

APPENDIX 6

Your C.O.C. #: G091539

Attention: DAVID HARPLEY

CANADIAN ZINC CORPORATION
650 West Georgia Street
Suite 1710
Vancouver, BC
CANADA V6B 4N9

Report Date: 2014/08/12
Report #: R1619874
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B466000
Received: 2014/08/01, 08:00

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	4	2014/08/02	2014/08/02	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	4	N/A	2014/08/01	BBY6SOP-00011	SM 22 4500-Cl- G m
Conductance - water	4	N/A	2014/08/02	BBY6SOP-00026	SM 22 2510 B m
Hardness Total (calculated as CaCO ₃)	4	N/A	2014/08/08	BBY7SOP-00002	EPA 6020a R1 m
Hardness (calculated as CaCO ₃)	1	N/A	2014/08/07	BBY7SOP-00002	EPA 6020a R1 m
Hardness (calculated as CaCO ₃)	3	N/A	2014/08/11	BBY7SOP-00002	EPA 6020a R1 m
Mercury (Dissolved) by CVAf	1	N/A	2014/08/08	BBY7SOP-00015	BCMOE BCLM Jul2013 m
Mercury (Dissolved) by CVAf	3	N/A	2014/08/11	BBY7SOP-00015	BCMOE BCLM Jul2013 m
Mercury (Total) by CVAf	4	2014/08/11	2014/08/11	BBY7SOP-00015	BCMOE BCLM Jul2013 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	3	N/A	2014/08/11	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2014/08/12	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved)	1	N/A	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved)	3	N/A	2014/08/08	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	2014/08/01	2014/08/08	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	4	2014/08/07	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Filter and HNO ₃ Preserve for Metals	1	N/A	2014/08/07	BBY6WI-00001	EPA 200.2
Filter and HNO ₃ Preserve for Metals	3	N/A	2014/08/08	BBY6WI-00001	EPA 200.2
pH Water (1)	4	N/A	2014/08/02	BBY6SOP-00026	SM 22 4500-H+ B m
Sulphate by Automated Colourimetry	4	N/A	2014/08/01	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	1	2014/08/02	2014/08/05	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	3	2014/08/05	2014/08/06	BBY6SOP-00033	SM 22 2540 C m
Total Suspended Solids	1	N/A	2014/08/05	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	3	N/A	2014/08/06	BBY6SOP-00034	SM 22 2540 D

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

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Encryption Key



Sydney Morgan Strelau

12 Aug 2014 13:55:12 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sydney Morgan Strelau, Customer Service Representative

Email: SMorganStrelau@maxxam.ca

Phone# (604) 734 7276

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B466000
Report Date: 2014/08/12

CANADIAN ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KG0177		KG0178	KG0179	KG0180		
Sampling Date		2014/07/28		2014/07/28	2014/07/28	2014/07/28		
COC Number		G091539		G091539	G091539	G091539		
	Units	GR @ GG	QC Batch	TETCELA	SUNDOG @ CC	POLJECK CROSSING	RDL	QC Batch
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD	FIELD	N/A	ONSITE
Misc. Inorganics								
Alkalinity (Total as CaCO ₃)	mg/L	154	7588645	192	104	145	0.50	7588645
Alkalinity (PP as CaCO ₃)	mg/L	<0.50	7588645	<0.50	<0.50	<0.50	0.50	7588645
Bicarbonate (HCO ₃)	mg/L	188	7588645	234	127	177	0.50	7588645
Carbonate (CO ₃)	mg/L	<0.50	7588645	<0.50	<0.50	<0.50	0.50	7588645
Hydroxide (OH)	mg/L	<0.50	7588645	<0.50	<0.50	<0.50	0.50	7588645
Anions								
Dissolved Sulphate (SO ₄)	mg/L	11.1	7587052	87.3	13.5	16.5	0.50	7587052
Dissolved Chloride (Cl)	mg/L	<0.50	7587041	4.2	0.75	<0.50	0.50	7587041
Physical Properties								
Conductivity	uS/cm	316	7588651	547	236	319	1.0	7588651
pH	pH	8.23	7588647	8.12	8.14	8.17	N/A	7588647
Physical Properties								
Total Suspended Solids	mg/L	<4.0	7587197	8.0 (1)	<4.0 (1)	<4.0 (1)	4.0	7588692
Total Dissolved Solids	mg/L	170	7587195	374 (1)	138 (1)	182 (1)	10	7588705
RDL = Reportable Detection Limit								
N/A = Not Applicable								
(1) Sample analysed past recommended hold time.								

Maxxam Job #: B466000
Report Date: 2014/08/12

CANADIAN ZINC CORPORATION

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KG0177		KG0178		KG0179		KG0180		
Sampling Date		2014/07/28		2014/07/28		2014/07/28		2014/07/28		
COC Number		G091539		G091539		G091539		G091539		
	Units	GR @ GG	QC Batch	TETCELA	QC Batch	SUNDOG @ CC	QC Batch	POLJECK CROSSING	RDL	QC Batch
Misc. Inorganics										
Dissolved Hardness (CaCO ₃)	mg/L	172	7585903	271	7585903	117	7585903	157	0.50	7585903
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	7595654	<0.010	7595654	<0.010	7593599	<0.010	0.010	7595654
Dissolved Metals by ICPMS										
Dissolved Aluminum (Al)	ug/L	4.2	7596250	9.0	7592551	28.0 (1)	7592551	<3.0	3.0	7592551
Dissolved Antimony (Sb)	ug/L	<0.50	7591016	<0.50	7592551	<0.50	7592551	<0.50	0.50	7592551
Dissolved Arsenic (As)	ug/L	<0.10	7591016	0.35	7592551	0.12	7592551	<0.10	0.10	7592551
Dissolved Barium (Ba)	ug/L	92.1	7591016	73.8	7592551	35.6	7592551	90.9	1.0	7592551
Dissolved Beryllium (Be)	ug/L	<0.10	7591016	<0.10	7592551	<0.10	7592551	<0.10	0.10	7592551
Dissolved Bismuth (Bi)	ug/L	<1.0	7591016	<1.0	7592551	<1.0	7592551	<1.0	1.0	7592551
Dissolved Boron (B)	ug/L	<50	7591016	<50	7592551	<50	7592551	<50	50	7592551
Dissolved Cadmium (Cd)	ug/L	0.016	7591016	0.025	7592551	0.012	7592551	0.077	0.010	7592551
Dissolved Chromium (Cr)	ug/L	<1.0	7591016	<1.0	7592551	<1.0	7592551	<1.0	1.0	7592551
Dissolved Cobalt (Co)	ug/L	<0.50	7591016	<0.50	7592551	<0.50	7592551	<0.50	0.50	7592551
Dissolved Copper (Cu)	ug/L	0.54	7591016	1.42	7592551	0.27	7592551	0.31	0.20	7592551
Dissolved Iron (Fe)	ug/L	26.5	7591016	25.3	7592551	<5.0	7592551	10.0	5.0	7592551
Dissolved Lead (Pb)	ug/L	<0.20	7591016	<0.20	7592551	<0.20	7592551	<0.20	0.20	7592551
Dissolved Lithium (Li)	ug/L	<5.0	7591016	8.7	7592551	<5.0	7592551	<5.0	5.0	7592551
Dissolved Manganese (Mn)	ug/L	1.3	7596250	21.7	7592551	<1.0	7592551	4.6	1.0	7592551
Dissolved Molybdenum (Mo)	ug/L	<1.0	7591016	3.4	7592551	<1.0	7592551	3.4	1.0	7592551
Dissolved Nickel (Ni)	ug/L	<1.0	7591016	1.8	7592551	<1.0	7592551	1.4	1.0	7592551
Dissolved Selenium (Se)	ug/L	0.18	7591016	0.47	7592551	0.19	7592551	1.26	0.10	7592551
Dissolved Silicon (Si)	ug/L	1680	7591016	2450	7592551	581	7592551	1450	100	7592551
Dissolved Silver (Ag)	ug/L	<0.020	7591016	<0.020	7592551	<0.020	7592551	<0.020	0.020	7592551
Dissolved Strontium (Sr)	ug/L	66.2	7591016	372	7592551	26.7	7592551	102	1.0	7592551
Dissolved Thallium (Tl)	ug/L	<0.050	7591016	<0.050	7592551	<0.050	7592551	<0.050	0.050	7592551
Dissolved Tin (Sn)	ug/L	<5.0	7591016	<5.0	7592551	<5.0	7592551	<5.0	5.0	7592551
Dissolved Titanium (Ti)	ug/L	<5.0	7591016	<5.0	7592551	<5.0	7592551	<5.0	5.0	7592551
Dissolved Uranium (U)	ug/L	1.23	7591016	3.30	7592551	1.61	7592551	1.75	0.10	7592551
Dissolved Vanadium (V)	ug/L	<5.0	7591016	<5.0	7592551	<5.0	7592551	<5.0	5.0	7592551
Dissolved Zinc (Zn)	ug/L	<5.0	7591016	<5.0	7592551	<5.0	7592551	5.0	5.0	7592551
Dissolved Zirconium (Zr)	ug/L	<0.50	7591016	<0.50	7592551	<0.50	7592551	<0.50	0.50	7592551
Dissolved Calcium (Ca)	mg/L	47.4	7595845	78.0	7585904	26.9	7585904	46.8	0.050	7585904
Dissolved Magnesium (Mg)	mg/L	13.1	7595845	18.5	7585904	12.1	7585904	9.68	0.050	7585904
Dissolved Potassium (K)	mg/L	0.436	7595845	0.994	7585904	0.120	7585904	0.309	0.050	7585904
Dissolved Sodium (Na)	mg/L	0.905	7595845	5.19	7585904	0.183	7585904	0.517	0.050	7585904
RDL = Reportable Detection Limit										
(1) Dissolved greater than total. Reanalysis yields similar results.										

Maxxam Job #: B466000
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CANADIAN ZINC CORPORATION

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KG0177		KG0178		KG0179		KG0180		
Sampling Date		2014/07/28		2014/07/28		2014/07/28		2014/07/28		
COC Number		G091539		G091539		G091539		G091539		
	Units	GR @ GG	QC Batch	TETCELA	QC Batch	SUNDOG @ CC	QC Batch	POLJECK CROSSING	RDL	QC Batch
Dissolved Sulphur (S)	mg/L	3.2	7595845	30.5	7585904	4.8	7585904	5.7	3.0	7585904
RDL = Reportable Detection Limit										

Maxxam Job #: B466000
Report Date: 2014/08/12

CANADIAN ZINC CORPORATION

CCME TOTAL METALS IN WATER (WATER)

Maxxam ID		KG0177	KG0178	KG0179	KG0180		
Sampling Date		2014/07/28	2014/07/28	2014/07/28	2014/07/28		
COC Number		G091539	G091539	G091539	G091539		
	Units	GR @ GG	TETCELA	SUNDOG @ CC	POLJECK CROSSING	RDL	QC Batch
Calculated Parameters							
Total Hardness (CaCO ₃)	mg/L	182	325	130	186	0.50	7585902
Elements							
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	0.010	7595408
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	15.5	275	6.1	64.2	3.0	7591847
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	7591847
Total Arsenic (As)	ug/L	0.31	0.61	0.13	0.17	0.10	7591847
Total Barium (Ba)	ug/L	94.5	79.7	32.4	92.6	1.0	7591847
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	7591847
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	7591847
Total Boron (B)	ug/L	<50	<50	<50	<50	50	7591847
Total Cadmium (Cd)	ug/L	0.013	0.046	0.017	0.088	0.010	7591847
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	7591847
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	7591847
Total Copper (Cu)	ug/L	<0.50	1.33	<0.50	<0.50	0.50	7591847
Total Iron (Fe)	ug/L	54	499	<10	103	10	7591847
Total Lead (Pb)	ug/L	<0.20	0.32	<0.20	<0.20	0.20	7591847
Total Lithium (Li)	ug/L	<5.0	8.8	<5.0	<5.0	5.0	7591847
Total Manganese (Mn)	ug/L	4.6	29.3	<1.0	9.6	1.0	7591847
Total Molybdenum (Mo)	ug/L	<1.0	3.4	<1.0	3.5	1.0	7591847
Total Nickel (Ni)	ug/L	<1.0	2.6	<1.0	2.0	1.0	7591847
Total Selenium (Se)	ug/L	0.17	0.49	0.17	1.13	0.10	7591847
Total Silicon (Si)	ug/L	1770	3690	720	1960	100	7591847
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	0.020	7591847
Total Strontium (Sr)	ug/L	70.2	380	24.3	104	1.0	7591847
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	7591847
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	7591847
Total Titanium (Ti)	ug/L	<5.0	9.8	<5.0	<5.0	5.0	7591847
Total Uranium (U)	ug/L	1.38	3.54	1.65	1.89	0.10	7591847
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	7591847
Total Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	6.0	5.0	7591847
Total Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	7591847
Total Calcium (Ca)	mg/L	52.6	96.1	31.5	57.3	0.050	7585905
Total Magnesium (Mg)	mg/L	12.2	20.8	12.5	10.5	0.050	7585905
Total Potassium (K)	mg/L	0.434	1.16	0.129	0.360	0.050	7585905
Total Sodium (Na)	mg/L	0.952	5.12	0.160	0.478	0.050	7585905
Total Sulphur (S)	mg/L	6.3	38.0	4.3	5.8	3.0	7585905
RDL = Reportable Detection Limit							

