IMERYS

SAFETY DATA SHEET
Capim DG Dry

1. Identification

Product identifier

Product name Capim DG Dry

Chemical name Kaolin

CAS number 1332-58-7

Details of the supplier of the safety data sheet

Supplier Imerys
618 Kaolin Road
Sandersville, Georgia 31082

Emergency telephone number

Emergency telephone 1 (800) 424 9300 CHEMTREC

National emergency telephone number 1 478 553 5801

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

Label elements

Hazard statements NC Not Classified

Precautionary statements May cause damage to lungs through prolonged or repeated exposure via inhalation.
Do not breathe dust.
In case of inadequate ventilation, wear respiratory protection.
Dispose of contents/containers in accordance with local regulations.

Supplemental label information Review the Safety Data Sheet for additional safety, health, environmental, transportation and classification information as it relates to this specific product and it's ingredients.

Contains Kaolin (Hydrous), Titanium Dioxide

3. Composition/information on ingredients

Mixtures

Kaolin (Hydrous) CAS number: 1332-58-7	**90-100%**
Classification Not Classified	

Capim DG Dry

Titanium Dioxide CAS number: 13463-67-7	**0.1 - 0.9%**
Classification Carc. 2 - H351	

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation Remove to fresh air, seek medical attention if necessary.

Ingestion If ingested, give plenty of water and provide medical attention. Do not induce vomiting and never give water to an unconscious person.

Skin Contact Wash with soap and water.

Eye contact Rinse immediately with plenty of water. Get medical attention if any discomfort continues.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is non-combustible.

Special hazards arising from the substance or mixture

Hazardous combustion products None known.

Advice for firefighters

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use proper respiratory and person protective equipment. MSHA/NIOSH or OSHA/NIOSH respirator should be used if required to control personnel exposure to allowable levels. Spilled materials (both wet and dry) may cause slippery conditions. Care should be exercised when walking on spills or floors or concrete pads. Avoid inhalation of dust.

Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up Flush spilled material into an effluent treatment plant, or proceed as follows. Vacuum, pump or scoop spilled materials into contrainers for reclaim or disposal. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Reference to other sections See Section 11 for additional information on health hazards.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid generation and spreading of dust. Avoid inhalation of dust.

Conditions for safe storage, including any incompatibilities

Capim DG Dry

Storage precautions Store in a cool, dry location is recommended. Spilled materials (both wet and dry) may cause slippery conditions. Care should be exercised when walking on spills or floors or concrete pads.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

Kaolin (Hydrous)

Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³ total dust
Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ respirable fraction
A4
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³ respirable fraction

Titanium Dioxide

Long-term exposure limit (8-hour TWA): ACGIH 10 mg/m³
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³ total dust
A4

OSHA = Occupational Safety and Health Administration.
ACGIH = American Conference of Governmental Industrial Hygienists.
A4 = Not Classifiable as a Human Carcinogen.

Titanium Dioxide (CAS: 13463-67-7)

Immediate danger to life and health 5000 mg/m³

Exposure controls

Appropriate engineering controls Use exhaust ventilation, if required, to maintain dust concentration below regulatory limits.

Eye/face protection Wear approved side shield safety glasses.

Hand protection Use general purpose gloves as necessary to protect against drying of skin in case of prolonged usage. Follow good hygiene practices to include washing hands with soap and water.

Hygiene measures Wash hands thoroughly after handling.

Respiratory protection If respirator use is required, use of a MSHA/NIOSH, OSHA/NIOSH approved respirator is recommended in compliance with applicable respiratory protection legislation.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Powder.

Color White.

Odor Odorless

pH Aqueous suspension pH range is 5.0 to 8.0 depending on the specific product.

Melting point Not determined.

Initial boiling point and range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Capim DG Dry

Other flammability	Kaolin is not combustible.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Auto-ignition temperature	Not applicable.
Explosive under the influence of a flame	This product is not combustible or explosive.

10. Stability and reactivity

Reactivity	No specific reactivity hazards are associated with this product.
Stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	None known.
Materials to avoid	None known.
Hazardous decomposition products	None known.

11. Toxicological information

Information on toxicological effects

Toxicological effects	This product is not toxic (oral, dermal, or inhalation).

Skin sensitization

Skin sensitization	This product is not known to cause skin sensitization.

Carcinogenicity

Carcinogenicity	This product contains titanium dioxide, a naturally occurring impurity, in a concentration greater than 0.1%. In the IARC Monograph on the Evaluation of Carcinogenic Risk to Humans, Volume 93 published in 2010, IARC concluded that titanium dioxide is possibly carcinogenic to humans (Group 2B). Based on the IARC conclusion, this ingredient is classified as a Category 2 Carcinogen - (Warning - Suspected of Causing Cancer). IARC concluded that there is inadequate evidence of carcinogenicity in humans because there was no statistically significant increase in cancer in the human studies. In addition, the presence of lung tumors in test animals was only observed at extreme dust concentrations (250 mg/m3) that caused probable overloading and impairment to the rat lung, again in a highly sensitive test species. Therefore, titanium dioxide is listed as a Catetory 2 carcinogen in the ingredients section of this SDS although IMERYS does not classify this product as a carcinogen based on the entire weight of evidence associated with the TiO2 epidemiology studies, because the naturally occurring titanium dioxide in this IMERYS product is not made from the sulfate and/or chloride product process which was used in the referenced animinal studies, and because the extreme dust loading associated with the lifetime animal study is not realistic in the workplace.

12. Ecological information

Ecotoxicity	The product is not expected to be hazardous to the environment.

13. Disposal considerations

Waste treatment methods

Capim DG Dry

Disposal methods	Disposal of waste material in accordance with all local, State, and federal requirements.
Waste class	If the product becomes a waste material, under RCRA (40 CFR 261), as manufactured and shipped, it would be classified as a non-hazardous waste.

14. Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

Transport hazard class(es)

Transport Labels (International)	Not regulated.

15. Regulatory information

Regulatory Status	Kaolin is generally recognized as safe (GRAS) under the FDA in accordance with 21 CFR 186.1256. Additionally, kaolin is established as a component of the uncoated or coated food-contact surface of paper and paperboard in accordance with 21 CFR 176.170 (aqueous and fatty foods) and 21 CFR 176.180 (dry foods).

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
This product does not contain ingredients subject to the reporting requirement.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
No RQ Assigned

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
This product does not contain ingredients subject to the reporting requirement.

SARA 313 Emission Reporting
None of the ingredients in Section 3 are included in the SARA 313 Chemical List.

CAA Accidental Release Prevention
This product does not contain ingredients subject to the reporting requirement.

SARA (311/312) Hazard Categories
This product is subject to the reporting requirements of SARA 312 at a threshold quantity of 10,000 pounds. Acute / Delayed.

OSHA Highly Hazardous Chemicals
This product does not contain ingredients subject to the reporting requirement.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
WARNING: This product can expose you to chemicals including titanium dioxide, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Massachusetts "Right To Know" List
Present.

Rhode Island "Right To Know" List
Present.

Minnesota "Right To Know" List
Present.

Capim DG Dry

New Jersey "Right To Know" List
Present.

Pennsylvania "Right To Know" List
Present.

Inventories

Canada - DSL/NDSL
DSL

US - TSCA
Present.

US - TSCA 12(b) Export Notification
This product does not contain substances subject to export notification under TSCA 12(b).

16. Other information

Revision date	8/28/2018
SDS No.	4569
Hazard statements in full	H351 Suspected of causing cancer.
ACA HMIS Health rating.	1
ACA HMIS Flammability rating.	0
ACA HMIS Physical hazard rating.	0
ACA HMIS Personal protection rating.	E

CATALYST PAPER
tisk^{w}at (tees-kwat)
A PAPER EXCELLENCE COMPANY

December 17, 2021

Ministry of Environment
Environmental Protection Division
South Region
2080 Labieux Road
Nanaimo, B.C. V9T 6J9

ATTENTION: Section Head, Pulp and Paper Authorizations

RE: Indefinite Curtailment of Catalyst Paper tisk^{w}at Mill, Powell River BC

This communication is in response to item #1 of the Ministry of Environment's December 9, 2021 letter to Catalyst Paper requiring submission of a Curtailment Plan to the director which summarizes the proposed waste handling, clean-up, and management of the mill site.

a. All curtailment and de-risking measures planned in the near term, along with a timeline for completion:

The following activities are considered near term that will take us to the end of February 2022, at which time the progress of all items will be evaluated, and an interim report submitted as per item #2 of the Ministry letter.

Curtailment measures:

Shut down all manufacturing processes and boiler operations in a safe manner (complete);
Structure the environmental management system to maintain compliance with all regulations, permits, and Pollution Order (in progress);
Configure the secondary treatment system to be in best position for curtailment period, understanding that over time, the current biomass inventory will be depleted (in progress).
Establish site management team to ensure adequate coverage in preventing any possible deleterious impacts to the environment (to be determined for longer term coverage).

