	178.19	44.33
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	<LOD	265.23	37.10	319.55	<LOD	7.65	<LOD	93.30	14.19
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	10.38	<LOD	162.80	<LOD	<LOD	22.43	<LOD	<LOD	61.62
3/06/2021 8:25	60.77	ppm	SiO2	<LOD	<LOD	31.17	<LOD	<LOD	4.95	<LOD	<LOD	14.08
3/06/2021 8:27	61.24	ppm	RCRA	5.57	114.69	29.81	138.18	<LOD	6.72	<LOD	<LOD	17.42
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	7.40	186.73	54.01	224.98	<LOD	13.16	<LOD	<LOD	35.11
3/06/2021 8:42	60.99	ppm	R_S73a_0m	<LOD	121.37	44.55	146.23	<LOD	10.74	<LOD	33.51	20.87
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	<LOD	221.83	36.27	267.27	<LOD	7.37	<LOD	33.94	13.80
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	<LOD	<LOD	400.16	<LOD	<LOD	42.71	<LOD	<LOD	323.89
3/06/2021 8:56	60.82	ppm	R_S74a_0m	<LOD	149.56	33.36	180.19	<LOD	6.77	<LOD	22.22	13.41
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	<LOD	240.07	65.68	289.24	<LOD	19.31	<LOD	121.45	37.78
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	4.00	149.31	33.50	179.89	<LOD	6.99	<LOD	<LOD	20.15
3/06/2021 11:29	1.78	ppm	R_S75a_0m	<LOD	<LOD	1930.42	<LOD	<LOD	286.67	<LOD	<LOD	2235.24
3/06/2021 11:31	1.58	ppm	R_S75a_0m	<LOD	<LOD	2578.56	<LOD	<LOD	598.76	<LOD	<LOD	2031.71
3/06/2021 11:31	0.95	ppm	R_S75a_0m	<LOD	<LOD	931.00	<LOD	<LOD	5526.31	<LOD	<LOD	27188.15
3/06/2021 11:33	62.07	ppm	R_S75a_0m	6.57	274.99	70.64	331.31	<LOD	15.59	<LOD	<LOD	58.92
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	<LOD	<LOD	300000.00	<LOD	<LOD	300000.00	<LOD	<LOD	300000.00
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	4.80	<LOD	70.11	<LOD	<LOD	10.72	<LOD	<LOD	40.69
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	<LOD	<LOD	62.71	<LOD	<LOD	9.80	<LOD	<LOD	36.65
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	5.31	<LOD	57.61	<LOD	<LOD	8.14	<LOD	<LOD	30.70
3/06/2021 12:22	62.29	%	-	<LOD	<LOD	0.01	<LOD	-	-	NC	<LOD	0.00
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	5.23	<LOD	76.04	<LOD	<LOD	12.92	<LOD	<LOD	50.24
3/06/2021 12:39	62.14	ppm	R_S77a_0m	6.76	<LOD	68.36	<LOD	<LOD	10.77	<LOD	<LOD	38.57
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	<LOD	70.46	40.98	84.89	<LOD	8.35	<LOD	<LOD	31.78
3/06/2021 13:01	61.49	ppm	SiO2	<LOD	<LOD	46.86	<LOD	<LOD	6.67	<LOD	<LOD	24.47
3/06/2021 13:04	62.17	ppm	RCRA	4.30	842.96	72.47	1015.61	<LOD	10.88	<LOD	44.46	25.39
3/06/2021 14:04	61.78	ppm	R_S78a_0m	11.20	<LOD	156.00	<LOD	<LOD	25.35	<LOD	<LOD	90.24
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	<LOD	135.38	42.68	163.11	<LOD	8.81	<LOD	33.42	20.53
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	4.34	65.31	42.15	78.69	<LOD	9.45	<LOD	48.47	22.62
3/06/2021 14:27	62.28	ppm	R_S79a_0m	7.06	<LOD	64.64	<LOD	<LOD	10.69	<LOD	<LOD	33.14
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	5.70	<LOD	71.56	<LOD	<LOD	12.55	<LOD	<LOD	42.45
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	<LOD	<LOD	59.65	<LOD	<LOD	10.02	<LOD	<LOD	31.68
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	4.53	<LOD	52.62	<LOD	<LOD	7.49	<LOD	<LOD	27.71
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	<LOD	<LOD	68.06	<LOD	<LOD	11.71	<LOD	<LOD	42.40
3/06/2021 15:16	61.09	ppm	R_S81a_0m	6.49	<LOD	83.65	<LOD	<LOD	16.57	<LOD	<LOD	60.54
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	8.61	<LOD	72.28	<LOD	<LOD	11.89	<LOD	<LOD	44.79
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	<LOD	<LOD	64.85	<LOD	<LOD	10.00	<LOD	<LOD	33.15
3/06/2021 15:34	61.12	ppm	R_S82a__0m	9.72	<LOD	47.81	<LOD	<LOD	9.11	<LOD	<LOD	33.05
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	5.69	<LOD	52.80	<LOD	<LOD	7.87	<LOD	<LOD	28.72
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	10.18	<LOD	107.30	<LOD	<LOD	25.41	<LOD	99.58	64.16
3/06/2021 16:06	61.46	ppm	SiO2	<LOD	<LOD	47.27	<LOD	<LOD	6.83	<LOD	<LOD	25.01
3/06/2021 16:08	61.58	ppm	RCRA	7.60	882.79	71.81	1063.60	<LOD	11.21	<LOD	<LOD	37.17
3/06/2021 16:35	61.77	ppm	R_S83a_0m	<LOD	221.15	56.94	266.45	<LOD	11.86	<LOD	<LOD	43.83
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	<LOD	224.98	52.10	271.06	<LOD	10.11	<LOD	<LOD	39.00
15/06/2021 12:52	56.51	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 12:54	56.13	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 13:07	61.3	ppm	SiO2	<LOD	<LOD	45.57	<LOD	<LOD	6.52	<LOD	<LOD	24.35
15/06/2021 13:09	61.75	ppm	RCRA	4.42	921.58	72.49	1110.34	<LOD	10.35	<LOD	85.02	25.70
16/06/2021 8:06	63.49	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:07	58.37	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:13	60.36	ppm	sio2	<LOD	<LOD	45.01	<LOD	<LOD	6.42	<LOD	<LOD	24.97
16/06/2021 8:15	60.19	ppm	rcra	4.82	890.85	72.51	1073.31	<LOD	10.74	<LOD	67.95	25.46
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	<LOD	195.76	43.54	235.86	<LOD	7.45	<LOD	<LOD	29.49
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	<LOD	262.12	55.20	315.81	<LOD	10.27	<LOD	<LOD	40.42
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	<LOD	298.54	55.15	359.69	<LOD	10.21	<LOD	<LOD	39.58
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	<LOD	215.08	44.99	259.13	<LOD	7.98	<LOD	<LOD	30.24
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	<LOD	1328.37	76.05	1600.45	<LOD	8.45	<LOD	<LOD	32.24
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	<LOD	541.73	57.37	652.69	<LOD	8.38	<LOD	<LOD	33.08
16/06/2021 10:03	61.29	ppm	SiO2	<LOD	<LOD	49.00	<LOD	<LOD	7.05	<LOD	<LOD	27.04
16/06/2021 10:06	61.85	ppm	RCRA	5.64	833.93	71.55	1004.73	<LOD	10.85	<LOD	57.02	25.52
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	<LOD	206.23	53.74	248.47	<LOD	9.09	<LOD	<LOD	35.74
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	4.30	208.86	54.97	251.64	<LOD	9.89	<LOD	<LOD	35.01
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	<LOD	214.05	58.64	257.89	<LOD	11.38	<LOD	<LOD	42.07
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	<LOD	174.43	44.44	210.16	<LOD	8.36	<LOD	<LOD	30.52
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	<LOD	113.88	45.94	137.20	<LOD	8.59	<LOD	<LOD	33.66
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	<LOD	<LOD	803.90	<LOD	<LOD	78.98	<LOD	<LOD	266.77
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	<LOD	139.64	45.26	168.24	<LOD	8.03	<LOD	<LOD	30.39
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	6.51	80.59	43.54	97.10	<LOD	8.43	<LOD	<LOD	31.29

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	<LOD	<LOD	58.48	<LOD	<LOD	7.97	<LOD	<LOD	29.92
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	4.88	87.85	38.88	105.84	<LOD	7.32	<LOD	<LOD	27.52
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	10.07	106.88	46.26	128.77	<LOD	9.88	<LOD	<LOD	33.18
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	<LOD	164.23	67.60	197.87	<LOD	13.57	<LOD	<LOD	45.73
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	9.13	296.05	92.22	356.69	<LOD	20.25	<LOD	<LOD	62.04
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	18.07	<LOD	309.47	<LOD	<LOD	102.63	<LOD	<LOD	188.89
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	<LOD	176.18	65.88	200.20	<LOD	18.40	<LOD	<LOD	48.33
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	<LOD	138.43	46.57	166.78	<LOD	9.02	<LOD	92.17	23.96
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	<LOD	186.56	65.94	224.77	<LOD	16.47	<LOD	<LOD	44.69
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	<LOD	122.59	41.73	147.70	<LOD	8.11	<LOD	35.11	20.52
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	<LOD	129.53	47.14	156.06	<LOD	9.38	<LOD	50.14	24.38
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	<LOD	141.62	58.23	166.61	<LOD	13.93	<LOD	<LOD	40.48
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	<LOD	91.55	50.72	110.30	<LOD	10.71	<LOD	43.19	28.77
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	<LOD	73.43	39.99	88.47	<LOD	7.51	<LOD	<LOD	29.16
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	<LOD	<LOD	76.31	<LOD	<LOD	10.60	<LOD	<LOD	35.85
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	<LOD	151.67	52.43	182.73	<LOD	8.77	<LOD	48.02	23.35
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	4.29	<LOD	60.89	<LOD	<LOD	7.76	<LOD	<LOD	30.19
16/06/2021 12:57	63.85	ppm	SiO2	<LOD	<LOD	47.00	<LOD	<LOD	6.50	<LOD	<LOD	24.69
16/06/2021 12:58	61.79	ppm	RCRA	<LOD	840.70	72.17	1012.89	<LOD	10.98	<LOD	98.60	26.47
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	4.42	235.18	49.60	283.35	<LOD	8.59	<LOD	<LOD	32.52
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	7.55	826.79	66.86	996.13	<LOD	10.46	<LOD	<LOD	34.32
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	<LOD	245.80	43.36	296.14	<LOD	7.36	<LOD	<LOD	28.08
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	<LOD	325.68	49.10	392.39	<LOD	7.87	<LOD	<LOD	30.27
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	4.51	264.18	49.97	318.29	<LOD	9.13	<LOD	<LOD	34.54
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	<LOD	238.37	44.62	287.19	<LOD	7.42	<LOD	<LOD	28.76
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	<LOD	629.63	59.83	758.59	<LOD	8.63	<LOD	<LOD	32.78
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	<LOD	739.91	64.41	891.46	<LOD	8.72	<LOD	68.05	23.18
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	<LOD	<LOD	658.23	<LOD	<LOD	44.35	<LOD	<LOD	1345.54
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	<LOD	245.85	47.09	296.20	<LOD	8.19	<LOD	<LOD	31.15
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	<LOD	296.13	51.40	356.78	<LOD	8.77	<LOD	<LOD	33.19
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	12.84	362.79	81.81	437.10	<LOD	17.28	<LOD	<LOD	65.30
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	<LOD	317.69	48.33	382.76	<LOD	8.01	<LOD	53.20	21.02
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	4.93	263.97	54.01	318.04	<LOD	9.98	<LOD	<LOD	38.63
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	<LOD	207.80	50.78	250.36	<LOD	9.38	<LOD	52.20	23.70
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	<LOD	512.26	54.48	617.18	<LOD	9.37	<LOD	<LOD	31.09
16/06/2021 14:48	62.5	ppm	R_S10OA_01	<LOD	1552.08	80.23	1869.98	<LOD	11.23	<LOD	<LOD	32.87
16/06/2021 14:52	62.2	ppm	R_S10OA_03	<LOD	445.43	57.66	536.66	<LOD	10.37	<LOD	105.46	25.31
16/06/2021 15:00	8.99	ppm	SiO2	<LOD	200.83	82.09	241.96	<LOD	15.90	<LOD	<LOD	44.52
16/06/2021 15:04	20.77	ppm	SiO2	<LOD	<LOD	56.03	<LOD	<LOD	8.03	<LOD	<LOD	28.43
16/06/2021 15:04	0.15	ppm	SiO2	<LOD	<LOD	2283.82	<LOD	<LOD	191.15	<LOD	<LOD	657.89
16/06/2021 15:05	61.18	ppm	SiO2	<LOD	<LOD	45.61	<LOD	<LOD	6.62	<LOD	<LOD	24.06
16/06/2021 15:07	61.33	ppm	RCRA	<LOD	787.71	69.49	949.05	<LOD	10.62	<LOD	<LOD	35.83
16/06/2021 15:18	0.55	ppm	RCRA	<LOD	<LOD	591.74	<LOD	<LOD	117.72	<LOD	<LOD	455.33
16/06/2021 15:20	0.56	ppm	R_S10IA	<LOD	<LOD	900.74	<LOD	<LOD	7266.76	<LOD	<LOD	25427.15
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	<LOD	<LOD	25585.60	<LOD	<LOD	5021.75	<LOD	<LOD	12720.48
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	<LOD	101.99	40.74	122.88	<LOD	7.43	<LOD	<LOD	28.96
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	4.71	170.29	42.88	205.17	<LOD	7.64	<LOD	<LOD	28.22
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	<LOD	<LOD	957.26	<LOD	<LOD	2236.48	<LOD	<LOD	70068.27
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	3.93	197.37	43.36	237.80	<LOD	8.51	<LOD	<LOD	28.38
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	<LOD	133.48	37.58	160.82	<LOD	6.74	<LOD	<LOD	24.40
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	<LOD	199.80	73.46	240.72	<LOD	12.89	<LOD	<LOD	49.27
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	<LOD	240.31	46.89	289.53	<LOD	8.14	<LOD	<LOD	30.25
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	<LOD	288.97	63.14	348.16	<LOD	10.90	<LOD	<LOD	39.80
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	<LOD	152.20	87.76	183.37	<LOD	16.48	<LOD	<LOD	60.05
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	<LOD	130.89	42.32	157.70	<LOD	7.67	<LOD	<LOD	28.59
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	<LOD	119.67	36.80	144.18	<LOD	6.63	<LOD	<LOD	23.74
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	<LOD	114.36	39.88	137.78	<LOD	7.45	<LOD	<LOD	27.31
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	<LOD	201.12	45.35	242.31	<LOD	7.93	<LOD	<LOD	30.89
17/06/2021 8:30	49.35	ppm	RCRA	4.70	648.97	61.03	781.89	<LOD	9.41	<LOD	<LOD	32.47
17/06/2021 8:31	61.65	ppm	RCRA	5.42	863.08	72.02	1039.86	<LOD	10.77	<LOD	<LOD	37.14
17/06/2021 8:36	61.36	ppm	R_S104_0.0	5.52	206.54	51.58	248.84	<LOD	9.71	<LOD	<LOD	33.25
17/06/2021 8:38	61.76	ppm	R_S104_0.1	4.94	257.71	52.76	310.49	<LOD	9.45	<LOD	<LOD	32.90
17/06/2021 8:41	61.51	ppm	R_S104_0.25	6.73	122.05	47.36	147.05	<LOD	9.68	<LOD	<LOD	31.70
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	6.07	672.20	64.47	809.88	<LOD	10.66	<LOD	<LOD	34.08
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	<LOD	1303.77	80.20	1570.81	<LOD	11.31	<LOD	<LOD	35.85
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	<LOD	1279.37	81.51	1541.41	<LOD	11.37	<LOD	<LOD	36.35
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	<LOD	81.94	34.14	134.33	<LOD	6.01	<LOD	<LOD	22.58
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	4.16	115.14	44.44	138.72	<LOD	8.22	<LOD	<LOD	31.90
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	<LOD	249.94	44.05	301.13	<LOD	7.45	<LOD	<LOD	28.49
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	<LOD	247.98	38.24	298.77	<LOD	6.04	<LOD	<LOD	22.46
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	<LOD	574.00	51.21	691.57	<LOD	6.92	<LOD	<LOD	26.64
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	4.28	757.69	67.91	912.88	<LOD	10.05	<LOD	<LOD	36.03
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	<LOD	1148.03	59.14	1383.17	<LOD	6.26	<LOD	<LOD	23.78
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	<LOD	1251.09	66.99	1507.34	<LOD	7.48	<LOD	<LOD	27.74
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	<LOD	1864.74	89.51	2246.67	<LOD	9.97	<LOD	41.03	24.79
17/06/2021 9:53	62.25	ppm	RCRA	<LOD	851.21	71.71	1025.55	<LOD	10.76	<LOD	41.37	24.91
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	<LOD	201.70	37.36	243.01	<LOD	5.85	<LOD	<LOD	22.60
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	12.41	85.53	41.44	103.05	<LOD	8.26	<LOD	<LOD	30.04
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	3.88	<LOD	65.75	<LOD	<LOD	7.71	<LOD	<LOD	30.92
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	<LOD	66.46	31.50	110.77	<LOD	5.48	<LOD	<LOD	20.80

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	<LOD	163.05	41.90	196.45	<LOD	7.28	<LOD	<LOD	27.52
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	<LOD	179.90	47.33	216.75	<LOD	8.68	<LOD	<LOD	32.52
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	<LOD	<LOD	344.26	<LOD	<LOD	33.71	<LOD	<LOD	130.06
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	<LOD	237.75	40.14	286.45	<LOD	6.50	<LOD	<LOD	24.53
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	<LOD	371.22	44.34	447.25	<LOD	6.61	<LOD	<LOD	24.63
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	<LOD	139.60	46.29	168.19	<LOD	7.97	<LOD	<LOD	30.51
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	<LOD	379.90	45.62	457.71	<LOD	6.76	<LOD	<LOD	25.85
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	<LOD	376.39	48.37	453.48	<LOD	7.46	<LOD	<LOD	28.34
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	<LOD	367.06	46.98	442.24	<LOD	7.25	<LOD	<LOD	27.09
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	<LOD	147.89	36.58	178.18	<LOD	6.31	<LOD	<LOD	22.88
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	5.36	431.23	51.31	582.74	<LOD	8.02	<LOD	<LOD	28.34
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	4.43	446.76	51.17	538.27	<LOD	7.54	<LOD	<LOD	29.25
17/06/2021 11:18	61.77	ppm	RCRA	4.77	860.08	71.62	1036.24	<LOD	10.73	<LOD	<LOD	36.39
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	<LOD	130.28	36.29	156.96	<LOD	6.34	<LOD	<LOD	24.07
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	<LOD	262.16	44.08	315.86	<LOD	7.33	<LOD	<LOD	26.73
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	<LOD	398.54	47.85	480.17	<LOD	7.08	<LOD	<LOD	26.89
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	<LOD	121.03	36.47	145.82	<LOD	6.37	<LOD	<LOD	24.15
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	<LOD	296.40	44.92	357.11	<LOD	7.12	<LOD	<LOD	26.89
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	<LOD	191.57	41.37	230.81	<LOD	7.08	<LOD	<LOD	25.88
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	<LOD	198.42	41.40	254.38	<LOD	6.97	<LOD	<LOD	25.97
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	<LOD	142.37	42.54	171.53	<LOD	7.57	<LOD	<LOD	28.25
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	<LOD	214.30	51.21	258.19	<LOD	8.22	<LOD	<LOD	31.68