Maxxam Job #: B466000
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CANADIAN ZINC CORPORATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.3°C
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Sample KG0177, Elements by CRC ICPMS (dissolved): Test repeated.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7587041	Dissolved Chloride (Cl)	2014/08/01	NC	80 - 120	97	80 - 120	<0.50	mg/L
7587052	Dissolved Sulphate (SO4)	2014/08/01	NC	80 - 120	92	80 - 120	0.98, RDL=0.50	mg/L
7587195	Total Dissolved Solids	2014/08/05	101	80 - 120	86	80 - 120	<10	mg/L
7587197	Total Suspended Solids	2014/08/05	107	80 - 120	100	80 - 120	<4.0	mg/L
7588645	Alkalinity (PP as CaCO3)	2014/08/02					<0.50	mg/L
7588645	Alkalinity (Total as CaCO3)	2014/08/02	NC	80 - 120	91	80 - 120	0.53, RDL=0.50	mg/L
7588645	Bicarbonate (HCO3)	2014/08/02					0.65, RDL=0.50	mg/L
7588645	Carbonate (CO3)	2014/08/02					<0.50	mg/L
7588645	Hydroxide (OH)	2014/08/02					<0.50	mg/L
7588647	pH	2014/08/02			102	97 - 103		
7588651	Conductivity	2014/08/02			100	80 - 120	<1.0	uS/cm
7588692	Total Suspended Solids	2014/08/06	101	80 - 120	103	80 - 120	<4.0	mg/L
7588705	Total Dissolved Solids	2014/08/06	103	80 - 120	84	80 - 120	<10	mg/L
7591016	Dissolved Antimony (Sb)	2014/08/07	98	80 - 120	96	80 - 120	<0.50	ug/L
7591016	Dissolved Arsenic (As)	2014/08/07	107	80 - 120	99	80 - 120	<0.10	ug/L
7591016	Dissolved Barium (Ba)	2014/08/07	NC	80 - 120	97	80 - 120	<1.0	ug/L
7591016	Dissolved Beryllium (Be)	2014/08/07	87	80 - 120	93	80 - 120	<0.10	ug/L
7591016	Dissolved Bismuth (Bi)	2014/08/07	78 (1)	80 - 120	99	80 - 120	<1.0	ug/L
7591016	Dissolved Boron (B)	2014/08/07					<50	ug/L
7591016	Dissolved Cadmium (Cd)	2014/08/07	91	80 - 120	97	80 - 120	<0.010	ug/L
7591016	Dissolved Chromium (Cr)	2014/08/07	92	80 - 120	96	80 - 120	<1.0	ug/L
7591016	Dissolved Cobalt (Co)	2014/08/07	87	80 - 120	97	80 - 120	<0.50	ug/L
7591016	Dissolved Copper (Cu)	2014/08/07	NC	80 - 120	97	80 - 120	<0.20	ug/L
7591016	Dissolved Iron (Fe)	2014/08/07	NC	80 - 120	100	80 - 120	<5.0	ug/L
7591016	Dissolved Lead (Pb)	2014/08/07	82	80 - 120	98	80 - 120	<0.20	ug/L
7591016	Dissolved Lithium (Li)	2014/08/07	NC	80 - 120	93	80 - 120	<5.0	ug/L
7591016	Dissolved Molybdenum (Mo)	2014/08/07	NC	80 - 120	91	80 - 120	<1.0	ug/L
7591016	Dissolved Nickel (Ni)	2014/08/07	NC	80 - 120	99	80 - 120	<1.0	ug/L
7591016	Dissolved Selenium (Se)	2014/08/07	99	80 - 120	95	80 - 120	<0.10	ug/L
7591016	Dissolved Silicon (Si)	2014/08/07					<100	ug/L
7591016	Dissolved Silver (Ag)	2014/08/07	90	80 - 120	89	80 - 120	<0.020	ug/L
7591016	Dissolved Strontium (Sr)	2014/08/07	NC	80 - 120	93	80 - 120	<1.0	ug/L
7591016	Dissolved Thallium (Tl)	2014/08/07	81	80 - 120	90	80 - 120	<0.050	ug/L

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7591016	Dissolved Tin (Sn)	2014/08/07	108	80 - 120	97	80 - 120	<5.0	ug/L
7591016	Dissolved Titanium (Ti)	2014/08/07	112	80 - 120	101	80 - 120	<5.0	ug/L
7591016	Dissolved Uranium (U)	2014/08/07	NC	80 - 120	94	80 - 120	<0.10	ug/L
7591016	Dissolved Vanadium (V)	2014/08/07	105	80 - 120	99	80 - 120	<5.0	ug/L
7591016	Dissolved Zinc (Zn)	2014/08/07	NC	80 - 120	100	80 - 120	<5.0	ug/L
7591016	Dissolved Zirconium (Zr)	2014/08/07					<0.50	ug/L
7591847	Total Aluminum (Al)	2014/08/07	107	80 - 120	105	80 - 120	<3.0	ug/L
7591847	Total Antimony (Sb)	2014/08/07	102	80 - 120	103	80 - 120	<0.50	ug/L
7591847	Total Arsenic (As)	2014/08/07	103	80 - 120	101	80 - 120	<0.10	ug/L
7591847	Total Barium (Ba)	2014/08/07	96	80 - 120	97	80 - 120	<1.0	ug/L
7591847	Total Beryllium (Be)	2014/08/07	100	80 - 120	93	80 - 120	<0.10	ug/L
7591847	Total Bismuth (Bi)	2014/08/07	104	80 - 120	102	80 - 120	<1.0	ug/L
7591847	Total Boron (B)	2014/08/07					<50	ug/L
7591847	Total Cadmium (Cd)	2014/08/07	99	80 - 120	98	80 - 120	<0.010	ug/L
7591847	Total Chromium (Cr)	2014/08/07	104	80 - 120	101	80 - 120	<1.0	ug/L
7591847	Total Cobalt (Co)	2014/08/07	102	80 - 120	100	80 - 120	<0.50	ug/L
7591847	Total Copper (Cu)	2014/08/07	NC	80 - 120	95	80 - 120	<0.50	ug/L
7591847	Total Iron (Fe)	2014/08/07	NC	80 - 120	103	80 - 120	<10	ug/L
7591847	Total Lead (Pb)	2014/08/07	102	80 - 120	98	80 - 120	<0.20	ug/L
7591847	Total Lithium (Li)	2014/08/07	99	80 - 120	94	80 - 120	<5.0	ug/L
7591847	Total Manganese (Mn)	2014/08/07	NC	80 - 120	97	80 - 120	<1.0	ug/L
7591847	Total Molybdenum (Mo)	2014/08/07	108	80 - 120	88	80 - 120	<1.0	ug/L
7591847	Total Nickel (Ni)	2014/08/07	108	80 - 120	103	80 - 120	<1.0	ug/L
7591847	Total Selenium (Se)	2014/08/07	99	80 - 120	93	80 - 120	<0.10	ug/L
7591847	Total Silicon (Si)	2014/08/07					<100	ug/L
7591847	Total Silver (Ag)	2014/08/07	79 (1)	80 - 120	102	80 - 120	<0.020	ug/L
7591847	Total Strontium (Sr)	2014/08/07	NC	80 - 120	95	80 - 120	<1.0	ug/L
7591847	Total Thallium (Tl)	2014/08/07	101	80 - 120	96	80 - 120	<0.050	ug/L
7591847	Total Tin (Sn)	2014/08/07	99	80 - 120	102	80 - 120	<5.0	ug/L
7591847	Total Titanium (Ti)	2014/08/07	92	80 - 120	92	80 - 120	<5.0	ug/L
7591847	Total Uranium (U)	2014/08/07	99	80 - 120	95	80 - 120	<0.10	ug/L
7591847	Total Vanadium (V)	2014/08/07	100	80 - 120	99	80 - 120	<5.0	ug/L
7591847	Total Zinc (Zn)	2014/08/07	NC	80 - 120	105	80 - 120	<5.0	ug/L

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7591847	Total Zirconium (Zr)	2014/08/07					<0.50	ug/L
7592551	Dissolved Aluminum (Al)	2014/08/08	105	80 - 120	107	80 - 120	<3.0	ug/L
7592551	Dissolved Antimony (Sb)	2014/08/08	NC	80 - 120	100	80 - 120	<0.50	ug/L
7592551	Dissolved Arsenic (As)	2014/08/08	109	80 - 120	104	80 - 120	<0.10	ug/L
7592551	Dissolved Barium (Ba)	2014/08/08	NC	80 - 120	102	80 - 120	<1.0	ug/L
7592551	Dissolved Beryllium (Be)	2014/08/08	101	80 - 120	95	80 - 120	<0.10	ug/L
7592551	Dissolved Bismuth (Bi)	2014/08/08	96	80 - 120	102	80 - 120	<1.0	ug/L
7592551	Dissolved Boron (B)	2014/08/08					<50	ug/L
7592551	Dissolved Cadmium (Cd)	2014/08/08	98	80 - 120	101	80 - 120	<0.010	ug/L
7592551	Dissolved Chromium (Cr)	2014/08/08	100	80 - 120	101	80 - 120	<1.0	ug/L
7592551	Dissolved Cobalt (Co)	2014/08/08	NC	80 - 120	102	80 - 120	<0.50	ug/L
7592551	Dissolved Copper (Cu)	2014/08/08	91	80 - 120	103	80 - 120	<0.20	ug/L
7592551	Dissolved Iron (Fe)	2014/08/08	106	80 - 120	116	80 - 120	<5.0	ug/L
7592551	Dissolved Lead (Pb)	2014/08/08	97	80 - 120	101	80 - 120	<0.20	ug/L
7592551	Dissolved Lithium (Li)	2014/08/08	NC	80 - 120	96	80 - 120	<5.0	ug/L
7592551	Dissolved Manganese (Mn)	2014/08/08	NC	80 - 120	105	80 - 120	<1.0	ug/L
7592551	Dissolved Molybdenum (Mo)	2014/08/08	NC	80 - 120	102	80 - 120	<1.0	ug/L
7592551	Dissolved Nickel (Ni)	2014/08/08	NC	80 - 120	104	80 - 120	<1.0	ug/L
7592551	Dissolved Selenium (Se)	2014/08/08	105	80 - 120	108	80 - 120	<0.10	ug/L
7592551	Dissolved Silicon (Si)	2014/08/08					<100	ug/L
7592551	Dissolved Silver (Ag)	2014/08/08	99	80 - 120	90	80 - 120	<0.020	ug/L
7592551	Dissolved Strontium (Sr)	2014/08/08	NC	80 - 120	100	80 - 120	<1.0	ug/L
7592551	Dissolved Thallium (Tl)	2014/08/08	103	80 - 120	94	80 - 120	<0.050	ug/L
7592551	Dissolved Tin (Sn)	2014/08/08	NC	80 - 120	101	80 - 120	<5.0	ug/L
7592551	Dissolved Titanium (Ti)	2014/08/08	97	80 - 120	105	80 - 120	<5.0	ug/L
7592551	Dissolved Uranium (U)	2014/08/08	NC	80 - 120	98	80 - 120	<0.10	ug/L
7592551	Dissolved Vanadium (V)	2014/08/08	101	80 - 120	102	80 - 120	<5.0	ug/L
7592551	Dissolved Zinc (Zn)	2014/08/08	NC	80 - 120	101	80 - 120	<5.0	ug/L
7592551	Dissolved Zirconium (Zr)	2014/08/08					<0.50	ug/L
7593599	Dissolved Mercury (Hg)	2014/08/08	88	80 - 120	90	80 - 120	<0.010	ug/L
7595408	Total Mercury (Hg)	2014/08/11	87	80 - 120	94	80 - 120	<0.010	ug/L
7595654	Dissolved Mercury (Hg)	2014/08/11	93	80 - 120	90	80 - 120	<0.010	ug/L
7596250	Dissolved Aluminum (Al)	2014/08/11			115	80 - 120	<3.0	ug/L

Maxxam Job #: B466000
Report Date: 2014/08/12

CANADIAN ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7596250	Dissolved Manganese (Mn)	2014/08/11			105	80 - 120	<1.0	ug/L
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration). (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.								

Maxxam

Maxxam Job#: B466000

Page: 1 of 1
G 091539

PO #:
Quotation #:
Project #:
Proj. Name:
Location:
Sampled By:

Report To: Canadian Zinc

Invoice To: ☐ Require Report? ☐ Yes ☐ No ☐

Company Name: Canadian Zinc
Contact Name: David Harper
Address: _____

Phone / Fax#: 604-594-3855
E-mail: david@canadianzinc.com

REGULATORY REQUIREMENTS SERVICE REQUESTED: com

☐	CSR	☐	Regular Turn Around Time (TAT) (5 days for most tests)
☒	CCME	☐	RUSH (Please contact the lab)
☐	EC Water Quality	☐	1 Day ☐ 2 Day ☐ 3 Day
☐	Other	Date Required:	
DRINKING WATER:			

Special Instructions:

Ship Sample Bottles (please specify) ☐

Return Cooler ☐ Sample GRD gnd diss mtl ass
diss HA NOT filled or acidified.

[illegible]

Released by: <i>[Signature]</i>	Date (Y/M/DD): July 29	Time: 17:50	Received by: <i>[Signature]</i>	Date (Y/M/DD): 02/14/08/01	Time: 18:00
Temperature on Receipt (°C) 11.12			Custody Seal Intact on Receipt? Yes ☒ No ☐		
Signature of the Relinquisher [Blank]					

IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL DELAY.

White: Maximum Yellow: Other

Your C.O.C. #: 08350173

Attention: DAVID HARPLEY

CANADIAN ZINC CORPORATION
650 West Georgia Street
Suite 1710
Vancouver, BC
CANADA V6B 4N9

Report Date: 2014/12/31
Report #: R1769600
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B488344

Received: 2014/10/02, 07:40

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	5	2014/10/04	2014/10/06	BBY7SOP-00001	EPA 6020a R1 m
Moisture	5	N/A	2014/10/04	BBY8SOP-00017	OMOE E3139 3.1 m
pH (2:1 DI Water Extract)	5	2014/10/06	2014/10/06	BBY6SOP-00028	BCMOE BCLM Mar2005 m
Total Organic Carbon LECO Method (1)	5	2014/12/29	2014/12/30	CAL SOP-00243	LECO 203-821-170 m
BC Hydrocarbons in Soil by GC/FID	4	2014/10/03	2014/10/06	BBY8SOP-00029	BCMOE EPH s 07/99 m
BC Hydrocarbons in Soil by GC/FID	1	2014/10/03	2014/10/07	BBY8SOP-00029	BCMOE EPH s 07/99 m

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	6	2014/10/02	2014/10/03	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	6	N/A	2014/10/03	BBY6SOP-00011	SM 22 4500-Cl- G m
Conductance - water	6	N/A	2014/10/03	BBY6SOP-00026	SM 22 2510 B m
Hardness Total (calculated as CaCO3)	4	N/A	2014/10/06	BBY7SOP-00002	EPA 6020a R1 m
Hardness Total (calculated as CaCO3)	2	N/A	2014/10/08	BBY7SOP-00002	EPA 6020a R1 m
Hardness (calculated as CaCO3)	6	N/A	2014/10/07	BBY7SOP-00002	EPA 6020a R1 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	6	N/A	2014/10/07	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved)	6	N/A	2014/10/07	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	2014/10/02	2014/10/06	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2014/10/02	2014/10/08	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	4	2014/10/02	2014/10/03	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	2	2014/10/07	2014/10/08	BBY7SOP-00002	EPA 6020A R1 m
Filter and HNO3 Preserve for Metals	6	N/A	2014/10/07	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (2)	6	N/A	2014/10/03	BBY6SOP-00026	SM 22 4500-H+ B m
Sulphate by Automated Colourimetry	6	N/A	2014/10/03	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	6	2014/10/03	2014/10/07	BBY6SOP-00033	SM 22 2540 C m
Total Suspended Solids	6	N/A	2014/10/04	BBY6SOP-00034	SM 22 2540 D

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your C.O.C. #: 08350173

Attention: DAVID HARPLEY

CANADIAN ZINC CORPORATION
650 West Georgia Street
Suite 1710
Vancouver, BC
CANADA V6B 4N9

Report Date: 2014/12/31
Report #: R1769600
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B488344

Received: 2014/10/02, 07:40

(1) This test was performed by Maxxam Calgary Environmental

(2) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key



Sydney Morgan Strelau

31 Dec 2014 08:19:53 -08:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sydney Morgan Strelau, Customer Service Representative

Email: SMorganStrelau@maxxam.ca

Phone# (604) 734 7276

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

PHYSICAL TESTING (SOIL)