De-risking measures:

Chemical Tanks: remove all bulk process chemicals from site (those not needed for secondary treatment purposes) – by either transporting to another facility for use, vendor take-back, or disposed of as waste; flush and clean tanks of any residue;
Other process related equipment: clean out all piping and sewer trenches.
Hazardous Waste: remove all stored and newly generated waste chemicals and other refuse from site via qualified waste disposal contractors;
Other materials: remove raw materials not presently needed (wood chips, hog fuel) - send to another site for use or landfill if not suitable elsewhere; treatment plant sludges to landfill;

Catalyst Paper tisk^{w}at (tees-kwat), a Paper Excellence Company
5775 Ash Avenue, Powell River, BC V8A 4R3
T: 604.483.3722 | F: 604.483.2903 | info@paperexcellence.com | www.paperexcellence.com

Landfill Management: maintain leachate diversion to effluent treatment plant, secure approvals for non-permitted waste types if necessary, maintain security and inspection requirements according to permit.
Storm and Wastewater Management: maintain collection of hog yard leachate and site run-off for processing through the effluent treatment plant.
Breakwater Hulks: visual hull inspections and diving surveys of the anchor chains are conducted annually, however a qualified professional will be contracted to provide a more accurate assessment of the Hulks' current conditions. Annual maintenance program remains intact until means of disposal determined.
Bunker C contamination per OE-14398: continue passive collection via oil skimmers, maintain annual and quarterly monitoring program);
Foreshore Lease Management: verify contamination issues associated with five active leases (2 at the Powell site and 3 on Redonda Island);
Building Management: update inventories of site contaminations and regulated products such as asbestos, lead paint, and HVAC refrigerant (ODS) use – reduce where possible however no demolition is assumed during the near-term stage;
High Risk Equipment: inspect and secure PCB containing equipment and nuclear/radioactive devices;
Site Security: maintain protection personnel, upgrade inspection protocols, and evaluate improvements to physical security measures such as fencing, cameras, and access systems.

The short-term goal of removing chemical inventory is to reduce the risk of untreated spills to mill sewers and the receiving environment in the prospective absence of a fully functional effluent treatment system. Other consumables such as fuels, propane, and lubricants will be drawn down gradually leaving minimal inventories for operating vehicles and equipment only.

As an additional component to this Plan, an environmental risk review study that was initially completed in 2016 will be updated to reflect the current status and condition of the facility. Results of the updated review will be used to develop a more comprehensive medium to long-term mitigation strategy, depending on potential future site use(s).

b. plans to engage with Indigenous nations in the area of the mill, the City of Powell River and any other agencies to share information and open dialogue related to curtailment and reduction of environmental risk:

With regards to sharing information related to the curtailment and reduction of environmental risk, numerous messages have been conveyed to the public and other entities via different pathways. We have a program in place to regularly engage with the local Indigenous nation, as well as a website with contact information for company/mill concerns or inquiries from the public. We also expect to be providing recurring updates on the status of curtailment aspects via local media channels.

We trust this meets the requirement of providing a summary of our near term curtailment plan activities.

If there are any questions or concerns, please do not hesitate to contact me.

Regards,

K. Cuddy

Krista Cuddy
General Manager

cc: Phil Lum
Graham Kissack
Harold Norlund

Catalyst Powell River, a Paper Excellence Company
5775 Ash Avenue, Powell River, BC V8A 4R3
T: 604.483.3722 | F: 604.483.2903 | info@paperexcellence.com | www.paperexcellence.com

FW: Indefinite Curtailment of Catalyst Paper tiswat Mill, Powell River BC - Curtailment info requirements

From: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: December 17, 2021 12:07:28 PM PST
Attachments: image001.png

Hi Bob, here's the curtailment plan for the files please.

Thank you,
Andrea

From: Caunce, Cassandra ENV:EX <Cassandra.Caunce@gov.bc.ca>
Sent: December 17, 2021 11:28 AM

From: Authorizations South ENV:EX <Authorizations.South@gov.bc.ca>
Sent: Friday, December 17, 2021 11:15 AM
To: Caunce, Cassandra ENV:EX <Cassandra.Caunce@gov.bc.ca>
Subject: FW: Indefinite Curtailment of Catalyst Paper tiswat Mill, Powell River BC - Curtailment info requirements

---

From: Cuddy, Krista (Powell River)
Sent: December 17, 2021 11:14:07 AM (UTC-08:00) Pacific Time (US & Canada)
To: Authorizations South ENV:EX
Cc: Lum, Phil (Powell River); Kissack, Graham (Richmond); Norlund, Harold (Crofton)
Subject: Indefinite Curtailment of Catalyst Paper tiswat Mill, Powell River BC - Curtailment info requirements

Attention: Section Head, Pulp and Paper Authorizations

The attached document is in response to item #1 of the Ministry of Environment's December 9, 2021 letter to Catalyst Paper requiring submission of a Curtailment Plan for the tiskwat Mill in Powell River, BC. If there are any questions or concerns, please do not hesitate to contact me.

Regards,

Krista Cuddy, General Manager
Catalyst Paper tisk^{w}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2765 | Cell: 604-414-5938
www.paperexcellence.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **VA22A1289**	Page	: 1 of 5
Client	: **Catalyst Paper Corporation**	Laboratory	: Vancouver - Environmental
Contact	: Phil Lum	Account Manager	: Amber Springer
Address	: 5775 Ash Avenue Powell River BC Canada V8A 4R4	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: 604 483 2850	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 24-Jan-2022 10:35
PO	: ----	Date Analysis Commenced	: 25-Jan-2022
C-O-C number	: ----	Issue Date	: 27-Jan-2022 16:22
Sampler	: Carl		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Caleb Deroche	Lab Analyst	Metals, Burnaby, British Columbia
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	Organics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLCI	*Detection Limit Raised: Chromatographic interference due to co-elution.*

Analytical Results

Sub-Matrix: **Solid**
(Matrix: **Soil/Solid)**

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	G3 Sandblasting Sand	----	----	----	----
					Client sampling date / time	20-Jan-2022 13:00	----	----	----	----
						VA22A1289-001	--------	--------	--------	--------
						Result	----	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		0.40	----	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		8.98	----	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		7430	----	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		1.26	----	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		2.53	----	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		93.4	----	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		<0.10	----	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		1.06	----	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		<5.0	----	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		6.06	----	----	----	----
calcium	7440-70-2	E440	50	mg/kg		10800	----	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		3450	----	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		43.9	----	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		116	----	----	----	----
iron	7439-89-6	E440	50	mg/kg		74800	----	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		225	----	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		3.2	----	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		115000	----	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		1290	----	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	----	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		6.05	----	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		1180	----	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		82	----	----	----	----
potassium	7440-09-7	E440	100	mg/kg		320	----	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		<0.20	----	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		<0.10	----	----	----	----
sodium	7440-23-5	E440	50	mg/kg		393	----	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		17.2	----	----	----	----

Analytical Results

Sub-Matrix: **Solid**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	G3 Sandblasting Sand	----	----	----	----
					Client sampling date / time	20-Jan-2022 13:00	----	----	----	----
						VA22A1289-001	--------	--------	--------	--------
						Result	----	----	----	----
Metals										
sulfur	7704-34-9	E440	1000	mg/kg		<1000	----	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	----	----	----	----
tin	7440-31-5	E440	2.0	mg/kg		2.6	----	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		155	----	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		1.00	----	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		0.263	----	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		42.4	----	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		235	----	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		1.9	----	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		9.62	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		1.70	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		4.93	----	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		5.06	----	----	----	----
antimony, TCLP	7440-36-0	E444	1.0	mg/L		<1.0	----	----	----	----
arsenic, TCLP	7440-38-2	E444	1.0	mg/L		<1.0	----	----	----	----
barium, TCLP	7440-39-3	E444	2.5	mg/L		<2.5	----	----	----	----
beryllium, TCLP	7440-41-7	E444	0.025	mg/L		<0.025	----	----	----	----
boron, TCLP	7440-42-8	E444	0.50	mg/L		<0.50	----	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		<0.050	----	----	----	----
calcium, TCLP	7440-70-2	E444	10	mg/L		68	----	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		0.34	----	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		<0.050	----	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.195	----	----	----	----
iron, TCLP	7439-89-6	E444	5.0	mg/L		5.1	----	----	----	----
lead, TCLP	7439-92-1	E444	0.25	mg/L		0.32	----	----	----	----
magnesium, TCLP	7439-95-4	E444	2.5	mg/L		53.6	----	----	----	----
mercury, TCLP	7439-97-6	E512	0.0010	mg/L		<0.0010	----	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		0.81	----	----	----	----
selenium, TCLP	7782-49-2	E444	0.10	mg/L		<0.10	----	----	----	----