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Dry Weight (moisture corrected) Ni	Se	Se Error	Dry Weight (moisture corrected) Se	Ti	Ti Error	Dry Weight (moisture corrected) Ti	Zn	Zn Error
7/06/2021 10:55	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:56	53.57	cps	-	NC	-	-	NC	-	-	NC	-	-
7/06/2021 10:58	61.59	ppm	SiO2	<LOD	<LOD	4.71	<LOD	<LOD	18.65	<LOD	<LOD	6.19
7/06/2021 11:21	60.43	ppm	GW1_0.0	<LOD	<LOD	6.01	<LOD	2875.63	54.74	3464.61	327.43	13.88
7/06/2021 11:30	60.61	ppm	GW1_0.1	46.58	<LOD	6.25	<LOD	3380.75	65.69	4073.19	444.34	15.78
7/06/2021 11:31	19.12	ppm	GW1_0.1	88.78	<LOD	8.21	<LOD	-	-	NC	500.95	21.79
7/06/2021 11:32	60.66	ppm	GW1_0.2	48.01	<LOD	6.14	<LOD	3908.04	77.82	4708.48	565.25	17.61
7/06/2021 11:32	0.53	ppm	GW1_0.2	<LOD	<LOD	182.17	<LOD	-	-	NC	521.31	331.60
7/06/2021 11:33	60.47	ppm	GW1_0.3	<LOD	<LOD	7.90	<LOD	1477.87	34.90	1780.57	530.36	19.27
7/06/2021 11:35	60.68	ppm	GW1_0.4	<LOD	<LOD	5.77	<LOD	4025.75	73.64	4850.30	350.73	14.02
7/06/2021 11:37	60.76	ppm	GW1_0.5	<LOD	<LOD	6.26	<LOD	3209.45	63.56	3866.81	389.13	14.93
7/06/2021 11:38	61.01	ppm	GW1_1.0	<LOD	<LOD	6.24	<LOD	3540.83	74.00	4266.06	534.04	17.08
7/06/2021 11:40	60.76	ppm	GW1_2.0	<LOD	<LOD	8.14	<LOD	2274.35	47.67	2740.18	765.28	22.68
7/06/2021 11:41	60.67	ppm	GW1_3.0	51.23	<LOD	7.22	<LOD	1822.47	55.95	2195.75	846.32	22.25
7/06/2021 11:42	6.84	ppm	GW1_4.0	<LOD	<LOD	17.99	<LOD	-	-	NC	1132.75	61.63
7/06/2021 11:43	61.37	ppm	GW1_4.0	40.53	<LOD	6.93	<LOD	1565.37	58.17	1885.99	1050.81	23.67
7/06/2021 13:21	60.51	ppm	GW3_0.1	62.13	<LOD	7.36	<LOD	2996.60	78.87	3610.36	815.27	21.44
7/06/2021 13:26	60.77	ppm	GW3_0.0	<LOD	<LOD	6.41	<LOD	4370.40	89.14	5265.54	690.41	19.09
7/06/2021 13:28	60.6	ppm	GW3_0.2	49.77	<LOD	7.13	<LOD	2848.81	64.63	3432.30	796.06	21.22
7/06/2021 13:29	72.5	ppm	GW3_0.3	<LOD	<LOD	6.33	<LOD	2357.42	56.60	2840.27	588.72	17.87
7/06/2021 13:31	60.51	ppm	GW3_0.44	78.65	<LOD	6.58	<LOD	4342.44	88.81	5231.86	695.86	20.03
7/06/2021 13:33	63.3	ppm	GW3_0.5	51.76	<LOD	6.87	<LOD	4936.85	103.91	5948.01	796.58	21.45
7/06/2021 13:34	60.96	ppm	GW3_1.0	41.43	<LOD	6.53	<LOD	4482.49	99.10	5400.59	826.50	21.15
7/06/2021 13:41	60.6	ppm	GW3_2.0	48.01	<LOD	6.96	<LOD	4482.52	100.72	5400.63	880.37	22.41
7/06/2021 13:58	60.47	ppm	SiO2	<LOD	<LOD	4.80	<LOD	<LOD	18.37	<LOD	<LOD	6.15
7/06/2021 14:00	60.77	ppm	RCRA	77.61	481.49	12.53	580.11	3880.88	98.48	4675.76	69.26	9.14
7/06/2021 15:09	60.72	ppm	D1	<LOD	<LOD	5.20	<LOD	1748.18	58.12	2106.24	157.62	9.93
7/06/2021 15:12	60.52	ppm	GW3_0.0	<LOD	<LOD	5.40	<LOD	1964.52	59.52	2366.89	175.45	10.20
7/06/2021 15:24	60.98	ppm	GW3_0.1	71.67	<LOD	14.71	<LOD	3760.08	139.12	4530.22	1636.52	38.23
7/06/2021 15:26	60.5	ppm	GW3_0.2	<LOD	<LOD	7.85	<LOD	4187.50	111.46	5045.18	545.17	18.59
7/06/2021 15:28	61.05	ppm	GW3_0.3	70.57	<LOD	12.97	<LOD	3232.48	105.86	3894.55	1621.13	35.31
7/06/2021 15:29	71.47	ppm	GW3_0.4	109.80	<LOD	7.63	<LOD	2546.22	66.26	3067.73	376.54	16.06
7/06/2021 15:31	62.46	ppm	GW3_0.5	74.31	<LOD	10.47	<LOD	3832.28	114.61	4617.20	1004.47	26.50
7/06/2021 15:32	64.68	ppm	GW3_1.0	47.23	<LOD	7.71	<LOD	4709.11	118.26	5673.63	681.16	20.56
7/06/2021 15:34	61.4	ppm	GW3_2.0	<LOD	<LOD	9.19	<LOD	2843.00	82.42	3425.30	1054.78	25.68
7/06/2021 15:37	61.39	ppm	GW3_3.0	<LOD	<LOD	5.87	<LOD	2619.71	63.69	3156.28	277.52	12.89
8/06/2021 7:48	53.82	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 7:49	56.02	cps	-	NC	-	-	NC	-	-	NC	-	-
8/06/2021 8:00	60.96	ppm	SiO2	<LOD	<LOD	4.64	<LOD	<LOD	17.44	<LOD	<LOD	6.35
8/06/2021 8:02	61.12	ppm	RCRA	107.72	503.38	12.89	606.48	3781.95	96.20	4556.57	71.01	9.30
8/06/2021 8:08	61.74	ppm	GW4_0.0	68.23	<LOD	6.73	<LOD	1693.08	60.54	2039.86	329.01	15.30
8/06/2021 8:09	61.95	ppm	GW4_0.1	<LOD	<LOD	9.28	<LOD	2873.16	85.70	3461.64	1189.91	27.92
8/06/2021 8:14	61.41	ppm	GW4_0.2	96.14	<LOD	10.25	<LOD	2372.53	98.54	2824.44	874.19	25.93
8/06/2021 8:16	62.26	ppm	GW4_0.3	<LOD	<LOD	6.61	<LOD	2685.92	71.03	3236.05	334.61	14.50
8/06/2021 8:17	61.51	ppm	GW4_0.4	<LOD	<LOD	5.80	<LOD	2387.19	47.00	2876.13	138.18	10.02
8/06/2021 8:19	61.85	ppm	GW4_0.5	43.77	<LOD	5.44	<LOD	4425.61	78.97	5332.06	196.67	11.08
8/06/2021 8:20	65.48	ppm	GW4_1.0	54.96	<LOD	5.50	<LOD	4719.85	94.68	5686.57	246.85	12.09
8/06/2021 8:22	62.3	ppm	GW4_2.0	63.05	<LOD	5.40	<LOD	4124.06	86.88	4968.75	180.85	10.90
8/06/2021 9:13	62.15	ppm	GW5_0.0	<LOD	<LOD	4.73	<LOD	3036.06	77.75	3657.90	363.63	12.69
8/06/2021 9:14	61.79	ppm	GW5_0.1	102.60	<LOD	6.73	<LOD	2254.22	51.84	2715.93	401.45	16.42
8/06/2021 9:19	61.88	ppm	GW5_0.2	<LOD	<LOD	7.58	<LOD	2175.19	49.27	2620.71	501.38	18.93
8/06/2021 9:20	61.76	ppm	GW5_0.3	<LOD	<LOD	5.65	<LOD	4321.15	84.63	5206.20	191.43	10.94
8/06/2021 9:22	61.8	ppm	GW5_0.4	<LOD	<LOD	5.65	<LOD	2876.30	46.27	3465.42	28.58	6.45
8/06/2021 9:24	80.71	ppm	GW5_0.5	41.16	<LOD	4.98	<LOD	4321.00	83.68	5206.02	91.80	8.17
8/06/2021 9:25	61.79	ppm	GW5_1.0	69.59	<LOD	5.25	<LOD	4548.23	88.56	5479.80	113.44	9.06
8/06/2021 9:51	61.71	ppm	SiO2	<LOD	<LOD	4.49	<LOD	<LOD	19.00	<LOD	<LOD	6.06
8/06/2021 9:55	30	ppm	RCRA	<LOD	350.46	10.20	422.24	-	-	NC	68.59	8.42
8/06/2021 9:56	62.23	ppm	RCRA	58.57	494.16	12.64	595.37	4141.65	101.53	4989.94	75.76	9.40
8/06/2021 10:04	62.28	ppm	D2	<LOD	<LOD	5.34	<LOD	2207.30	53.25	2659.40	179.69	10.45
8/06/2021 10:05	61.74	ppm	GW6_0.0	<LOD	<LOD	5.39	<LOD	2382.61	56.16	2870.61	217.89	11.08
8/06/2021 10:11	61.88	ppm	GW6_0.1	<LOD	<LOD	5.41	<LOD	3320.00	67.09	4000.00	314.05	13.11
8/06/2021 10:13	60.96	ppm	GW6_0.2	41.07	<LOD	5.54	<LOD	3852.86	69.97	4642.00	329.62	13.62
8/06/2021 10:14	61.3	ppm	GW6_0.3	<LOD	<LOD	5.67	<LOD	1767.78	35.78	2129.86	161.12	10.32
8/06/2021 10:16	70.43	ppm	GW6_0.4	39.70	<LOD	4.85	<LOD	5288.09	78.78	6371.19	66.33	7.40
8/06/2021 10:18	74.28	ppm	GW6_0.5	<LOD	<LOD	5.39	<LOD	4738.96	87.57	5709.59	67.15	7.88
8/06/2021 10:20	61.98	ppm	GW6_1.0	112.39	<LOD	6.29	<LOD	2201.38	50.68	2652.27	56.99	8.01
8/06/2021 11:33	61.81	ppm	GW7_0.00	<LOD	<LOD	5.28	<LOD	3447.38	78.47	4153.47	110.34	8.74
8/06/2021 11:56	61.46	ppm	GW7_0.1	90.82	<LOD	7.49	<LOD	4503.14	107.95	5425.47	334.95	15.28
8/06/2021 12:00	62.24	ppm	GW7_0.2	69.81	<LOD	7.84	<LOD	4023.79	94.68	4280.63	371.83	15.90
8/06/2021 12:06	61.24	ppm	GW7_0.3	<LOD	<LOD	7.19	<LOD	4515.24	104.12	5440.05	297.30	14.27
8/06/2021 12:07	61.12	ppm	GW7_0.4	126.27	<LOD	7.32	<LOD	3971.23	98.12	4784.61	326.44	15.09
8/06/2021 12:08	41.19	ppm	GW7_0.3	192.87	<LOD	9.00	<LOD	3848.34	181.13	4636.55	446.26	18.55
8/06/2021 12:09	64.87	ppm	GW7_0.4	158.64	<LOD	8.94	<LOD	4767.30	121.06	5743.73	530.28	20.22
8/06/2021 12:11	61.83	ppm	GW7_1.0	110.41	<LOD	6.20	<LOD	3847.85	82.44	4635.96	130.35	10.23
8/06/2021 12:13	61.67	ppm	GW7_2.0	128.60	<LOD	9.75	<LOD	4238.78	111.38	5106.96	670.22	21.96

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	205.80	<LOD	8.96	<LOD	3633.74	110.73	4378.00	654.11	22.36
8/06/2021 12:16	61.51	ppm	GW7_5.0	791.89	<LOD	10.03	<LOD	2739.70	141.94	3300.84	1361.57	31.72
8/06/2021 12:36	61.77	ppm	SiO2	<LOD	<LOD	4.29	<LOD	<LOD	18.76	<LOD	<LOD	6.07
8/06/2021 12:37	61.84	ppm	RCRA	80.18	494.17	12.66	595.39	4011.18	102.33	4832.75	77.70	9.47
8/06/2021 14:21	61.47	ppm	GW8_0.0	<LOD	<LOD	6.69	<LOD	2379.36	76.68	2866.70	974.90	21.89
8/06/2021 14:37	0.15	ppm	GW8_0.0	<LOD	<LOD	19102.99	<LOD	-	-	NC	<LOD	96.29
8/06/2021 15:02	61.45	ppm	GW8_0.1	<LOD	<LOD	8.72	<LOD	3723.96	96.20	4486.70	718.23	21.83
8/06/2021 15:03	61.03	ppm	GW8_0.2	116.45	<LOD	8.97	<LOD	4144.06	112.38	4992.84	654.81	21.60
8/06/2021 15:05	61.09	ppm	GW8_0.3	74.18	<LOD	7.55	<LOD	4144.74	99.62	4993.66	646.15	20.39
8/06/2021 15:06	61.68	ppm	GW8_0.4	67.87	<LOD	8.82	<LOD	3261.20	92.22	3929.16	681.92	21.45
8/06/2021 15:07	62.15	ppm	GW8_0.5	54.01	<LOD	7.70	<LOD	4186.59	116.35	5044.08	581.90	19.24
8/06/2021 15:09	62.56	ppm	GW8_1.0	<LOD	<LOD	8.76	<LOD	3963.14	94.36	4774.87	840.58	23.43
8/06/2021 15:13	61.78	ppm	GW8_2.0	<LOD	<LOD	8.71	<LOD	3011.28	74.62	3628.05	1031.11	25.66
8/06/2021 15:14	62.22	ppm	D3	<LOD	<LOD	8.74	<LOD	4641.16	112.59	5591.76	1099.19	26.40
8/06/2021 15:16	61.01	ppm	GW8_5.0	111.60	<LOD	7.78	<LOD	3747.89	95.15	4515.53	614.76	20.63
9/06/2021 7:45	53.9	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:46	53.54	cps	-	NC	-	-	NC	-	-	NC	-	-
9/06/2021 7:50	62.07	ppm	SiO2	<LOD	<LOD	4.45	<LOD	<LOD	19.48	<LOD	<LOD	6.43
9/06/2021 7:52	61.73	ppm	RCRA	68.82	488.62	12.58	588.70	3980.82	101.30	4796.17	70.35	9.25
9/06/2021 7:59	61.51	ppm	GW10_0.0	<LOD	<LOD	10.29	<LOD	2904.81	74.04	3499.77	4326.74	45.15
9/06/2021 8:10	61.66	ppm	GW10_0.1	36.18	<LOD	5.35	<LOD	3689.54	61.78	4445.23	94.54	8.56
9/06/2021 8:12	66.09	ppm	GW10_0.2	52.71	<LOD	5.42	<LOD	4181.54	75.77	5038.00	116.58	9.24
9/06/2021 8:13	34.99	ppm	GW10_0.3	41.22	<LOD	5.47	<LOD	4455.22	253.18	5367.73	134.18	9.48
9/06/2021 8:21	65.81	ppm	GW10_0.4	<LOD	<LOD	5.06	<LOD	4311.88	77.40	5195.04	100.37	8.62
9/06/2021 8:23	62.2	ppm	GW10_0.5	<LOD	<LOD	5.20	<LOD	4273.16	76.76	5148.39	98.65	8.45
9/06/2021 8:24	61.66	ppm	GW10_1.0	50.35	<LOD	5.37	<LOD	4211.66	77.15	5074.29	92.12	8.67
9/06/2021 8:26	61.56	ppm	GW10_2.0	53.86	<LOD	5.47	<LOD	4018.04	90.94	4841.01	84.81	8.42
9/06/2021 8:27	61.17	ppm	GW10_4.0	61.51	<LOD	7.56	<LOD	3812.14	99.93	4592.94	1022.77	24.84
9/06/2021 11:18	61.42	ppm	GW9_0.0	<LOD	<LOD	5.33	<LOD	2501.57	54.14	3013.94	58.51	7.35
9/06/2021 11:25	61.58	ppm	GW9_0.1	53.30	<LOD	5.35	<LOD	3880.03	88.50	4674.73	82.68	8.38
9/06/2021 11:27	61.71	ppm	GW9_0.2	<LOD	<LOD	5.55	<LOD	3522.51	83.51	4243.99	77.86	8.07
9/06/2021 11:41	64.9	ppm	GW9_0.3	<LOD	<LOD	5.44	<LOD	3758.35	86.22	4528.13	62.41	7.64
9/06/2021 11:42	62.1	ppm	GW9_0.4	<LOD	<LOD	5.53	<LOD	3961.14	90.34	4772.46	66.66	7.91
9/06/2021 11:44	61.49	ppm	GW9_0.5	<LOD	<LOD	5.95	<LOD	2623.49	61.68	3160.83	86.09	8.77
9/06/2021 11:45	61.63	ppm	GW9_1.0	41.98	<LOD	5.55	<LOD	3767.03	84.22	4538.59	76.54	8.08
9/06/2021 12:01	61.32	ppm	SiO2	<LOD	<LOD	4.50	<LOD	<LOD	19.74	<LOD	<LOD	6.51
9/06/2021 12:51	63.56	ppm	RCRA	70.37	482.48	12.73	581.30	3703.06	98.13	4461.52	71.17	9.43
10/06/2021 7:32	61.73	ppm	SiO2	<LOD	<LOD	4.82	<LOD	<LOD	18.42	<LOD	<LOD	7.13
10/06/2021 7:34	61.78	ppm	RCRA	72.55	490.24	12.76	590.65	3753.02	98.60	4521.71	61.67	9.04
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	<LOD	<LOD	35.23	<LOD	220.32	10.05	265.45	<LOD	37.71
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	<LOD	<LOD	7.10	<LOD	1815.28	78.10	2187.08	1389.06	25.16
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	99.98	14.79	8.45	17.82	2405.62	138.16	2898.34	737.75	24.36
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	<LOD	<LOD	6.20	<LOD	3974.68	87.72	4788.77	283.14	13.13
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	56.29	<LOD	8.14	<LOD	2036.77	75.36	2453.94	212.19	14.41
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	48.94	<LOD	6.21	<LOD	2725.59	85.93	3283.84	232.03	12.73
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	<LOD	<LOD	8.31	<LOD	2501.64	75.77	3207.23	393.70	16.42
10/06/2021 9:05	63.11	ppm	D4	<LOD	<LOD	7.19	<LOD	3469.34	95.72	4179.93	497.77	17.07
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	<LOD	<LOD	173.15	<LOD	-	-	NC	<LOD	1130.33
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	<LOD	<LOD	9.97	<LOD	2256.69	80.37	2718.90	512.90	19.41
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	<LOD	<LOD	9.40	<LOD	2944.66	101.07	3547.78	470.42	18.34
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	<LOD	<LOD	8.10	<LOD	2754.32	81.66	3318.46	574.50	19.35
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	<LOD	<LOD	6.57	<LOD	1428.39	50.04	1720.95	514.00	17.14
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	<LOD	<LOD	8.22	<LOD	2582.09	90.64	3110.95	414.51	15.59
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	80.18	<LOD	9.54	<LOD	2902.54	88.62	3497.04	306.34	15.75
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	53.51	13.06	6.38	15.73	1594.42	79.65	1920.99	519.94	19.04
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	<LOD	<LOD	6.65	<LOD	3047.45	68.70	3671.63	458.86	16.54
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	61.00	<LOD	7.95	<LOD	2753.01	83.86	3316.88	665.35	21.19
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	138.03	<LOD	16.02	<LOD	1971.19	75.92	2593.67	550.29	24.19
10/06/2021 9:41	61.9	ppm	D5	<LOD	<LOD	13.00	<LOD	2122.77	76.73	2557.55	321.57	18.98
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	111.81	<LOD	12.80	<LOD	2024.30	83.60	2438.92	800.83	26.93
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	179.83	<LOD	13.87	<LOD	1347.55	108.62	1623.55	836.91	28.32
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	<LOD	<LOD	8.30	<LOD	2580.24	72.03	3108.72	1388.12	27.67
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	<LOD	<LOD	9.98	<LOD	2074.98	50.74	2499.98	1813.78	34.82
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	<LOD	<LOD	7.18	<LOD	1555.39	71.99	1873.96	575.54	17.03
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	<LOD	<LOD	5.63	<LOD	3752.35	80.57	4520.90	260.49	12.15
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	38.34	<LOD	6.50	<LOD	4834.89	107.65	5825.17	603.57	18.63
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	<LOD	<LOD	5.85	<LOD	3901.83	64.90	4701.00	345.16	14.38
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	<LOD	<LOD	7.46	<LOD	2034.03	59.31	2450.64	779.74	22.15
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	<LOD	<LOD	7.29	<LOD	3348.39	90.37	4034.20	578.92	18.18
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	<LOD	<LOD	5.58	<LOD	3322.43	71.27	4002.93	387.58	14.14
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	<LOD	<LOD	6.03	<LOD	3574.09	65.99	4306.13	458.95	15.80
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	40.66	<LOD	6.73	<LOD	4400.73	83.69	5302.08	636.88	19.08
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	37.96	<LOD	6.95	<LOD	4182.64	85.53	5039.33	585.61	18.62
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	<LOD	<LOD	5.58	<LOD	3504.69	75.46	4222.52	443.38	15.32
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	<LOD	<LOD	8.35	<LOD	2707.50	73.35	3262.05	349.26	16.26
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	<LOD	105.51	36.50	127.12	1859.89	222.25	2240.83	1052.69	57.93
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	48.83	<LOD	5.19	<LOD	3674.43	105.48	4427.02	216.84	11.26
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	<LOD	<LOD	8.89	<LOD	1248.84	38.04	1504.63	383.84	18.78
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	<LOD	<LOD	8.32	<LOD	2708.88	75.77	3263.71	677.14	20.95
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	<LOD	<LOD	8.79	<LOD	2399.83	69.83	2891.36	928.04	23.77