Maxxam ID		KT3782	KT3783	KT3784	KT3785		
Sampling Date		2014/09/26	2014/09/26	2014/09/26	2014/09/26		
COC Number		08350173	08350173	08350173	08350173		
	Units	OLD ROAD TETCELA TRIB	BLUEFISH	OLD ROAD TETCELA MAIN	SUNDOG 29.2	RDL	QC Batch
Physical Properties							
Moisture	%	15	8.3	8.1	11	0.30	7664406
RDL = Reportable Detection Limit							

Maxxam ID		KT3786		
Sampling Date		2014/09/26		
COC Number		08350173		
	Units	GRAINGER @GG	RDL	QC Batch
Physical Properties				
Moisture	%	10	0.30	7664406
RDL = Reportable Detection Limit				

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

TOTAL PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		KT3782		KT3783		KT3784		
Sampling Date		2014/09/26		2014/09/26		2014/09/26		
COC Number		08350173		08350173		08350173		
	Units	OLD ROAD TETCELA TRIB	QC Batch	BLUEFISH	QC Batch	OLD ROAD TETCELA MAIN	RDL	QC Batch
Hydrocarbons								
EPH (C10-C19)	mg/kg	<100	7668412	<100	7669227	<100	100	7668412
EPH (C19-C32)	mg/kg	<100	7668412	<100	7669227	<100	100	7668412
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	93	7668412	97	7669227	83		7668412
RDL = Reportable Detection Limit								

Maxxam ID		KT3785	KT3786		
Sampling Date		2014/09/26	2014/09/26		
COC Number		08350173	08350173		
	Units	SUNDOG 29.2	GRAINGER @GG	RDL	QC Batch
Hydrocarbons					
EPH (C10-C19)	mg/kg	<100	<100	100	7668412
EPH (C19-C32)	mg/kg	<100	<100	100	7668412
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	96	90		7668412
RDL = Reportable Detection Limit					

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

MISCELLANEOUS (SOIL)

Maxxam ID		KT3782	KT3783	KT3784		KT3785		
Sampling Date		2014/09/26	2014/09/26	2014/09/26		2014/09/26		
COC Number		08350173	08350173	08350173		08350173		
	Units	OLD ROAD TETCELA TRIB	BLUEFISH	OLD ROAD TETCELA MAIN	RDL	SUNDOG 29.2	RDL	QC Batch

Misc. Inorganics								
Total Organic Carbon (C)	%	0.68	0.31	0.41	0.020	2.6 (1)	0.040	7766585

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam ID		KT3786		
Sampling Date		2014/09/26		
COC Number		08350173		
	Units	GRAINGER @GG	RDL	QC Batch

Misc. Inorganics				
Total Organic Carbon (C)	%	3.0	0.020	7766585
RDL = Reportable Detection Limit				

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KT3776	KT3777	KT3778	KT3779		
Sampling Date		2014/09/26	2014/09/26	2014/09/26	2014/09/26		
COC Number		08350173	08350173	08350173	08350173		
	Units	BLUEFISH	OLD ROAD TETCELA MAIN	FISHTRAP	GRAINGER @GG	RDL	QC Batch
Calculated Parameters							
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	FIELD	N/A	ONSITE
Misc. Inorganics							
Alkalinity (Total as CaCO3)	mg/L	187	234	205	160	0.50	7663822
Alkalinity (PP as CaCO3)	mg/L	1.69	2.19	<0.50	<0.50	0.50	7663822
Bicarbonate (HCO3)	mg/L	224	280	250	195	0.50	7663822
Carbonate (CO3)	mg/L	2.03	2.63	<0.50	<0.50	0.50	7663822
Hydroxide (OH)	mg/L	<0.50	<0.50	<0.50	<0.50	0.50	7663822
Anions							
Dissolved Sulphate (SO4)	mg/L	38.7	128	175	16.4	0.50	7665397
Dissolved Chloride (Cl)	mg/L	1.4	4.8	3.7	0.53	0.50	7665392
Physical Properties							
Conductivity	uS/cm	415	656	713	326	1.0	7663824
pH	pH	8.35	8.34	8.29	8.23	N/A	7663823
Physical Properties							
Total Suspended Solids	mg/L	<4.0	<4.0	<4.0	<4.0	4.0	7664356
Total Dissolved Solids	mg/L	278	480	602	210	10	7664619
RDL = Reportable Detection Limit							
N/A = Not Applicable							

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KT3780		KT3781		
Sampling Date		2014/09/26		2014/09/26		
COC Number		08350173		08350173		
	Units	SUNDOG 29.2	QC Batch	UN-NAMED	RDL	QC Batch
Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	N/A	ONSITE
Misc. Inorganics						
Alkalinity (Total as CaCO3)	mg/L	128	7663826	221	0.50	7663822
Alkalinity (PP as CaCO3)	mg/L	<0.50	7663826	<0.50	0.50	7663822
Bicarbonate (HCO3)	mg/L	156	7663826	270	0.50	7663822
Carbonate (CO3)	mg/L	<0.50	7663826	<0.50	0.50	7663822
Hydroxide (OH)	mg/L	<0.50	7663826	<0.50	0.50	7663822
Anions						
Dissolved Sulphate (SO4)	mg/L	73.5	7665397	30.0	0.50	7665397
Dissolved Chloride (Cl)	mg/L	0.64	7665392	0.91	0.50	7665392
Physical Properties						
Conductivity	uS/cm	375	7663830	462	1.0	7663824
pH	pH	8.01	7663829	8.25	N/A	7663823
Physical Properties						
Total Suspended Solids	mg/L	<4.0	7664356	<4.0	4.0	7664356
Total Dissolved Solids	mg/L	276	7664619	350	10	7664619
RDL = Reportable Detection Limit						
N/A = Not Applicable						

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		KT3782		KT3783		KT3784		
Sampling Date		2014/09/26		2014/09/26		2014/09/26		
COC Number		08350173		08350173		08350173		
	Units	OLD ROAD TETCELA TRIB	QC Batch	BLUEFISH	QC Batch	OLD ROAD TETCELA MAIN	RDL	QC Batch

Physical Properties

Soluble (2:1) pH	pH	8.29	7666151	8.54	7666159	8.35	N/A	7666151
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Total Metals by ICPMS

Total Aluminum (Al)	mg/kg	2710	7666149	1890	7666157	2280	100	7666149
Total Antimony (Sb)	mg/kg	0.79	7666149	0.21	7666157	0.52	0.10	7666149
Total Arsenic (As)	mg/kg	7.06	7666149	5.33	7666157	5.42	0.50	7666149
Total Barium (Ba)	mg/kg	229	7666149	98.3	7666157	139	0.10	7666149
Total Beryllium (Be)	mg/kg	<0.40	7666149	<0.40	7666157	<0.40	0.40	7666149
Total Bismuth (Bi)	mg/kg	<0.10	7666149	<0.10	7666157	<0.10	0.10	7666149
Total Cadmium (Cd)	mg/kg	0.506	7666149	0.235	7666157	0.409	0.050	7666149
Total Calcium (Ca)	mg/kg	45300	7666149	117000	7666157	39100	100	7666149
Total Chromium (Cr)	mg/kg	7.9	7666149	5.5	7666157	5.7	1.0	7666149
Total Cobalt (Co)	mg/kg	6.94	7666149	2.78	7666157	4.27	0.30	7666149
Total Copper (Cu)	mg/kg	9.98	7666149	6.67	7666157	8.33	0.50	7666149
Total Iron (Fe)	mg/kg	10100	7666149	7020	7666157	8920	100	7666149
Total Lead (Pb)	mg/kg	6.05	7666149	3.95	7666157	4.63	0.10	7666149
Total Magnesium (Mg)	mg/kg	8710	7666149	38800	7666157	9020	100	7666149
Total Manganese (Mn)	mg/kg	540	7666149	251	7666157	293	0.20	7666149
Total Mercury (Hg)	mg/kg	<0.050	7666149	<0.050	7666157	<0.050	0.050	7666149
Total Molybdenum (Mo)	mg/kg	4.08	7666149	1.24	7666157	2.81	0.10	7666149
Total Nickel (Ni)	mg/kg	19.1	7666149	8.89	7666157	14.4	0.80	7666149
Total Phosphorus (P)	mg/kg	475	7666149	177	7666157	350	10	7666149
Total Potassium (K)	mg/kg	392	7666149	333	7666157	318	100	7666149
Total Selenium (Se)	mg/kg	0.51	7666149	<0.50	7666157	<0.50	0.50	7666149
Total Silver (Ag)	mg/kg	<0.050	7666149	<0.050	7666157	<0.050	0.050	7666149
Total Sodium (Na)	mg/kg	<100	7666149	<100	7666157	<100	100	7666149
Total Strontium (Sr)	mg/kg	79.8	7666149	83.2	7666157	63.5	0.10	7666149
Total Thallium (Tl)	mg/kg	0.148	7666149	0.169	7666157	0.129	0.050	7666149
Total Tin (Sn)	mg/kg	0.15	7666149	0.13	7666157	0.15	0.10	7666149
Total Titanium (Ti)	mg/kg	38.5	7666149	65.4	7666157	55.7	1.0	7666149
Total Vanadium (V)	mg/kg	26.9	7666149	12.0	7666157	17.1	2.0	7666149
Total Zinc (Zn)	mg/kg	53.2	7666149	22.9	7666157	51.8	1.0	7666149
Total Zirconium (Zr)	mg/kg	1.95	7666149	1.37	7666157	1.86	0.50	7666149

RDL = Reportable Detection Limit

N/A = Not Applicable

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		KT3785	KT3786		
Sampling Date		2014/09/26	2014/09/26		
COC Number		08350173	08350173		
	Units	SUNDOG 29.2	GRAINGER @GG	RDL	QC Batch
Physical Properties					
Soluble (2:1) pH	pH	8.47	8.66	N/A	7666151
Total Metals by ICPMS					
Total Aluminum (Al)	mg/kg	<1000	1150	1000	7666149
Total Antimony (Sb)	mg/kg	<1.0	<1.0	1.0	7666149
Total Arsenic (As)	mg/kg	7.3	7.7	5.0	7666149
Total Barium (Ba)	mg/kg	39.2	36.9	1.0	7666149
Total Beryllium (Be)	mg/kg	<4.0	<4.0	4.0	7666149
Total Bismuth (Bi)	mg/kg	<1.0	<1.0	1.0	7666149
Total Cadmium (Cd)	mg/kg	<0.50	<0.50	0.50	7666149
Total Calcium (Ca)	mg/kg	142000	98900	1000	7666149
Total Chromium (Cr)	mg/kg	<10	<10	10	7666149
Total Cobalt (Co)	mg/kg	<3.0	<3.0	3.0	7666149
Total Copper (Cu)	mg/kg	<5.0	<5.0	5.0	7666149
Total Iron (Fe)	mg/kg	4050	5310	1000	7666149
Total Lead (Pb)	mg/kg	8.5	4.0	1.0	7666149
Total Magnesium (Mg)	mg/kg	96100	47900	1000	7666149
Total Manganese (Mn)	mg/kg	93.2	204	2.0	7666149
Total Mercury (Hg)	mg/kg	<0.50	<0.50	0.50	7666149
Total Molybdenum (Mo)	mg/kg	1.7	1.2	1.0	7666149
Total Nickel (Ni)	mg/kg	<8.0	<8.0	8.0	7666149
Total Phosphorus (P)	mg/kg	128	143	100	7666149
Total Potassium (K)	mg/kg	<1000	<1000	1000	7666149
Total Selenium (Se)	mg/kg	<5.0	<5.0	5.0	7666149
Total Silver (Ag)	mg/kg	<0.50	<0.50	0.50	7666149
Total Sodium (Na)	mg/kg	<1000	<1000	1000	7666149
Total Strontium (Sr)	mg/kg	70.1	60.7	1.0	7666149
Total Thallium (Tl)	mg/kg	<0.50	<0.50	0.50	7666149
Total Tin (Sn)	mg/kg	<1.0	<1.0	1.0	7666149
Total Titanium (Ti)	mg/kg	<10	63	10	7666149
Total Vanadium (V)	mg/kg	<20	25	20	7666149
Total Zinc (Zn)	mg/kg	42	26	10	7666149
Total Zirconium (Zr)	mg/kg	<5.0	<5.0	5.0	7666149
RDL = Reportable Detection Limit					
N/A = Not Applicable					

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KT3776	KT3777	KT3778	KT3779	KT3780		
Sampling Date		2014/09/26	2014/09/26	2014/09/26	2014/09/26	2014/09/26		
COC Number		08350173	08350173	08350173	08350173	08350173		
	Units	BLUEFISH	OLD ROAD TETCELA MAIN	FISHTRAP	GRAINGER @GG	SUNDOG 29.2	RDL	QC Batch
Misc. Inorganics								
Dissolved Hardness (CaCO ₃)	mg/L	219	343	314	174	200	0.50	7662640
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	ug/L	8.5	<3.0	19.5	<3.0	4.0	3.0	7667932
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7667932
Dissolved Arsenic (As)	ug/L	0.27	0.34	0.47	0.22	0.11	0.10	7667932
Dissolved Barium (Ba)	ug/L	97.1	72.0	58.4	89.6	72.4	1.0	7667932
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7667932
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7667932
Dissolved Boron (B)	ug/L	<50	<50	68	<50	<50	50	7667932
Dissolved Cadmium (Cd)	ug/L	0.013	0.035	0.012	0.014	0.028	0.010	7667932
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7667932
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7667932
Dissolved Copper (Cu)	ug/L	0.42	0.61	0.57	0.28	0.31	0.20	7667932
Dissolved Iron (Fe)	ug/L	37.1	36.1	95.1	15.2	<5.0	5.0	7667932
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7667932
Dissolved Lithium (Li)	ug/L	<5.0	11.2	<5.0	<5.0	<5.0	5.0	7667932
Dissolved Manganese (Mn)	ug/L	4.3	30.3	7.3	2.0	<1.0	1.0	7667932
Dissolved Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7667932
Dissolved Molybdenum (Mo)	ug/L	2.3	3.8	<1.0	1.1	1.4	1.0	7667932
Dissolved Nickel (Ni)	ug/L	<1.0	2.0	<1.0	<1.0	<1.0	1.0	7667932
Dissolved Selenium (Se)	ug/L	0.26	0.56	<0.10	0.24	0.20	0.10	7667932
Dissolved Silicon (Si)	ug/L	1850	2550	1370	1640	801	100	7667932
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7667932
Dissolved Strontium (Sr)	ug/L	173	479	957	73.8	39.0	1.0	7667932
Dissolved Thallium (Tl)	ug/L	0.082	<0.050	<0.050	<0.050	<0.050	0.050	7667932
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7667932
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7667932
Dissolved Uranium (U)	ug/L	3.68	4.50	0.47	2.07	2.56	0.10	7667932
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7667932
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7667932
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7667932
Dissolved Calcium (Ca)	mg/L	60.5	97.7	76.5	46.6	41.5	0.050	7662652
Dissolved Magnesium (Mg)	mg/L	16.6	24.0	30.0	14.1	23.4	0.050	7662652
Dissolved Potassium (K)	mg/L	0.555	1.16	1.34	0.505	0.218	0.050	7662652
Dissolved Sodium (Na)	mg/L	4.48	7.18	37.2	1.15	0.266	0.050	7662652
Dissolved Sulphur (S)	mg/L	12.8	42.3	62.0	4.8	23.5	3.0	7662652
RDL = Reportable Detection Limit								