Analytical Results

Sub-Matrix: **Solid**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID: G3 Sandblasting Sand	----	----	----	----
					Client sampling date / time: 20-Jan-2022 13:00	----	----	----	----
					VA22A1289-001	--------	--------	--------	--------
					Result	----	----	----	----
TCLP Metals									
silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	----	----	----	----
thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	----	----	----	----
uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	----	----	----	----
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----	----	----	----
zinc, TCLP	7440-66-6	E444	0.50	mg/L	5.79	----	----	----	----
zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----	----	----	----
Polychlorinated Biphenyls									
Aroclor 1016	12674-11-2	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1221	11104-28-2	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1232	11141-16-5	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1242	53469-21-9	E685	0.010	mg/kg	<0.015 DLCI	----	----	----	----
Aroclor 1248	12672-29-6	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1254	11097-69-1	E685	0.010	mg/kg	0.028	----	----	----	----
Aroclor 1260	11096-82-5	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1262	37324-23-5	E685	0.010	mg/kg	<0.010	----	----	----	----
Aroclor 1268	11100-14-4	E685	0.010	mg/kg	<0.010	----	----	----	----
polychlorinated biphenyls [PCBs], total	----	E685	0.010	mg/kg	0.028	----	----	----	----
Polychlorinated Biphenyls Surrogates									
decachlorobiphenyl	2051-24-3	E685	0.01	%	91.5	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA22A1289**	Page	: 1 of 6
Client	: **Catalyst Paper Corporation**	Laboratory	: Vancouver - Environmental
Contact	: Phil Lum	Account Manager	: Amber Springer
Address	: 5775 Ash Avenue Powell River BC Canada V8A 4R4	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 483 2850	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 24-Jan-2022 10:35
PO	: ----	Issue Date	: 27-Jan-2022 16:22
C-O-C number	: ----		
Sampler	: Carl		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
Non compliant container G3 Sandblasting Sand	E510	20-Jan-2022	27-Jan-2022	----	----		27-Jan-2022	----	7 days	
Metals : Metals in Soil/Solid by CRC ICPMS										
Non compliant container G3 Sandblasting Sand	E440	20-Jan-2022	27-Jan-2022	----	----		27-Jan-2022	----	7 days	
Physical Tests : Moisture Content by Gravimetry										
Non compliant container G3 Sandblasting Sand	E144	20-Jan-2022	----	----	----		25-Jan-2022	----	----	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Non compliant container G3 Sandblasting Sand	E108	20-Jan-2022	27-Jan-2022	----	----		27-Jan-2022	----	7 days	
Polychlorinated Biphenyls : PCB Aroclors by GC-ECD										
Non compliant container G3 Sandblasting Sand	E685	20-Jan-2022	26-Jan-2022	----	----		27-Jan-2022	----	1 days	
TCLP Metals : Mercury by CVAAS (TCLP)										
HDPE - total (lab preserved) G3 Sandblasting Sand	E512	25-Jan-2022	----	----	----		26-Jan-2022	----	6 days	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) G3 Sandblasting Sand	E444	25-Jan-2022	----	----	----		26-Jan-2022	180 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg)										
G3 Sandblasting Sand	EPP444	20-Jan-2022	25-Jan-2022	----	----		----	----	----	

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Mercury in Soil/Solid by CVAAS	E510	394396	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	394397	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	394399	1	11	9.0	5.0	✓
PCB Aroclors by GC-ECD	E685	395537	1	1	100.0	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	394398	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Mercury in Soil/Solid by CVAAS	E510	394396	2	20	10.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	394397	2	20	10.0	10.0	✓
Moisture Content by Gravimetry	E144	394399	1	11	9.0	5.0	✓
PCB Aroclors by GC-ECD	E685	395537	1	1	100.0	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	394398	1	20	5.0	5.0	✓
Method Blanks (MB)							
Mercury by CVAAS (TCLP)	E512	395122	1	1	100.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	394396	1	20	5.0	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	395121	1	2	50.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	394397	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	394399	1	11	9.0	5.0	✓
PCB Aroclors by GC-ECD	E685	395537	1	1	100.0	5.0	✓
Matrix Spikes (MS)							
Mercury by CVAAS (TCLP)	E512	395122	1	1	100.0	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	395121	1	2	50.0	5.0	✓
PCB Aroclors by GC-ECD	E685	395537	1	1	100.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 Vancouver - Environmental	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally 20 ± 5°C), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 °C) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 Vancouver - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Soil/Solid by CRC ICPMS	E440 Vancouver - Environmental	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Elemental Sulfur may be poorly recovered by this method. Analysis is by Collision/Reaction Cell ICPMS.
Metals by CRC ICPMS (TCLP)	E444 Vancouver - Environmental	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 Vancouver - Environmental	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
Mercury by CVAAS (TCLP)	E512 Vancouver - Environmental	Soil/Solid	SW 846 -1311/245.1 CVAA ON TCLP LEACHATE	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
PCB Aroclors by GC-ECD	E685 Vancouver - Environmental	Soil/Solid	EPA 8082A (mod)	PCB Aroclors are analyzed by GC-ECD

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 Vancouver - Environmental	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Metals and Mercury	EP440 Vancouver - Environmental	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
PCB Aroclors Extraction	EP685 Vancouver - Environmental	Soil/Solid	EPA 3570/3550C (mod)	Samples are subsampled and PCBs are extracted with solvents using a mechanical shaking extractor.Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 Vancouver - Environmental	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **VA22A1289**	Page	: 1 of 10
Client	: Catalyst Paper Corporation	Laboratory	: Vancouver - Environmental
Contact	: Phil Lum	Account Manager	: Amber Springer
Address	: 5775 Ash Avenue Powell River BC Canada V8A 4R4	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 483 2850	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 24-Jan-2022 10:35
PO	: ----	Date Analysis Commenced	: 25-Jan-2022
C-O-C number	: ----	Issue Date	: 27-Jan-2022 16:23
Sampler	: Carl		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Caleb Deroche	Lab Analyst	Metals, Burnaby, British Columbia
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	Organics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percentage Difference
# = Indicates a QC result that did not meet the ALS DQO.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 394398)											
FJ2200164-001	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	5.15	5.16	0.2%	5%	----
Physical Tests (QC Lot: 394399)											
VA22A0863-003	Anonymous	moisture	----	E144	0.25	%	25.9	21.9	16.8%	20%	----
Metals (QC Lot: 394396)											
FJ2200164-001	Anonymous	mercury	7439-97-6	E510	0.0500	mg/kg	0.0519	0.0575	0.0056	Diff <2x LOR	----
Polychlorinated Biphenyls (QC Lot: 395537)											
VA22A1289-001	G3 Sandblasting Sand	Aroclor 1016	12674-11-2	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1221	11104-28-2	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1232	11141-16-5	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1242	53469-21-9	E685	0.015	mg/kg	<0.015	<0.010	0.005	Diff <2x LOR	----
		Aroclor 1248	12672-29-6	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1254	11097-69-1	E685	0.010	mg/kg	0.028	0.022	0.006	Diff <2x LOR	----
		Aroclor 1260	11096-82-5	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1262	37324-23-5	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Aroclor 1268	11100-14-4	E685	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 394399)						
moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 394396)						
mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 394397)						
aluminum	7429-90-5	E440	50	mg/kg	<50	----
antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
boron	7440-42-8	E440	5	mg/kg	<5.0	----
cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
calcium	7440-70-2	E440	50	mg/kg	<50	----
chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
iron	7439-89-6	E440	50	mg/kg	<50	----
lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
lithium	7439-93-2	E440	2	mg/kg	<2.0	----
magnesium	7439-95-4	E440	20	mg/kg	<20	----
manganese	7439-96-5	E440	1	mg/kg	<1.0	----
molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
phosphorus	7723-14-0	E440	50	mg/kg	<50	----
potassium	7440-09-7	E440	100	mg/kg	<100	----
selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
sodium	7440-23-5	E440	50	mg/kg	<50	----
strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
tin	7440-31-5	E440	2	mg/kg	<2.0	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 394397) - continued						
titanium	7440-32-6	E440	1	mg/kg	<1.0	----
tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
zinc	7440-66-6	E440	2	mg/kg	<2.0	----
zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
TCLP Metals (QCLot: 395121)						
antimony, TCLP	7440-36-0	E444	1	mg/L	<1.0	----
arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 395122)						
mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
Polychlorinated Biphenyls (QCLot: 395537)						
Aroclor 1016	12674-11-2	E685	0.01	mg/kg	<0.010	----
Aroclor 1221	11104-28-2	E685	0.01	mg/kg	<0.010	----
Aroclor 1232	11141-16-5	E685	0.01	mg/kg	<0.010	----
Aroclor 1242	53469-21-9	E685	0.01	mg/kg	<0.010	----
Aroclor 1248	12672-29-6	E685	0.01	mg/kg	<0.010	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polychlorinated Biphenyls (QCLot: 395537) - continued						
Aroclor 1254	11097-69-1	E685	0.01	mg/kg	<0.010	----
Aroclor 1260	11096-82-5	E685	0.01	mg/kg	<0.010	----
Aroclor 1262	37324-23-5	E685	0.01	mg/kg	<0.010	----
Aroclor 1268	11100-14-4	E685	0.01	mg/kg	<0.010	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 394398)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	99.7	95.0	105	----
Physical Tests (QCLot: 394399)									
moisture	----	E144	0.25	%	50 %	100	90.0	110	----
Metals (QCLot: 394396)									
mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	99.6	80.0	120	----
Metals (QCLot: 394397)									
aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	112	80.0	120	----
antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	115	80.0	120	----
arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	108	80.0	120	----
bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	104	80.0	120	----
boron	7440-42-8	E440	5	mg/kg	100 mg/kg	110	80.0	120	----
cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	106	80.0	120	----
calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	107	80.0	120	----
chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	----
cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	101	80.0	120	----
copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	----
iron	7439-89-6	E440	50	mg/kg	100 mg/kg	106	80.0	120	----
lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	108	80.0	120	----
lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	102	80.0	120	----
magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	110	80.0	120	----
manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	104	80.0	120	----
molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	108	80.0	120	----
nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	----
phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.1	80.0	120	----
potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	106	80.0	120	----
selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	106	80.0	120	----
silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	94.8	80.0	120	----
sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	104	80.0	120	----
strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	115	80.0	120	----
sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	99.5	80.0	120	----
thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	105	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 394397) - continued									
tin	7440-31-5	E440	2	mg/kg	50 mg/kg	107	80.0	120	----
titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	102	80.0	120	----
tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	108	80.0	120	----
uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	115	80.0	120	----
vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	105	80.0	120	----
zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	99.5	80.0	120	----
zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	101	80.0	120	----
Polychlorinated Biphenyls (QCLot: 395537)									
Aroclor 1260	11096-82-5	E685	0.01	mg/kg	0.125 mg/kg	120	65.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Metals (QCLot: 395121)										
VA22A1289-001	G3 Sandblasting Sand	antimony, TCLP	7440-36-0	E444	5.7 mg/L	5 mg/L	115	50.0	140	----
		arsenic, TCLP	7440-38-2	E444	5.4 mg/L	5 mg/L	108	50.0	140	----
		barium, TCLP	7440-39-3	E444	12.3 mg/L	12.5 mg/L	98.5	50.0	140	----
		beryllium, TCLP	7440-41-7	E444	0.253 mg/L	0.25 mg/L	101	50.0	140	----
		boron, TCLP	7440-42-8	E444	10.1 mg/L	10 mg/L	101	50.0	140	----
		cadmium, TCLP	7440-43-9	E444	0.260 mg/L	0.25 mg/L	104	50.0	140	----
		calcium, TCLP	7440-70-2	E444	235 mg/L	250 mg/L	94.2	50.0	140	----
		chromium, TCLP	7440-47-3	E444	1.29 mg/L	1.25 mg/L	103	50.0	140	----
		cobalt, TCLP	7440-48-4	E444	0.265 mg/L	0.25 mg/L	106	50.0	140	----
		copper, TCLP	7440-50-8	E444	2.46 mg/L	2.5 mg/L	98.2	50.0	140	----
		iron, TCLP	7439-89-6	E444	252 mg/L	250 mg/L	101	50.0	140	----
		lead, TCLP	7439-92-1	E444	11.0 mg/L	10 mg/L	110	50.0	140	----
		magnesium, TCLP	7439-95-4	E444	259 mg/L	250 mg/L	104	50.0	140	----
		nickel, TCLP	7440-02-0	E444	2.45 mg/L	2.5 mg/L	97.9	50.0	140	----
		selenium, TCLP	7782-49-2	E444	4.84 mg/L	5 mg/L	96.9	50.0	140	----
		silver, TCLP	7440-22-4	E444	0.118 mg/L	0.1 mg/L	118	50.0	140	----
		thallium, TCLP	7440-28-0	E444	5.3 mg/L	5 mg/L	105	50.0	140	----
		uranium, TCLP	7440-61-1	E444	5.29 mg/L	5 mg/L	106	50.0	150	----
		vanadium, TCLP	7440-62-2	E444	0.78 mg/L	0.75 mg/L	104	50.0	140	----
		zinc, TCLP	7440-66-6	E444	10.1 mg/L	10 mg/L	101	50.0	140	----
		zirconium, TCLP	7440-67-7	E444	10 mg/L	10 mg/L	103	50.0	150	----
TCLP Metals (QCLot: 395122)										
VA22A1289-001	G3 Sandblasting Sand	mercury, TCLP	7439-97-6	E512	0.0010 mg/L	0.001 mg/L	103	50.0	140	----
Polychlorinated Biphenyls (QCLot: 395537)										
VA22A1289-001	G3 Sandblasting Sand	Aroclor 1260	11096-82-5	E685	0.114 mg/kg	0.125 mg/kg	94.0	50.0	150	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix: **Soil/Solid**