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	<LOD	<LOD	7.00	<LOD	3517.38	73.11	4237.81	1230.93	25.00
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	45.63	<LOD	6.84	<LOD	1951.15	60.89	2350.78	783.43	21.14
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	42.82	<LOD	6.72	<LOD	2078.73	65.10	2504.49	783.12	20.72
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	<LOD	<LOD	6.45	<LOD	3099.45	84.87	3734.28	546.60	17.65
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	83.77	<LOD	9.05	<LOD	1730.11	59.15	2084.47	1557.19	31.51
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	<LOD	12.59	7.66	15.17	1892.61	68.23	2280.25	981.62	27.50
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	<LOD	<LOD	8.99	<LOD	3461.85	77.78	4170.90	1162.35	26.19
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	<LOD	<LOD	10.14	<LOD	4061.56	92.47	4893.45	1498.28	30.19
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	<LOD	<LOD	6.63	<LOD	705.80	31.94	850.36	824.67	20.34
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	<LOD	<LOD	7.00	<LOD	2322.06	65.55	2797.66	613.78	18.52
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	<LOD	<LOD	5.91	<LOD	4913.20	94.55	5919.52	542.05	16.92
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	<LOD	<LOD	5.93	<LOD	4127.22	88.58	4972.55	493.02	16.54
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	<LOD	<LOD	5.63	<LOD	4226.12	74.39	5091.71	317.38	13.34
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	<LOD	<LOD	7.02	<LOD	1199.96	30.72	1599.95	746.16	20.95
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	36.94	<LOD	5.46	<LOD	3965.73	73.36	4777.99	272.77	12.35
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	56.16	<LOD	6.02	<LOD	3859.21	93.77	4649.65	307.57	13.63
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	<LOD	<LOD	5.35	<LOD	4032.89	78.51	4858.90	268.56	12.52
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	<LOD	<LOD	5.35	<LOD	4192.90	73.63	5051.69	287.66	12.74
10/06/2021 11:52	62.04	ppm	SiO2	<LOD	<LOD	4.41	<LOD	<LOD	19.40	<LOD	<LOD	6.65
10/06/2021 11:54	61.67	ppm	RCRA	91.12	495.99	12.49	597.58	3917.40	98.14	4719.76	74.71	9.27
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	<LOD	<LOD	5.00	<LOD	1162.28	42.14	1400.34	227.78	10.94
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	40.76	<LOD	6.19	<LOD	2322.26	61.95	2797.90	462.36	16.20
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	<LOD	<LOD	5.53	<LOD	3382.72	88.90	4075.57	342.53	13.94
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	<LOD	<LOD	5.23	<LOD	4815.52	86.14	5801.83	169.71	10.22
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	41.04	<LOD	5.94	<LOD	3189.91	91.66	3843.27	316.31	14.21
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	<LOD	8.42	4.24	9.57	1818.23	48.58	2066.17	295.79	13.69
10/06/2021 12:26	66.34	ppm	D6	<LOD	<LOD	6.42	<LOD	2795.44	74.11	3368.00	337.65	14.51
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	98.19	<LOD	7.17	<LOD	2616.02	70.25	3151.83	400.76	16.06
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	43.43	<LOD	8.89	<LOD	2080.06	60.45	2506.10	1205.33	27.78
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	57.94	<LOD	10.04	<LOD	4029.96	111.77	4855.37	1585.47	32.02
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	<LOD	<LOD	6.02	<LOD	5241.80	89.98	6315.42	708.36	18.92
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	<LOD	<LOD	6.55	<LOD	2529.16	73.55	3047.18	593.79	17.87
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	<LOD	<LOD	12.96	<LOD	1224.53	48.83	1391.51	846.71	27.54
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	<LOD	<LOD	11.37	<LOD	1166.63	83.05	1405.58	751.21	27.49
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	<LOD	<LOD	5.95	<LOD	4893.59	92.32	5895.89	540.91	17.13
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	<LOD	<LOD	12.88	<LOD	1801.84	55.50	2170.89	1477.74	34.17
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	56.67	<LOD	7.77	<LOD	2912.46	84.78	3508.99	744.23	21.12
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	40.98	6.37	4.13	7.67	2004.54	46.47	2415.11	470.02	16.86
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	46.05	<LOD	5.94	<LOD	4422.74	90.05	5328.60	342.75	14.68
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	68.47	<LOD	6.15	<LOD	4781.46	113.97	5760.80	340.70	14.67
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	91.04	<LOD	5.83	<LOD	3517.01	78.48	4237.36	179.78	11.20
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	74.41	<LOD	6.68	<LOD	2193.47	73.53	2642.73	368.02	16.14
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	<LOD	<LOD	10.14	<LOD	2723.40	78.34	3281.20	4268.05	46.23
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	<LOD	<LOD	12.61	<LOD	1720.73	64.28	1862.26	3840.98	50.69
10/06/2021 13:33	61.81	ppm	D7	52.20	<LOD	10.44	<LOD	2418.42	76.90	2913.76	2571.67	39.67
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	50.36	8.05	4.85	9.70	1887.61	65.18	2274.23	442.78	16.70
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	<LOD	<LOD	6.81	<LOD	2861.03	70.05	3447.02	448.01	15.81
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	<LOD	<LOD	6.00	<LOD	2327.90	50.05	2804.70	530.98	17.10
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	<LOD	<LOD	7.19	<LOD	2085.23	57.47	2512.33	875.11	22.67
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	52.76	<LOD	6.56	<LOD	2587.27	66.81	3117.19	985.39	22.24
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	<LOD	<LOD	5.24	<LOD	2851.07	65.42	3435.02	355.16	13.35
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	<LOD	<LOD	5.50	<LOD	2851.02	59.17	3434.96	347.08	13.53
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	<LOD	<LOD	5.95	<LOD	3797.18	75.13	4574.92	302.40	13.24
10/06/2021 14:06	64.7	ppm	D8	<LOD	<LOD	5.44	<LOD	3195.55	70.11	3850.06	285.64	12.45
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	<LOD	<LOD	7.48	<LOD	1498.76	34.45	1805.73	49.90	8.93
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	41.63	<LOD	4.78	<LOD	3742.90	66.12	4509.52	50.13	6.82
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	<LOD	<LOD	6.81	<LOD	1757.14	36.77	2117.04	45.00	8.19
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	<LOD	<LOD	4.90	<LOD	3196.90	56.97	3851.69	36.89	6.40
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	38.59	<LOD	5.47	<LOD	2164.45	61.93	2607.77	448.14	15.46
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	<LOD	<LOD	105.31	<LOD	-	-	NC	630.62	249.19
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	<LOD	<LOD	6.98	<LOD	870.67	29.25	1049.00	485.96	18.23
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	88.39	<LOD	8.34	<LOD	1587.38	38.99	1912.51	132.07	12.62
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	70.92	<LOD	5.65	<LOD	2773.80	54.19	3341.93	118.01	9.43
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	<LOD	<LOD	5.86	<LOD	3034.81	63.99	3656.40	112.89	9.50
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	68.64	<LOD	5.05	<LOD	2005.88	56.87	2416.72	94.86	8.36
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	49.18	<LOD	4.60	<LOD	2169.25	54.79	2613.55	91.75	8.07
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	<LOD	<LOD	5.24	<LOD	1346.30	40.06	2243.83	193.23	10.61
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	55.89	<LOD	6.06	<LOD	3418.75	82.39	4118.98	663.28	19.22
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	87.25	<LOD	5.88	<LOD	2894.44	84.79	3487.28	76.39	8.60
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	<LOD	<LOD	4.84	<LOD	3763.02	98.09	4533.76	41.99	6.48
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	<LOD	<LOD	5.93	<LOD	1704.19	40.70	2053.24	32.75	6.94
10/06/2021 15:15	60.97	ppm	SiO2	<LOD	6.78	2.83	8.17	83.87	15.27	101.05	<LOD	6.61
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	<LOD	<LOD	5.83	<LOD	857.39	49.44	1033.00	150.88	9.33
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	74.54	<LOD	5.79	<LOD	3596.38	91.53	4332.99	67.52	8.14
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	66.28	<LOD	5.13	<LOD	3189.54	74.54	3842.82	52.43	7.14
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	58.94	<LOD	5.94	<LOD	2922.43	72.38	3521.00	59.84	8.02
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	42.23	<LOD	5.66	<LOD	1408.48	42.83	1696.96	48.96	7.68
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	<LOD	<LOD	5.26	<LOD	1209.58	48.31	1457.33	87.76	7.68
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	62.45	10.60	4.53	12.77	2964.99	71.40	3572.28	57.19	8.94
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	<LOD	<LOD	5.41	<LOD	3116.11	76.85	3754.35	137.89	9.56

Client: Department of Regional NSW
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Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	56.16	<LOD	5.15	<LOD	3304.03	88.25	3980.76	55.35	7.44
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	<LOD	<LOD	4.74	<LOD	1747.18	59.29	2105.04	234.84	10.63
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	35.84	<LOD	6.17	<LOD	1634.70	57.08	1857.61	228.12	11.79
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	<LOD	<LOD	5.68	<LOD	1817.65	56.65	2189.94	165.70	10.37
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	<LOD	<LOD	6.04	<LOD	1492.38	50.05	1798.05	167.86	10.93
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	<LOD	<LOD	5.93	<LOD	1218.92	43.10	1468.58	172.30	10.68
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	<LOD	5.14	3.30	6.19	1702.62	50.97	2051.35	60.33	6.99
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	<LOD	<LOD	5.51	<LOD	2608.08	69.69	3142.27	55.31	7.41
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	48.84	<LOD	5.64	<LOD	2533.67	69.76	3052.61	55.94	7.74
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	<LOD	<LOD	5.45	<LOD	2072.11	55.79	2496.52	65.31	7.77
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	50.86	<LOD	5.32	<LOD	1785.37	64.35	2151.05	82.90	8.25
1/06/2021 7:55	60.34	%	si02	<LOD	<LOD	0.01	<LOD	<LOD	1.24	<LOD	<LOD	0.02
1/06/2021 7:57	61.21	%	rcra	<LOD	0.58	0.03	0.70	1.36	0.32	1.64	0.14	0.03
1/06/2021 8:00	60.45	ppm	rcra	65.65	495.34	12.73	596.80	4034.69	103.42	4861.07	80.56	9.53
1/06/2021 8:02	60.53	ppm	si02	<LOD	<LOD	4.63	<LOD	<LOD	18.25	<LOD	<LOD	7.04
1/06/2021 8:30	60.24	ppm	R_S1B	<LOD	<LOD	28.34	<LOD	209.85	13.10	252.83	414.79	57.35
1/06/2021 8:41	60.77	ppm	R_S2B	201.20	<LOD	24.35	<LOD	345.12	15.24	415.81	709.54	43.58
1/06/2021 8:45	60.37	ppm	R_S3B	<LOD	<LOD	15.06	<LOD	614.37	25.12	740.20	1331.89	41.71
1/06/2021 8:50	60.69	ppm	R_S4B	238.06	<LOD	21.53	<LOD	333.36	15.52	401.64	141.34	23.27
1/06/2021 8:55	60.63	ppm	R_S5B	<LOD	<LOD	10.90	<LOD	1191.95	31.04	1436.08	565.75	24.45
1/06/2021 8:59	60.26	ppm	R_S6B	<LOD	<LOD	21.47	<LOD	298.17	16.78	359.24	2304.16	63.45
1/06/2021 9:14	60.48	ppm	R_S7B	<LOD	<LOD	6.59	<LOD	1743.59	47.53	2100.71	419.57	16.20
1/06/2021 9:21	60.81	ppm	R_S8B	<LOD	<LOD	12.08	<LOD	1181.37	34.59	1423.34	2142.21	41.91
1/06/2021 9:35	60.58	ppm	R_S9B	<LOD	<LOD	7.18	<LOD	1543.56	38.27	1859.71	102.66	9.87
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	<LOD	<LOD	7.82	<LOD	424.56	22.60	511.52	522.14	18.81
1/06/2021 10:00	60.77	ppm	rcra	79.63	498.92	12.64	601.11	4053.41	101.48	4883.63	98.20	10.11
1/06/2021 10:02	60.28	ppm	si02	<LOD	<LOD	4.46	<LOD	<LOD	18.21	<LOD	<LOD	7.18
1/06/2021 10:21	60.35	ppm	R_S11B	156.88	<LOD	15.61	<LOD	287.28	16.75	346.12	417.38	27.39
1/06/2021 10:26	60.79	ppm	R_S12B	<LOD	<LOD	8.94	<LOD	1954.63	40.85	2354.98	153.16	13.31
1/06/2021 10:35	60.67	ppm	R_S13B	<LOD	<LOD	34.00	<LOD	516.94	22.38	622.82	6397.68	122.19
1/06/2021 10:42	60.55	ppm	R_S14B	<LOD	<LOD	9.52	<LOD	1746.29	40.38	2103.96	500.53	21.82
1/06/2021 10:51	60.75	ppm	R_S15B	<LOD	<LOD	11.34	<LOD	1555.68	40.90	1874.31	1856.74	38.96
1/06/2021 10:59	60.43	ppm	R_S16B	<LOD	<LOD	6.25	<LOD	2042.14	52.60	2460.41	159.33	10.75
1/06/2021 11:37	60.36	ppm	R_S17B	<LOD	<LOD	5.49	<LOD	2159.98	51.13	2602.39	208.97	11.04
1/06/2021 11:42	60.13	ppm	R_S18B	<LOD	<LOD	7.98	<LOD	2116.05	43.88	2549.46	45.41	8.92
1/06/2021 11:50	60.22	ppm	R_S19B	<LOD	<LOD	12.91	<LOD	1405.47	48.37	1693.34	3293.91	51.16
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	<LOD	<LOD	7.12	<LOD	3633.27	61.15	3699.87	329.17	15.22
1/06/2021 12:13	60.43	ppm	rcra	73.71	500.36	12.75	602.84	4052.66	99.29	4882.72	94.19	10.00
1/06/2021 12:15	60.09	ppm	si02	<LOD	<LOD	4.74	<LOD	<LOD	17.73	<LOD	<LOD	7.16
1/06/2021 12:21	60.43	ppm	R_S21B	<LOD	<LOD	6.73	<LOD	4868.89	69.55	5866.13	141.16	10.98
1/06/2021 12:31	60.49	ppm	-	63.60	<LOD	10.69	<LOD	1271.89	35.49	1532.40	332.19	19.73
1/06/2021 13:43	60.28	ppm	R_S23B	<LOD	<LOD	9.12	<LOD	1716.78	38.75	2068.41	239.08	15.67
1/06/2021 13:47	60.47	ppm	R_S24B	<LOD	<LOD	8.69	<LOD	1718.38	39.98	2070.34	293.52	16.39
1/06/2021 13:52	60.53	ppm	R_S25B	<LOD	<LOD	7.60	<LOD	724.25	26.51	872.59	123.23	11.26
1/06/2021 14:04	60.51	ppm	R_S26B	<LOD	<LOD	7.26	<LOD	2135.89	53.53	2573.36	564.95	19.36
1/06/2021 14:10	60.47	ppm	R_S27B	<LOD	<LOD	13.10	<LOD	567.29	25.65	683.48	700.77	29.18
1/06/2021 14:19	60.56	ppm	R_S28B	<LOD	<LOD	7.79	<LOD	2128.99	42.41	2565.05	121.14	11.44
1/06/2021 14:34	60.98	ppm	R_S29B	<LOD	<LOD	6.43	<LOD	3176.93	65.92	3827.63	51.18	7.79
1/06/2021 14:42	60.43	ppm	R_S30B	<LOD	<LOD	8.46	<LOD	1788.08	45.75	2207.51	1110.35	26.87
1/06/2021 14:47	60.54	ppm	rcra	39.31	477.97	11.21	575.87	3397.59	77.79	4093.48	49.44	7.51
1/06/2021 14:53	61.88	ppm	si02	<LOD	<LOD	4.67	<LOD	30.97	12.46	37.31	<LOD	6.90
1/06/2021 15:06	60.22	ppm	R_S31B	<LOD	<LOD	6.65	<LOD	2804.57	59.25	3379.00	195.90	12.18
1/06/2021 15:15	60.85	ppm	R_S32B	<LOD	<LOD	7.20	<LOD	2388.20	49.07	2877.35	318.96	15.13
1/06/2021 15:18	60.47	ppm	R_S33B	<LOD	<LOD	9.31	<LOD	2183.60	57.76	2630.84	1996.90	33.83
1/06/2021 15:26	60.49	ppm	R_S34B	107.07	<LOD	13.47	<LOD	805.49	23.39	970.47	233.95	20.04
1/06/2021 15:35	60.96	ppm	R_S35B	<LOD	<LOD	9.91	<LOD	1208.38	33.93	1455.88	668.88	24.46
1/06/2021 16:08	61.29	ppm	R_S36B	64.72	<LOD	7.85	<LOD	2098.20	63.58	2527.95	798.94	22.12
1/06/2021 16:12	60.69	ppm	R_S37B	41.89	<LOD	5.85	<LOD	2350.05	61.10	2831.39	109.35	9.12
1/06/2021 16:18	64.56	ppm	R_S38B	<LOD	<LOD	10.37	<LOD	3289.74	113.04	3963.54	734.79	25.57
1/06/2021 16:27	60.83	ppm	R_S39B	<LOD	<LOD	6.07	<LOD	3150.82	59.83	3796.17	107.74	9.34
1/06/2021 16:41	60.39	ppm	R_S40B	<LOD	<LOD	10.95	<LOD	338.93	17.54	408.35	96.85	13.20
2/06/2021 8:13	60.34	ppm	rcra	84.40	491.51	12.78	592.18	4092.60	102.11	4930.84	66.95	9.12
2/06/2021 8:14	60.28	ppm	si02	<LOD	<LOD	4.51	<LOD	<LOD	18.15	<LOD	<LOD	6.25
2/06/2021 8:19	60.75	ppm	R_S41B	62.61	<LOD	10.42	<LOD	375.58	22.22	452.51	307.72	18.29
2/06/2021 8:28	60.46	ppm	R_S42B	<LOD	<LOD	7.21	<LOD	3334.42	76.62	4017.37	811.14	21.58
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	<LOD	<LOD	7.89	<LOD	996.27	28.15	1200.33	118.30	11.48
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	<LOD	<LOD	6.26	<LOD	2444.15	61.00	2944.76	288.65	13.31
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	<LOD	<LOD	7.05	<LOD	982.27	30.37	1183.46	291.06	14.31
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	<LOD	<LOD	8.65	<LOD	981.38	28.31	1182.39	149.70	12.99
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	<LOD	<LOD	7.80	<LOD	832.89	26.92	1003.48	92.87	10.51
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	<LOD	<LOD	6.76	<LOD	2128.90	45.37	2564.94	291.73	14.20
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	<LOD	<LOD	9.03	<LOD	541.74	22.57	652.70	158.36	13.69
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	<LOD	<LOD	5.92	<LOD	1680.99	51.35	2025.29	187.56	11.16
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	<LOD	<LOD	7.26	<LOD	929.76	37.36	1120.19	691.18	20.72
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	<LOD	<LOD	8.74	<LOD	1480.05	50.15	1783.19	783.52	22.73
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	<LOD	<LOD	6.22	<LOD	1476.56	54.36	1778.99	337.90	14.33
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	<LOD	<LOD	6.25	<LOD	2354.86	50.98	2837.18	378.34	14.94
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	<LOD	<LOD	8.60	<LOD	451.45	23.28	543.92	160.92	13.05
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	<LOD	<LOD	6.10	<LOD	1052.02	48.09	1267.49	171.60	10.83
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	<LOD	<LOD	6.08	<LOD	3592.08	74.55	4327.81	273.31	12.95