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KT3781		
Sampling Date		2014/09/26		
COC Number		08350173		
	Units	UN-NAMED	RDL	QC Batch
Misc. Inorganics				
Dissolved Hardness (CaCO ₃)	mg/L	242	0.50	7662640
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	ug/L	15.9	3.0	7667932
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7667932
Dissolved Arsenic (As)	ug/L	0.40	0.10	7667932
Dissolved Barium (Ba)	ug/L	109	1.0	7667932
Dissolved Beryllium (Be)	ug/L	<0.10	0.10	7667932
Dissolved Bismuth (Bi)	ug/L	<1.0	1.0	7667932
Dissolved Boron (B)	ug/L	<50	50	7667932
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	7667932
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	7667932
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7667932
Dissolved Copper (Cu)	ug/L	0.34	0.20	7667932
Dissolved Iron (Fe)	ug/L	363	5.0	7667932
Dissolved Lead (Pb)	ug/L	<0.20	0.20	7667932
Dissolved Lithium (Li)	ug/L	<5.0	5.0	7667932
Dissolved Manganese (Mn)	ug/L	11.0	1.0	7667932
Dissolved Mercury (Hg)	ug/L	<0.050	0.050	7667932
Dissolved Molybdenum (Mo)	ug/L	1.3	1.0	7667932
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7667932
Dissolved Selenium (Se)	ug/L	<0.10	0.10	7667932
Dissolved Silicon (Si)	ug/L	1970	100	7667932
Dissolved Silver (Ag)	ug/L	<0.020	0.020	7667932
Dissolved Strontium (Sr)	ug/L	258	1.0	7667932
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7667932
Dissolved Tin (Sn)	ug/L	<5.0	5.0	7667932
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7667932
Dissolved Uranium (U)	ug/L	0.83	0.10	7667932
Dissolved Vanadium (V)	ug/L	<5.0	5.0	7667932
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7667932
Dissolved Zirconium (Zr)	ug/L	<0.50	0.50	7667932
Dissolved Calcium (Ca)	mg/L	68.8	0.050	7662652
Dissolved Magnesium (Mg)	mg/L	17.1	0.050	7662652
Dissolved Potassium (K)	mg/L	0.729	0.050	7662652
Dissolved Sodium (Na)	mg/L	8.72	0.050	7662652
Dissolved Sulphur (S)	mg/L	10.5	3.0	7662652
RDL = Reportable Detection Limit				

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KT3776	KT3777	KT3778	KT3779		KT3780		
Sampling Date		2014/09/26	2014/09/26	2014/09/26	2014/09/26		2014/09/26		
COC Number		08350173	08350173	08350173	08350173		08350173		
	Units	BLUEFISH	OLD ROAD TETCELA MAIN	FISHTRAP	GRAINGER @GG	QC Batch	SUNDOG 29.2	RDL	QC Batch

Calculated Parameters									
Total Hardness (CaCO3)	mg/L	215	364	321	185	7662681	209	0.50	7662681
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	10.3	33.5	33.3	9.3	7663540	4.9	3.0	7669834
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	7663540	<0.50	0.50	7669834
Total Arsenic (As)	ug/L	0.29	0.39	0.47	0.22	7663540	<0.10	0.10	7669834
Total Barium (Ba)	ug/L	95.7	73.7	58.0	92.2	7663540	74.3	1.0	7669834
Total Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	7663540	<0.10	0.10	7669834
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	7663540	<1.0	1.0	7669834
Total Boron (B)	ug/L	<50	<50	81	<50	7663540	<50	50	7669834
Total Cadmium (Cd)	ug/L	0.012	0.032	<0.010	0.017	7663540	0.013	0.010	7669834
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	7663540	<1.0	1.0	7669834
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	7663540	<0.50	0.50	7669834
Total Copper (Cu)	ug/L	<0.50	0.68	1.04	<0.50	7663540	<0.50	0.50	7669834
Total Iron (Fe)	ug/L	44	185	111	47	7663540	<10	10	7669834
Total Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	7663540	<0.20	0.20	7669834
Total Lithium (Li)	ug/L	<5.0	11.8	<5.0	<5.0	7663540	<5.0	5.0	7669834
Total Manganese (Mn)	ug/L	4.6	32.9	5.9	2.9	7663540	<1.0	1.0	7669834
Total Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	7663540	<0.050	0.050	7669834
Total Molybdenum (Mo)	ug/L	2.2	4.0	<1.0	1.1	7663540	1.5	1.0	7669834
Total Nickel (Ni)	ug/L	<1.0	2.3	<1.0	<1.0	7663540	<1.0	1.0	7669834
Total Selenium (Se)	ug/L	0.21	0.50	<0.10	0.20	7663540	0.15	0.10	7669834
Total Silicon (Si)	ug/L	1800	2850	1390	1770	7663540	885	100	7669834
Total Silver (Ag)	ug/L	0.025	<0.020	<0.020	<0.020	7663540	<0.020	0.020	7669834
Total Strontium (Sr)	ug/L	171	473	951	78.5	7663540	40.5	1.0	7669834
Total Thallium (Tl)	ug/L	0.088	<0.050	<0.050	0.051	7663540	<0.050	0.050	7669834
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	7663540	<5.0	5.0	7669834
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	7663540	<5.0	5.0	7669834
Total Uranium (U)	ug/L	3.82	4.79	0.54	2.14	7663540	2.79	0.10	7669834
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	7663540	<5.0	5.0	7669834
Total Zinc (Zn)	ug/L	<5.0	5.1	<5.0	<5.0	7663540	<5.0	5.0	7669834
Total Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	7663540	<0.50	0.50	7669834
Total Calcium (Ca)	mg/L	57.5	102	75.5	48.5	7662947	42.8	0.050	7662947
Total Magnesium (Mg)	mg/L	17.3	26.6	32.1	15.5	7662947	24.8	0.050	7662947
Total Potassium (K)	mg/L	0.549	1.18	1.17	0.567	7662947	0.171	0.050	7662947
Total Sodium (Na)	mg/L	4.55	7.02	37.9	1.27	7662947	0.221	0.050	7662947
Total Sulphur (S)	mg/L	12.8	45.4	64.7	6.6	7662947	22.3	3.0	7662947

RDL = Reportable Detection Limit

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KT3781		
Sampling Date		2014/09/26		
COC Number		08350173		
	Units	UN-NAMED	RDL	QC Batch
Calculated Parameters				
Total Hardness (CaCO3)	mg/L	252	0.50	7662681
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	50.5	3.0	7669834
Total Antimony (Sb)	ug/L	<0.50	0.50	7669834
Total Arsenic (As)	ug/L	0.42	0.10	7669834
Total Barium (Ba)	ug/L	110	1.0	7669834
Total Beryllium (Be)	ug/L	<0.10	0.10	7669834
Total Bismuth (Bi)	ug/L	<1.0	1.0	7669834
Total Boron (B)	ug/L	<50	50	7669834
Total Cadmium (Cd)	ug/L	<0.010	0.010	7669834
Total Chromium (Cr)	ug/L	<1.0	1.0	7669834
Total Cobalt (Co)	ug/L	<0.50	0.50	7669834
Total Copper (Cu)	ug/L	2.36	0.50	7669834
Total Iron (Fe)	ug/L	387	10	7669834
Total Lead (Pb)	ug/L	<0.20	0.20	7669834
Total Lithium (Li)	ug/L	<5.0	5.0	7669834
Total Manganese (Mn)	ug/L	11.3	1.0	7669834
Total Mercury (Hg)	ug/L	<0.050	0.050	7669834
Total Molybdenum (Mo)	ug/L	1.5	1.0	7669834
Total Nickel (Ni)	ug/L	<1.0	1.0	7669834
Total Selenium (Se)	ug/L	<0.10	0.10	7669834
Total Silicon (Si)	ug/L	2100	100	7669834
Total Silver (Ag)	ug/L	<0.020	0.020	7669834
Total Strontium (Sr)	ug/L	272	1.0	7669834
Total Thallium (Tl)	ug/L	<0.050	0.050	7669834
Total Tin (Sn)	ug/L	<5.0	5.0	7669834
Total Titanium (Ti)	ug/L	<5.0	5.0	7669834
Total Uranium (U)	ug/L	0.90	0.10	7669834
Total Vanadium (V)	ug/L	<5.0	5.0	7669834
Total Zinc (Zn)	ug/L	<5.0	5.0	7669834
Total Zirconium (Zr)	ug/L	<0.50	0.50	7669834
Total Calcium (Ca)	mg/L	72.1	0.050	7662947
Total Magnesium (Mg)	mg/L	17.5	0.050	7662947
Total Potassium (K)	mg/L	0.788	0.050	7662947
Total Sodium (Na)	mg/L	8.55	0.050	7662947
Total Sulphur (S)	mg/L	10.4	3.0	7662947
RDL = Reportable Detection Limit				

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.0°C
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CSR/CCME METALS IN SOIL (SOIL) Comments

Sample KT3785-02 Elements by ICPMS (total): Detection Limits raised due to sample matrix interference.

Sample KT3786-02 Elements by ICPMS (total): Detection Limits raised due to sample matrix interference.

Results relate only to the items tested.

Maxxam Job #: B488344
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7668412	O-TERPHENYL (sur.)	2014/10/06	101	50 - 130	101	50 - 130	101	%				
7669227	O-TERPHENYL (sur.)	2014/10/07	86	50 - 130	98	50 - 130	105	%				
7663540	Total Aluminum (Al)	2014/10/03	NC	80 - 120	109	80 - 120	<3.0	ug/L	18	20		
7663540	Total Antimony (Sb)	2014/10/03	100	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
7663540	Total Arsenic (As)	2014/10/03	105	80 - 120	103	80 - 120	<0.10	ug/L	13	20		
7663540	Total Barium (Ba)	2014/10/03	NC	80 - 120	102	80 - 120	<1.0	ug/L	11	20		
7663540	Total Beryllium (Be)	2014/10/03	105	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
7663540	Total Bismuth (Bi)	2014/10/03	103	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
7663540	Total Boron (B)	2014/10/03					<50	ug/L	NC	20		
7663540	Total Cadmium (Cd)	2014/10/03	103	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
7663540	Total Chromium (Cr)	2014/10/03	106	80 - 120	106	80 - 120	<1.0	ug/L	NC	20		
7663540	Total Cobalt (Co)	2014/10/03	106	80 - 120	104	80 - 120	<0.50	ug/L	NC	20		
7663540	Total Copper (Cu)	2014/10/03	108	80 - 120	105	80 - 120	<0.50	ug/L	NC	20		
7663540	Total Iron (Fe)	2014/10/03	NC	80 - 120	106	80 - 120	<10	ug/L	6.8	20		
7663540	Total Lead (Pb)	2014/10/03	103	80 - 120	98	80 - 120	<0.20	ug/L	NC	20		
7663540	Total Lithium (Li)	2014/10/03	120	80 - 120	109	80 - 120	<5.0	ug/L	NC	20		
7663540	Total Manganese (Mn)	2014/10/03	NC	80 - 120	99	80 - 120	<1.0	ug/L	9.0	20		
7663540	Total Mercury (Hg)	2014/10/03	105	80 - 120	91	80 - 120	<0.050	ug/L				
7663540	Total Molybdenum (Mo)	2014/10/03	NC	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
7663540	Total Nickel (Ni)	2014/10/03	109	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
7663540	Total Selenium (Se)	2014/10/03	110	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
7663540	Total Silicon (Si)	2014/10/03					<100	ug/L	3.2	20		
7663540	Total Silver (Ag)	2014/10/03	92	80 - 120	91	80 - 120	0.032, RDL=0.020	ug/L	NC	20		
7663540	Total Strontium (Sr)	2014/10/03	NC	80 - 120	102	80 - 120	<1.0	ug/L	3.3	20		
7663540	Total Thallium (Tl)	2014/10/03	98	80 - 120	92	80 - 120	<0.050	ug/L	NC	20		
7663540	Total Tin (Sn)	2014/10/03	103	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
7663540	Total Titanium (Ti)	2014/10/03	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
7663540	Total Uranium (U)	2014/10/03	106	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
7663540	Total Vanadium (V)	2014/10/03	100	80 - 120	113	80 - 120	<5.0	ug/L	NC	20		
7663540	Total Zinc (Zn)	2014/10/03	110	80 - 120	105	80 - 120	<5.0	ug/L	NC	20		
7663540	Total Zirconium (Zr)	2014/10/03					<0.50	ug/L	NC	20		
7663822	Alkalinity (PP as CaCO3)	2014/10/02					<0.50	mg/L				

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QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7663822	Alkalinity (Total as CaCO ₃)	2014/10/02			96	80 - 120	<0.50	mg/L				
7663822	Bicarbonate (HCO ₃)	2014/10/02					<0.50	mg/L				
7663822	Carbonate (CO ₃)	2014/10/02					<0.50	mg/L				
7663822	Hydroxide (OH)	2014/10/02					<0.50	mg/L				
7663823	pH	2014/10/03			101	97 - 103			2.8	N/A		
7663824	Conductivity	2014/10/02			100	80 - 120	1.2, RDL=1.0	uS/cm				
7663826	Alkalinity (PP as CaCO ₃)	2014/10/03					<0.50	mg/L	NC	20		
7663826	Alkalinity (Total as CaCO ₃)	2014/10/03	NC	80 - 120	98	80 - 120	<0.50	mg/L	0.67	20		
7663826	Bicarbonate (HCO ₃)	2014/10/03					<0.50	mg/L	0.67	20		
7663826	Carbonate (CO ₃)	2014/10/03					<0.50	mg/L	NC	20		
7663826	Hydroxide (OH)	2014/10/03					<0.50	mg/L	NC	20		
7663829	pH	2014/10/03			101	97 - 103			0.79	N/A		
7663830	Conductivity	2014/10/03			100	80 - 120	1.2, RDL=1.0	uS/cm	0.39	20		
7664356	Total Suspended Solids	2014/10/04	108	80 - 120	101	80 - 120	<4.0	mg/L	NC	20		
7664406	Moisture	2014/10/04					<0.30	%	16	20		
7664619	Total Dissolved Solids	2014/10/07	NC	80 - 120	96	80 - 120	<10	mg/L	3.1	20		
7665392	Dissolved Chloride (Cl)	2014/10/03	NC	80 - 120	105	80 - 120	<0.50	mg/L	3.6	20		
7665397	Dissolved Sulphate (SO ₄)	2014/10/03	NC	80 - 120	102	80 - 120	<0.50	mg/L				
7666149	Total Aluminum (Al)	2014/10/06					<100	mg/kg			95	70 - 130
7666149	Total Antimony (Sb)	2014/10/06	94	75 - 125	98	75 - 125	<0.10	mg/kg			120	70 - 130
7666149	Total Arsenic (As)	2014/10/06	NC	75 - 125	94	75 - 125	<0.50	mg/kg	0.60	30	94	70 - 130
7666149	Total Barium (Ba)	2014/10/06	NC	75 - 125	99	75 - 125	<0.10	mg/kg			101	70 - 130
7666149	Total Beryllium (Be)	2014/10/06	96	75 - 125	97	75 - 125	<0.40	mg/kg				
7666149	Total Bismuth (Bi)	2014/10/06					<0.10	mg/kg				
7666149	Total Cadmium (Cd)	2014/10/06	96	75 - 125	103	75 - 125	<0.050	mg/kg	3.7	30	106	70 - 130
7666149	Total Calcium (Ca)	2014/10/06					<100	mg/kg			91	70 - 130
7666149	Total Chromium (Cr)	2014/10/06	NC	75 - 125	99	75 - 125	<1.0	mg/kg	2.2	30	102	70 - 130
7666149	Total Cobalt (Co)	2014/10/06	87	75 - 125	105	75 - 125	<0.30	mg/kg			90	70 - 130
7666149	Total Copper (Cu)	2014/10/06	NC	75 - 125	103	75 - 125	<0.50	mg/kg	0.90	30	95	70 - 130
7666149	Total Iron (Fe)	2014/10/06					<100	mg/kg			92	70 - 130
7666149	Total Lead (Pb)	2014/10/06	NC	75 - 125	101	75 - 125	<0.10	mg/kg	1.4	35	100	70 - 130
7666149	Total Magnesium (Mg)	2014/10/06					<100	mg/kg			93	70 - 130
7666149	Total Manganese (Mn)	2014/10/06	NC	75 - 125	103	75 - 125	<0.20	mg/kg			96	70 - 130