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 394396)									
QC-394396-003	SCP SS-2	mercury	7439-97-6	E510	0.059 mg/kg	101	70.0	130	----
Metals (QCLot: 394397)									
QC-394397-003	SCP SS-2	aluminum	7429-90-5	E440	9817 mg/kg	104	70.0	130	----
QC-394397-003	SCP SS-2	antimony	7440-36-0	E440	3.99 mg/kg	106	70.0	130	----
QC-394397-003	SCP SS-2	arsenic	7440-38-2	E440	3.73 mg/kg	103	70.0	130	----
QC-394397-003	SCP SS-2	barium	7440-39-3	E440	105 mg/kg	95.4	70.0	130	----
QC-394397-003	SCP SS-2	beryllium	7440-41-7	E440	0.349 mg/kg	112	70.0	130	----
QC-394397-003	SCP SS-2	boron	7440-42-8	E440	8.5 mg/kg	124	40.0	160	----
QC-394397-003	SCP SS-2	cadmium	7440-43-9	E440	0.91 mg/kg	95.4	70.0	130	----
QC-394397-003	SCP SS-2	calcium	7440-70-2	E440	31082 mg/kg	102	70.0	130	----
QC-394397-003	SCP SS-2	chromium	7440-47-3	E440	101 mg/kg	98.8	70.0	130	----
QC-394397-003	SCP SS-2	cobalt	7440-48-4	E440	6.9 mg/kg	95.7	70.0	130	----
QC-394397-003	SCP SS-2	copper	7440-50-8	E440	123 mg/kg	95.4	70.0	130	----
QC-394397-003	SCP SS-2	iron	7439-89-6	E440	23558 mg/kg	95.5	70.0	130	----
QC-394397-003	SCP SS-2	lead	7439-92-1	E440	267 mg/kg	97.5	70.0	130	----
QC-394397-003	SCP SS-2	lithium	7439-93-2	E440	9.5 mg/kg	102	70.0	130	----
QC-394397-003	SCP SS-2	magnesium	7439-95-4	E440	5509 mg/kg	94.0	70.0	130	----
QC-394397-003	SCP SS-2	manganese	7439-96-5	E440	269 mg/kg	97.7	70.0	130	----
QC-394397-003	SCP SS-2	molybdenum	7439-98-7	E440	1.03 mg/kg	98.4	70.0	130	----
QC-394397-003	SCP SS-2	nickel	7440-02-0	E440	26.7 mg/kg	97.8	70.0	130	----
QC-394397-003	SCP SS-2	phosphorus	7723-14-0	E440	752 mg/kg	85.1	70.0	130	----
QC-394397-003	SCP SS-2	potassium	7440-09-7	E440	1587 mg/kg	106	70.0	130	----
QC-394397-003	SCP SS-2	sodium	7440-23-5	E440	797 mg/kg	96.8	70.0	130	----
QC-394397-003	SCP SS-2	strontium	7440-24-6	E440	86.1 mg/kg	99.1	70.0	130	----
QC-394397-003	SCP SS-2	thallium	7440-28-0	E440	0.0786 mg/kg	100	40.0	160	----
QC-394397-003	SCP SS-2	tin	7440-31-5	E440	10.6 mg/kg	105	70.0	130	----
QC-394397-003	SCP SS-2	titanium	7440-32-6	E440	839 mg/kg	106	70.0	130	----
QC-394397-003	SCP SS-2	uranium	7440-61-1	E440	0.52 mg/kg	105	70.0	130	----
QC-394397-003	SCP SS-2	vanadium	7440-62-2	E440	32.7 mg/kg	99.1	70.0	130	----

Sub-Matrix: **Soil/Solid**

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 394397) - continued									
QC-394397-003	SCP SS-2	zinc	7440-66-6	E440	297 mg/kg	90.7	70.0	130	----
QC-394397-003	SCP SS-2	zirconium	7440-67-7	E440	5.73 mg/kg	95.0	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 -

Page of

Report To	Contact and company name below will appear on the final report
Company:	Catalyst Paper
Contact:	Phil Lum
Phone:	604-483-2912
	Company address below will appear on the final report
Street:	5775 Ash Ave.
City/Province:	Powell River, BC
Postal Code:	V8A 4R3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ YES ☐ NO
☑ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax phil.lum@catalystpaper.com
Email 2
Email 3

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax AccountsPayable@catalystpaper.com
Email 2 phil.lum@catalystpaper.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☑ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:	
Job #:	
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PC#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): 1289

ALS Contact: Amber Sampler: Carl

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	TCLP Metals	CSR Metals	Total PCB	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	G3 Sandblasting Sand	20-Jan-22	13:00	sand	1	R	R	R		

RUSH

Priority processing

Environmental Division
Vancouver
Work Order Reference
VA22A1289

Telephone : +1 604 253 4188

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐
Ice Packs ☑ Ice Cubes ☐ | Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
	15.6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	Jan 21/2022	10:00				[illegible]	Jan 24/22	10:35

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

RE: '[EXTERNAL] 'RE: Disposal of Sandblasting Media in Landfill

From:	Lum, Phil (Powell River) <Phil.Lum@catalystpaper.com>
To:	Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc:	Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Sent:	February 9, 2022 10:25:15 AM PST
Attachments:	image001.png

Great, thanks Bob.