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	<LOD	<LOD	7.87	<LOD	709.58	28.29	854.92	224.18	13.82
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	<LOD	<LOD	7.67	<LOD	1659.36	39.96	1999.23	286.24	14.91
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	41.98	<LOD	8.13	<LOD	2485.37	76.99	2994.42	706.71	20.92
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	<LOD	<LOD	19.51	<LOD	686.01	82.78	826.52	1363.62	41.42
2/06/2021 10:15	60.54	ppm	R_S49B	<LOD	<LOD	63.91	<LOD	<LOD	26.64	<LOD	14774.20	234.65
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	<LOD	<LOD	7.42	<LOD	1506.65	56.92	1815.24	639.66	19.48
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	<LOD	<LOD	10.26	<LOD	504.56	25.09	607.90	631.01	23.43
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	<LOD	<LOD	20573.02	<LOD	-	-	NC	<LOD	1493.38
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	<LOD	<LOD	9.03	<LOD	1221.75	50.49	1471.99	904.15	23.42
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	<LOD	<LOD	7.00	<LOD	2134.13	59.97	2571.24	753.77	20.30
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	<LOD	<LOD	7.00	<LOD	1501.63	58.80	1564.20	797.79	20.92
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	<LOD	<LOD	10.04	<LOD	649.01	29.99	781.94	1402.40	32.04
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	<LOD	<LOD	7.62	<LOD	1951.76	63.40	2351.52	1121.57	25.23
2/06/2021 11:16	60.18	ppm	rcra	69.11	491.81	12.69	592.54	3791.08	101.23	4567.57	83.81	9.74
2/06/2021 11:17	60.54	ppm	si02	<LOD	<LOD	4.58	<LOD	<LOD	18.81	<LOD	<LOD	6.35
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	<LOD	<LOD	5.75	<LOD	2661.80	66.21	3206.99	169.34	10.61
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	56.49	<LOD	5.92	<LOD	3337.98	75.30	4021.66	120.85	9.56
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	79.70	<LOD	6.49	<LOD	3397.70	81.04	4093.61	296.86	13.63
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	61.66	<LOD	6.99	<LOD	2500.01	64.01	3012.06	297.81	14.18
2/06/2021 11:47	60.85	ppm	R_S53_0.0	<LOD	<LOD	5.52	<LOD	2819.92	67.89	3397.49	112.97	8.92
2/06/2021 11:53	60.45	ppm	R_S53_0.1	<LOD	<LOD	7.09	<LOD	1257.92	37.28	1515.57	79.95	9.40
2/06/2021 11:56	60.18	ppm	R_S53_0.25	82.17	<LOD	5.93	<LOD	2985.37	80.36	3596.83	61.75	8.10
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	<LOD	<LOD	10.14	<LOD	1026.77	27.94	1237.07	240.47	16.60
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	316.46	<LOD	31.10	<LOD	89.86	8.96	108.27	214.74	34.32
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	<LOD	<LOD	6.25	<LOD	2159.31	53.91	2601.58	169.75	10.61
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	<LOD	<LOD	9.54	<LOD	962.02	27.40	1159.06	171.51	14.69
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	<LOD	<LOD	8.13	<LOD	534.78	20.63	644.31	177.31	13.33
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	<LOD	<LOD	6.97	<LOD	1292.60	36.78	1557.35	310.81	14.87
2/06/2021 13:20	53.96	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:21	53.45	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 13:23	60.58	ppm	rcra	92.94	502.35	12.82	605.24	3899.80	100.65	4698.55	71.43	9.29
2/06/2021 13:24	60.64	ppm	si02	<LOD	<LOD	4.45	<LOD	29.08	12.48	35.04	<LOD	6.17
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	48.00	<LOD	11.55	<LOD	3271.34	96.62	3941.37	1145.71	29.59
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	94.92	<LOD	11.42	<LOD	3148.31	103.39	3793.14	2201.99	38.83
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	68.00	<LOD	8.50	<LOD	3342.08	95.94	4026.60	705.63	22.23
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	<LOD	<LOD	8.17	<LOD	3042.81	82.44	3666.04	706.65	20.92
2/06/2021 13:49	60.83	ppm	R_S57_0.0	63.64	<LOD	8.87	<LOD	1741.41	60.63	2024.90	664.86	21.10
2/06/2021 13:53	60.6	ppm	R_S57_0.1	46.42	<LOD	8.44	<LOD	1880.81	67.58	2266.04	932.14	23.76
2/06/2021 13:59	60.67	ppm	R_S57_0.25	184.16	<LOD	9.94	<LOD	4181.14	111.24	5037.52	371.89	19.46
2/06/2021 14:04	60.78	ppm	R_S58_0.0	57.51	<LOD	9.37	<LOD	2610.62	84.49	3145.33	1661.29	32.55
2/06/2021 14:07	60.74	ppm	R_S58_0.1	40.83	<LOD	7.30	<LOD	3756.53	94.12	4525.94	541.84	18.42
2/06/2021 14:15	60.39	ppm	R_S58_0.25	71.34	<LOD	8.26	<LOD	3224.65	94.81	3885.12	632.11	20.44
2/06/2021 14:22	60.74	ppm	R_S59_0.0	<LOD	<LOD	7.34	<LOD	2993.64	88.21	3606.80	441.01	17.06
2/06/2021 14:25	60.51	ppm	R_S59_0.1	<LOD	<LOD	9.24	<LOD	2211.89	69.01	2664.93	941.21	25.18
2/06/2021 14:31	60.71	ppm	R_S59_0.25	99.61	<LOD	8.58	<LOD	2375.22	59.30	2861.71	352.70	17.18
2/06/2021 14:39	60.54	ppm	R_S60_0.0	<LOD	<LOD	6.64	<LOD	3234.34	85.89	3896.80	343.79	14.71
2/06/2021 14:42	60.67	ppm	R_S60_0.1	<LOD	<LOD	5.90	<LOD	1997.57	57.26	2406.71	178.80	10.86
2/06/2021 14:47	60.2	ppm	R_S60_0.25	51.45	<LOD	7.68	<LOD	2405.50	71.55	2898.19	545.40	18.75
2/06/2021 15:21	60.76	ppm	rcra	59.86	496.65	12.77	598.37	4041.42	100.46	4869.18	83.46	9.78
2/06/2021 15:23	60.22	ppm	si02	<LOD	<LOD	4.58	<LOD	<LOD	20.19	<LOD	<LOD	6.34
2/06/2021 15:24	56.44	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:26	56.22	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 15:28	60.82	ppm	R_61B_0.0	65.96	<LOD	7.36	<LOD	5657.42	102.44	6816.17	899.42	22.98
2/06/2021 15:32	60.08	ppm	R_61B_0.1	<LOD	<LOD	7.41	<LOD	4117.89	77.29	4961.31	713.40	21.39
2/06/2021 15:36	60.45	ppm	R_61B_0.2	60.07	<LOD	11.92	<LOD	3344.96	122.76	4030.07	1645.77	35.52
2/06/2021 15:45	60.65	ppm	R_62B_0.0	<LOD	<LOD	8.64	<LOD	1987.96	58.78	2395.13	1453.50	29.70
2/06/2021 15:48	60.26	ppm	R_62B_0.1	56.36	<LOD	9.07	<LOD	1520.74	45.44	1832.22	1062.78	27.24
2/06/2021 15:54	60.82	ppm	R_62B_0.15	<LOD	<LOD	27.69	<LOD	1290.48	48.19	1554.80	11535.25	117.26
2/06/2021 15:58	60.81	ppm	R_63B_0.0	36.08	<LOD	6.83	<LOD	3084.94	79.33	3716.80	883.49	22.09
2/06/2021 16:01	60.13	ppm	R_63B_0.1	64.11	7.61	3.97	9.17	3333.75	79.40	4016.57	284.66	13.20
2/06/2021 16:07	60.69	ppm	R_63B_0.2	100.39	<LOD	15.90	<LOD	589.73	27.72	710.52	466.46	26.39
2/06/2021 16:14	60.27	ppm	sio2	<LOD	<LOD	4.54	<LOD	<LOD	18.56	<LOD	<LOD	6.44
2/06/2021 16:16	60.2	ppm	rcra	84.07	491.58	12.59	592.27	3890.16	100.45	4686.94	63.90	8.98
2/06/2021 16:17	53.99	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:19	53.65	cps	-	NC	-	-	NC	-	-	NC	-	-
2/06/2021 16:20	60.2	ppm	R_64B_0.0	<LOD	<LOD	6.64	<LOD	1783.40	52.25	1825.38	154.13	11.15
2/06/2021 16:22	60.75	ppm	R_64B_0.1	78.28	<LOD	6.15	<LOD	3310.89	71.98	3989.02	194.85	11.62
2/06/2021 16:28	60.27	ppm	R_64B_0.22	101.25	11.21	7.27	13.51	2450.13	94.09	2951.96	736.38	24.30
4/06/2021 8:58	46.39	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 8:59	55.93	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 9:01	61.12	ppm	R_S65b_0m	<LOD	<LOD	11.69	<LOD	462.02	17.63	556.65	77.55	13.07
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	<LOD	<LOD	8.65	<LOD	1202.04	30.55	1448.24	81.01	10.84
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	57.95	<LOD	6.25	<LOD	2994.34	63.24	3607.64	65.68	8.13
4/06/2021 9:23	62.06	ppm	R_S66b_0m	<LOD	<LOD	10.09	<LOD	2435.01	82.09	2933.75	223.41	14.37
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	<LOD	<LOD	7.30	<LOD	1141.78	33.63	1375.64	147.20	11.33
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	<LOD	<LOD	6.83	<LOD	2479.57	62.53	2987.43	217.15	12.21
4/06/2021 9:37	60.5	ppm	R_S67b_0m	<LOD	<LOD	8.38	<LOD	1447.93	42.82	1744.49	141.93	12.27
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	<LOD	<LOD	7.68	<LOD	2525.41	64.18	3042.66	255.50	13.64
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	<LOD	<LOD	11.85	<LOD	844.82	32.04	1017.86	284.56	18.09
4/06/2021 9:53	60.65	ppm	SiO2	<LOD	<LOD	4.60	<LOD	<LOD	18.49	<LOD	<LOD	6.54

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	80.28	484.01	12.57	583.14	4106.86	101.78	4948.02	68.19	9.14
4/06/2021 10:17	62.12	ppm	R_S68b_0m	<LOD	<LOD	7.20	<LOD	1443.48	36.01	1739.13	90.41	9.91
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	288.98	<LOD	40.50	<LOD	69.11	7.88	83.27	<LOD	43.49
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	<LOD	<LOD	6.50	<LOD	2777.22	64.41	3155.93	55.79	8.08
4/06/2021 10:34	62.27	ppm	R_S69b_0m	<LOD	<LOD	5.83	<LOD	2106.97	49.18	2538.52	91.25	8.62
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	<LOD	<LOD	6.83	<LOD	1904.34	40.16	2294.39	54.44	8.23
4/06/2021 10:40	61.98	ppm	R_S70b_0m	<LOD	<LOD	13.72	<LOD	341.74	14.36	411.73	38.52	13.08
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	<LOD	<LOD	6.42	<LOD	2042.14	36.69	2460.41	40.66	7.54
4/06/2021 10:45	58.8	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:46	50.97	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 10:48	61.94	ppm	SiO2	<LOD	<LOD	4.52	<LOD	<LOD	18.99	<LOD	<LOD	6.17
4/06/2021 10:49	62.11	ppm	RCRA	61.43	470.78	12.52	567.20	3772.88	97.39	4545.64	80.80	9.69
4/06/2021 11:09	61.73	ppm	R_S71b_0m	<LOD	<LOD	5.50	<LOD	2347.80	46.05	2828.67	147.69	9.76
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	<LOD	<LOD	10.38	<LOD	918.90	24.25	1107.11	164.97	15.02
4/06/2021 11:15	61.05	ppm	R_S72b_0m	<LOD	<LOD	7.15	<LOD	1827.37	36.73	2201.65	191.63	12.41
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	<LOD	<LOD	8.13	<LOD	1145.87	26.39	1380.57	138.82	12.28
4/06/2021 11:23	61.74	ppm	R_S73b_0m	<LOD	<LOD	4.79	<LOD	3614.27	70.38	4354.54	80.68	7.53
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	<LOD	<LOD	5.54	<LOD	2517.08	46.53	2978.79	66.19	7.55
4/06/2021 11:31	61.9	ppm	SiO2	<LOD	<LOD	4.66	<LOD	<LOD	19.29	<LOD	<LOD	6.19
4/06/2021 11:33	61.96	ppm	RCRA	99.69	500.74	12.85	603.30	3896.72	100.13	4694.84	81.44	9.69
4/06/2021 11:35	54.1	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:37	53.49	cps	-	NC	-	-	NC	-	-	NC	-	-
4/06/2021 11:45	60.98	ppm	R_S74b_0m	<LOD	<LOD	6.04	<LOD	371.44	18.30	447.52	18.24	6.19
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	<LOD	<LOD	5.18	<LOD	2674.45	61.58	3222.23	48.43	6.80
4/06/2021 11:51	60.99	ppm	R_S75b_0m	<LOD	<LOD	6.02	<LOD	2681.00	58.65	3230.12	50.48	7.61
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	<LOD	<LOD	22.56	<LOD	161.61	10.91	194.71	38.88	18.44
4/06/2021 11:58	61.97	ppm	R_S76b_0m	<LOD	<LOD	34.73	<LOD	188.24	10.38	226.80	66.08	28.10
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	<LOD	<LOD	6.61	<LOD	1764.03	42.83	2125.34	47.49	7.97
4/06/2021 12:07	61.84	ppm	SiO2	<LOD	<LOD	4.49	<LOD	<LOD	18.37	<LOD	<LOD	6.40
4/06/2021 12:09	60.85	ppm	RCRA	124.12	488.75	12.66	588.86	3864.42	100.48	4655.93	74.30	9.33
4/06/2021 12:22	61.31	ppm	R_S77b_0m	<LOD	<LOD	5.27	<LOD	585.24	30.42	705.11	109.52	8.48
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	<LOD	<LOD	7.04	<LOD	875.51	25.60	1054.83	60.76	8.85
4/06/2021 12:27	61.26	ppm	R_S78b_0m	<LOD	<LOD	5.28	<LOD	1933.46	48.63	2329.47	125.25	8.88
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	<LOD	<LOD	6.60	<LOD	649.73	22.38	782.81	107.78	9.80
31/05/2021 14:11	62.07	%	test	<LOD	<LOD	0.03	<LOD	<LOD	2.92	<LOD	<LOD	0.17
31/05/2021 14:55	60.27	%	R_S1a	<LOD	<LOD	0.03	<LOD	0.51	0.22	0.61	14.88	0.43
31/05/2021 14:56	1.23	%	R_S1a	<LOD	<LOD	0.06	<LOD	<LOD	7.00	<LOD	<LOD	0.16
31/05/2021 14:56	0.7	ppm	-	1.11	0.19	0.10	0.23	-	-	NC	0.67	0.19
31/05/2021 14:56	0.41	ppm	-	1.11	0.19	0.10	0.23	-	-	NC	0.67	0.10
31/05/2021 14:59	60.2	ppm	R_S1a	<LOD	<LOD	4.29	<LOD	-	-	NC	7258.35	54.41
31/05/2021 15:05	60.12	ppm	R_S2a	46.45	<LOD	2.94	<LOD	-	-	NC	387.76	10.81
31/05/2021 15:24	60.96	ppm	R_S4a	<LOD	<LOD	2.99	<LOD	<LOD	873.50	<LOD	2100.29	26.10
31/05/2021 15:34	0.15	ppm	R_S6a	1.11	0.19	0.10	0.23	-	-	NC	0.67	0.10
31/05/2021 15:35	60.18	ppm	R_S6a	<LOD	<LOD	4.24	<LOD	-	-	NC	1338.74	28.13
31/05/2021 15:40	60.2	ppm	R_S5a	<LOD	<LOD	2.71	<LOD	-	-	NC	975.75	16.68
31/05/2021 15:51	60.25	ppm	R_S7a	<LOD	<LOD	3.63	<LOD	-	-	NC	1190.97	19.54
31/05/2021 16:08	60.21	ppm	R_S8a	<LOD	<LOD	29.44	<LOD	-	-	NC	3489.02	65.33
31/05/2021 16:19	60.18	ppm	R_S9a	<LOD	<LOD	3.55	<LOD	-	-	NC	459.07	13.46
1/06/2021 7:47	60.19	ppm	SiO2	<LOD	<LOD	4.11	<LOD	-	-	NC	<LOD	9.75
1/06/2021 7:50	60.18	ppm	RCRA	<LOD	499.38	7.92	601.66	-	-	NC	45.68	5.18
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	<LOD	<LOD	3.00	<LOD	-	-	NC	1935.35	27.82
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	<LOD	<LOD	9.33	<LOD	-	-	NC	<LOD	199.16
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	<LOD	<LOD	8.45	<LOD	-	-	NC	<LOD	23.61
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	<LOD	<LOD	2.73	<LOD	-	-	NC	1688.07	24.21
1/06/2021 8:29	60.23	ppm	R_S11a	<LOD	<LOD	5.21	<LOD	-	-	NC	10211.01	73.01
1/06/2021 8:33	60.2	ppm	R_S12a	53.87	<LOD	4.18	<LOD	-	-	NC	450.98	17.27
1/06/2021 8:53	0.72	ppm	R_S13a	<LOD	<LOD	23.80	<LOD	-	-	NC	<LOD	77.47
1/06/2021 8:54	60.18	ppm	R_S13a	69.84	<LOD	6.58	<LOD	-	-	NC	757.85	29.62
1/06/2021 8:59	60.66	ppm	R_S14a	<LOD	<LOD	3.70	<LOD	1503.45	871.32	1811.39	942.01	19.25
1/06/2021 9:02	61.21	ppm	R_S15a	<LOD	<LOD	3.87	<LOD	<LOD	856.77	<LOD	1354.61	22.20
1/06/2021 9:08	60.33	ppm	R_S16a	<LOD	<LOD	2.76	<LOD	<LOD	2803.77	<LOD	70.62	6.41
1/06/2021 9:14	60.19	ppm	R_S17a	<LOD	<LOD	2.77	<LOD	-	-	NC	606.24	14.27
1/06/2021 9:21	60.17	ppm	R_S18a	<LOD	<LOD	3.27	<LOD	-	-	NC	449.26	14.67
1/06/2021 9:26	60.19	ppm	R_S19a	<LOD	<LOD	2.75	<LOD	-	-	NC	407.24	12.21
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	<LOD	<LOD	3.24	<LOD	-	-	NC	408.83	11.94
1/06/2021 9:52	60.14	ppm	SiO2	<LOD	<LOD	2.03	<LOD	-	-	NC	<LOD	4.90
1/06/2021 9:56	60.16	ppm	RCRA	78.22	500.96	8.87	603.57	-	-	NC	77.14	6.82
1/06/2021 10:09	60.25	ppm	R_S21a	<LOD	<LOD	2.45	<LOD	-	-	NC	202.01	8.71
1/06/2021 10:15	60.21	ppm	R_S22a	<LOD	<LOD	2.48	<LOD	-	-	NC	179.69	8.08
1/06/2021 10:21	60.21	ppm	R_S23a	<LOD	<LOD	2.60	<LOD	-	-	NC	289.92	9.94
1/06/2021 10:27	60.16	ppm	R_S24a	<LOD	<LOD	2.58	<LOD	-	-	NC	368.28	11.26
1/06/2021 10:33	60.16	ppm	R_S25a	<LOD	<LOD	2.48	<LOD	-	-	NC	100.31	6.36
1/06/2021 11:38	60.17	ppm	R_S26a	<LOD	<LOD	4.07	<LOD	-	-	NC	6139.46	50.12
1/06/2021 11:59	60.12	ppm	R_S27a	<LOD	<LOD	3.14	<LOD	-	-	NC	583.35	14.80
1/06/2021 12:12	60.19	ppm	R_S28a	<LOD	<LOD	2.71	<LOD	-	-	NC	600.50	14.25
1/06/2021 12:26	60.11	ppm	R_S29a	36.27	<LOD	2.60	<LOD	-	-	NC	59.01	5.89
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	<LOD	<LOD	1.84	<LOD	-	-	NC	254.01	7.63
1/06/2021 12:39	60.01	ppm	SiO2	<LOD	<LOD	2.00	<LOD	-	-	NC	<LOD	4.75
1/06/2021 12:41	60.23	ppm	RCRA	<LOD	491.95	7.88	592.71	<LOD	2033.89	<LOD	44.41	5.13
1/06/2021 13:28	60.17	ppm	R_S31a	42.11	<LOD	2.62	<LOD	-	-	NC	339.21	10.94