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CANADIAN ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7666149	Total Mercury (Hg)	2014/10/06	92	75 - 125	96	75 - 125	<0.050	mg/kg	NC	35	100	70 - 130
7666149	Total Molybdenum (Mo)	2014/10/06	NC	75 - 125	103	75 - 125	<0.10	mg/kg			104	70 - 130
7666149	Total Nickel (Ni)	2014/10/06	NC	75 - 125	102	75 - 125	<0.80	mg/kg			96	70 - 130
7666149	Total Phosphorus (P)	2014/10/06					<10	mg/kg			90	70 - 130
7666149	Total Potassium (K)	2014/10/06					<100	mg/kg				
7666149	Total Selenium (Se)	2014/10/06	95	75 - 125	96	75 - 125	<0.50	mg/kg				
7666149	Total Silver (Ag)	2014/10/06	88	75 - 125	93	75 - 125	<0.050	mg/kg				
7666149	Total Sodium (Na)	2014/10/06					<100	mg/kg				
7666149	Total Strontium (Sr)	2014/10/06	NC	75 - 125	97	75 - 125	<0.10	mg/kg			103	70 - 130
7666149	Total Thallium (Tl)	2014/10/06	98	75 - 125	104	75 - 125	<0.050	mg/kg			92	70 - 130
7666149	Total Tin (Sn)	2014/10/06	95	75 - 125	97	75 - 125	<0.10	mg/kg				
7666149	Total Titanium (Ti)	2014/10/06	NC	75 - 125	95	75 - 125	<1.0	mg/kg			103	70 - 130
7666149	Total Vanadium (V)	2014/10/06	NC	75 - 125	98	75 - 125	<2.0	mg/kg			103	70 - 130
7666149	Total Zinc (Zn)	2014/10/06	NC	75 - 125	103	75 - 125	<1.0	mg/kg	0.78	30	91	70 - 130
7666149	Total Zirconium (Zr)	2014/10/06					<0.50	mg/kg				
7666151	Soluble (2:1) pH	2014/10/06			100	97 - 103			0.38	N/A		
7666157	Total Aluminum (Al)	2014/10/06					<100	mg/kg			91	70 - 130
7666157	Total Antimony (Sb)	2014/10/06	92	75 - 125	96	75 - 125	<0.10	mg/kg			105	70 - 130
7666157	Total Arsenic (As)	2014/10/06	91	75 - 125	92	75 - 125	<0.50	mg/kg	0.70	30	95	70 - 130
7666157	Total Barium (Ba)	2014/10/06	NC	75 - 125	95	75 - 125	<0.10	mg/kg	6.2	35	96	70 - 130
7666157	Total Beryllium (Be)	2014/10/06	99	75 - 125	95	75 - 125	<0.40	mg/kg				
7666157	Total Bismuth (Bi)	2014/10/06					<0.10	mg/kg				
7666157	Total Cadmium (Cd)	2014/10/06	100	75 - 125	101	75 - 125	<0.050	mg/kg			103	70 - 130
7666157	Total Calcium (Ca)	2014/10/06					<100	mg/kg			84	70 - 130
7666157	Total Chromium (Cr)	2014/10/06	100	75 - 125	95	75 - 125	<1.0	mg/kg	3.6	30	105	70 - 130
7666157	Total Cobalt (Co)	2014/10/06	91	75 - 125	93	75 - 125	<0.30	mg/kg			89	70 - 130
7666157	Total Copper (Cu)	2014/10/06	NC	75 - 125	103	75 - 125	<0.50	mg/kg	2.0	30	95	70 - 130
7666157	Total Iron (Fe)	2014/10/06					<100	mg/kg			89	70 - 130
7666157	Total Lead (Pb)	2014/10/06	95	75 - 125	96	75 - 125	<0.10	mg/kg	0.78	35	96	70 - 130
7666157	Total Magnesium (Mg)	2014/10/06					<100	mg/kg			92	70 - 130
7666157	Total Manganese (Mn)	2014/10/06	NC	75 - 125	96	75 - 125	<0.20	mg/kg			96	70 - 130
7666157	Total Mercury (Hg)	2014/10/06	97	75 - 125	95	75 - 125	<0.050	mg/kg			82	70 - 130
7666157	Total Molybdenum (Mo)	2014/10/06	105	75 - 125	101	75 - 125	<0.10	mg/kg			112	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7666157	Total Nickel (Ni)	2014/10/06	NC	75 - 125	101	75 - 125	<0.80	mg/kg			98	70 - 130
7666157	Total Phosphorus (P)	2014/10/06					<10	mg/kg			93	70 - 130
7666157	Total Potassium (K)	2014/10/06					<100	mg/kg				
7666157	Total Selenium (Se)	2014/10/06	92	75 - 125	94	75 - 125	<0.50	mg/kg				
7666157	Total Silver (Ag)	2014/10/06	95	75 - 125	91	75 - 125	<0.050	mg/kg				
7666157	Total Sodium (Na)	2014/10/06					<100	mg/kg				
7666157	Total Strontium (Sr)	2014/10/06	NC	75 - 125	94	75 - 125	<0.10	mg/kg			97	70 - 130
7666157	Total Thallium (Tl)	2014/10/06	91	75 - 125	93	75 - 125	<0.050	mg/kg			91	70 - 130
7666157	Total Tin (Sn)	2014/10/06	94	75 - 125	95	75 - 125	<0.10	mg/kg				
7666157	Total Titanium (Ti)	2014/10/06	NC	75 - 125	90	75 - 125	<1.0	mg/kg			109	70 - 130
7666157	Total Vanadium (V)	2014/10/06	NC	75 - 125	90	75 - 125	<2.0	mg/kg			105	70 - 130
7666157	Total Zinc (Zn)	2014/10/06	NC	75 - 125	100	75 - 125	<1.0	mg/kg	0.38	30	93	70 - 130
7666157	Total Zirconium (Zr)	2014/10/06					<0.50	mg/kg				
7666159	Soluble (2:1) pH	2014/10/06			99	97 - 103			1.1	N/A		
7667932	Dissolved Aluminum (Al)	2014/10/07	102	80 - 120	104	80 - 120	<3.0	ug/L				
7667932	Dissolved Antimony (Sb)	2014/10/07	102	80 - 120	100	80 - 120	<0.50	ug/L				
7667932	Dissolved Arsenic (As)	2014/10/07	103	80 - 120	102	80 - 120	<0.10	ug/L				
7667932	Dissolved Barium (Ba)	2014/10/07	NC	80 - 120	103	80 - 120	<1.0	ug/L				
7667932	Dissolved Beryllium (Be)	2014/10/07	100	80 - 120	100	80 - 120	<0.10	ug/L				
7667932	Dissolved Bismuth (Bi)	2014/10/07	97	80 - 120	100	80 - 120	<1.0	ug/L				
7667932	Dissolved Boron (B)	2014/10/07					<50	ug/L				
7667932	Dissolved Cadmium (Cd)	2014/10/07	101	80 - 120	101	80 - 120	<0.010	ug/L				
7667932	Dissolved Chromium (Cr)	2014/10/07	104	80 - 120	105	80 - 120	<1.0	ug/L				
7667932	Dissolved Cobalt (Co)	2014/10/07	105	80 - 120	108	80 - 120	<0.50	ug/L				
7667932	Dissolved Copper (Cu)	2014/10/07	103	80 - 120	106	80 - 120	<0.20	ug/L				
7667932	Dissolved Iron (Fe)	2014/10/07	107	80 - 120	111	80 - 120	<5.0	ug/L				
7667932	Dissolved Lead (Pb)	2014/10/07	97	80 - 120	100	80 - 120	<0.20	ug/L				
7667932	Dissolved Lithium (Li)	2014/10/07	101	80 - 120	101	80 - 120	<5.0	ug/L				
7667932	Dissolved Manganese (Mn)	2014/10/07	104	80 - 120	106	80 - 120	<1.0	ug/L				
7667932	Dissolved Mercury (Hg)	2014/10/07	96	80 - 120	102	80 - 120	<0.050	ug/L				
7667932	Dissolved Molybdenum (Mo)	2014/10/07	NC	80 - 120	96	80 - 120	<1.0	ug/L				
7667932	Dissolved Nickel (Ni)	2014/10/07	106	80 - 120	109	80 - 120	<1.0	ug/L				
7667932	Dissolved Selenium (Se)	2014/10/07	103	80 - 120	105	80 - 120	<0.10	ug/L				

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CANADIAN ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7667932	Dissolved Silicon (Si)	2014/10/07					<100	ug/L				
7667932	Dissolved Silver (Ag)	2014/10/07	104	80 - 120	95	80 - 120	<0.020	ug/L				
7667932	Dissolved Strontium (Sr)	2014/10/07	NC	80 - 120	102	80 - 120	<1.0	ug/L				
7667932	Dissolved Thallium (Tl)	2014/10/07	100	80 - 120	103	80 - 120	<0.050	ug/L				
7667932	Dissolved Tin (Sn)	2014/10/07	98	80 - 120	99	80 - 120	<5.0	ug/L				
7667932	Dissolved Titanium (Ti)	2014/10/07	105	80 - 120	103	80 - 120	<5.0	ug/L				
7667932	Dissolved Uranium (U)	2014/10/07	101	80 - 120	102	80 - 120	<0.10	ug/L				
7667932	Dissolved Vanadium (V)	2014/10/07	103	80 - 120	107	80 - 120	<5.0	ug/L				
7667932	Dissolved Zinc (Zn)	2014/10/07	104	80 - 120	108	80 - 120	<5.0	ug/L				
7667932	Dissolved Zirconium (Zr)	2014/10/07					<0.50	ug/L				
7668412	EPH (C10-C19)	2014/10/06	NC	50 - 130	75	50 - 130	<100	mg/kg	8.5	40		
7668412	EPH (C19-C32)	2014/10/06	NC	50 - 130	86	50 - 130	<100	mg/kg	NC	40		
7669227	EPH (C10-C19)	2014/10/07	NC	50 - 130	83	50 - 130	<100	mg/kg	NC	40		
7669227	EPH (C19-C32)	2014/10/07	91	50 - 130	87	50 - 130	<100	mg/kg	NC	40		
7669834	Total Aluminum (Al)	2014/10/08	103	80 - 120	104	80 - 120	4.9, RDL=3.0	ug/L	NC	20		
7669834	Total Antimony (Sb)	2014/10/08	103	80 - 120	101	80 - 120	<0.50	ug/L	NC	20		
7669834	Total Arsenic (As)	2014/10/08	101	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
7669834	Total Barium (Ba)	2014/10/08	101	80 - 120	105	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Beryllium (Be)	2014/10/08	98	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
7669834	Total Bismuth (Bi)	2014/10/08	101	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Boron (B)	2014/10/08					<50	ug/L	NC	20		
7669834	Total Cadmium (Cd)	2014/10/08	100	80 - 120	102	80 - 120	<0.010	ug/L	NC	20		
7669834	Total Chromium (Cr)	2014/10/08	101	80 - 120	107	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Cobalt (Co)	2014/10/08	102	80 - 120	105	80 - 120	<0.50	ug/L	NC	20		
7669834	Total Copper (Cu)	2014/10/08	104	80 - 120	107	80 - 120	<0.50	ug/L	NC	20		
7669834	Total Iron (Fe)	2014/10/08	110	80 - 120	114	80 - 120	<10	ug/L	NC	20		
7669834	Total Lead (Pb)	2014/10/08	102	80 - 120	104	80 - 120	<0.20	ug/L	NC	20		
7669834	Total Lithium (Li)	2014/10/08	98	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
7669834	Total Manganese (Mn)	2014/10/08	102	80 - 120	106	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Mercury (Hg)	2014/10/08	103	80 - 120	106	80 - 120	<0.050	ug/L				
7669834	Total Molybdenum (Mo)	2014/10/08	97	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Nickel (Ni)	2014/10/08	101	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Selenium (Se)	2014/10/08	95	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		

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CANADIAN ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7669834	Total Silicon (Si)	2014/10/08					<100	ug/L	NC	20		
7669834	Total Silver (Ag)	2014/10/08	86	80 - 120	105	80 - 120	<0.020	ug/L	NC	20		
7669834	Total Strontium (Sr)	2014/10/08	101	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
7669834	Total Thallium (Tl)	2014/10/08	103	80 - 120	102	80 - 120	<0.050	ug/L	NC	20		
7669834	Total Tin (Sn)	2014/10/08	100	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
7669834	Total Titanium (Ti)	2014/10/08	96	80 - 120	115	80 - 120	<5.0	ug/L	NC	20		
7669834	Total Uranium (U)	2014/10/08	104	80 - 120	105	80 - 120	<0.10	ug/L	NC	20		
7669834	Total Vanadium (V)	2014/10/08	97	80 - 120	104	80 - 120	<5.0	ug/L	NC	20		
7669834	Total Zinc (Zn)	2014/10/08	103	80 - 120	110	80 - 120	<5.0	ug/L	NC	20		
7669834	Total Zirconium (Zr)	2014/10/08					<0.50	ug/L	NC	20		
7766585	Total Organic Carbon (C)	2014/12/30			98	75 - 125	0.020, RDL=0.020	%	49 (1)	35	107	75 - 125

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

CHAIN OF CUSTODY RECORD

[Click here to get the CDC number](#)

Maxcam Job #: 8488344

COC #:



08350173

Page: of

Invoice To: Require Report? Yes ☐ No ☐

Report To:

Company Name: Canadian Zinc
Contact Name: Claudia Martinez
Address: 1700-850 West Georgia St

Company Name: Canadian Zinc
Contact Name: David Harpley
Address:

Phone / Fax: P: 804 888 2001 F:
 E-mail: claudia@canadianzinc.com

Phone / Fax: Pte 604 594 3855 Fax.
E-mail: david@canadianzinc.com

PQ #:	
Quotation #:	
Project #:	
Proj. Name:	
Location:	
Sampled by:	

REGULATORY REQUIREMENTS: SERVICE REQUESTED:

- ☐ CSR
☒ CCME
☐ BC Water Quality
☐ Other _____
☐ DRINKING WATER
- ☉ Regular Turn Around Time (TAT)
 (5 days for most tests)
 RUSH (Please contact the lab)
☐ 1 Day ☐ 2 Day ☐ 3 Day
- Date Required: _____

SPECIAL INSTRUCTIONS:

Return Cooler ☐ Ship Sample Bottles (please specify) ☐

Bluefish, Un-named and Fishtrap diss. samples are not filtered or acidified.