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Wednesday, February 9, 2022 9:08 AM
To: Lum, Phil (Powell River) <Phil.Lum@catalystpaper.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: '[EXTERNAL] 'RE: Disposal of Sandblasting Media in Landfill

Good morning Phil –

Thanks for bringing this to our attention. I'll review the numbers and the permit today, and discuss this with colleagues. We'll get back to you on this as soon as possible.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@catalystpaper.com>
Sent: February 9, 2022 8:38 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: Disposal of Sandblasting Media in Landfill
Importance: High

Hi Bob,

As a component of our site de-risking activities we have identified about 60 cubic metres of sandblasting material that needs to be disposed of. We have sampled and had a lab run some analyses on the sand, the results of which are attached.

Out take on this is that the results of the TCLP metals and PCB analysis fall below the Hazardous Waste Regulations, however, the analysis of metals in the sample yielded chromium, cobalt, manganese and nickel above the CSR soil standards for Industrial land use.

The chromium, cobalt, manganese and nickel concentrations exceeding industrial land use standards mean the material is a "waste" under EMA and therefore cannot be discharged into the environment (i.e. buried) without an authorization under the Environmental Management Act (EMA). While the landfill is permitted under the EMA, the permit (P-4565) does not specify whether disposal of metals that exceed CSR industrial land use standards is permitted.

Therefore, we recognize that an authorization from your office to landfill the material locally would be required. Please review with the appropriate personnel and advise on whether disposing of the sand in our landfill is a possibility and what course of action we would need to take in order to do so

Regards,

Phil Lum, **Environmental Manager**
Catalyst Paper tisk^{w}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2912 | Cell: 604-483-1006
www.paperexcellence.com

Priority	Status	PIC	Tank ID No.	Station Location	Entity Name	Material	Quantity of material	Supplier	Transfer Destination	Shipment Type - Removal from site	Shipment Type - Receiving mill	Shipper	Date to start transfer	Completion date of transfer or disposal	Brief description of disposal	UN or TDG number where applicable	Hazard Ranking	Hazard assessment complete and controls in place? (Y/N)	Environmental assessment complete? (Y/N)	Finance notified of transfer?	Drained and flushed? (Y/N)	Lockout for Hatch Open (Y/N)	Confined Space Entry Required (Y/N)	Tank Internals Photographed? (Y/N)	Ready to be closed or Hold
1		s.22	190	708-753	s.15				Crofton	Truck	Truck		23-Dec-21	23-Dec-21	Transload material for deliver to Crofton.			n/a	n/a	Y	Y	n/a	n/a	N	
2															About 22 totes left for Terrapure to ship offsite some time this week (Truck #8). Last truck will be scheduled after finished last round up of disposables.	N/A		n/a	n/a	n/a	n/a	n/a	n/a	n/a	
															9 totes sent to Crofton, 9 totes will be sent to Alberni and the remaining 4 totes will be sent after trail	N/A									
															After cleanup of tanks, remainder will be moved offsite to Sumas for disposal.	N/A									
3			32	471-720			Empty	Chemtrade	N/A	N/A	N/A	N/A	N/A	N/A	Tank Clean and empty	1824					Y			not complete	
3	IN FROGRESS		33	471-721			115.4 m3	Chemtrade	Port Alberni, Crofto	Truck	Truck	NWTL	13-Jan-22		NWTL transloading caustic for delivery to Port Alberni and Crofton. Estimate of 18 transloads required.	1824		Y	Y						
3	IN FROGRESS		30	471-724			151.1 m3	Chemtrade	Port Alberni, Crofto	Truck	Truck	NWTL	13-Jan-22		NWTL transloading caustic for delivery to Port Alberni and Crofton. Estimate of 18 transloads required.	1824		Y	Y						
4	COMPLETE			N/A			20.6 m3	Archroma	Crofton	Totes	Totes			21-Jan-22	Complete			Y	Y	Y	Y	N/A		n/a	
1	IN FROGRESS		227	618-711			63.3 m3	CRC	Port Alberni	Truck	Truck			21-Jan-22	Some residue left in tanks 13 totes of GCC left, plan to be decided on										
1	IN FROGRESS	J	87	533-720			75 m3	Ascensus	Port Alberni	Truck	Truck	NWTL	1-Feb-22		3 loads gone so far. Level transmitter was way off. There may be another 3 loads left - dip to be done. One load can be sent to P.A. once Caustic completed.			Y	Y						
3		J	244	535-744			70 m3	United Initiators		Truck	Truck				Supplier has requested a sample for testing. Samples on their way. Trucker shortages are delaying transload ability of United. Will reach out to Evonik										
			1	462-701											Tank NIS - need to check for residual										
			9	451-714											Tank NIS - need at check for residual										
			14	400-708											Tank NIS - need at check for residual										
			23	451-704											Tank NIS - need at check for residual										
			24	451-705											Tank NIS - need at check for residual										
			25	451-735											Tank NIS - need at check for residual										
			26	451-714											Tank NIS - need at check for residual										
			28	720-715											Confirm tank removed										
			31	456-706											Tank NIS - need at check for residual										
			35	471-719											Tank is empty						residual				
			42	400-701											Tank NIS - need at check for residual										
			51	421-736											Tank NIS - need at check for residual										
			52	421-731											Tank NIS - need at check for residual										
			54	421-725											Tank NIS - need at check for residual										
			55	421-701											Tank NIS - need at check for residual										
			56	421-712											Tank NIS - need at check for residual										
			57	421-702											Tank NIS - need at check for residual										
			62	421-426											Tank NIS - need at check for residual										
			63	421-748											Tank NIS - need at check for residual										
			64	471-736											Tank NIS - need at check for residual										
			66	471-723											Tank NIS - need at check for residual										
	Complete		68	611-715											Tank is cleaned and lines flushed.						Y				
			77	400-702																					
			80	400-710																					
			84	535-713			19.7 m3	National Silicates							Next step is to do a dip to see how much solid material remains			N			N	N	N	N	
			85	535-715			residual																		
			86	535-714			4.2 m3	Catalyst	process sewer or totes									N			drained not flushed yet	N	N	N	
			88	533-730			residual	Catalyst										N			?	N	N	N	
			89	533-711			29.6 m3	Catalyst	Process sewer	N/A	N/A	N/A	N/A		Drain to sewer (Borol sump) once done with SO2 purge, will need to remove hatch and ensure fully drained			N			N	N	N	N	
4			90	533-718			4.8 m3	Catalyst	Process sewer	N/A	N/A	N/A	N/A		Drain to sewer (Borol sump) will need to remove hatch and ensure fully drained			N			N	N	N	N	
4			91	533-724			residual	Catalyst										N			N	N	N	N	
			92	536-700											Chemtrade contacted 15 feb			N			?	N	?	N	
4			93	536-704				Catalyst										N			N	N	N	N	
			105	535-717											Opening of top in mtce plans			N			?	N	N	N	
2			113	535-710			10.4 m3	Univar							Plan is to pump to a truck as receiving site is not set up for totes, PA has a very small tank so timing is critical. Still waiting for room at PA, will coordinate once next Borol load done.			N			N	N	N	N	

Bulk Chemicals	Volume at Shut-down	Current volume	Units	% removed	Destination
s.15	105000	26600	KG	74.7	Catalyst - Port Alberni
	4470	0	KG	100.0	Catalyst - Port Alberni
	22050	0	KG	100.0	Catalyst - Crofton
	531000	450000	KG	15	To Be Determined (likely landfill)
	200000	200000	KG	0	To Be Determined (likely landfill)
	36975	36975	KG	0	To Be Determined
	5640	5640	KG	0	To Be Determined
	20600	0	KG	100	Catalyst - Crofton
	9150	9150	KG	0	To Be Determined
	175400	39500	KG	77.5	Catalyst - Port Alberni/Crofton
	229672	670	KG	99.7	Catalyst - Port Alberni/Crofton
	40700	40700	KG	0	To Be Determined
	27300	25700	KG	5.9	To Be Determined
	2670	1860	KG	30.3	Effluent
Totals	1410627	836795		40.7	

CATALYST PAPER
tisk^{w}at (tees-kwat)
A PAPER EXCELLENCE COMPANY

February 28, 2022

Ministry of Environment
Environmental Protection Division
South Region
2080 Labieux Road
Nanaimo, B.C. V9T 6J9

ATTENTION: Section Head, Pulp and Paper Authorizations

RE: Indefinite Curtailment of Catalyst Paper tisk^{w}at Mill, Powell River BC

This communication is in response to item #2 of the Ministry of Environment's December 9, 2021 letter (the Letter) to Catalyst Paper requiring submission of an Interim Curtailment Report regarding the proposed waste handling, clean-up, and management of the mill site. Although the Letter only requests an Interim Curtailment Report by February 28, we feel that due to the undetermined timelines for some of the activities, that it be prudent to commit to an update commentary on a bi-monthly (2 month) basis. The current update is as follows per the outline specified in the Letter:

a. **An outline and summary of the progress of all curtailment and de-risking activities steps completed to date:**

Curtailment measures:

The environmental management system has been structured to maintain compliance with all existing regulations, permits, and Pollution Order until such time as we apply for and receive temporary amendments to our EMA permits;

The secondary treatment system is in the process of being configured to be in the best position for an extended curtailment period. The biomass level is still being depleted and we are managing the works to reduce capacity to the least extent possible.