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

1/06/2021 13:33	60.16	ppm	R_S32a	<LOD	<LOD	2.87	<LOD	-	-	NC	111.28	7.51
1/06/2021 13:37	60.17	ppm	R_S33a	64.75	<LOD	2.41	<LOD	-	-	NC	313.75	9.75
1/06/2021 13:49	60.19	ppm	R_S34a	106.60	<LOD	2.91	<LOD	-	-	NC	286.93	10.97
1/06/2021 13:54	60.19	ppm	R_S35a	31.73	<LOD	2.80	<LOD	-	-	NC	1256.64	19.97
1/06/2021 13:59	60.21	ppm	R_S36a	<LOD	<LOD	2.49	<LOD	-	-	NC	161.06	7.73
1/06/2021 14:05	60.18	ppm	R_S37a	<LOD	<LOD	2.38	<LOD	-	-	NC	449.78	11.32
1/06/2021 14:18	60.21	ppm	R_S38a	<LOD	<LOD	2.63	<LOD	-	-	NC	113.33	6.88
1/06/2021 14:22	60.2	ppm	R_S39a	<LOD	<LOD	2.63	<LOD	-	-	NC	124.75	7.56
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	<LOD	<LOD	2.16	<LOD	<LOD	1424.27	<LOD	463.99	10.89
1/06/2021 14:42	60.99	ppm	SiO2	<LOD	<LOD	2.01	<LOD	<LOD	470.12	<LOD	<LOD	4.88
1/06/2021 14:44	60.66	ppm	RCRA	<LOD	495.09	7.88	596.49	<LOD	1490.11	<LOD	43.73	5.11
1/06/2021 14:53	61.16	ppm	R_S41a	<LOD	<LOD	2.44	<LOD	<LOD	787.51	<LOD	291.52	9.79
1/06/2021 15:10	61.12	ppm	R_S42a	<LOD	<LOD	2.36	<LOD	1035.51	620.82	1247.60	757.39	13.45
1/06/2021 15:16	61.28	ppm	R_S43a	<LOD	<LOD	2.42	<LOD	<LOD	635.87	<LOD	89.61	6.20
1/06/2021 15:21	61.56	ppm	R_S44a	<LOD	<LOD	2.79	<LOD	983.49	504.28	1184.93	882.55	17.60
1/06/2021 15:50	61.57	ppm	R_S45a	<LOD	<LOD	1.74	<LOD	<LOD	396.91	<LOD	42.18	4.29
1/06/2021 15:53	0.7	ppm	R_S46a	<LOD	<LOD	0.24	<LOD	-	-	NC	<LOD	28.27
1/06/2021 15:55	61.45	ppm	R_S46a	<LOD	<LOD	1.63	<LOD	<LOD	796.24	<LOD	362.89	8.12
1/06/2021 15:59	61.58	ppm	R_S47a	<LOD	<LOD	2.25	<LOD	<LOD	679.55	<LOD	437.34	10.84
1/06/2021 16:03	61.91	ppm	R_S48a	<LOD	<LOD	2.02	<LOD	837.22	519.88	1008.70	626.32	11.65
1/06/2021 16:09	61.32	ppm	R_S49a	<LOD	<LOD	3.58	<LOD	<LOD	774.44	<LOD	343.32	13.08
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	<LOD	<LOD	14.99	<LOD	<LOD	639.92	<LOD	1442.05	86.32
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	<LOD	<LOD	6.03	<LOD	<LOD	836.26	<LOD	756.44	21.27
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	1.11	0.19	0.10	0.23	-	-	NC	0.67	0.10
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	33.65	<LOD	5.47	<LOD	1399.54	799.75	1686.19	1273.16	22.76
2/06/2021 8:18	60.9	ppm	SiO2	<LOD	<LOD	2.02	<LOD	<LOD	531.84	<LOD	<LOD	4.75
2/06/2021 8:20	61.22	ppm	RCRA	<LOD	482.86	7.78	581.76	1757.05	702.09	2116.93	41.30	5.08
2/06/2021 8:26	61.27	ppm	R_S51a_0m	<LOD	<LOD	3.67	<LOD	<LOD	868.14	<LOD	731.94	17.74
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	<LOD	<LOD	6.11	<LOD	<LOD	602.02	<LOD	725.85	21.25
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	37.22	<LOD	5.67	<LOD	1043.90	574.33	1257.71	1060.91	22.78
2/06/2021 8:41	61.49	ppm	R_S52a_0m	<LOD	<LOD	2.70	<LOD	683.81	445.55	823.87	979.44	18.20
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	<LOD	<LOD	5.06	<LOD	<LOD	607.99	<LOD	744.03	19.58
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	87.31	4.81	2.69	5.80	1418.48	700.16	1709.01	744.03	16.01
2/06/2021 8:59	61.13	ppm	R_S53a_0m	<LOD	<LOD	3.98	<LOD	<LOD	805.98	<LOD	355.19	12.97
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	<LOD	<LOD	3.87	<LOD	<LOD	806.74	<LOD	274.08	10.55
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	<LOD	<LOD	4.26	<LOD	866.77	542.79	1044.30	251.21	10.81
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	<LOD	<LOD	2.17	<LOD	<LOD	1173.82	<LOD	390.49	9.62
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	<LOD	<LOD	3.98	<LOD	<LOD	816.86	<LOD	156.11	10.58
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	<LOD	<LOD	2.67	<LOD	1122.85	531.52	1352.83	319.54	10.30
2/06/2021 9:49	60.92	ppm	SiO2	<LOD	<LOD	1.97	<LOD	<LOD	215.84	<LOD	<LOD	4.79
2/06/2021 9:50	61.29	ppm	RCRA	35.60	482.22	7.79	580.99	<LOD	1196.56	<LOD	44.18	5.16
2/06/2021 9:59	60.99	ppm	R_S55a_0m	<LOD	<LOD	2.60	<LOD	<LOD	1228.10	<LOD	631.97	14.75
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	70.60	<LOD	4.89	<LOD	<LOD	237.08	<LOD	170.79	13.72
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	<LOD	<LOD	2.70	<LOD	891.07	517.09	1073.58	176.03	8.78
2/06/2021 10:30	61.29	ppm	R_S56a_0m	<LOD	<LOD	2.04	<LOD	<LOD	764.47	<LOD	383.80	10.05
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	<LOD	<LOD	2.77	<LOD	1904.01	613.82	2293.99	1140.90	18.17
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	80.66	<LOD	2.58	<LOD	<LOD	961.65	<LOD	409.88	11.22
2/06/2021 10:57	61.59	ppm	R_S57a_0m	<LOD	<LOD	3.40	<LOD	<LOD	280.52	<LOD	69.98	8.51
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	<LOD	<LOD	2.19	<LOD	1080.44	680.98	1301.73	134.22	6.52
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	<LOD	<LOD	2.55	<LOD	868.65	401.55	1046.57	124.32	7.72
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	<LOD	<LOD	2.06	<LOD	<LOD	1001.95	<LOD	226.51	8.08
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	<LOD	<LOD	2.25	<LOD	852.58	423.38	1027.20	186.99	7.88
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	79.59	<LOD	4.43	<LOD	<LOD	61.83	<LOD	202.95	14.07
2/06/2021 11:28	61.6	ppm	SiO2	<LOD	<LOD	1.94	<LOD	<LOD	351.60	<LOD	<LOD	4.60
2/06/2021 11:30	60.97	ppm	RCRA	27.80	479.94	7.78	578.24	<LOD	1003.18	<LOD	49.18	5.27
2/06/2021 11:36	60.97	ppm	R_S59a_0m	<LOD	<LOD	3.18	<LOD	<LOD	533.60	<LOD	1612.74	24.95
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	<LOD	<LOD	82.37	<LOD	-	-	NC	<LOD	15903.78
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	<LOD	<LOD	44.72	<LOD	-	-	NC	<LOD	7952.12
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	79.11	<LOD	8.62	<LOD	<LOD	424.64	<LOD	5199.19	83.88
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	249.48	<LOD	10.82	<LOD	<LOD	1968.60	<LOD	32972.33	194.35
2/06/2021 12:00	60.67	ppm	R_S60a_0m	<LOD	<LOD	2.58	<LOD	<LOD	921.49	<LOD	334.42	11.18
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	40.16	<LOD	3.80	<LOD	<LOD	257.15	<LOD	206.97	12.83
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	105.37	<LOD	2.46	<LOD	1394.81	533.16	1680.49	243.65	8.67
2/06/2021 13:09	61.57	ppm	R_S61a_0m	<LOD	<LOD	2.07	<LOD	1737.57	580.04	2093.46	112.61	6.22
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	<LOD	<LOD	2.43	<LOD	1252.21	612.30	1508.69	95.55	6.48
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	48.78	<LOD	2.95	<LOD	859.37	419.76	1035.39	76.49	7.27
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	<LOD	<LOD	2.60	<LOD	<LOD	991.73	<LOD	57.71	5.79
2/06/2021 13:32	61	ppm	R_S62a_0.1m	41.99	<LOD	2.86	<LOD	<LOD	855.30	<LOD	52.78	6.38
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	48.77	<LOD	2.43	<LOD	1250.97	580.80	1507.19	56.33	5.36
2/06/2021 13:43	60.61	ppm	SiO2	<LOD	<LOD	2.03	<LOD	<LOD	374.44	<LOD	<LOD	4.81
2/06/2021 13:44	61.11	ppm	RCRA	27.40	492.71	7.87	593.63	<LOD	1255.19	<LOD	42.15	5.11
2/06/2021 13:50	61.44	ppm	R_S63a_0m	<LOD	<LOD	3.92	<LOD	372.75	247.89	449.10	152.46	11.29
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	<LOD	<LOD	2.42	<LOD	<LOD	978.25	<LOD	109.22	6.61
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	37.53	<LOD	2.41	<LOD	<LOD	1616.34	<LOD	103.53	6.29
2/06/2021 14:04	60.55	ppm	R_S64a_0m	<LOD	<LOD	2.06	<LOD	<LOD	1243.00	<LOD	82.85	5.35
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	<LOD	<LOD	2.27	<LOD	<LOD	1055.64	<LOD	96.75	6.13
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	282.49	5.89	1.68	7.10	<LOD	1369.37	<LOD	105.88	6.40
2/06/2021 14:22	62.2	ppm	R_S65a_0m	<LOD	<LOD	2.11	<LOD	979.94	540.35	1180.65	94.08	5.65
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	<LOD	<LOD	2.20	<LOD	<LOD	1033.48	<LOD	87.99	5.67
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	<LOD	<LOD	3.09	<LOD	1088.73	408.02	1311.72	80.66	7.65

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	<LOD	<LOD	2.67	<LOD	1710.62	777.44	2060.99	248.03	9.39
2/06/2021 14:34	62.08	ppm	R_S67a_0m	<LOD	<LOD	3.31	<LOD	1131.76	439.82	1363.57	59.91	7.55
2/06/2021 14:40	61.18	ppm	SiO2	<LOD	<LOD	2.03	<LOD	<LOD	180.40	<LOD	<LOD	4.91
2/06/2021 14:42	61.89	ppm	RCRA	23.51	483.98	7.78	583.11	1836.64	608.46	2212.82	44.42	5.15
2/06/2021 15:16	61.89	ppm	R_S68a_0m	<LOD	10.99	4.79	13.24	<LOD	596.59	<LOD	599.48	21.15
2/06/2021 15:28	61.57	ppm	R_S69a_0m	<LOD	<LOD	5.11	<LOD	<LOD	777.48	<LOD	503.24	17.90
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	154.41	<LOD	11.43	<LOD	<LOD	363.03	<LOD	272.89	23.60
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	37.71	<LOD	2.73	<LOD	1773.40	606.11	2136.63	224.05	8.72
2/06/2021 15:42	62.1	ppm	R_S70a_0m	98.54	<LOD	5.08	<LOD	<LOD	968.52	<LOD	765.85	18.47
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	183.08	<LOD	10.86	<LOD	<LOD	371.98	<LOD	1244.73	42.89
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	77.27	<LOD	3.02	<LOD	1682.76	544.15	2027.42	387.27	11.05
2/06/2021 16:01	62.18	ppm	R_S71a_0m	<LOD	<LOD	5.75	<LOD	1274.47	569.12	1535.51	683.16	17.30
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	214.69	<LOD	8.64	<LOD	<LOD	370.40	<LOD	176.74	20.31
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	112.41	<LOD	4.22	<LOD	1916.86	725.90	2309.47	444.03	12.67
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	<LOD	<LOD	11.84	<LOD	<LOD	1030.20	<LOD	191.12	27.40
3/06/2021 8:25	60.77	ppm	SiO2	<LOD	<LOD	2.02	<LOD	<LOD	353.91	<LOD	<LOD	4.90
3/06/2021 8:27	61.24	ppm	RCRA	<LOD	484.10	7.80	583.25	1195.12	739.63	1439.90	40.94	5.04
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	<LOD	10.89	5.13	13.12	<LOD	915.62	<LOD	332.28	16.44
3/06/2021 8:42	60.99	ppm	R_S73a_0m	40.37	<LOD	4.59	<LOD	<LOD	566.55	<LOD	148.50	11.31
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	40.89	<LOD	3.44	<LOD	971.17	458.96	1170.08	202.34	9.28
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	<LOD	<LOD	20.85	<LOD	-	-	NC	<LOD	199.95
3/06/2021 8:56	60.82	ppm	R_S74a_0m	26.77	<LOD	3.19	<LOD	<LOD	991.30	<LOD	184.24	8.88
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	146.33	<LOD	7.12	<LOD	<LOD	73.72	<LOD	99.80	15.51
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	<LOD	<LOD	3.02	<LOD	<LOD	828.28	<LOD	135.25	8.13
3/06/2021 11:29	1.78	ppm	R_S75a_0m	<LOD	<LOD	491.96	<LOD	-	-	NC	<LOD	543.55
3/06/2021 11:31	1.58	ppm	R_S75a_0m	<LOD	<LOD	579.58	<LOD	-	-	NC	<LOD	751.57
3/06/2021 11:31	0.95	ppm	R_S75a_0m	<LOD	<LOD	7596.04	<LOD	-	-	NC	<LOD	2389.10
3/06/2021 11:33	62.07	ppm	R_S75a_0m	<LOD	<LOD	12.68	<LOD	425.31	19.25	512.42	224.04	18.89
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	<LOD	<LOD	300000.00	<LOD	322.89	16.52	389.02	121.87	19.61
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	<LOD	<LOD	8.19	<LOD	842.03	28.12	1014.49	133.41	12.02
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	<LOD	<LOD	7.35	<LOD	913.18	27.84	1234.03	66.96	9.24
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	<LOD	<LOD	6.15	<LOD	1287.13	34.52	1550.76	67.61	8.12
3/06/2021 12:22	62.29	%	-	<LOD	<LOD	0.00	<LOD	0.20	0.02	0.24	0.01	0.00
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	<LOD	<LOD	10.38	<LOD	615.74	23.75	741.86	64.68	11.42
3/06/2021 12:39	62.14	ppm	R_S77a_0m	<LOD	<LOD	8.44	<LOD	942.71	31.28	1135.80	86.79	10.50
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	<LOD	<LOD	6.14	<LOD	2472.73	61.31	2979.19	84.32	8.63
3/06/2021 13:01	61.49	ppm	SiO2	<LOD	<LOD	4.64	<LOD	87.80	14.47	105.78	<LOD	6.40
3/06/2021 13:04	62.17	ppm	RCRA	53.57	495.87	12.79	597.43	3974.57	103.23	4788.64	80.78	9.67
3/06/2021 14:04	61.78	ppm	R_S78a_0m	<LOD	<LOD	20.27	<LOD	227.51	26.13	274.11	414.95	40.19
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	40.27	<LOD	6.68	<LOD	274.14	65.17	330.29	350.99	14.89
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	58.40	<LOD	7.30	<LOD	135.45	43.63	163.19	373.47	15.92
3/06/2021 14:27	62.28	ppm	R_S79a_0m	<LOD	<LOD	9.25	<LOD	880.72	48.86	1061.11	138.03	10.90
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	<LOD	<LOD	10.60	<LOD	491.37	24.14	592.01	146.62	13.27
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	<LOD	<LOD	8.64	<LOD	921.36	45.44	1110.07	153.53	10.96
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	<LOD	<LOD	5.72	<LOD	1583.61	46.61	1907.96	59.79	7.32
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	<LOD	<LOD	9.04	<LOD	501.72	19.96	604.48	37.02	9.25
3/06/2021 15:16	61.09	ppm	R_S81a_0m	<LOD	<LOD	13.68	<LOD	360.33	17.52	434.13	90.77	14.38
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	<LOD	<LOD	10.03	<LOD	456.85	20.53	550.42	131.47	12.89
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	<LOD	<LOD	8.15	<LOD	1453.75	51.02	1751.51	165.54	11.49
3/06/2021 15:34	61.12	ppm	R_S82a__0m	<LOD	<LOD	7.14	<LOD	123.61	14.22	148.93	62.37	8.80
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	<LOD	<LOD	5.99	<LOD	1611.81	43.05	1941.94	67.46	7.82
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	119.98	<LOD	20.74	<LOD	132.22	10.54	159.30	50.13	17.79
3/06/2021 16:06	61.46	ppm	SiO2	<LOD	<LOD	4.52	<LOD	<LOD	18.72	<LOD	<LOD	6.11
3/06/2021 16:08	61.58	ppm	RCRA	<LOD	487.94	12.57	587.88	3839.13	97.51	4625.46	76.53	9.39
3/06/2021 16:35	61.77	ppm	R_S83a_0m	<LOD	<LOD	9.05	<LOD	560.90	20.77	675.78	33.46	9.16
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	<LOD	<LOD	7.79	<LOD	1070.54	29.93	1289.81	37.17	8.29
15/06/2021 12:52	56.51	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 12:54	56.13	cps	-	NC	-	-	NC	-	-	NC	-	-
15/06/2021 13:07	61.3	ppm	SiO2	<LOD	<LOD	4.25	<LOD	<LOD	19.07	<LOD	<LOD	6.18
15/06/2021 13:09	61.75	ppm	RCRA	102.43	502.10	12.51	604.94	4016.62	103.64	4839.30	74.92	9.17
16/06/2021 8:06	63.49	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:07	58.37	cps	-	NC	-	-	NC	-	-	NC	-	-
16/06/2021 8:13	60.36	ppm	sio2	<LOD	5.13	2.80	6.18	<LOD	19.05	<LOD	<LOD	6.37
16/06/2021 8:15	60.19	ppm	rcra	81.87	488.12	12.47	588.10	4057.01	101.51	4887.96	72.49	9.22
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	<LOD	6.53	3.89	7.87	1461.19	49.93	1760.47	173.82	10.69
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	<LOD	9.61	5.33	11.58	875.73	29.50	1055.10	289.55	16.06
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	<LOD	13.90	5.34	16.75	624.79	25.08	752.76	321.30	16.55
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	<LOD	<LOD	5.89	<LOD	1795.47	56.23	2163.22	171.98	10.88
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	<LOD	<LOD	6.74	<LOD	4529.39	96.36	5457.10	391.25	16.21
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	<LOD	9.21	4.40	11.10	1859.40	47.74	2240.24	269.14	13.79
16/06/2021 10:03	61.29	ppm	SiO2	<LOD	<LOD	4.77	<LOD	<LOD	20.56	<LOD	<LOD	7.28
16/06/2021 10:06	61.85	ppm	RCRA	68.70	498.73	12.59	600.88	3947.64	101.18	4756.19	73.14	9.26
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	<LOD	<LOD	7.06	<LOD	1970.61	66.72	2374.23	327.34	15.63
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	<LOD	<LOD	8.60	<LOD	2757.77	81.25	3322.61	662.11	21.43
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	<LOD	<LOD	9.35	<LOD	1293.41	41.56	1558.33	702.76	24.19
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	<LOD	<LOD	7.38	<LOD	2871.39	70.92	3459.51	1245.45	26.03
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	<LOD	<LOD	7.47	<LOD	1932.41	48.35	2328.20	739.65	22.00
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	<LOD	<LOD	78.95	<LOD	-	-	NC	2055.63	340.54
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	<LOD	<LOD	7.72	<LOD	4264.95	116.16	5138.49	1588.43	29.18
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	<LOD	<LOD	6.81	<LOD	2546.72	68.77	3068.34	505.31	17.49

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	<LOD	8.25	3.87	9.94	2610.12	44.59	3144.72	141.43	10.34
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	<LOD	<LOD	5.22	<LOD	5040.35	74.24	6072.71	199.92	11.13
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	<LOD	<LOD	8.69	<LOD	1386.24	45.61	1670.17	796.31	22.54
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	<LOD	<LOD	12.42	<LOD	1776.14	66.86	2139.93	693.68	25.13
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	<LOD	23.50	13.21	28.31	2077.03	74.00	2502.45	1273.14	40.05
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	<LOD	<LOD	113.33	<LOD	1925.29	61.41	2319.63	1115.56	80.78
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	<LOD	<LOD	19.02	<LOD	4514.83	96.06	5130.49	194.47	16.30
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	111.05	8.18	4.31	9.86	2077.79	44.57	2503.36	90.35	9.23
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	<LOD	21.85	10.97	26.33	3939.09	83.59	4745.89	281.19	17.93
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	42.30	7.19	4.35	8.66	3001.89	52.50	3616.73	142.29	10.19
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	60.41	<LOD	6.90	<LOD	2320.23	41.44	2795.46	144.22	11.35
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	<LOD	<LOD	13.22	<LOD	4094.63	98.07	4817.21	507.53	20.93
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	52.04	<LOD	8.55	<LOD	1468.84	33.11	1769.69	354.76	18.17
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	<LOD	<LOD	6.44	<LOD	3691.57	73.66	4447.67	835.69	20.73
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	<LOD	<LOD	10.10	<LOD	2695.92	73.84	3248.10	1274.12	29.62
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	57.86	<LOD	6.99	<LOD	3715.90	93.74	4476.99	395.42	16.50
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	<LOD	<LOD	6.21	<LOD	3715.46	83.28	4476.46	528.62	17.20
16/06/2021 12:57	63.85	ppm	SiO2	<LOD	<LOD	4.32	<LOD	<LOD	19.35	<LOD	<LOD	6.73
16/06/2021 12:58	61.79	ppm	RCRA	118.80	483.08	12.59	582.02	4026.23	101.15	4850.88	75.54	9.39
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	<LOD	<LOD	6.80	<LOD	4044.99	94.82	4873.48	332.78	14.73
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	<LOD	<LOD	11.31	<LOD	1937.76	65.71	2334.65	2787.88	41.56
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	<LOD	<LOD	5.43	<LOD	1411.21	42.12	1700.25	141.69	9.69
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	<LOD	<LOD	6.22	<LOD	2360.13	59.55	2843.53	304.03	13.94
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	<LOD	<LOD	7.28	<LOD	1445.97	37.57	1742.13	310.17	15.14
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	<LOD	<LOD	5.42	<LOD	2173.36	57.38	2618.51	146.07	9.98
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	<LOD	7.51	4.22	9.05	2791.53	64.38	3363.29	296.17	14.25
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	81.99	6.79	4.50	8.18	2835.97	66.30	3416.83	395.28	16.50
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	<LOD	<LOD	5.11	<LOD	-	-	NC	<LOD	20.29
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	<LOD	<LOD	6.02	<LOD	1610.97	41.00	1940.93	207.27	12.13
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	<LOD	<LOD	7.08	<LOD	2057.43	56.85	2478.83	625.35	19.90
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	<LOD	15.07	9.84	18.16	1401.55	37.91	1688.61	613.33	30.46
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	64.10	<LOD	5.68	<LOD	3175.29	61.87	3825.65	187.69	11.18
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	<LOD	<LOD	7.54	<LOD	1007.44	26.45	1213.78	188.89	13.52
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	62.89	<LOD	7.32	<LOD	2158.89	68.78	2601.07	313.49	15.06
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	<LOD	<LOD	8.88	<LOD	2317.56	75.65	2792.24	1317.25	27.21
16/06/2021 14:48	62.5	ppm	R_S10OA_01	<LOD	<LOD	12.21	<LOD	1201.47	51.94	1447.55	3297.48	45.07
16/06/2021 14:52	62.2	ppm	R_S10OA_03	127.06	<LOD	10.27	<LOD	889.46	36.26	1071.64	1916.94	35.53
16/06/2021 15:00	8.99	ppm	SiO2	<LOD	<LOD	13.71	<LOD	-	-	NC	989.54	44.55
16/06/2021 15:04	20.77	ppm	SiO2	<LOD	<LOD	5.40	<LOD	-	-	NC	<LOD	8.02
16/06/2021 15:04	0.15	ppm	SiO2	<LOD	<LOD	258.56	<LOD	-	-	NC	<LOD	279.07
16/06/2021 15:05	61.18	ppm	SiO2	<LOD	<LOD	4.45	<LOD	<LOD	16.44	<LOD	<LOD	6.46
16/06/2021 15:07	61.33	ppm	RCRA	<LOD	469.51	12.19	565.67	3539.69	94.67	4264.69	77.50	9.34
16/06/2021 15:18	0.55	ppm	RCRA	<LOD	<LOD	2502.71	<LOD	-	-	NC	<LOD	7114.56
16/06/2021 15:20	0.56	ppm	R_S10IA	<LOD	<LOD	5976.68	<LOD	-	-	NC	<LOD	8688.17
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	<LOD	<LOD	2589.70	<LOD	-	-	NC	<LOD	1501.85
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	<LOD	<LOD	6.11	<LOD	1372.55	41.59	1653.67	335.19	14.41
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	<LOD	<LOD	6.16	<LOD	2892.61	71.52	3485.07	391.56	14.90
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	<LOD	<LOD	16444.98	<LOD	-	-	NC	<LOD	999.32
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	<LOD	<LOD	7.62	<LOD	2302.39	60.88	2773.96	1277.94	25.83
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	<LOD	<LOD	5.77	<LOD	2117.58	69.12	2551.30	627.05	17.33
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	<LOD	<LOD	10.00	<LOD	-	-	NC	299.29	22.23
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	<LOD	<LOD	6.44	<LOD	1532.31	48.84	1846.16	326.48	14.55
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	<LOD	<LOD	8.23	<LOD	-	-	NC	280.06	17.67
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	<LOD	<LOD	12.48	<LOD	-	-	NC	194.38	23.18
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	<LOD	<LOD	5.82	<LOD	2165.42	60.90	2608.94	232.45	12.04
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	<LOD	<LOD	5.42	<LOD	1841.33	58.47	2218.47	479.34	15.28
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	<LOD	<LOD	5.82	<LOD	2702.70	69.89	3256.27	475.77	15.92
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	<LOD	<LOD	6.23	<LOD	2919.97	79.94	3518.04	369.09	14.94
17/06/2021 8:30	49.35	ppm	RCRA	<LOD	413.73	10.85	498.47	3184.60	116.84	3836.87	77.58	8.69
17/06/2021 8:31	61.65	ppm	RCRA	<LOD	479.35	12.48	577.53	3780.38	98.77	4554.67	76.47	9.41
17/06/2021 8:36	61.36	ppm	R_S104_0.0	<LOD	<LOD	8.34	<LOD	2998.91	89.88	3613.14	444.75	17.65
17/06/2021 8:38	61.76	ppm	R_S104_0.1	<LOD	<LOD	7.84	<LOD	2691.47	84.71	3242.73	460.32	17.48
17/06/2021 8:41	61.51	ppm	R_S104_0.25	<LOD	<LOD	8.22	<LOD	1850.41	64.08	2229.41	431.86	16.86
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	<LOD	<LOD	9.59	<LOD	2812.37	80.97	3388.40	640.53	21.02
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	<LOD	<LOD	10.93	<LOD	2844.24	72.00	3426.80	1051.37	27.08
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	<LOD	<LOD	10.69	<LOD	2378.04	74.61	2865.11	964.95	26.42
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	<LOD	<LOD	4.48	<LOD	2038.52	65.46	3341.84	71.64	6.99
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	<LOD	<LOD	6.10	<LOD	1725.59	49.03	2079.02	93.16	9.08
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	<LOD	<LOD	5.28	<LOD	3652.10	85.12	4400.12	93.30	8.31
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	<LOD	<LOD	4.45	<LOD	1930.35	66.82	2325.72	101.62	7.71
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	<LOD	<LOD	5.38	<LOD	2834.79	90.60	3415.41	161.11	9.92
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	<LOD	<LOD	7.58	<LOD	1418.69	46.37	1709.27	145.76	11.95
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	<LOD	<LOD	5.05	<LOD	2014.19	75.18	2426.73	203.49	10.36
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	<LOD	<LOD	5.85	<LOD	3092.07	98.35	3725.39	209.98	11.39
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	49.43	<LOD	8.08	<LOD	1552.82	55.76	1870.87	246.96	14.11
17/06/2021 9:53	62.25	ppm	RCRA	49.84	478.04	12.47	575.95	4059.48	101.28	4890.94	86.74	9.70
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	<LOD	<LOD	4.25	<LOD	2452.24	76.45	2954.51	80.25	7.16
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	<LOD	<LOD	5.86	<LOD	1866.99	54.09	2249.39	65.00	8.09
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	<LOD	<LOD	5.89	<LOD	3253.37	104.39	3919.72	108.14	9.31
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	<LOD	<LOD	4.10	<LOD	1854.73	68.90	3091.22	87.47	7.08