Other diss. samples are filtered and acidified.

ANALYSIS REQUESTED

ANALYSIS REQUESTED									
Field Filtered?	Y	N	Field Acidified?	Y	N	Field Acidified?	Y	N	
Dissolved Metals (DM)			Total Metals			pH, Cond, alk			
			SO ₄ , Cl			TSS, TDS			
			EPH						
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
X			X	X	X	X			
			X				X		
			X				X		
			X				X		
			X				X		
			X				X		

ARRIVED AT DEPOT:
 OCT 01 2014
 TIME 14:13

B4998344

ARRIVED AT DEPOT:
 OCT 01 2014
 TIME 12:13



2480344

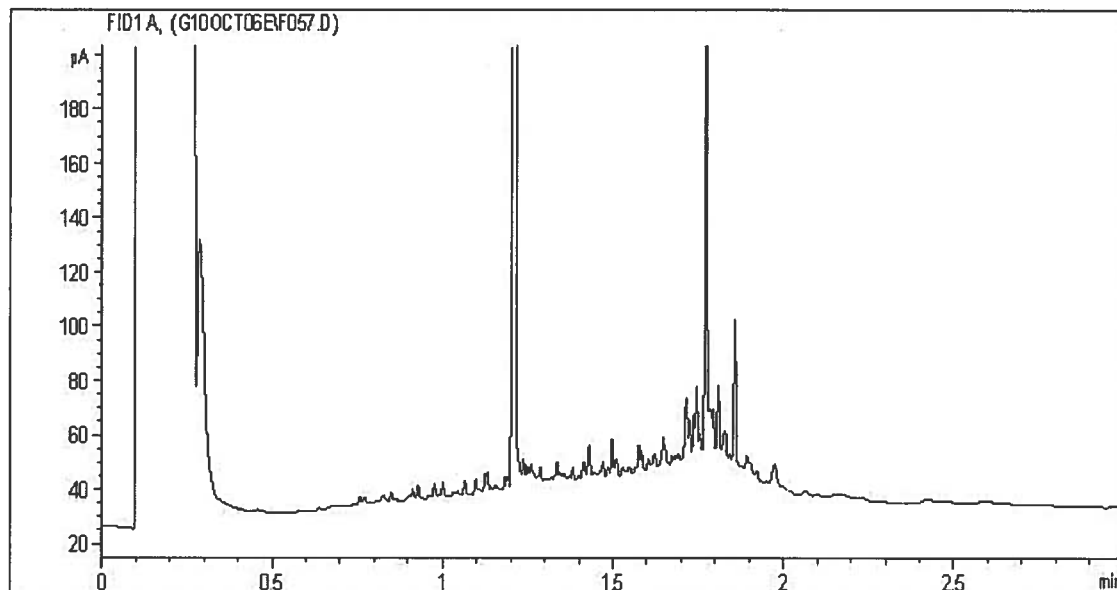
Print name and sign

Print name and sign

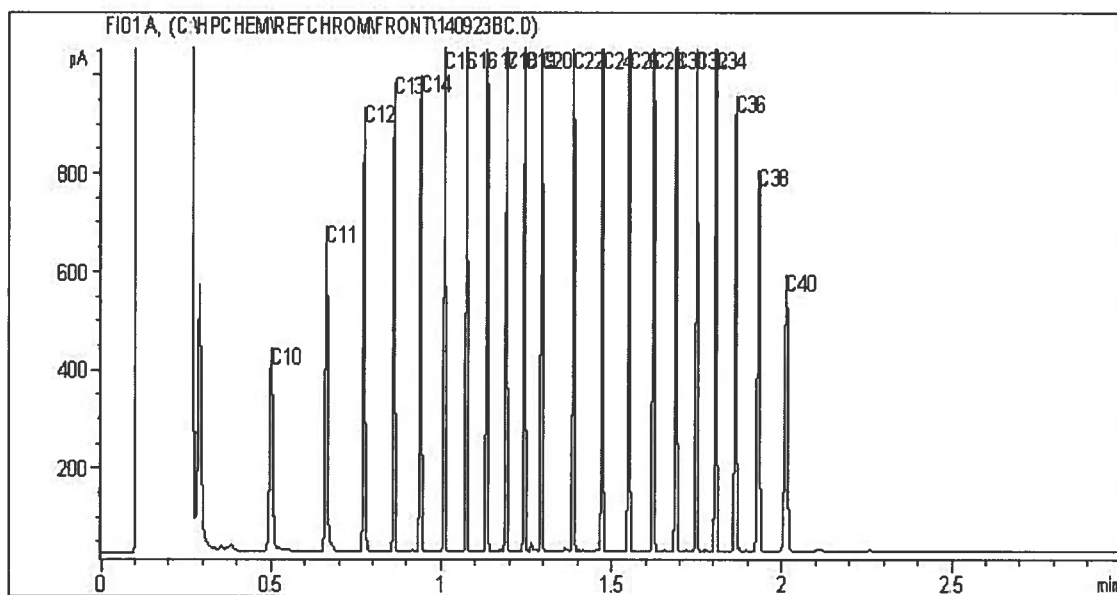
Library Use Only

*Relinquished By:	Date (yy/mm/dd):	Time (24hr):	Received by:	Date (yy/mm/dd):	Time (24 hr):	Time Sensitive	Temperature on Receipt (°C)	Custody Seal	Yes	No
			6 JOHN WISSE	2014/10/02	07:40	☐	A) ☐ B) ☐ C) ☐	Present?	☒	☐
							Just sampled & rec'd on loc:	Intact?	☒	☐

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: C4 - C12

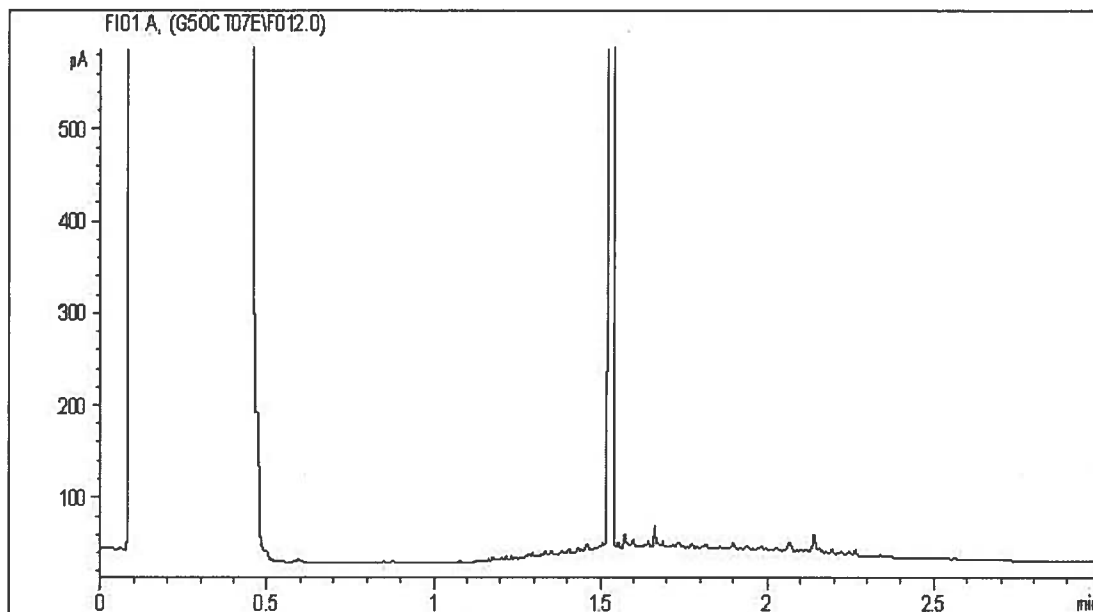
Diesel: C8 - C22

Varsol: C8 - C12

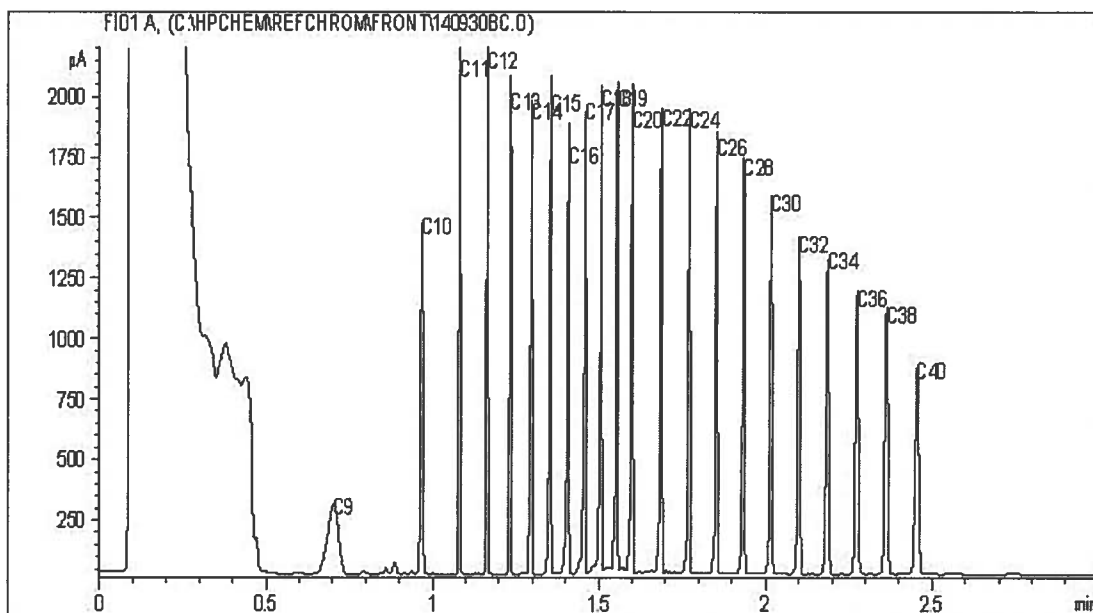
Lubricating Oils: C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BC Hydrocarbons in Soil by GC/FID Chromatogram



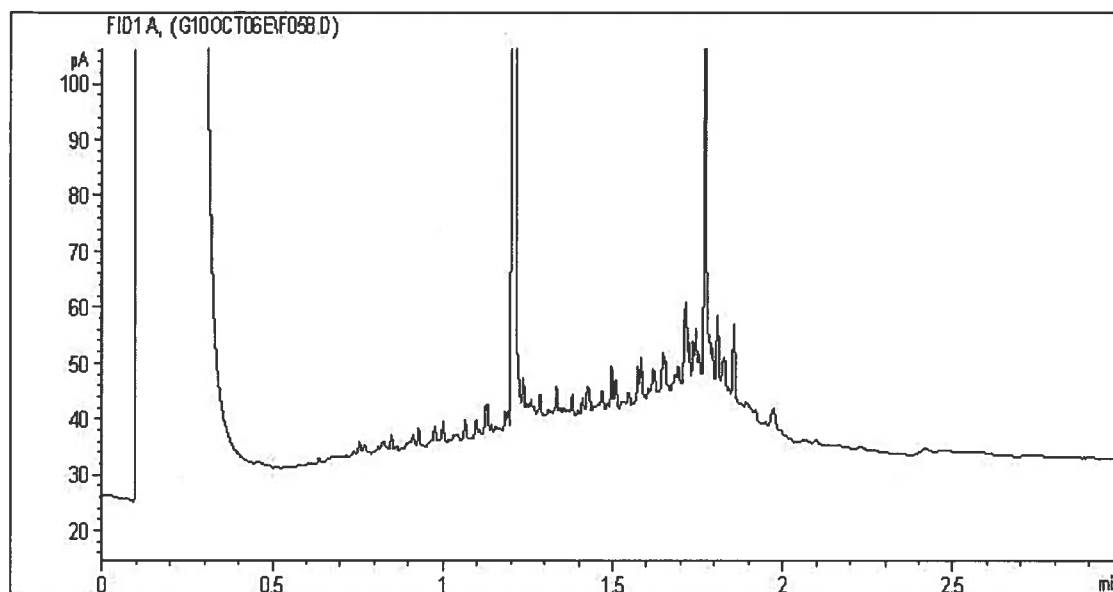
Carbon Range Distribution - Reference Chromatogram



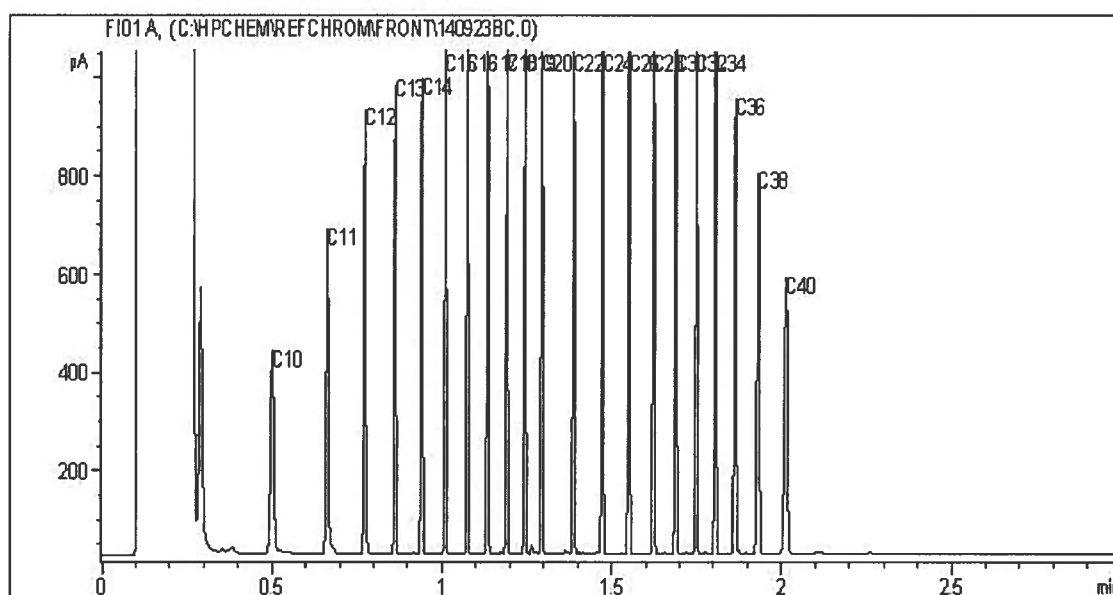
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram

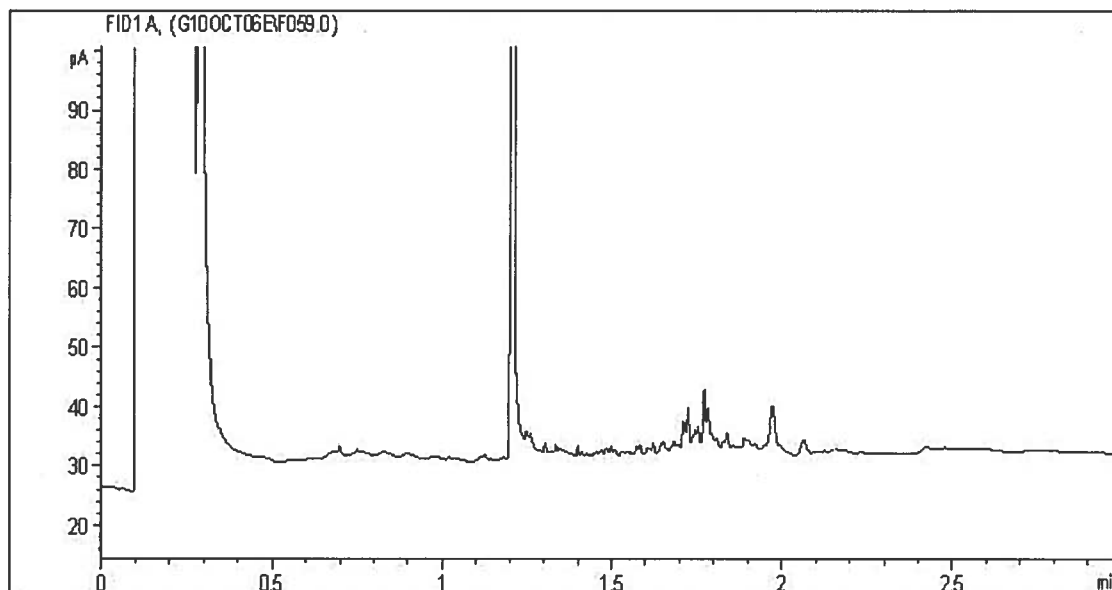


TYPICAL PRODUCT CARBON NUMBER RANGES

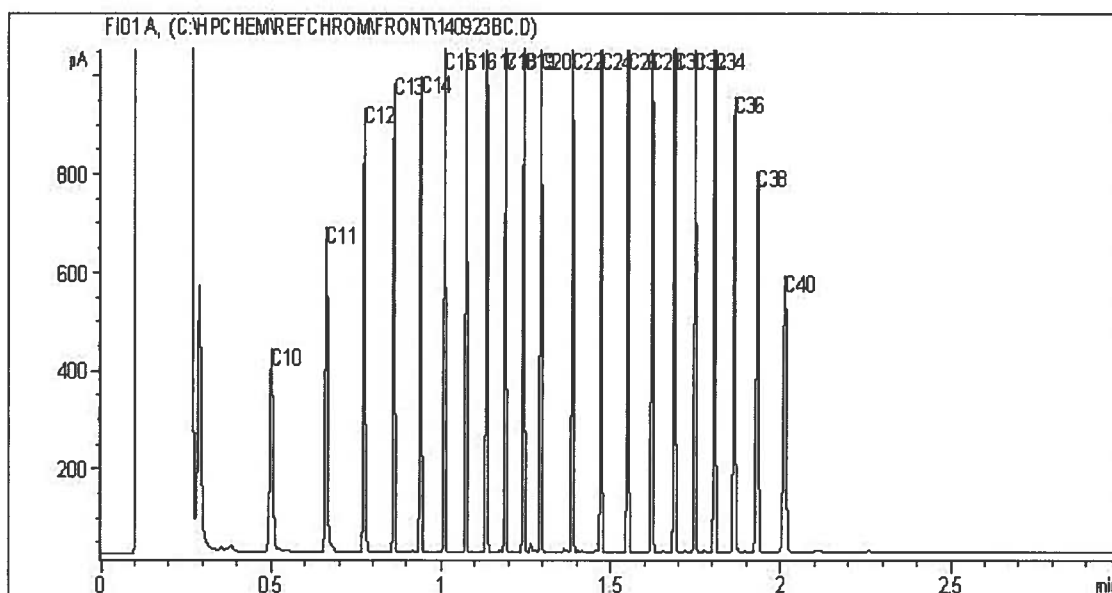
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram

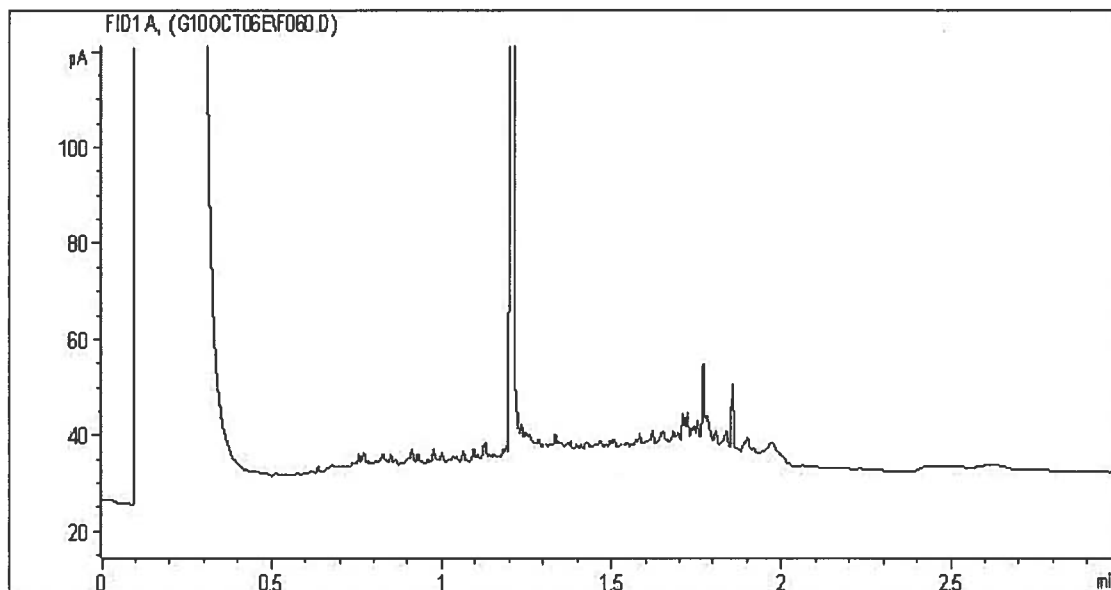


TYPICAL PRODUCT CARBON NUMBER RANGES

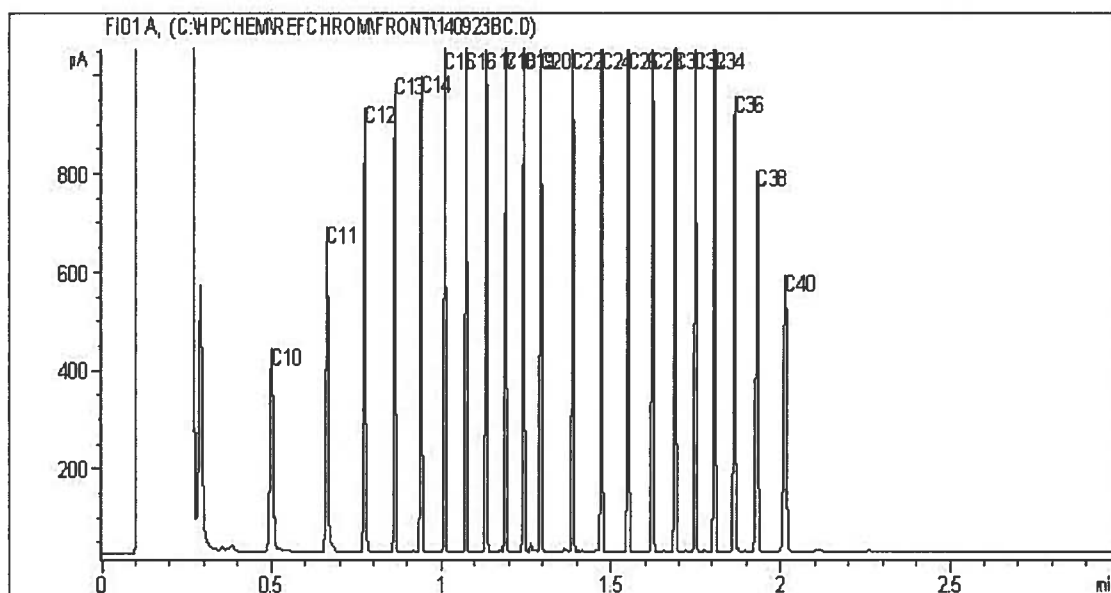
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: PRAIRIE CREEK MINE, NORTHWEST
Your C.O.C. #: 08350188

Attention: DAVID HARPLEY

CANADIAN ZINC CORPORATION
650 West Georgia Street
Suite 1710
Vancouver, BC
CANADA V6B 4N9

Report Date: 2014/12/31
Report #: R1769632
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4A0466

Received: 2014/11/04, 14:45

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	4	2014/11/06	2014/11/06	BBY7SOP-00001	EPA 6020a R1 m
Moisture	3	N/A	2014/11/08	BBY8SOP-00017	OMOE E3139 3.1 m
Moisture	1	N/A	2014/11/09	BBY8SOP-00017	OMOE E3139 3.1 m
pH (2:1 DI Water Extract)	4	2014/11/06	2014/11/07	BBY6SOP-00028	BCMOE BCLM Mar2005 m
Total Organic Carbon LECO Method (1)	4	2014/12/29	2014/12/30	CAL SOP-00243	LECO 203-821-170 m
BC Hydrocarbons in Soil by GC/FID	3	2014/11/07	2014/11/10	BBY8SOP-00029	BCMOE EPH s 07/99 m
BC Hydrocarbons in Soil by GC/FID	1	2014/11/08	2014/11/10	BBY8SOP-00029	BCMOE EPH s 07/99 m

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	1	2014/11/05	2014/11/06	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	1	2014/11/06	2014/11/06	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	2	N/A	2014/11/06	BBY6SOP-00011	SM 22 4500-Cl- G m
Conductance - water	2	N/A	2014/11/06	BBY6SOP-00026	SM 22 2510 B m
Hardness Total (calculated as CaCO3)	2	N/A	2014/11/06	BBY7SOP-00002	EPA 6020a R1 m
Hardness (calculated as CaCO3)	2	N/A	2014/11/08	BBY7SOP-00002	EPA 6020a R1 m
Mercury (Dissolved) by CVAF	2	N/A	2014/11/15	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	1	2014/11/14	2014/11/14	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	1	2014/11/14	2014/11/15	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	2	N/A	2014/11/08	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved)	2	N/A	2014/11/08	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	2014/11/05	2014/11/06	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	2	2014/11/05	2014/11/06	BBY7SOP-00002	EPA 6020A R1 m
Filter and HNO3 Preserve for Metals	2	N/A	2014/11/08	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (2)	2	N/A	2014/11/06	BBY6SOP-00026	SM 22 4500-H+ B m
Sulphate by Automated Colourimetry	2	N/A	2014/11/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	2	2014/11/06	2014/11/07	BBY6SOP-00033	SM 22 2540 C m
Total Suspended Solids	2	N/A	2014/11/07	BBY6SOP-00034	SM 22 2540 D

Your Project #: PRAIRIE CREEK MINE, NORTHWEST
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Report Date: 2014/12/31
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CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4A0466

Received: 2014/11/04, 14:45

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental

(2) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key



Sydney Morgan Strelau

31 Dec 2014 08:21:07 -08:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sydney Morgan Strelau, Customer Service Representative

Email: SMorganStrelau@maxxam.ca

Phone# (604) 734 7276

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

PHYSICAL TESTING (SOIL)

Maxxam ID		LB2024		LB2025		LB2026		LB2027		
Sampling Date		2014/09/19		2014/09/19		2014/09/19		2014/09/19		
COC Number		08350188		08350188		08350188		08350188		
	Units	FUNERAL	QC Batch	SUNDOG @CAT	QC Batch	POLIJIE	QC Batch	PRAIRIE	RDL	QC Batch
Physical Properties										
Moisture	%	6.6	7711373	21	7711132	17	7711358	5.9	0.30	7711903
RDL = Reportable Detection Limit										

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

TOTAL PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		LB2024	LB2025	LB2026		LB2027		
Sampling Date		2014/09/19	2014/09/19	2014/09/19		2014/09/19		
COC Number		08350188	08350188	08350188		08350188		
	Units	FUNERAL	SUNDOG @CAT	POLIJIE	QC Batch	PRAIRIE	RDL	QC Batch
Hydrocarbons								
EPH (C10-C19)	mg/kg	<100	<100	<100	7713375	<100	100	7714253
EPH (C19-C32)	mg/kg	<100	<100	<100	7713375	<100	100	7714253
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	97	93	94	7713375	102		7714253
RDL = Reportable Detection Limit								

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

MISCELLANEOUS (SOIL)

Maxxam ID		LB2024		LB2025		LB2026		LB2027		
Sampling Date		2014/09/19		2014/09/19		2014/09/19		2014/09/19		
COC Number		08350188		08350188		08350188		08350188		
	Units	FUNERAL	RDL	SUNDOG @CAT	RDL	POLIJIE	RDL	PRAIRIE	RDL	QC Batch
Misc. Inorganics										
Total Organic Carbon (C)	%	5.2 (1)	0.040	<0.20 (2)	0.20	0.039	0.020	3.3 (2)	0.040	7766585
RDL = Reportable Detection Limit										
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.										
Duplicate exceeds acceptance criteria due to sample non homogeneity. Reanalysis yields similar results.										
(2) Detection limits raised due to dilution to bring analyte within the calibrated range.										