We continue to work towards establishing a site management team that will ensure adequate coverage in preventing any possible adverse effects on the environment. The final management structure will be determined after the workforce is significantly reduced later in the year.

De-risking measures:

Chemical Tanks: the removal of all bulk process chemicals from site (those not needed for secondary treatment purposes) is ongoing. By means of transporting to other facilities for use, vendor take-back, or disposed of as waste, we have removed approximately 40% of the material from site to date. We will provide further updates as this effort progresses.

Other process related equipment: the cleaning out of all piping and sewer trenches is approximately 50% complete; further updates will be provided on this effort.

Hazardous Waste: approximately 80% of waste chemicals and other refuse has been removed from site via qualified waste disposal contractors. Site inspections continue to uncover small volumes of waste that require disposal; further updates will be provided on this effort.

Other materials: Raw materials not presently needed (wood chips, hog fuel) are in the process of being sent to another site for use or landfilling if not suitable elsewhere. 75% of the hog fuel on site was deemed usable and shipped to another location, with the remaining 25% likely contaminated (with dirt/soil) and needing to be landfilled. Due to the volume of waste pulp still being removed from process tanks, the treatment plant sludges being generated are being disposed of in our permitted landfill. Since we still need to be able to safely access some of the old pulp stored in tanks, this is a time-consuming process that can still take several weeks or months. We will provide further updates on our pgress.

Landfill Management: leachate collection and diversion to the effluent treatment plant remains in place. We have initiated the process of requesting permission to dispose of miscellaneous waste types in our landfill and will continue this process until all of the site waste is appropriately disposed of. Site security and inspection requirements are being maintained according to permit conditions.

Storm and Wastewater Management: collection of hog yard leachate and site run-off for processing through the effluent treatment plant is presently being maintained, however we expect that the anticipated temporary permit amendments will relieve us of the need to continue this during the curtailment.

Breakwater Hulks: visual hull inspections and diving surveys of the anchor chains will continue to be conducted during the curtailment as per our annual program. A qualified professional has been contracted to assess the Hulks' current conditions and we are awaiting their final report. The annual maintenance program (based on inspections) will remain intact until a means of disposal has been determined.

Bunker C contamination per OE-14398: the passive collection of oil contaminated groundwater via oil skimming systems remains in place and annual and quarterly monitoring programs will continue to be adhered to.

Foreshore Lease Management: there are no known contamination issues associated with the three expired leases on Redonda Island (which were used for in-water log storage only). The two active leases at the Powell site may need further investigation however this has yet to be determined.

Building Management: an updated (to 2021) inventory of site asbestos contamination has been completed and we will continue to update this as further inspections are conducted. We are in the process of reducing our site HVAC needs and will be removing quantities of refrigerants (ODS) from service by March 31. As previously indicated, no demolition work is expected during near-term site activities.

High Risk Equipment: PCB containing transformers were formally inspected in 2021 and will undergo additional inspections, some of which will be secured in a viable state for potential future service as site power loads are currently being reduced. All unnecessary nuclear/radioactive devices have been removed from service and are being securely stored for up to 1 year (at an off-site facility by March 4), after which they will be properly disposed of if not returned to service by then.

s.15

b. An account of issues encountered, if any, that may have necessitated delay or deferral of any curtailment or de-risking steps outlined in the plan, with targeted timelines for the completion of these steps:

Any delays or deferrals of de-risking steps are mainly due to ensuring that the appropriate safe-work plans are in place to address the site chemicals. With this in mind, we have not established a finite timeline for having all of the chemicals removed from site and will provide details of the progress on these activities in future updates.

Examples of other causes of delays include:

i) equipment issues such as inaccurate level transmitters that result in an underestimation of the volume of material to dispose of;
ii) internal personnel issues such as lack of experienced and trained operators;
iii) external resources such as availability of trucks/drivers to move the products.

c. A summary of further de-risking measures, if any, that have been discovered or determined to be necessary, with approximate timelines for their completion:

A concurrent project underway by Evolugen on the penstocks from the dam to the power generators has the potential to create some additional waste that requires management and disposal. Some of the waste that has already been disposed of included asbestos and lead paint from the penstock demolition work.

Further waste to be determined is the potential for Bunker C contaminated soil from excavations needed in order to install a new mill water line. The mill water line component is expected to be completed by April 30, 2022.

d. Inventories of all process compounds, process wastes, hazardous materials, finished products and by-products that (a) have been removed from the site and final destination, and (b) remain present on the site (including dead load in tanks, if any) and locations as of the report date:

See attached sheet for the list of bulk chemicals currently being addressed.

See attached page for a sample of the spreadsheet being utilized to indicate how we ensure that all aspects of dealing with each of the chemical/process tanks are being addressed.

e. An inventory, summary and description of all landfills present on the mill site, including their authorization number, size, and status (active, closed, etc):

The mill utilizes one permitted landfill only for the local disposal of authorized waste (P-4565 - active status). The site is 6.1 ha in size and authorized for a total of 620,000 m^3 of refuse. To date, approximately half of this capacity has been consumed.
The current active portions are referred to as the Mini-Landfill and Phase 2 Landfill. The Phase 1 landfill was operated from the 1960s until its closure in 1995. The discharge of material to the Mini-Landfill commenced in 1996. Construction of the Phase 2 Landfill (above the Mini-Landfill and Phase 1 Landfill) was carried out in 2013, with discharges commencing in October of that year.

f. The name(s) and contact details of personnel who will remain present on and be responsible for the site: in particular, to conduct and monitor wastewater treatment plant operations, to ensure site security, and to provide access for ministry personnel, if required, on 24 hours notice:

The site continues to employ >60 personnel for the purposes of the de-risking activities and administration essentials. These activities are expected to continue well into the second quarter of 2022. Once the site management structure for a significantly reduced workforce is determined, the details will be provided in a future update with regards to the items in the requirement above.

g. An emergency response plan including a summary of how the site has been secured against unauthorized entry and against environmental emergencies, including but not limited to leaks, spills, fire, pump failure and power outage:

Our existing emergency response plan remains intact for the most part aside from the latest security additions. Several site ERT members have been maintained as part of the present workforce, however municipal fire and local police resources have also been consulted with

to ensure that their level of support can meet the needs of the mill in the event of an emergency. As the site personnel numbers decline, the ERP will be modified to warrant a greater level of support from outside resources and these changes will be communicated in a future update.

h. An outline and summary of Paper Excellence's future plans for the mill site, if these have been established or further developed prior to the report date:

The mill remains in indefinite curtailment and no plans have yet been made for reopening or a permanent shutdown. We are de-risking and preserving the facility by removing all fibre and chemicals while we appropriately protect and empty equipment and tankage.

i. A summary of engagement activities with Indigenous nations, the Village of Powell River and any other agencies, related to environmental protection:

The company continues to meet with the Executive Council of Tla'amin Nation on a regular basis to discuss a variety of topics including the de-risking of the site in order to appropriately mothball the assets for future service, or create a facility that has the potential to attract other business ventures.

We trust this meets the requirement of providing a summary of our curtailment plan activities to date.

If there are any questions or concerns, please do not hesitate to contact myself or our General Manager Krista Cuddy.

Regards,

Phil Lum
Environmental Manager

cc: Krista Cuddy
Graham Kissack
Harold Norlund

RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: March 1, 2022 1:54:56 PM PST
Attachments: image001.png

Bob,

The volume we have in m^3 is estimated at 193 (of the slurry). It is actually quite dilute and we are currently awaiting some solids tests to determine the actual quantity of the clay (dry weight) that is expected to be landfilled. Of the 6000 USG that was sent for the trial, after the water drained away, there was very little solid material in the pit.

As for the product itself, it is used as a filler to load the paper so that we do not need to use as much fibre, which had become a scarcer commodity. It is a naturally occurring mineral that is mined, mixed into a slurry, and transported to the mills for use. Thus no expected hazardous contaminants with regards to the landfilling of such.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 12:44 PM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Subject: FW: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Also: from a quick search, I understand this material is used as a coating pigment in producing coating paper. Is that right? I take it there's little likelihood of its being contaminated with anything potentially hazardous?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Beck, Robert ENV:EX
Sent: March 1, 2022 12:27 PM
To: 'Lum, Phil (Powell River)' <Phil.Lum@paperexcellence.com>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Hi again Phil, just for consistency with the permit conditions, we'll want to express this amount in m^3, rather than tonnes. Have you any guesses at that?