Client: Department of Regional NSW
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Project Name: Captains Flat CSM
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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	<LOD	<LOD	5.24	<LOD	2620.19	88.07	3156.86	82.54	7.99
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	<LOD	<LOD	6.29	<LOD	2076.91	66.95	2502.30	40.72	7.40
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	<LOD	<LOD	25.37	<LOD	-	-	NC	93.04	42.92
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	<LOD	<LOD	4.91	<LOD	2495.34	79.65	3006.43	83.74	7.56
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	<LOD	<LOD	4.97	<LOD	2592.50	89.80	3123.49	179.64	10.05
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	<LOD	<LOD	5.83	<LOD	2849.79	99.09	3433.48	49.54	7.43
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	<LOD	<LOD	5.03	<LOD	2630.21	79.69	3168.93	150.32	9.51
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	<LOD	<LOD	5.48	<LOD	3659.85	105.53	4409.46	106.61	8.85
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	<LOD	<LOD	5.09	<LOD	3575.92	84.24	4308.34	73.09	7.76
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	<LOD	<LOD	4.43	<LOD	2930.23	91.47	3530.40	87.82	7.47
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	<LOD	<LOD	6.06	<LOD	1622.26	56.36	2192.24	150.81	10.46
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	<LOD	<LOD	5.46	<LOD	3361.77	92.38	4050.33	114.33	9.18
17/06/2021 11:18	61.77	ppm	RCRA	<LOD	487.35	12.49	587.17	3648.46	94.86	4395.73	82.87	9.58
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	<LOD	<LOD	4.67	<LOD	2043.81	62.11	2462.42	185.06	9.96
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	<LOD	<LOD	5.41	<LOD	3558.35	94.42	4287.17	211.05	11.18
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	<LOD	<LOD	5.87	<LOD	3163.59	77.34	3811.55	312.80	13.25
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	<LOD	<LOD	4.51	<LOD	2646.87	75.10	3189.00	88.50	7.58
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	<LOD	<LOD	5.01	<LOD	2871.89	79.45	3460.11	86.72	8.04
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	<LOD	<LOD	5.07	<LOD	2275.51	58.65	2741.58	71.71	7.58
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	<LOD	<LOD	5.05	<LOD	2424.16	75.36	3107.90	80.77	7.78
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	<LOD	<LOD	5.18	<LOD	2965.68	79.33	3573.11	62.72	7.62
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	<LOD	<LOD	6.04	<LOD	2714.98	118.40	3271.06	68.03	8.18

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

Client: Department of Regional NSW
Job No: 318001193
Project Name: Captains Flat CSM
25/11/2021

Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

Time	Duration	Units	SAMPLE	Dry Weight (moisture corrected) Zn
7/06/2021 10:55	53.99	cps	-	NC
7/06/2021 10:56	53.57	cps	-	NC
7/06/2021 10:58	61.59	ppm	SiO2	<LOD
7/06/2021 11:21	60.43	ppm	GW1_0.0	394.49
7/06/2021 11:30	60.61	ppm	GW1_0.1	535.35
7/06/2021 11:31	19.12	ppm	GW1_0.1	603.55
7/06/2021 11:32	60.66	ppm	GW1_0.2	681.02
7/06/2021 11:32	0.53	ppm	GW1_0.2	628.08
7/06/2021 11:33	60.47	ppm	GW1_0.3	638.99
7/06/2021 11:35	60.68	ppm	GW1_0.4	422.57
7/06/2021 11:37	60.76	ppm	GW1_0.5	468.83
7/06/2021 11:38	61.01	ppm	GW1_1.0	643.42
7/06/2021 11:40	60.76	ppm	GW1_2.0	922.02
7/06/2021 11:41	60.67	ppm	GW1_3.0	1019.66
7/06/2021 11:42	6.84	ppm	GW1_4.0	1364.76
7/06/2021 11:43	61.37	ppm	GW1_4.0	1266.04
7/06/2021 13:21	60.51	ppm	GW3_0.1	982.25
7/06/2021 13:26	60.77	ppm	GW3_0.0	831.82
7/06/2021 13:28	60.6	ppm	GW3_0.2	959.11
7/06/2021 13:29	72.5	ppm	GW3_0.3	709.30
7/06/2021 13:31	60.51	ppm	GW3_0.44	838.39
7/06/2021 13:33	63.3	ppm	GW3_0.5	959.73
7/06/2021 13:34	60.96	ppm	GW3_1.0	995.78
7/06/2021 13:41	60.6	ppm	GW3_2.0	1060.69
7/06/2021 13:58	60.47	ppm	SiO2	<LOD
7/06/2021 14:00	60.77	ppm	RCRA	83.45
7/06/2021 15:09	60.72	ppm	D1	189.90
7/06/2021 15:12	60.52	ppm	GW3_0.0	211.39
7/06/2021 15:24	60.98	ppm	GW3_0.1	1971.71
7/06/2021 15:26	60.5	ppm	GW3_0.2	656.83
7/06/2021 15:28	61.05	ppm	GW3_0.3	1953.17
7/06/2021 15:29	71.47	ppm	GW3_0.4	453.66
7/06/2021 15:31	62.46	ppm	GW3_0.5	1210.20
7/06/2021 15:32	64.68	ppm	GW3_1.0	820.67
7/06/2021 15:34	61.4	ppm	GW3_2.0	1270.82
7/06/2021 15:37	61.39	ppm	GW3_3.0	334.36
8/06/2021 7:48	53.82	cps	-	NC
8/06/2021 7:49	56.02	cps	-	NC
8/06/2021 8:00	60.96	ppm	SiO2	<LOD
8/06/2021 8:02	61.12	ppm	RCRA	85.55
8/06/2021 8:08	61.74	ppm	GW4_0.0	396.40
8/06/2021 8:09	61.95	ppm	GW4_0.1	1433.63
8/06/2021 8:14	61.41	ppm	GW4_0.2	1040.70
8/06/2021 8:16	62.26	ppm	GW4_0.3	403.14
8/06/2021 8:17	61.51	ppm	GW4_0.4	166.48
8/06/2021 8:19	61.85	ppm	GW4_0.5	236.95
8/06/2021 8:20	65.48	ppm	GW4_1.0	297.41
8/06/2021 8:22	62.3	ppm	GW4_2.0	217.89
8/06/2021 9:13	62.15	ppm	GW5_0.0	438.11
8/06/2021 9:14	61.79	ppm	GW5_0.1	483.67
8/06/2021 9:19	61.88	ppm	GW5_0.2	604.07
8/06/2021 9:20	61.76	ppm	GW5_0.3	230.64
8/06/2021 9:22	61.8	ppm	GW5_0.4	34.43
8/06/2021 9:24	80.71	ppm	GW5_0.5	110.60
8/06/2021 9:25	61.79	ppm	GW5_1.0	136.67
8/06/2021 9:51	61.71	ppm	SiO2	<LOD
8/06/2021 9:55	30	ppm	RCRA	82.64
8/06/2021 9:56	62.23	ppm	RCRA	91.28
8/06/2021 10:04	62.28	ppm	D2	216.49
8/06/2021 10:05	61.74	ppm	GW6_0.0	262.52
8/06/2021 10:11	61.88	ppm	GW6_0.1	378.37
8/06/2021 10:13	60.96	ppm	GW6_0.2	397.13
8/06/2021 10:14	61.3	ppm	GW6_0.3	194.12
8/06/2021 10:16	70.43	ppm	GW6_0.4	79.92
8/06/2021 10:18	74.28	ppm	GW6_0.5	80.90
8/06/2021 10:20	61.98	ppm	GW6_1.0	68.66
8/06/2021 11:33	61.81	ppm	GW7_0.00	132.94
8/06/2021 11:56	61.46	ppm	GW7_0.1	403.55
8/06/2021 12:00	62.24	ppm	GW7_0.2	395.56
8/06/2021 12:06	61.24	ppm	GW7_0.3	358.19
8/06/2021 12:07	61.12	ppm	GW7_0.4	393.30
8/06/2021 12:08	41.19	ppm	GW7_0.3	537.66
8/06/2021 12:09	64.87	ppm	GW7_0.4	638.89
8/06/2021 12:11	61.83	ppm	GW7_1.0	157.05
8/06/2021 12:13	61.67	ppm	GW7_2.0	807.49

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

8/06/2021 12:15	61.83	ppm	GW7_3.0	788.08
8/06/2021 12:16	61.51	ppm	GW7_5.0	1640.45
8/06/2021 12:36	61.77	ppm	SiO2	<LOD
8/06/2021 12:37	61.84	ppm	RCRA	93.61
8/06/2021 14:21	61.47	ppm	GW8_0.0	1174.58
8/06/2021 14:37	0.15	ppm	GW8_0.0	<LOD
8/06/2021 15:02	61.45	ppm	GW8_0.1	865.34
8/06/2021 15:03	61.03	ppm	GW8_0.2	788.93
8/06/2021 15:05	61.09	ppm	GW8_0.3	778.49
8/06/2021 15:06	61.68	ppm	GW8_0.4	821.59
8/06/2021 15:07	62.15	ppm	GW8_0.5	701.08
8/06/2021 15:09	62.56	ppm	GW8_1.0	1012.75
8/06/2021 15:13	61.78	ppm	GW8_2.0	1242.30
8/06/2021 15:14	62.22	ppm	D3	1324.33
8/06/2021 15:16	61.01	ppm	GW8_5.0	740.67
9/06/2021 7:45	53.9	cps	-	NC
9/06/2021 7:46	53.54	cps	-	NC
9/06/2021 7:50	62.07	ppm	SiO2	<LOD
9/06/2021 7:52	61.73	ppm	RCRA	84.76
9/06/2021 7:59	61.51	ppm	GW10_0.0	5212.94
9/06/2021 8:10	61.66	ppm	GW10_0.1	113.90
9/06/2021 8:12	66.09	ppm	GW10_0.2	140.46
9/06/2021 8:13	34.99	ppm	GW10_0.3	161.66
9/06/2021 8:21	65.81	ppm	GW10_0.4	120.93
9/06/2021 8:23	62.2	ppm	GW10_0.5	118.86
9/06/2021 8:24	61.66	ppm	GW10_1.0	110.99
9/06/2021 8:26	61.56	ppm	GW10_2.0	102.18
9/06/2021 8:27	61.17	ppm	GW10_4.0	1232.25
9/06/2021 11:18	61.42	ppm	GW9_0.0	70.49
9/06/2021 11:25	61.58	ppm	GW9_0.1	99.61
9/06/2021 11:27	61.71	ppm	GW9_0.2	93.81
9/06/2021 11:41	64.9	ppm	GW9_0.3	75.19
9/06/2021 11:42	62.1	ppm	GW9_0.4	80.31
9/06/2021 11:44	61.49	ppm	GW9_0.5	103.72
9/06/2021 11:45	61.63	ppm	GW9_1.0	92.22
9/06/2021 12:01	61.32	ppm	SiO2	<LOD
9/06/2021 12:51	63.56	ppm	RCRA	85.75
10/06/2021 7:32	61.73	ppm	SiO2	<LOD
10/06/2021 7:34	61.78	ppm	RCRA	74.30
10/06/2021 8:34	92.51	ppm	SAQP10-BH01_0.0	<LOD
10/06/2021 8:40	61.66	ppm	SAQP9-BH01_0.0	1673.57
10/06/2021 8:41	61.8	ppm	SAQP9-BH01_0.25	888.86
10/06/2021 8:43	61.4	ppm	SAQP9-BH01_0.5	341.13
10/06/2021 8:45	61.42	ppm	SAQP9-BH01_0.75	255.65
10/06/2021 8:47	61.92	ppm	SAQP9-BH01_1.0	279.55
10/06/2021 9:03	61.77	ppm	SAQP11_BH01_0.0	504.74
10/06/2021 9:05	63.11	ppm	D4	599.72
10/06/2021 9:06	0.16	ppm	SAQP11-BH01_0.1	<LOD
10/06/2021 9:08	61.65	ppm	SAQP11-BH01_0.25	617.95
10/06/2021 9:09	61.69	ppm	SAQP11-BH01_0.5	566.77
10/06/2021 9:11	61.71	ppm	SAQP11-BH01_0.75	692.17
10/06/2021 9:12	61.68	ppm	SAQP11-BH01_1.0	619.28
10/06/2021 9:24	61.57	ppm	SAQP11-BH02_0.0	499.41
10/06/2021 9:25	61.9	ppm	SAQP11-BH02_0.25	369.08
10/06/2021 9:27	61.85	ppm	SAQP11-BH02_0.5	626.43
10/06/2021 9:28	62.16	ppm	SAQP11-BH02_0.75	552.84
10/06/2021 9:30	61.44	ppm	SAQP11-BH02_1.0	801.63
10/06/2021 9:40	61.56	ppm	SAQP11-BH03_0.0	724.07
10/06/2021 9:41	61.9	ppm	D5	387.43
10/06/2021 9:43	62	ppm	SAQP-BH03_0.25	964.86
10/06/2021 9:45	62.3	ppm	SAQP-BH03_0.5	1008.33
10/06/2021 9:47	64.06	ppm	SAQP-BH03_0.75	1672.43
10/06/2021 9:49	61.62	ppm	SAQP-BH03_1.0	2185.28
10/06/2021 9:52	61.34	ppm	SAQP-BH04_0.0	693.42
10/06/2021 9:54	61.29	ppm	SAQP-BH04_0.25	313.84
10/06/2021 9:55	62.14	ppm	SAQP-BH04_0.5	727.19
10/06/2021 9:57	62.14	ppm	SAQP-BH04_0.75	415.86
10/06/2021 9:58	61.82	ppm	SAQP-BH04_1.0	939.45
10/06/2021 10:05	76.97	ppm	SAQP-BH05_0.0	697.49
10/06/2021 10:06	62.4	ppm	SAQP-BH05_0.25	466.96
10/06/2021 10:08	61.45	ppm	SAQP-BH05_0.5	552.95
10/06/2021 10:09	62.12	ppm	SAQP-BH05_0.75	767.33
10/06/2021 10:11	61.72	ppm	SAQP-BH05_1.0	705.55
10/06/2021 10:14	62.23	ppm	SAQP-BH06_0.0	534.19
10/06/2021 10:20	61.54	ppm	SAQP-BH06_0.25	420.80
10/06/2021 10:22	61.68	ppm	SAQP-BH06_0.5	1268.30
10/06/2021 10:24	62.51	ppm	SAQP-BH06_0.75	261.25
10/06/2021 10:25	62	ppm	SAQP-BH06_1.0	462.46
10/06/2021 10:32	62.88	ppm	SAQP-BH07_0.0	815.83
10/06/2021 10:35	62.4	ppm	SAQP-BH07_0.25	1118.12

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

10/06/2021 10:37	61.39	ppm	SAQP-BH07_0.5	1483.05
10/06/2021 10:38	61.75	ppm	SAQP-BH07_0.75	943.89
10/06/2021 10:40	61.83	ppm	SAQP-BH07_1.0	943.52
10/06/2021 10:47	62.35	ppm	SAQP-BH08_0.0	658.55
10/06/2021 10:48	62.14	ppm	SAQP-BH08_0.25	1876.13
10/06/2021 10:50	62.19	ppm	SAQP-BH08_0.5	1182.67
10/06/2021 10:52	61.63	ppm	SAQP-BH08_0.75	1400.42
10/06/2021 10:53	62.39	ppm	SAQP-BH08_1.0	1805.16
10/06/2021 10:58	67.48	ppm	SAQP-BH09_0.0	993.58
10/06/2021 10:59	61.51	ppm	SAQP-BH09_0.25	739.49
10/06/2021 11:01	65.23	ppm	SAQP-BH09_0.5	653.07
10/06/2021 11:02	61.4	ppm	SAQP-BH09_0.75	594.00
10/06/2021 11:04	61.87	ppm	SAQP-BH09_1.0	382.39
10/06/2021 11:14	63.28	ppm	SAQP-BH10_0.0	994.88
10/06/2021 11:15	61.96	ppm	SAQP-BH10_0.25	328.64
10/06/2021 11:16	61.49	ppm	SAQP-BH10_0.5	370.57
10/06/2021 11:18	61.66	ppm	SAQP-BH10_0.75	323.57
10/06/2021 11:20	62.3	ppm	SAQP-BH10_1.0	346.58
10/06/2021 11:52	62.04	ppm	SiO2	<LOD
10/06/2021 11:54	61.67	ppm	RCRA	90.01
10/06/2021 12:03	62.21	ppm	SAQP9-BH02_0.0	274.43
10/06/2021 12:05	61.64	ppm	SAQP9-BH02_0.25	557.06
10/06/2021 12:06	61.9	ppm	SAQP9-BH02_0.5	412.69
10/06/2021 12:07	62.4	ppm	SAQP9-BH02_0.75	204.47
10/06/2021 12:09	61.5	ppm	SAQP9-BH02_1.0	381.10
10/06/2021 12:24	61.98	ppm	SAQP9-BH03_0.0	336.13
10/06/2021 12:26	66.34	ppm	D6	406.81
10/06/2021 12:28	61.9	ppm	SAQP9-BH03_0.25	482.84
10/06/2021 12:29	61.32	ppm	SAQP9-BH03_0.5	1452.20
10/06/2021 12:31	61.79	ppm	SAQP9-BH03_0.75	1910.20
10/06/2021 12:32	64.73	ppm	SAQP9-BH03_1.0	853.45
10/06/2021 12:44	61.23	ppm	SAQP9-BH04_0.0	715.41
10/06/2021 12:46	62.26	ppm	SAQP9-BH04_0.25	962.17
10/06/2021 12:48	61.82	ppm	SAQP9-BH04_0.5	905.07
10/06/2021 12:51	61.98	ppm	SAQP9-BH04_1.0	651.70
10/06/2021 12:57	61.53	ppm	SAQP10-BH01_0.0	1780.41
10/06/2021 12:59	61.9	ppm	SAQP10-BH01_0.25	896.66
10/06/2021 13:00	61.32	ppm	SAQP10-BH01_0.5	566.29
10/06/2021 13:02	61.34	ppm	SAQP10-BH01_0.75	412.95
10/06/2021 13:07	61.51	ppm	SAQP10-BH01_1.0	410.48
10/06/2021 13:09	61.79	ppm	SAQP10-BH01_1.25	216.60
10/06/2021 13:10	61.58	ppm	SAQP10-BH01_1.5	443.40
10/06/2021 13:26	63.24	ppm	SAQP10-BH02_0.0	5142.23
10/06/2021 13:31	62.04	ppm	SAQP-BH02_0.25	4156.90
10/06/2021 13:33	61.81	ppm	D7	3098.40
10/06/2021 13:35	61.78	ppm	SAQP10-BH02_0.5	533.47
10/06/2021 13:37	61.99	ppm	SAQP10-BH02_0.75	539.77
10/06/2021 13:40	64.08	ppm	SAQP10-BH02_1.25	639.73
10/06/2021 13:41	61.01	ppm	SAQP10-BH02_1.5	1054.35
10/06/2021 13:43	61.46	ppm	SAQP10-BH02_1.0	1187.22
10/06/2021 13:58	61.53	ppm	SAQP10-BH03_0.0	427.90
10/06/2021 14:00	63.25	ppm	SAQP10-BH03_0.25	418.17
10/06/2021 14:04	62.51	ppm	SAQP10-BH03_0.5	364.34
10/06/2021 14:06	64.7	ppm	D8	344.14
10/06/2021 14:08	61.14	ppm	SAQP10-BH03_0.75	60.12
10/06/2021 14:10	60.61	ppm	SAQP10-BH03_1.0	60.40
10/06/2021 14:11	61.38	ppm	SAQP10-BH03_1.25	54.22
10/06/2021 14:13	61.68	ppm	SAQP10-BH03_1.5	44.45
10/06/2021 14:26	61.42	ppm	SAQP10-BH04_0.0	539.93
10/06/2021 14:26	1.78	ppm	SAQP10-BH04_0.1	759.78
10/06/2021 14:28	61.65	ppm	SAQP10-BH04_0.25	585.49
10/06/2021 14:29	61.48	ppm	SAQP10-BH04_0.5	159.12
10/06/2021 14:31	61.96	ppm	SAQP10-BH04_0.75	142.18
10/06/2021 14:32	61.32	ppm	SAQP10-BH04_1.0	136.01
10/06/2021 14:34	61.79	ppm	SAQP10-BH04_1.25	114.29
10/06/2021 14:35	61.49	ppm	SAQP10-BH04_1.5	110.54
10/06/2021 15:05	61.41	ppm	SAQP13-BH02_0.0	322.05
10/06/2021 15:06	61.76	ppm	SAQP13-BH02_0.25	799.13
10/06/2021 15:08	61.55	ppm	SAQP13-BH02_0.5	92.04
10/06/2021 15:09	61.61	ppm	SAQP13-BH02_0.75	50.59
10/06/2021 15:11	61.61	ppm	SAQP13-BH02_1.0	39.46
10/06/2021 15:15	60.97	ppm	SiO2	<LOD
10/06/2021 15:21	61.43	ppm	SAQP13-BH03_0.0	181.78
10/06/2021 15:24	60.89	ppm	SAQP13-BH03_0.25	81.35
10/06/2021 15:25	62.49	ppm	SAQP13-BH03_0.5	63.17
10/06/2021 15:27	61.59	ppm	SAQP13-BH03_0.75	72.10
10/06/2021 15:28	61.45	ppm	SAQP13-BH03_1.0	58.99
10/06/2021 15:32	61.95	ppm	SAQP9-BH01_0.0	105.73
10/06/2021 15:33	60.84	ppm	SAQP9-BH01_0.25	68.90
10/06/2021 15:35	62.51	ppm	SAQP9-BH01_0.5	166.13