If it's a slurry, I'd think it reasonable to assume that the volume wouldn't exceed 200 m^3 (i.e., if the density is a bit greater than 1 t/m^3, then the volume must, correspondingly, be a bit less than 200 m^3). Does that make sense?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 10:07 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Perfect, and thanks for the update on your background. That certainly helps going forward with some of this.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 10:02 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Great, thanks Phil. I'd forgotten about the authorizations mailbox, and as you say, will likely see it within a short time.

Re: the sandblasting waste – since I myself am a "CSR professional" (contaminant hydrogeologist and soil scientist, and a Contaminated Sites Approved Professional for many years before joining the ministry), I'm comfortable reviewing and recommending on that myself. When I first looked at it a couple of weeks back, I saw no cause for concern, or reason why we would either reject the request, or request more information. But then, unfortunately, some other matters intervened.

I'll be meeting with Andrea shortly, and will be certain to get back to you on both these issues before the end of today.

regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 9:54 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Thanks Bob,

We have a pit already dug that we were expecting to use for treatment plant sludge solids at some time so we emptied the loads of clay slurry into this. By the time the second load had been delivered to the site, the first had significantly dewatered and resulted in a sludgy mass, the consistency being much like that of lime mud. We didn't cover the material due to the expectation of continuing the disposal process here. We also have a significant volume of granulated calcium carbonate (GCC) on site that we expect to dispose of as lime mud solids per the allowance in our permit. Thus between the clay and the GCC, the main difference between these and a pulp mill lime mud would be a much less hazardous nature.

I would have hoped to submit a single request with a number of "miscellaneous" waste types for disposal, unfortunately the timing of some of the activities, including being unable to find suitable alternatives for some of the waste, has not allowed for this. At some point in time a letter addendum to the permit would make sense. I assume our request for the disposal of the sandblasting material is still awaiting a response from your CSR professional?

The Interim Curtailment Report was submitted to the authorizations mailbox yesterday. The auto reply received indicated that it would be forwarded to the appropriate EPO but obviously you haven't seen it yet. If you are unable to retrieve it from your system let me know and I will send a copy of the submission directly to yourself.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 9:13 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Thank you Phil, I will review this promptly, and we will send you a response as soon as we are able.

Meanwhile: could you elaborate a bit on the nature of this trial? I take it that the slurry would flow unless bermed or promptly covered? How does the consistency compared to that of lime mud, e.g.?

Also, though we can perhaps discuss this at greater length when I visit next week: do you anticipate needing to landfill any other sort of “miscellaneous mill waste” that is not explicitly named in the permit (section 2.9)? If so, it would be simplest for us to account for them all in a single letter amendment, if possible.

Finally, as a reminder, the Interim Curtailment Report was due yesterday. Please let us know when you expect to be in a position to submit that.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 8:59 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: Capim DG (clay) Disposal
Importance: High

Hi Bob,

We have approximately 200 tons of the attached clay product on site (as a slurry) that cannot be transported elsewhere for use and are requesting permission to dispose of this in our landfill (P-4565).

According to the MSDS, the material:

Has a pH of 5.0 – 8.0,
Is not toxic (oral, dermal, or inhalation),
Is not expected to be hazardous to the environment,
If the product becomes a waste material, it would be classified as a non-hazardous waste.

We have transported 2 small loads to the landfill as a trial to see how the disposal process would play out and are now looking to conduct this on a larger scale. Please advise as soon as possible as resources are being mobilized to perform the work but we will await your response before proceeding further.

Thanks,

PAPER EXCELLENCE

Phil Lum, **Environmental Manager**
Catalyst Paper tisk^{w}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2912 | Cell: 604-483-1006
www.paperexcellence.com

RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>, graham.kissack@paperexcellence.com, Soufan, Safwan ENV:EX <Safwan.Soufan@gov.bc.ca>
Sent: March 2, 2022 4:50:46 PM PST
Attachments: 2022-03-02 Amendment ltr for misc waste.pdf, image001.png

Hi again Phil –

In response to your requests of Feb. 9 and March 1, 2022, please find attached the letter amendment we have discussed. As you will see, we increased the requested volumes slightly to cover off uncertainties in estimates.

Should you have any further questions or concerns, please do not hesitate to contact me.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 1:55 PM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Bob,

The volume we have in m^3 is estimated at 193 (of the slurry). It is actually quite dilute and we are currently awaiting some solids tests to determine the actual quantity of the clay (dry weight) that is expected to be landfilled. Of the 6000 USG that was sent for the trial, after the water drained away, there was very little solid material in the pit.

As for the product itself, it is used as a filler to load the paper so that we do not need to use as much fibre, which had become a scarcer commodity. It is a naturally occurring mineral that is mined, mixed into a slurry, and transported to the mills for use. Thus no expected hazardous contaminants with regards to the landfilling of such.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 12:44 PM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Subject: FW: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Also: from a quick search, I understand this material is used as a coating pigment in producing coating paper. Is that right? I take it there's little likelihood of its being contaminated with anything potentially hazardous?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Beck, Robert ENV:EX
Sent: March 1, 2022 12:27 PM
To: 'Lum, Phil (Powell River)' <Phil.Lum@paperexcellence.com>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Hi again Phil, just for consistency with the permit conditions, we'll want to express this amount in m^3, rather than tonnes. Have you any guesses at that?

If it's a slurry, I'd think it reasonable to assume that the volume wouldn't exceed 200 m^3 (i.e., if the density is a bit greater than 1 t/m^3, then the volume must, correspondingly, be a bit less than 200 m^3). Does that make sense?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 10:07 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Perfect, and thanks for the update on your background. That certainly helps going forward with some of this.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 10:02 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Great, thanks Phil. I'd forgotten about the authorizations mailbox, and as you say, will likely see it within a short time.

Re: the sandblasting waste – since I myself am a "CSR professional" (contaminant hydrogeologist and soil scientist, and a Contaminated Sites Approved Professional for many years before joining the ministry), I'm comfortable reviewing and recommending on that myself. When I first looked at it a couple of weeks back, I saw no cause for concern, or reason why we would either reject the request, or request more information. But then, unfortunately, some other matters intervened.

I'll be meeting with Andrea shortly, and will be certain to get back to you on both these issues before the end of today.

regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 9:54 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Thanks Bob,

We have a pit already dug that we were expecting to use for treatment plant sludge solids at some time so we emptied the loads of clay slurry into this. By the time the second load had been delivered to the site, the first had significantly dewatered and resulted in a sludgy mass, the consistency being much like that of lime mud. We didn't cover the material due to the expectation of continuing the disposal process here. We also have a significant volume of granulated calcium carbonate (GCC) on site that we expect to dispose of as lime mud solids per the allowance in our permit. Thus

between the clay and the GCC, the main difference between these and a pulp mill lime mud would be a much less hazardous nature.

I would have hoped to submit a single request with a number of “miscellaneous” waste types for disposal, unfortunately the timing of some of the activities, including being unable to find suitable alternatives for some of the waste, has not allowed for this. At some point in time a letter addendum to the permit would make sense. I assume our request for the disposal of the sandblasting material is still awaiting a response from your CSR professional?

The Interim Curtailment Report was submitted to the authorizations mailbox yesterday. The auto reply received indicated that it would be forwarded to the appropriate EPO but obviously you haven’t seen it yet. If you are unable to retrieve it from your system let me know and I will send a copy of the submission directly to yourself.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 9:13 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Thank you Phil, I will review this promptly, and we will send you a response as soon as we are able.

Meanwhile: could you elaborate a bit on the nature of this trial? I take it that the slurry would flow unless bermed or promptly covered? How does the consistency compared to that of lime mud, e.g.?

Also, though we can perhaps discuss this at greater length when I visit next week: do you anticipate needing to landfill any other sort of “miscellaneous mill waste” that is not explicitly named in the permit (section 2.9)? If so, it would be simplest for us to account for them all in a single letter amendment, if possible.

Finally, as a reminder, the Interim Curtailment Report was due yesterday. Please let us know when you expect to be in a position to submit that.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 8:59 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: Capim DG (clay) Disposal
Importance: High

Hi Bob,

We have approximately 200 tons of the attached clay product on site (as a slurry) that cannot be transported elsewhere for use and are requesting permission to dispose of this in our landfill (P-4565).

According to the MSDS, the material:

Has a pH of 5.0 – 8.0,
Is not toxic (oral, dermal, or inhalation),

Is not expected to be hazardous to the environment,
If the product becomes a waste material, it would be classified as a non-hazardous waste.

We have transported 2 small loads to the landfill as a trial to see how the disposal process would play out and are now looking to conduct this on a larger scale. Please advise as soon as possible as resources are being mobilized to perform the work but we will await your response before proceeding further.

Thanks,

PAPER EXCELLENCE

Phil Lum, Environmental Manager

Catalyst Paper tisk^{w}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2912 | Cell: 604-483-1006
www.paperexcellence.com

March 2, 2022

Tracking Number: 411817
Authorization Number: 4565

VIA EMAIL: Phil.Lum@catalystpaper.com; Graham.Kissack@paperexcellence.com

Catalyst Paper Corporation and Catalyst Pulp Operations Limited doing business as
Catalyst Paper, General Partnership
2nd Floor
3600 Lysander Lane
Richmond BC V7B 1C3

Attention: Phil Lum

Re: Amendment to permit PR-4565 under the *Environmental Management Act*

Dear Permittee:

The ministry is in receipt of your requests by emails dated February 9, 2022 and March 1, 2022 seeking authorization to dispose of mill waste generated from the mill's current de-risking activities.