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Table 14:
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10/06/2021 15:38	61.22	ppm	SAQP9-BH01_1.0	66.69
10/06/2021 15:42	62.15	ppm	SAQP9-BH04_0.0	282.94
10/06/2021 15:44	62.32	ppm	SAQP9-BH04_0.25	259.23
10/06/2021 15:46	61.65	ppm	SAQP9-BH04_0.5	199.64
10/06/2021 15:49	61.6	ppm	SAQP9-BH04_0.75	202.24
10/06/2021 15:50	61.17	ppm	SAQP9-BH04_1.0	207.59
10/06/2021 15:56	62.7	ppm	SAQP9-BH05_0.0	72.69
10/06/2021 15:57	60.99	ppm	SAQP9-BH05_0.25	66.64
10/06/2021 15:58	61.65	ppm	SAQP9-BH05_0.5	67.40
10/06/2021 16:00	61.79	ppm	SAQP9-BH05_0.75	78.69
10/06/2021 16:01	60.86	ppm	SAQP9-BH05_1.0	99.88
1/06/2021 7:55	60.34	%	si02	<LOD
1/06/2021 7:57	61.21	%	rcra	0.16
1/06/2021 8:00	60.45	ppm	rcra	97.06
1/06/2021 8:02	60.53	ppm	si02	<LOD
1/06/2021 8:30	60.24	ppm	R_S1B	499.75
1/06/2021 8:41	60.77	ppm	R_S2B	854.87
1/06/2021 8:45	60.37	ppm	R_S3B	1604.69
1/06/2021 8:50	60.69	ppm	R_S4B	170.29
1/06/2021 8:55	60.63	ppm	R_S5B	681.63
1/06/2021 8:59	60.26	ppm	R_S6B	2776.10
1/06/2021 9:14	60.48	ppm	R_S7B	505.51
1/06/2021 9:21	60.81	ppm	R_S8B	2580.98
1/06/2021 9:35	60.58	ppm	R_S9B	123.69
1/06/2021 9:54	60.46	ppm	R_S10B_QA10	629.08
1/06/2021 10:00	60.77	ppm	rcra	118.31
1/06/2021 10:02	60.28	ppm	si02	<LOD
1/06/2021 10:21	60.35	ppm	R_S11B	502.87
1/06/2021 10:26	60.79	ppm	R_S12B	184.53
1/06/2021 10:35	60.67	ppm	R_S13B	7708.05
1/06/2021 10:42	60.55	ppm	R_S14B	603.05
1/06/2021 10:51	60.75	ppm	R_S15B	2237.04
1/06/2021 10:59	60.43	ppm	R_S16B	191.96
1/06/2021 11:37	60.36	ppm	R_S17B	251.77
1/06/2021 11:42	60.13	ppm	R_S18B	54.71
1/06/2021 11:50	60.22	ppm	R_S19B	3968.57
1/06/2021 12:03	60.49	ppm	R_S20B_QA11_QA12	335.20
1/06/2021 12:13	60.43	ppm	rcra	113.48
1/06/2021 12:15	60.09	ppm	si02	<LOD
1/06/2021 12:21	60.43	ppm	R_S21B	170.07
1/06/2021 12:31	60.49	ppm	-	400.23
1/06/2021 13:43	60.28	ppm	R_S23B	288.05
1/06/2021 13:47	60.47	ppm	R_S24B	353.64
1/06/2021 13:52	60.53	ppm	R_S25B	148.47
1/06/2021 14:04	60.51	ppm	R_S26B	680.66
1/06/2021 14:10	60.47	ppm	R_S27B	844.30
1/06/2021 14:19	60.56	ppm	R_S28B	145.95
1/06/2021 14:34	60.98	ppm	R_S29B	61.66
1/06/2021 14:42	60.43	ppm	R_S30B	1370.80
1/06/2021 14:47	60.54	ppm	rcra	59.57
1/06/2021 14:53	61.88	ppm	si02	<LOD
1/06/2021 15:06	60.22	ppm	R_S31B	236.02
1/06/2021 15:15	60.85	ppm	R_S32B	384.29
1/06/2021 15:18	60.47	ppm	R_S33B	2405.90
1/06/2021 15:26	60.49	ppm	R_S34B	281.87
1/06/2021 15:35	60.96	ppm	R_S35B	805.88
1/06/2021 16:08	61.29	ppm	R_S36B	962.58
1/06/2021 16:12	60.69	ppm	R_S37B	131.75
1/06/2021 16:18	64.56	ppm	R_S38B	885.29
1/06/2021 16:27	60.83	ppm	R_S39B	129.81
1/06/2021 16:41	60.39	ppm	R_S40B	116.69
2/06/2021 8:13	60.34	ppm	rcra	80.66
2/06/2021 8:14	60.28	ppm	si02	<LOD
2/06/2021 8:19	60.75	ppm	R_S41B	370.75
2/06/2021 8:28	60.46	ppm	R_S42B	977.28
2/06/2021 8:34	60.5	ppm	R_S42B_0.1	142.53
2/06/2021 8:37	60.29	ppm	R_S42B_0.2	347.77
2/06/2021 8:43	60.5	ppm	R_S43B_0.0	350.67
2/06/2021 8:49	60.53	ppm	R_S43B_0.1	180.36
2/06/2021 8:53	60.49	ppm	R_S43B_0.25	111.89
2/06/2021 9:01	60.46	ppm	R_S44B_0.0	351.48
2/06/2021 9:04	60.54	ppm	R_S44B_0.1	190.80
2/06/2021 9:10	60.43	ppm	R_S44B_0.2	225.98
2/06/2021 9:17	60.5	ppm	R_S45B_0.0	832.75
2/06/2021 9:20	60.55	ppm	R_S45B_0.1	944.00
2/06/2021 9:27	60.6	ppm	R_S45B_0.25	407.11
2/06/2021 9:32	60.72	ppm	R_S46B_0.0	455.83
2/06/2021 9:36	60.58	ppm	R_S46B_0.1	193.88
2/06/2021 9:40	60.23	ppm	R_S46B_0.2	206.75
2/06/2021 9:43	60.53	ppm	R_S47B_0.0	329.29

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 9:47	60.66	ppm	R_S47B_0.1	270.10
2/06/2021 9:53	60.18	ppm	R_S47B_0.2	344.87
2/06/2021 10:06	60.59	ppm	R_S48B_0.0	851.46
2/06/2021 10:09	60.29	ppm	R_S48B_0.05	1642.92
2/06/2021 10:15	60.54	ppm	R_S49B	17800.24
2/06/2021 10:37	60.15	ppm	R_S50B_0.0	770.67
2/06/2021 10:40	60.12	ppm	R_S50B_0.1	760.25
2/06/2021 10:43	0.15	ppm	R_S50B_0.1	<LOD
2/06/2021 10:44	60.39	ppm	R_S50B_0.25	1089.34
2/06/2021 10:47	60.5	ppm	R_S50B_0.3	908.16
2/06/2021 10:59	60.72	ppm	R_S51B_0.0	831.03
2/06/2021 11:02	60.64	ppm	R_S51B_0.1	1689.64
2/06/2021 11:06	60.26	ppm	R_S51B_0.25	1351.29
2/06/2021 11:16	60.18	ppm	rcra	100.98
2/06/2021 11:17	60.54	ppm	si02	<LOD
2/06/2021 11:27	60.07	ppm	R_S52B_0.0	204.02
2/06/2021 11:33	60.72	ppm	R_S52B_0.1	145.60
2/06/2021 11:35	60.44	ppm	R_S52B_0.25	357.66
2/06/2021 11:40	60.31	ppm	R_S52B_0.3	358.81
2/06/2021 11:47	60.85	ppm	R_S53_0.0	136.11
2/06/2021 11:53	60.45	ppm	R_S53_0.1	96.33
2/06/2021 11:56	60.18	ppm	R_S53_0.25	74.40
2/06/2021 12:02	60.22	ppm	R_S54B_0.0	289.72
2/06/2021 12:06	60.22	ppm	R_S54B_0.1	258.72
2/06/2021 12:14	60.56	ppm	R_S54B_0.2	204.52
2/06/2021 12:17	60.24	ppm	R_S55B_0.0	206.64
2/06/2021 12:20	60.37	ppm	R_S55B_0.1	213.63
2/06/2021 12:26	60.45	ppm	R_S55B_0.2	374.47
2/06/2021 13:20	53.96	cps	-	NC
2/06/2021 13:21	53.45	cps	-	NC
2/06/2021 13:23	60.58	ppm	rcra	86.06
2/06/2021 13:24	60.64	ppm	si02	<LOD
2/06/2021 13:29	60.49	ppm	R_S56B_0.0	1380.37
2/06/2021 13:32	60.36	ppm	R_S56B_0.1	2653.00
2/06/2021 13:37	60.63	ppm	R_S56B_0.2	850.16
2/06/2021 13:41	60.58	ppm	R_S56B_0.25	851.39
2/06/2021 13:49	60.83	ppm	R_S57_0.0	773.09
2/06/2021 13:53	60.6	ppm	R_S57_0.1	1123.06
2/06/2021 13:59	60.67	ppm	R_S57_0.25	448.06
2/06/2021 14:04	60.78	ppm	R_S58_0.0	2001.55
2/06/2021 14:07	60.74	ppm	R_S58_0.1	652.82
2/06/2021 14:15	60.39	ppm	R_S58_0.25	761.58
2/06/2021 14:22	60.74	ppm	R_S59_0.0	531.34
2/06/2021 14:25	60.51	ppm	R_S59_0.1	1133.99
2/06/2021 14:31	60.71	ppm	R_S59_0.25	424.94
2/06/2021 14:39	60.54	ppm	R_S60_0.0	414.20
2/06/2021 14:42	60.67	ppm	R_S60_0.1	215.42
2/06/2021 14:47	60.2	ppm	R_S60_0.25	657.11
2/06/2021 15:21	60.76	ppm	rcra	100.55
2/06/2021 15:23	60.22	ppm	si02	<LOD
2/06/2021 15:24	56.44	cps	-	NC
2/06/2021 15:26	56.22	cps	-	NC
2/06/2021 15:28	60.82	ppm	R_61B_0.0	1083.64
2/06/2021 15:32	60.08	ppm	R_61B_0.1	859.52
2/06/2021 15:36	60.45	ppm	R_61B_0.2	1982.86
2/06/2021 15:45	60.65	ppm	R_62B_0.0	1751.20
2/06/2021 15:48	60.26	ppm	R_62B_0.1	1280.46
2/06/2021 15:54	60.82	ppm	R_62B_0.15	13897.89
2/06/2021 15:58	60.81	ppm	R_63B_0.0	1064.45
2/06/2021 16:01	60.13	ppm	R_63B_0.1	342.96
2/06/2021 16:07	60.69	ppm	R_63B_0.2	562.00
2/06/2021 16:14	60.27	ppm	sio2	<LOD
2/06/2021 16:16	60.2	ppm	rcra	76.99
2/06/2021 16:17	53.99	cps	-	NC
2/06/2021 16:19	53.65	cps	-	NC
2/06/2021 16:20	60.2	ppm	R_64B_0.0	157.76
2/06/2021 16:22	60.75	ppm	R_64B_0.1	234.76
2/06/2021 16:28	60.27	ppm	R_64B_0.22	887.20
4/06/2021 8:58	46.39	cps	-	NC
4/06/2021 8:59	55.93	cps	-	NC
4/06/2021 9:01	61.12	ppm	R_S65b_0m	93.43
4/06/2021 9:08	61.81	ppm	R_S65b_0.1m	97.60
4/06/2021 9:13	61.52	ppm	R_S65b_0.2m	79.13
4/06/2021 9:23	62.06	ppm	R_S66b_0m	269.17
4/06/2021 9:27	61.42	ppm	R_S66b_0.1m	177.35
4/06/2021 9:32	61.14	ppm	R_S66b_0.25m	261.63
4/06/2021 9:37	60.5	ppm	R_S67b_0m	171.00
4/06/2021 9:40	61.26	ppm	R_S67b_0.1m	307.83
4/06/2021 9:44	61.53	ppm	R_S67b_0.25m	342.84
4/06/2021 9:53	60.65	ppm	SiO2	<LOD

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

4/06/2021 9:57	61.9	ppm	RCRA	82.16
4/06/2021 10:17	62.12	ppm	R_S68b_0m	108.93
4/06/2021 10:20	61.65	ppm	R_S68b_0.1m	<LOD
4/06/2021 10:29	61.82	ppm	R_S68b_0.25m	63.40
4/06/2021 10:34	62.27	ppm	R_S69b_0m	109.94
4/06/2021 10:36	61.41	ppm	R_S69b_0.1m	65.59
4/06/2021 10:40	61.98	ppm	R_S70b_0m	46.41
4/06/2021 10:42	61.52	ppm	R_S70b_0.1m	48.99
4/06/2021 10:45	58.8	cps	-	NC
4/06/2021 10:46	50.97	cps	-	NC
4/06/2021 10:48	61.94	ppm	SiO2	<LOD
4/06/2021 10:49	62.11	ppm	RCRA	97.35
4/06/2021 11:09	61.73	ppm	R_S71b_0m	177.94
4/06/2021 11:11	61.87	ppm	R_S71b_0.1m	198.76
4/06/2021 11:15	61.05	ppm	R_S72b_0m	230.88
4/06/2021 11:17	64.84	ppm	R_S72b_0.1m	167.25
4/06/2021 11:23	61.74	ppm	R_S73b_0m	97.20
4/06/2021 11:25	61.41	ppm	R_S73b_0.1m	78.33
4/06/2021 11:31	61.9	ppm	SiO2	<LOD
4/06/2021 11:33	61.96	ppm	RCRA	98.12
4/06/2021 11:35	54.1	cps	-	NC
4/06/2021 11:37	53.49	cps	-	NC
4/06/2021 11:45	60.98	ppm	R_S74b_0m	21.98
4/06/2021 11:48	64.62	ppm	R_S74b_0.1m	58.35
4/06/2021 11:51	60.99	ppm	R_S75b_0m	60.82
4/06/2021 11:53	61.5	ppm	R_S75b_0.1m	46.84
4/06/2021 11:58	61.97	ppm	R_S76b_0m	79.61
4/06/2021 12:00	62.29	ppm	R_S76b_0.1m	57.22
4/06/2021 12:07	61.84	ppm	SiO2	<LOD
4/06/2021 12:09	60.85	ppm	RCRA	89.52
4/06/2021 12:22	61.31	ppm	R_S77b_0m	131.95
4/06/2021 12:25	62.21	ppm	R_S77b_0.1m	73.20
4/06/2021 12:27	61.26	ppm	R_S78b_0m	150.90
4/06/2021 12:29	62.24	ppm	R_S78b_0.1m	129.86
31/05/2021 14:11	62.07	%	test	<LOD
31/05/2021 14:55	60.27	%	R_S1a	17.93
31/05/2021 14:56	1.23	%	R_S1a	<LOD
31/05/2021 14:56	0.7	ppm	-	0.81
31/05/2021 14:56	0.41	ppm	-	0.81
31/05/2021 14:59	60.2	ppm	R_S1a	8745.00
31/05/2021 15:05	60.12	ppm	R_S2a	467.18
31/05/2021 15:24	60.96	ppm	R_S4a	2530.47
31/05/2021 15:34	0.15	ppm	R_S6a	0.81
31/05/2021 15:35	60.18	ppm	R_S6a	1612.94
31/05/2021 15:40	60.2	ppm	R_S5a	1175.60
31/05/2021 15:51	60.25	ppm	R_S7a	1434.90
31/05/2021 16:08	60.21	ppm	R_S8a	4203.64
31/05/2021 16:19	60.18	ppm	R_S9a	553.10
1/06/2021 7:47	60.19	ppm	SiO2	<LOD
1/06/2021 7:50	60.18	ppm	RCRA	55.04
1/06/2021 8:18	42.7	ppm	R_S10a_QA1	2013.89
1/06/2021 8:19	0.71	ppm	R_S10a_QA1	<LOD
1/06/2021 8:19	0.72	ppm	R_S10a_QA1	<LOD
1/06/2021 8:21	60.2	ppm	R_S10a_QA1	1756.58
1/06/2021 8:29	60.23	ppm	R_S11a	12302.42
1/06/2021 8:33	60.2	ppm	R_S12a	543.35
1/06/2021 8:53	0.72	ppm	R_S13a	<LOD
1/06/2021 8:54	60.18	ppm	R_S13a	913.07
1/06/2021 8:59	60.66	ppm	R_S14a	1134.95
1/06/2021 9:02	61.21	ppm	R_S15a	1632.06
1/06/2021 9:08	60.33	ppm	R_S16a	85.08
1/06/2021 9:14	60.19	ppm	R_S17a	730.41
1/06/2021 9:21	60.17	ppm	R_S18a	541.28
1/06/2021 9:26	60.19	ppm	R_S19a	490.65
1/06/2021 9:47	60.25	ppm	R_S20a_QA2_QA3	437.72
1/06/2021 9:52	60.14	ppm	SiO2	<LOD
1/06/2021 9:56	60.16	ppm	RCRA	92.94
1/06/2021 10:09	60.25	ppm	R_S21a	243.39
1/06/2021 10:15	60.21	ppm	R_S22a	216.49
1/06/2021 10:21	60.21	ppm	R_S23a	349.30
1/06/2021 10:27	60.16	ppm	R_S24a	443.71
1/06/2021 10:33	60.16	ppm	R_S25a	120.86
1/06/2021 11:38	60.17	ppm	R_S26a	7396.94
1/06/2021 11:59	60.12	ppm	R_S27a	702.83
1/06/2021 12:12	60.19	ppm	R_S28a	723.49
1/06/2021 12:26	60.11	ppm	R_S29a	71.10
1/06/2021 12:35	60.1	ppm	R_S30a_QA4	306.04
1/06/2021 12:39	60.01	ppm	SiO2	<LOD
1/06/2021 12:41	60.23	ppm	RCRA	53.51
1/06/2021 13:28	60.17	ppm	R_S31a	408.69

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Table 14:
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1/06/2021 13:33	60.16	ppm	R_S32a	134.07
1/06/2021 13:37	60.17	ppm	R_S33a	378.01
1/06/2021 13:49	60.19	ppm	R_S34a	345.70
1/06/2021 13:54	60.19	ppm	R_S35a	1514.02
1/06/2021 13:59	60.21	ppm	R_S36a	194.05
1/06/2021 14:05	60.18	ppm	R_S37a	541.90
1/06/2021 14:18	60.21	ppm	R_S38a	136.54
1/06/2021 14:22	60.2	ppm	R_S39a	150.30
1/06/2021 14:37	60.66	ppm	R_S40a_QA5_QA6	559.02
1/06/2021 14:42	60.99	ppm	SiO2	<LOD
1/06/2021 14:44	60.66	ppm	RCRA	52.69
1/06/2021 14:53	61.16	ppm	R_S41a	351.23
1/06/2021 15:10	61.12	ppm	R_S42a	912.52
1/06/2021 15:16	61.28	ppm	R_S43a	107.96
1/06/2021 15:21	61.56	ppm	R_S44a	1063.31
1/06/2021 15:50	61.57	ppm	R_S45a	50.82
1/06/2021 15:53	0.7	ppm	R_S46a	<LOD
1/06/2021 15:55	61.45	ppm	R_S46a	437.22
1/06/2021 15:59	61.58	ppm	R_S47a	526.92
1/06/2021 16:03	61.91	ppm	R_S48a	754.60
1/06/2021 16:09	61.32	ppm	R_S49a	413.64
2/06/2021 8:00	61.61	ppm	R_S50a_0m_QA7	1539.01
2/06/2021 8:04	61.31	ppm	R_S50a_0.1m	911.37
2/06/2021 8:04	0.15	ppm	R_S50a_0.1m	0.81
2/06/2021 8:12	60.97	ppm	R_S50a_0.25m	1533.93
2/06/2021 8:18	60.9	ppm	SiO2	<LOD
2/06/2021 8:20	61.22	ppm	RCRA	49.76
2/06/2021 8:26	61.27	ppm	R_S51a_0m	881.86
2/06/2021 8:31	61.27	ppm	R_S51a_0.1m	874.52
2/06/2021 8:36	61.47	ppm	R_S51a_0.25m	1278.20
2/06/2021 8:41	61.49	ppm	R_S52a_0m	1180.05
2/06/2021 8:48	61.9	ppm	R_S52a_0.1m	896.42
2/06/2021 8:53	61.27	ppm	R_S52a_0.25m	896.42
2/06/2021 8:59	61.13	ppm	R_S53a_0m	427.94
2/06/2021 9:03	61.01	ppm	R_S53a_0.1m	330.22
2/06/2021 9:07	61.55	ppm	R_S53a_0.25m	302.66
2/06/2021 9:21	60.96	ppm	R_S54a_0m_QA8_QA9	610.14
2/06/2021 9:26	60.97	ppm	R_S54a_0.1m	188.08
2/06/2021 9:40	61.32	ppm	R_S54a_0.25m	384.99
2/06/2021 9:49	60.92	ppm	SiO2	<LOD
2/06/2021 9:50	61.29	ppm	RCRA	53.23
2/06/2021 9:59	60.99	ppm	R_S55a_0m	761.41
2/06/2021 10:05	61.58	ppm	R_S55a_0.1m	205.77
2/06/2021 10:09	61.26	ppm	R_S55a_0.25m	212.08
2/06/2021 10:30	61.29	ppm	R_S56a_0m	462.41
2/06/2021 10:35	61.59	ppm	R_S56a_0.1m	1374.58
2/06/2021 10:45	61.58	ppm	R_S56a_0.25m	493.83
2/06/2021 10:57	61.59	ppm	R_S57a_0m	84.31
2/06/2021 11:02	60.91	ppm	R_S57a_0.1m	161.71
2/06/2021 11:10	61.6	ppm	R_S57a_0.25m	149.78
2/06/2021 11:17	60.67	ppm	R_S58a_0m_QA20	272.90
2/06/2021 11:20	61.26	ppm	R_S58a_0.1m	225.29
2/06/2021 11:25	60.88	ppm	R_S58a_0.25m	244.52
2/06/2021 11:28	61.6	ppm	SiO2	<LOD
2/06/2021 11:30	60.97	ppm	RCRA	59.25
2/06/2021 11:36	60.97	ppm	R_S59a_0m	1943.06
2/06/2021 11:40	0.7	ppm	R_S59a_0.1m	<LOD
2/06/2021 11:40	0.69	ppm	R_S59a_0.1m	<LOD
2/06/2021 11:46	61.29	ppm	R_S59a_0.1m	6264.08
2/06/2021 11:53	60.68	ppm	R_S59a_0.25m	39725.70
2/06/2021 12:00	60.67	ppm	R_S60a_0m	402.92
2/06/2021 12:04	61.28	ppm	R_S60a_0.1m	249.36
2/06/2021 12:08	61.24	ppm	R_S60a_0.25m	293.55
2/06/2021 13:09	61.57	ppm	R_S61a_0m	135.67
2/06/2021 13:12	60.92	ppm	R_S61a_0.1m	115.12
2/06/2021 13:17	61.59	ppm	R_S61a_0.25m	92.16
2/06/2021 13:27	61.28	ppm	R_S62a_0m_QA21_QA22	84.87
2/06/2021 13:32	61	ppm	R_S62a_0.1m	63.59
2/06/2021 13:36	61.86	ppm	R_S62a_0.25m	67.87
2/06/2021 13:43	60.61	ppm	SiO2	<LOD
2/06/2021 13:44	61.11	ppm	RCRA	50.78
2/06/2021 13:50	61.44	ppm	R_S63a_0m	183.69
2/06/2021 13:52	61.02	ppm	R_S63a_0.1m	131.59
2/06/2021 13:56	60.63	ppm	R_S63a_0.25m	124.73
2/06/2021 14:04	60.55	ppm	R_S64a_0m	99.82
2/06/2021 14:06	60.67	ppm	R_S64a_0.1m	116.57
2/06/2021 14:11	60.85	ppm	R_S64a_0.25m	127.57
2/06/2021 14:22	62.2	ppm	R_S65a_0m	113.35
2/06/2021 14:23	61.25	ppm	R_S65a_0.1m	106.01
2/06/2021 14:28	61.89	ppm	R_S65a_0.25m_QA23	97.18

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

2/06/2021 14:31	61.02	ppm	R_S66a_0m	298.83
2/06/2021 14:34	62.08	ppm	R_S67a_0m	72.18
2/06/2021 14:40	61.18	ppm	SiO2	<LOD
2/06/2021 14:42	61.89	ppm	RCRA	53.52
2/06/2021 15:16	61.89	ppm	R_S68a_0m	722.27
2/06/2021 15:28	61.57	ppm	R_S69a_0m	606.31
2/06/2021 15:31	61.59	ppm	R_S69a_0.1m	328.78
2/06/2021 15:39	62.22	ppm	R_S69a_0.25m	269.94
2/06/2021 15:42	62.1	ppm	R_S70a_0m	922.71
2/06/2021 15:47	62.17	ppm	R_S70a_0.1m	1499.67
2/06/2021 15:56	62.17	ppm	R_S70a_0.24m	466.59
2/06/2021 16:01	62.18	ppm	R_S71a_0m	823.08
2/06/2021 16:07	61.25	ppm	R_S71a_0.1m	212.94
2/06/2021 16:15	62.17	ppm	R_S71a_0.20m	534.98
3/06/2021 8:22	60.78	ppm	R_S72a_0m_QA24_QA25	222.23
3/06/2021 8:25	60.77	ppm	SiO2	<LOD
3/06/2021 8:27	61.24	ppm	RCRA	49.33
3/06/2021 8:31	60.83	ppm	R_S72a_0.1m	400.34
3/06/2021 8:42	60.99	ppm	R_S73a_0m	178.92
3/06/2021 8:49	61.89	ppm	R_S73a_0.1m	243.78
3/06/2021 8:50	0.71	ppm	R_S73a_0.1m	<LOD
3/06/2021 8:56	60.82	ppm	R_S74a_0m	221.98
3/06/2021 9:00	60.66	ppm	R_S74a_0.1m	120.24
3/06/2021 9:05	61.17	ppm	R_S74a_0.25m	162.95
3/06/2021 11:29	1.78	ppm	R_S75a_0m	<LOD
3/06/2021 11:31	1.58	ppm	R_S75a_0m	<LOD
3/06/2021 11:31	0.95	ppm	R_S75a_0m	<LOD
3/06/2021 11:33	62.07	ppm	R_S75a_0m	269.93
3/06/2021 11:40	63.01	ppm	R_S75a_0.1m	146.83
3/06/2021 11:48	63.18	ppm	R_S75a_0.25m	160.73
3/06/2021 12:11	62.17	ppm	R_S76a_0m_QA	90.49
3/06/2021 12:16	61.67	ppm	R_S76a_0.1m	81.46
3/06/2021 12:22	62.29	%	-	0.01
3/06/2021 12:27	61.72	ppm	R_S76a_0.25m	77.93
3/06/2021 12:39	62.14	ppm	R_S77a_0m	104.57
3/06/2021 12:43	61.7	ppm	R_S77a_0.1m	101.59
3/06/2021 13:01	61.49	ppm	SiO2	<LOD
3/06/2021 13:04	62.17	ppm	RCRA	97.33
3/06/2021 14:04	61.78	ppm	R_S78a_0m	499.94
3/06/2021 14:07	61.54	ppm	R_S78a_0.1m	422.88
3/06/2021 14:13	61.03	ppm	R_S78a_0.25m	449.96
3/06/2021 14:27	62.28	ppm	R_S79a_0m	166.30
3/06/2021 14:32	61.59	ppm	R_S79a_0.1m	176.65
3/06/2021 14:42	62.24	ppm	R_S79a_0.25	184.98
3/06/2021 14:59	61.5	ppm	R_S80a_0m_QA29	72.04
3/06/2021 15:08	61.23	ppm	R_S80a_0.1m	44.60
3/06/2021 15:16	61.09	ppm	R_S81a_0m	109.36
3/06/2021 15:19	61.51	ppm	R_S81a_0.1m	158.40
3/06/2021 15:24	61.22	ppm	R_S81a_0.25m	199.45
3/06/2021 15:34	61.12	ppm	R_S82a__0m	75.14
3/06/2021 15:39	61.82	ppm	R_S82a_0.1m	81.28
3/06/2021 15:44	61.3	ppm	R_S82a_0.25m	60.40
3/06/2021 16:06	61.46	ppm	SiO2	<LOD
3/06/2021 16:08	61.58	ppm	RCRA	92.20
3/06/2021 16:35	61.77	ppm	R_S83a_0m	40.31
3/06/2021 16:37	61.54	ppm	R_S83a_0.1m	44.78
15/06/2021 12:52	56.51	cps	-	NC
15/06/2021 12:54	56.13	cps	-	NC
15/06/2021 13:07	61.3	ppm	SiO2	<LOD
15/06/2021 13:09	61.75	ppm	RCRA	90.27
16/06/2021 8:06	63.49	cps	-	NC
16/06/2021 8:07	58.37	cps	-	NC
16/06/2021 8:13	60.36	ppm	sio2	<LOD
16/06/2021 8:15	60.19	ppm	rcra	87.34
16/06/2021 8:19	60.09	ppm	R_S84A_0.0	209.42
16/06/2021 8:22	60.29	ppm	R_S84A_0.1	348.86
16/06/2021 8:28	60.3	ppm	R_S84A_0.25	387.11
16/06/2021 8:34	60.16	ppm	R_S85A_0.0	207.20
16/06/2021 8:39	60.45	ppm	R_S85A_0.1	471.39
16/06/2021 8:45	60.45	ppm	R_S85A_0.25	324.27
16/06/2021 10:03	61.29	ppm	SiO2	<LOD
16/06/2021 10:06	61.85	ppm	RCRA	88.12
16/06/2021 10:14	61.11	ppm	R_S86A_0.0	394.39
16/06/2021 10:16	61.7	ppm	R_S86A_0.0	797.72
16/06/2021 10:21	62.43	ppm	R_S86A_0.0	846.70
16/06/2021 10:28	62.15	ppm	R_S87A_0.0	1500.54
16/06/2021 10:30	61.31	ppm	R_S87A_0.1	891.14
16/06/2021 10:33	0.95	ppm	R_S87A_0.1	2476.66
16/06/2021 10:34	62.03	ppm	R_S87A_0.25	1913.77
16/06/2021 10:42	61.67	ppm	R_S88A_0.0	608.81

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

16/06/2021 10:44	61.74	ppm	R_S88A_0.0	170.40
16/06/2021 10:50	61.56	ppm	R_S88A_0.25	240.87
16/06/2021 10:55	61.72	ppm	R_S89A_0.0	959.41
16/06/2021 11:03	62.41	ppm	R_S89A_0.1	835.76
16/06/2021 11:07	61.77	ppm	R_S89A_0.25	1533.90
16/06/2021 11:33	61.66	ppm	R_S90A_0.0	1344.05
16/06/2021 11:38	61.09	ppm	R_S90A_0.1	220.99
16/06/2021 11:42	61.82	ppm	R_S90A_0.25	108.86
16/06/2021 11:51	61.04	ppm	R_S91A_0.0	338.78
16/06/2021 11:54	61.58	ppm	R_S91A_0.1	171.43
16/06/2021 11:59	61.25	ppm	R_S91A_0.25	173.76
16/06/2021 12:08	61.61	ppm	R_S92A_0.0	597.09
16/06/2021 12:13	61.23	ppm	R_S92A_0.1	427.42
16/06/2021 12:17	61.95	ppm	R_S92A_0.25	1006.86
16/06/2021 12:22	62.05	ppm	R_S93A_0.0	1535.08
16/06/2021 12:25	61.09	ppm	R_S93A_0.1	476.41
16/06/2021 12:28	60.52	ppm	R_S93A_0.25	636.89
16/06/2021 12:57	63.85	ppm	SiO2	<LOD
16/06/2021 12:58	61.79	ppm	RCRA	91.01
16/06/2021 13:13	64.2	ppm	R_S94A_0.0	400.94
16/06/2021 13:17	63.62	ppm	R_S95A_0.0	3358.89
16/06/2021 13:29	61.6	ppm	R_S96A_0.0	170.71
16/06/2021 13:31	61.67	ppm	R_S96A_0.1	366.30
16/06/2021 13:34	61.8	ppm	R_S96A_0.25	373.70
16/06/2021 13:47	61.77	ppm	R_S97A_0.0	175.99
16/06/2021 13:50	61.62	ppm	R_S97A_0.1	356.83
16/06/2021 13:53	60.83	ppm	R_S97A_0.25	476.24
16/06/2021 13:55	0.17	ppm	R_S98A_0.0	<LOD
16/06/2021 13:57	66.28	ppm	R_S98A_0.0	249.72
16/06/2021 14:03	62.03	ppm	R_S98A_0.1	753.43
16/06/2021 14:10	62.03	ppm	R_S98A__0.25	738.95
16/06/2021 14:32	61.89	ppm	R_S99A_0.0	226.13
16/06/2021 14:35	62.22	ppm	R_S99A_0.1	227.58
16/06/2021 14:38	60.54	ppm	R_S99A_0.25	377.70
16/06/2021 14:44	61.88	ppm	R_S10OA_0.0	1587.05
16/06/2021 14:48	62.5	ppm	R_S10OA_01	3972.87
16/06/2021 14:52	62.2	ppm	R_S10OA_03	2309.57
16/06/2021 15:00	8.99	ppm	SiO2	1192.22
16/06/2021 15:04	20.77	ppm	SiO2	<LOD
16/06/2021 15:04	0.15	ppm	SiO2	<LOD
16/06/2021 15:05	61.18	ppm	SiO2	<LOD
16/06/2021 15:07	61.33	ppm	RCRA	93.37
16/06/2021 15:18	0.55	ppm	RCRA	<LOD
16/06/2021 15:20	0.56	ppm	R_S10IA	<LOD
16/06/2021 15:21	0.57	ppm	R_S10IA_0.0	<LOD
16/06/2021 15:23	61.02	ppm	R_S10IA_0.0	403.84
16/06/2021 15:26	62.26	ppm	R_S101A_0.1	471.76
16/06/2021 15:28	0.25	ppm	R_S101A_0.25	<LOD
16/06/2021 15:29	62.03	ppm	R_S101A_0.25	1539.69
16/06/2021 15:42	61.85	ppm	R_S102A_0.0	755.48
16/06/2021 15:44	14.7	ppm	R_S102A_0.1	360.59
16/06/2021 15:46	61.83	ppm	R_S102A_0.1	393.35
16/06/2021 15:49	18.98	ppm	R_S102A_0.25	337.42
16/06/2021 15:50	8.61	ppm	R_S102A_0.25	234.19
16/06/2021 15:51	61.47	ppm	R_S102A_0.25	280.06
16/06/2021 16:03	61.63	ppm	R_S103A_0.0	577.52
16/06/2021 16:06	61.56	ppm	R_S103A_0.1	573.22
16/06/2021 16:10	62.12	ppm	R_S103A_0.25	444.69
17/06/2021 8:30	49.35	ppm	RCRA	93.47
17/06/2021 8:31	61.65	ppm	RCRA	92.13
17/06/2021 8:36	61.36	ppm	R_S104_0.0	535.84
17/06/2021 8:38	61.76	ppm	R_S104_0.1	554.60
17/06/2021 8:41	61.51	ppm	R_S104_0.25	520.31
17/06/2021 8:46	61.65	ppm	R_S105A_0.0	771.72
17/06/2021 8:49	61.72	ppm	R_S105A_0.1	1266.71
17/06/2021 8:53	60.95	ppm	R_S105A_0.25	1162.59
17/06/2021 9:17	61.46	ppm	R_S106A_0.0	117.44
17/06/2021 9:20	61.68	ppm	R_S106A_0.1	112.24
17/06/2021 9:24	61.65	ppm	R_S106A_0.25	112.41
17/06/2021 9:30	62.51	ppm	R_S107A_0.0	122.43
17/06/2021 9:33	61.22	ppm	R_S107A_0.1	194.11
17/06/2021 9:36	61.61	ppm	R_S107A_0.25	175.61
17/06/2021 9:40	62.03	ppm	R_S108A_0.0	245.17
17/06/2021 9:43	61.44	ppm	R_S108A_0.1	252.99
17/06/2021 9:46	62.44	ppm	R_S108A_0.0	297.54
17/06/2021 9:53	62.25	ppm	RCRA	104.51
17/06/2021 9:57	61.01	ppm	R_S109A_0.0	96.69
17/06/2021 10:00	61.24	ppm	R_S109A_0.1	78.31
17/06/2021 10:03	61.89	ppm	R_S109A_0.25	130.29
17/06/2021 10:12	61.57	ppm	R_S110A_0.0	145.78

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Table 14:
Wet and Dry Weight (moisture corrected) XRF QA Results

17/06/2021 10:15	61.87	ppm	R_S110A_0.1	99.45
17/06/2021 10:18	61.43	ppm	R_S110A_0.25	49.06
17/06/2021 10:24	2.99	ppm	R_S110A_0.0	155.07
17/06/2021 10:26	61.56	ppm	R_S111A_0.0	100.89
17/06/2021 10:28	60.94	ppm	R_S111A_0.1	216.43
17/06/2021 10:31	61.49	ppm	R_S111A_0.25	59.69
17/06/2021 10:37	61.6	ppm	R_S112A_0.0	181.11
17/06/2021 10:39	61.76	ppm	R_S112A_0.1	128.45
17/06/2021 10:42	61.8	ppm	R_S112A_0.25	88.06
17/06/2021 10:49	61.13	ppm	R_S113A_0.0	105.81
17/06/2021 10:53	62.29	ppm	R_S113A_0.1	203.80
17/06/2021 10:55	61.33	ppm	R_S113A_0.25	137.75
17/06/2021 11:18	61.77	ppm	RCRA	99.84
17/06/2021 11:20	61.6	ppm	R_S114A_0.0	222.96
17/06/2021 11:23	61.63	ppm	R_S114A_0.1	254.28
17/06/2021 11:27	61.53	ppm	R_S114A_0.25	376.87
17/06/2021 11:36	61.4	ppm	R_S115A_0.0	106.63
17/06/2021 11:38	62.26	ppm	R_S115A_0.1	104.48
17/06/2021 11:41	61.42	ppm	R_S115A_0.25	86.40
17/06/2021 11:48	61.14	ppm	R_S116A_0.0	103.55
17/06/2021 11:52	62.35	ppm	R_S116A_0.1	75.57
17/06/2021 11:54	61.07	ppm	R_S116A_0.25	81.96

Cells denoted as "-" indicate no criterion available
<LOD = Limit of Detection
NC = not calculated

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Table T15:
Soil Moisture 95% UCL

RAMBOLL

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.123/11/2021 1:21:28 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Moisture Content

General Statistics

Total Number of Observations	34	Number of Distinct Observations	25
		Number of Missing Observations	0
Minimum	1.8	Mean	16.99
Maximum	40	Median	14.5
SD	11.05	Std. Error of Mean	1.894
Coefficient of Variation	0.65	Skewness	0.701

Normal GOF Test

Shapiro Wilk Test Statistic	0.921	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.933	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.13	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.15	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL

95% Student's-t UCL	20.19	**95% UCLs (Adjusted for Skewness)**	
		95% Adjusted-CLT UCL (Chen-1995)	20.34
		95% Modified-t UCL (Johnson-1978)	20.23

Gamma GOF Test

A-D Test Statistic	0.305	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.759	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.113	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.153	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.083	k star (bias corrected MLE)	1.919
Theta hat (MLE)	8.155	Theta star (bias corrected MLE)	8.852
nu hat (MLE)	141.6	nu star (bias corrected)	130.5
MLE Mean (bias corrected)	16.99	MLE Sd (bias corrected)	12.26
		Approximate Chi Square Value (0.05)	105.1
Adjusted Level of Significance	0.0422	Adjusted Chi Square Value	104

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	21.09	95% Adjusted Gamma UCL (use when n<50)	21.32

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.935	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.933	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.162	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.15	Data Not Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.588	Mean of logged Data	2.573
Maximum of Logged Data	3.689	SD of logged Data	0.807

Assuming Lognormal Distribution

95% H-UCL	24.83	90% Chebyshev (MVUE) UCL	26.19

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Table T15:
Soil Moisture 95% UCL

95% Chebyshev (MVUE) UCL	29.93	97.5% Chebyshev (MVUE) UCL	35.13
99% Chebyshev (MVUE) UCL	45.33		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	20.1	95% Jackknife UCL	20.19
95% Standard Bootstrap UCL	20.07	95% Bootstrap-t UCL	20.54
95% Hall's Bootstrap UCL	20.36	95% Percentile Bootstrap UCL	20.33
95% BCA Bootstrap UCL	20.39		
90% Chebyshev(Mean, Sd) UCL	22.67	95% Chebyshev(Mean, Sd) UCL	25.24
97.5% Chebyshev(Mean, Sd) UCL	28.82	99% Chebyshev(Mean, Sd) UCL	35.84

Suggested UCL to Use

95% Student's-t UCL 20.19

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.