Pursuant to Section 16 of the *Environmental Management Act* and Section 2.9 of permit PR-4546 (permit), the permit is hereby amended to additionally include the following:

1. The permittee is authorized to discharge the following miscellaneous mill waste types and quantities:

    1.1 Sandblasting material
    Maximum: 65 cubic metres

    1.2 Clay and slurry material identified as Capim DG
    Maximum: 205 cubic metres

All other requirements in the permit remain in full effect, including the maximum discharge limits specified in permit sections 1.1.1. and 1.1.2.

This decision does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. It is also the responsibility of the permittee to ensure that all activities conducted under this decision are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within (30)

thirty days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Yours truly,

Andrea Doll, MASc, PAg
for Director, *Environmental Management Act*

RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>, Soufan, Safwan ENV:EX <Safwan.Soufan@gov.bc.ca>, Kissack, Graham (Richmond) <Graham.Kissack@paperexcellence.com>
Sent: March 3, 2022 7:50:44 AM PST
Attachments: image001.png

Bob,

That's excellent, thanks for providing this. With regards to the clay, the volume will likely be significantly less since the slurry is quite a bit more dilute than we anticipated at only 19.4% solids.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Wednesday, March 2, 2022 4:51 PM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>; Soufan, Safwan ENV:EX <Safwan.Soufan@gov.bc.ca>; Kissack, Graham (Richmond) <Graham.Kissack@paperexcellence.com>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Hi again Phil –

In response to your requests of Feb. 9 and March 1, 2022, please find attached the letter amendment we have discussed. As you will see, we increased the requested volumes slightly to cover off uncertainties in estimates.

Should you have any further questions or concerns, please do not hesitate to contact me.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 1:55 PM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Bob,

The volume we have in m^3 is estimated at 193 (of the slurry). It is actually quite dilute and we are currently awaiting some solids tests to determine the actual quantity of the clay (dry weight) that is expected to be landfilled. Of the 6000 USG that was sent for the trial, after the water drained away, there was very little solid material in the pit.

As for the product itself, it is used as a filler to load the paper so that we do not need to use as much fibre, which had become a scarcer commodity. It is a naturally occurring mineral that is mined, mixed into a slurry, and transported to the mills for use. Thus no expected hazardous contaminants with regards to the landfilling of such.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 12:44 PM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Subject: FW: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Also: from a quick search, I understand this material is used as a coating pigment in producing coating paper. Is that right? I take it there's little likelihood of its being contaminated with anything potentially hazardous?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Beck, Robert ENV:EX
Sent: March 1, 2022 12:27 PM
To: 'Lum, Phil (Powell River)' <Phil.Lum@paperexcellence.com>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Hi again Phil, just for consistency with the permit conditions, we'll want to express this amount in m^3, rather than tonnes. Have you any guesses at that?

If it's a slurry, I'd think it reasonable to assume that the volume wouldn't exceed 200 m^3 (i.e., if the density is a bit greater than 1 t/m^3, then the volume must, correspondingly, be a bit less than 200 m^3). Does that make sense?

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 10:07 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Perfect, and thanks for the update on your background. That certainly helps going forward with some of this.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 10:02 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Great, thanks Phil. I'd forgotten about the authorizations mailbox, and as you say, will likely see it within a short time.

Re: the sandblasting waste – since I myself am a "CSR professional" (contaminant hydrogeologist and soil scientist, and a Contaminated Sites Approved Professional for many years before joining the ministry), I'm comfortable reviewing and recommending on that myself. When I first looked at it a couple of weeks back, I saw no cause for concern, or reason why we would either reject the request, or request more information. But then, unfortunately, some other matters intervened.

I'll be meeting with Andrea shortly, and will be certain to get back to you on both these issues before the end of today.

regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 9:54 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: RE: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Thanks Bob,

We have a pit already dug that we were expecting to use for treatment plant sludge solids at some time so we emptied the loads of clay slurry into this. By the time the second load had been delivered to the site, the first had significantly dewatered and resulted in a sludgy mass, the consistency being much like that of lime mud. We didn't cover the material due to the expectation of continuing the disposal process here. We also have a significant volume of granulated calcium carbonate (GCC) on site that we expect to dispose of as lime mud solids per the allowance in our permit. Thus between the clay and the GCC, the main difference between these and a pulp mill lime mud would be a much less hazardous nature.

I would have hoped to submit a single request with a number of "miscellaneous" waste types for disposal, unfortunately the timing of some of the activities, including being unable to find suitable alternatives for some of the waste, has not allowed for this. At some point in time a letter addendum to the permit would make sense. I assume our request for the disposal of the sandblasting material is still awaiting a response from your CSR professional?

The Interim Curtailment Report was submitted to the authorizations mailbox yesterday. The auto reply received indicated that it would be forwarded to the appropriate EPO but obviously you haven't seen it yet. If you are unable to retrieve it from your system let me know and I will send a copy of the submission directly to yourself.

Regards,

Phil

From: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: Tuesday, March 1, 2022 9:13 AM
To: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: '[EXTERNAL] 'RE: Capim DG (clay) Disposal

Thank you Phil, I will review this promptly, and we will send you a response as soon as we are able.

Meanwhile: could you elaborate a bit on the nature of this trial? I take it that the slurry would flow unless bermed or promptly covered? How does the consistency compared to that of lime mud, e.g.?

Also, though we can perhaps discuss this at greater length when I visit next week: do you anticipate needing to landfill any other sort of "miscellaneous mill waste" that is not explicitly named in the permit (section 2.9)? If so, it would be simplest for us to account for them all in a single letter amendment, if possible.

Finally, as a reminder, the Interim Curtailment Report was due yesterday. Please let us know when you expect to be in a position to submit that.

best regards,

Bob Beck, P.Geo. | Senior Environmental Protection Officer | Robert.Beck@gov.bc.ca | (236) 468-2266

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: March 1, 2022 8:59 AM
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Cc: Doll, Andrea ENV:EX <Andrea.Doll@gov.bc.ca>
Subject: Capim DG (clay) Disposal
Importance: High

Hi Bob,

We have approximately 200 tons of the attached clay product on site (as a slurry) that cannot be transported elsewhere for use and are requesting permission to dispose of this in our landfill (P-4565).

According to the MSDS, the material:

Has a pH of 5.0 – 8.0,
Is not toxic (oral, dermal, or inhalation),
Is not expected to be hazardous to the environment,
If the product becomes a waste material, it would be classified as a non-hazardous waste.

We have transported 2 small loads to the landfill as a trial to see how the disposal process would play out and are now looking to conduct this on a larger scale. Please advise as soon as possible as resources are being mobilized to perform the work but we will await your response before proceeding further.

Thanks,

PAPER EXCELLENCE

Phil Lum, Environmental Manager
Catalyst Paper tisk^{W}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2912 | Cell: 604-483-1006
www.paperexcellence.com

FW: Indefinite Curtailment of Catalyst Paper tiswat Mill, Powell River BC - Curtailment info requirements

From: Authorizations South ENV:EX <Authorizations.South@gov.bc.ca>
To: Beck, Robert ENV:EX <Robert.Beck@gov.bc.ca>
Sent: March 14, 2022 12:30:57 PM PDT
Attachments: image001.png

Authorizations South
Regional Operations Branch
Ministry of Environment and Climate Change Strategy

24-hour Spill/Environmental Emergency Reporting: 1-800-663-3456 (Provincial Emergency Program)
24-hour RAPP (Report All Poachers and Polluters) tip-line: 1-877-952-7277 (Conservation Officer Service)
www.gov.bc.ca/env

From: Lum, Phil (Powell River) <Phil.Lum@paperexcellence.com>
Sent: February 28, 2022 4:18 PM
To: Authorizations South ENV:EX <Authorizations.South@gov.bc.ca>
Cc: Kissack, Graham (Richmond) <Graham.Kissack@paperexcellence.com>; Norlund, Harold (Crofton) <Harold.Norlund@catalystpaper.com>; Cuddy, Krista (Powell River) <Krista.Cuddy@catalystpaper.com>
Subject: Indefinite Curtailment of Catalyst Paper tiswat Mill, Powell River BC - Curtailment info requirements

Attention: Section Head, Pulp and Paper Authorizations

The attached documents are in response to item #2 of the Ministry of Environment's December 9, 2021 letter to Catalyst Paper requiring submission of an Interim Curtailment Report for the tiskwat Mill in Powell River, BC. If there are any questions or concerns, please do not hesitate to contact myself or our General Manager Krista Cuddy.

Regards,

PAPER EXCELLENCE

Phil Lum, Environmental Manager
Catalyst Paper tisk^{w}at (tees-kwat), A Paper Excellence Company
Office: 604-483-2912 | Cell: 604-483-1006
www.paperexcellence.com