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		LB2022		LB2023		
Sampling Date		2014/09/19		2014/09/19		
COC Number		08350188		08350188		
	Units	POLIJIE CREEK	QC Batch	FUNERAL CREEK	RDL	QC Batch
Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	N/A	ONSITE
Misc. Inorganics						
Alkalinity (Total as CaCO3)	mg/L	193	7708244	172	0.50	7709354
Alkalinity (PP as CaCO3)	mg/L	2.49	7708244	<0.50	0.50	7709354
Bicarbonate (HCO3)	mg/L	229	7708244	210	0.50	7709354
Carbonate (CO3)	mg/L	2.99	7708244	<0.50	0.50	7709354
Hydroxide (OH)	mg/L	<0.50	7708244	<0.50	0.50	7709354
Anions						
Dissolved Sulphate (SO4)	mg/L	30.0	7709993	87.5	0.50	7709993
Dissolved Chloride (Cl)	mg/L	1.2	7709991	0.75	0.50	7709991
Physical Properties						
Conductivity	uS/cm	421	7708249	465	1.0	7709371
pH	pH	8.38	7708248	8.21	N/A	7709370
Physical Properties						
Total Suspended Solids	mg/L	<4.0	7708892	<4.0	4.0	7708892
Total Dissolved Solids	mg/L	228	7708888	264	10	7708888
RDL = Reportable Detection Limit						
N/A = Not Applicable						

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		LB2022	LB2023		
Sampling Date		2014/09/19	2014/09/19		
COC Number		08350188	08350188		
	Units	POLJIE CREEK	FUNERAL CREEK	RDL	QC Batch
Misc. Inorganics					
Dissolved Hardness (CaCO ₃)	mg/L	243	265	0.50	7707077
Elements					
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	0.010	7720177
Dissolved Metals by ICPMS					
Dissolved Aluminum (Al)	ug/L	<3.0	<3.0	3.0	7709558
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.50	7709558
Dissolved Arsenic (As)	ug/L	0.13	0.50	0.10	7709558
Dissolved Barium (Ba)	ug/L	131	66.1	1.0	7709558
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	0.10	7709558
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	1.0	7709558
Dissolved Boron (B)	ug/L	<50	<50	50	7709558
Dissolved Cadmium (Cd)	ug/L	0.092	0.054	0.010	7709558
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0	7709558
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	0.50	7709558
Dissolved Copper (Cu)	ug/L	0.37	0.37	0.20	7709558
Dissolved Iron (Fe)	ug/L	14.1	5.7	5.0	7709558
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.20	7709558
Dissolved Lithium (Li)	ug/L	<5.0	5.1	5.0	7709558
Dissolved Manganese (Mn)	ug/L	17.6	<1.0	1.0	7709558
Dissolved Molybdenum (Mo)	ug/L	4.8	3.6	1.0	7709558
Dissolved Nickel (Ni)	ug/L	2.0	2.7	1.0	7709558
Dissolved Selenium (Se)	ug/L	2.05	1.62	0.10	7709558
Dissolved Silicon (Si)	ug/L	2480	1560	100	7709558
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	0.020	7709558
Dissolved Strontium (Sr)	ug/L	146	390	1.0	7709558
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	0.050	7709558
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	5.0	7709558
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	5.0	7709558
Dissolved Uranium (U)	ug/L	2.80	5.30	0.10	7709558
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	5.0	7709558
Dissolved Zinc (Zn)	ug/L	6.4	33.7	5.0	7709558
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	0.50	7709558
Dissolved Calcium (Ca)	mg/L	73.1	59.1	0.050	7707169
Dissolved Magnesium (Mg)	mg/L	14.6	28.5	0.050	7707169
Dissolved Potassium (K)	mg/L	0.559	0.415	0.050	7707169
Dissolved Sodium (Na)	mg/L	0.929	1.58	0.050	7707169
RDL = Reportable Detection Limit					

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		LB2022	LB2023		
Sampling Date		2014/09/19	2014/09/19		
COC Number		08350188	08350188		
	Units	POLIJIE CREEK	FUNERAL CREEK	RDL	QC Batch
Dissolved Sulphur (S)	mg/L	12.1	27.9	3.0	7707169
RDL = Reportable Detection Limit					

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

CCME TOTAL METALS IN WATER (WATER)

Maxxam ID		LB2022		LB2023		
Sampling Date		2014/09/19		2014/09/19		
COC Number		08350188		08350188		
	Units	POLIJIE CREEK	QC Batch	FUNERAL CREEK	RDL	QC Batch
Calculated Parameters						
Total Hardness (CaCO ₃)	mg/L	223	7706996	251	0.50	7706996
Elements						
Total Mercury (Hg)	ug/L	<0.010	7719366	<0.010	0.010	7719978
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	5.2	7708728	<3.0	3.0	7708728
Total Antimony (Sb)	ug/L	<0.50	7708728	<0.50	0.50	7708728
Total Arsenic (As)	ug/L	0.12	7708728	0.52	0.10	7708728
Total Barium (Ba)	ug/L	131	7708728	64.8	1.0	7708728
Total Beryllium (Be)	ug/L	<0.10	7708728	<0.10	0.10	7708728
Total Bismuth (Bi)	ug/L	<1.0	7708728	<1.0	1.0	7708728
Total Boron (B)	ug/L	<50	7708728	<50	50	7708728
Total Cadmium (Cd)	ug/L	0.093	7708728	0.051	0.010	7708728
Total Chromium (Cr)	ug/L	<1.0	7708728	<1.0	1.0	7708728
Total Cobalt (Co)	ug/L	<0.50	7708728	<0.50	0.50	7708728
Total Copper (Cu)	ug/L	<0.50	7708728	<0.50	0.50	7708728
Total Iron (Fe)	ug/L	49	7708728	<10	10	7708728
Total Lead (Pb)	ug/L	<0.20	7708728	<0.20	0.20	7708728
Total Lithium (Li)	ug/L	<5.0	7708728	<5.0	5.0	7708728
Total Manganese (Mn)	ug/L	17.6	7708728	<1.0	1.0	7708728
Total Molybdenum (Mo)	ug/L	4.6	7708728	3.4	1.0	7708728
Total Nickel (Ni)	ug/L	1.9	7708728	2.7	1.0	7708728
Total Selenium (Se)	ug/L	2.04	7708728	1.49	0.10	7708728
Total Silicon (Si)	ug/L	2280	7708728	1450	100	7708728
Total Silver (Ag)	ug/L	<0.020	7708728	<0.020	0.020	7708728
Total Strontium (Sr)	ug/L	137	7708728	368	1.0	7708728
Total Thallium (Tl)	ug/L	<0.050	7708728	<0.050	0.050	7708728
Total Tin (Sn)	ug/L	<5.0	7708728	<5.0	5.0	7708728
Total Titanium (Ti)	ug/L	<5.0	7708728	<5.0	5.0	7708728
Total Uranium (U)	ug/L	2.66	7708728	5.20	0.10	7708728
Total Vanadium (V)	ug/L	<5.0	7708728	<5.0	5.0	7708728
Total Zinc (Zn)	ug/L	5.8	7708728	32.8	5.0	7708728
Total Zirconium (Zr)	ug/L	<0.50	7708728	<0.50	0.50	7708728
Total Calcium (Ca)	mg/L	67.7	7707170	55.1	0.050	7707170
Total Magnesium (Mg)	mg/L	13.2	7707170	27.6	0.050	7707170
Total Potassium (K)	mg/L	0.517	7707170	0.358	0.050	7707170
Total Sodium (Na)	mg/L	0.822	7707170	1.53	0.050	7707170
RDL = Reportable Detection Limit						

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

CCME TOTAL METALS IN WATER (WATER)

Maxxam ID		LB2022		LB2023		
Sampling Date		2014/09/19		2014/09/19		
COC Number		08350188		08350188		
	Units	POLIJIE CREEK	QC Batch	FUNERAL CREEK	RDL	QC Batch
Total Sulphur (S)	mg/L	10.8	7707170	29.1	3.0	7707170
RDL = Reportable Detection Limit						

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		LB2024	LB2025	LB2026	LB2027		
Sampling Date		2014/09/19	2014/09/19	2014/09/19	2014/09/19		
COC Number		08350188	08350188	08350188	08350188		
	Units	FUNERAL	SUNDOG @CAT	POLIJIE	PRAIRIE	RDL	QC Batch
Physical Properties							
Soluble (2:1) pH	pH	8.83	8.54	8.30	8.77	N/A	7708909
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	4350	662	3350	3240	100	7708907
Total Antimony (Sb)	mg/kg	0.49	0.11	0.60	1.19	0.10	7708907
Total Arsenic (As)	mg/kg	6.38	0.86	5.60	5.35	0.50	7708907
Total Barium (Ba)	mg/kg	31.1	16.0	196	70.2	0.10	7708907
Total Beryllium (Be)	mg/kg	<0.40	<0.40	<0.40	<0.40	0.40	7708907
Total Bismuth (Bi)	mg/kg	<0.10	<0.10	<0.10	<0.10	0.10	7708907
Total Cadmium (Cd)	mg/kg	2.15	0.247	0.542	1.63	0.050	7708907
Total Calcium (Ca)	mg/kg	207000	216000	21500	196000	100	7708907
Total Chromium (Cr)	mg/kg	8.1	2.1	7.7	6.6	1.0	7708907
Total Cobalt (Co)	mg/kg	3.60	0.47	4.24	3.93	0.30	7708907
Total Copper (Cu)	mg/kg	6.85	1.19	9.74	9.10	0.50	7708907
Total Iron (Fe)	mg/kg	16000	2460	13100	11000	100	7708907
Total Lead (Pb)	mg/kg	49.0	3.84	5.39	21.8	0.10	7708907
Total Lithium (Li)	mg/kg	9.4	<5.0	5.2	5.4	5.0	7708907
Total Magnesium (Mg)	mg/kg	54100	106000	5140	32900	100	7708907
Total Manganese (Mn)	mg/kg	225	121	255	185	0.20	7708907
Total Mercury (Hg)	mg/kg	<0.050	<0.050	<0.050	0.187	0.050	7708907
Total Molybdenum (Mo)	mg/kg	3.31	0.87	3.31	4.04	0.10	7708907
Total Nickel (Ni)	mg/kg	20.5	2.34	17.0	20.4	0.80	7708907
Total Phosphorus (P)	mg/kg	276	155	484	463	10	7708907
Total Potassium (K)	mg/kg	591	149	413	432	100	7708907
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	<0.50	0.50	7708907
Total Silver (Ag)	mg/kg	0.053	<0.050	<0.050	0.087	0.050	7708907
Total Sodium (Na)	mg/kg	146	138	<100	113	100	7708907
Total Strontium (Sr)	mg/kg	480	84.0	30.1	463	0.10	7708907
Total Thallium (Tl)	mg/kg	0.248	<0.050	0.140	0.094	0.050	7708907
Total Tin (Sn)	mg/kg	0.18	<0.10	0.15	0.14	0.10	7708907
Total Titanium (Ti)	mg/kg	15.5	10.1	67.9	9.2	1.0	7708907
Total Uranium (U)	mg/kg	0.930	1.29	0.833	1.16	0.050	7708907
Total Vanadium (V)	mg/kg	25.0	5.2	23.8	23.2	2.0	7708907
Total Zinc (Zn)	mg/kg	319	29.2	69.1	204	1.0	7708907
Total Zirconium (Zr)	mg/kg	2.15	0.51	1.67	2.72	0.50	7708907
RDL = Reportable Detection Limit							
N/A = Not Applicable							

Maxxam Job #: B4A0466
Report Date: 2014/12/31

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
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Results relate only to the items tested.

Maxxam Job #: B4A0466
Report Date: 2014/12/31

QUALITY ASSURANCE REPORT

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7713375	O-TERPHENYL (sur.)	2014/11/10	85	50 - 130	96	50 - 130	90	%				
7714253	O-TERPHENYL (sur.)	2014/11/10	101	50 - 130	96	50 - 130	105	%				
7708244	Alkalinity (PP as CaCO3)	2014/11/06					<0.50	mg/L	NC	20		
7708244	Alkalinity (Total as CaCO3)	2014/11/06	NC	80 - 120	94	80 - 120	<0.50	mg/L	1.3	20		
7708244	Bicarbonate (HCO3)	2014/11/06					<0.50	mg/L	1.3	20		
7708244	Carbonate (CO3)	2014/11/06					<0.50	mg/L	NC	20		
7708244	Hydroxide (OH)	2014/11/06					<0.50	mg/L	NC	20		
7708248	pH	2014/11/06			101	97 - 103			0.25	N/A		
7708249	Conductivity	2014/11/06			101	80 - 120	1.5, RDL=1.0	uS/cm	0.78	20		
7708728	Total Aluminum (Al)	2014/11/06	103	80 - 120	105	80 - 120	<3.0	ug/L	NC	20		
7708728	Total Antimony (Sb)	2014/11/06	103	80 - 120	103	80 - 120	<0.50	ug/L	NC	20		
7708728	Total Arsenic (As)	2014/11/06	105	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
7708728	Total Barium (Ba)	2014/11/06	NC	80 - 120	101	80 - 120	<1.0	ug/L	0.085	20		
7708728	Total Beryllium (Be)	2014/11/06	103	80 - 120	106	80 - 120	<0.10	ug/L	NC	20		
7708728	Total Bismuth (Bi)	2014/11/06	95	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
7708728	Total Boron (B)	2014/11/06					<50	ug/L	NC	20		
7708728	Total Cadmium (Cd)	2014/11/06	99	80 - 120	100	80 - 120	<0.010	ug/L	0	20		
7708728	Total Chromium (Cr)	2014/11/06	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
7708728	Total Cobalt (Co)	2014/11/06	100	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
7708728	Total Copper (Cu)	2014/11/06	95	80 - 120	101	80 - 120	<0.50	ug/L	NC	20		
7708728	Total Iron (Fe)	2014/11/06	101	80 - 120	105	80 - 120	<10	ug/L	NC	20		
7708728	Total Lead (Pb)	2014/11/06	96	80 - 120	97	80 - 120	<0.20	ug/L	NC	20		
7708728	Total Lithium (Li)	2014/11/06	94	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
7708728	Total Manganese (Mn)	2014/11/06	NC	80 - 120	99	80 - 120	<1.0	ug/L	1.9	20		
7708728	Total Molybdenum (Mo)	2014/11/06	NC	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
7708728	Total Nickel (Ni)	2014/11/06	96	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
7708728	Total Selenium (Se)	2014/11/06	99	80 - 120	98	80 - 120	<0.10	ug/L	1.1	20		
7708728	Total Silicon (Si)	2014/11/06					<100	ug/L	2.1	20		
7708728	Total Silver (Ag)	2014/11/06	103	80 - 120	92	80 - 120	<0.020	ug/L	NC	20		
7708728	Total Strontium (Sr)	2014/11/06	NC	80 - 120	99	80 - 120	<1.0	ug/L	1.9	20		
7708728	Total Thallium (Tl)	2014/11/06	86	80 - 120	82	80 - 120	<0.050	ug/L	NC	20		
7708728	Total Tin (Sn)	2014/11/06	99	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		

Maxxam Job #: B4A0466
Report Date: 2014/12/31

QUALITY ASSURANCE REPORT(CONT'D)

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7708728	Total Titanium (Ti)	2014/11/06	106	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
7708728	Total Uranium (U)	2014/11/06	104	80 - 120	102	80 - 120	<0.10	ug/L	0.86	20		
7708728	Total Vanadium (V)	2014/11/06	101	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
7708728	Total Zinc (Zn)	2014/11/06	NC	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
7708728	Total Zirconium (Zr)	2014/11/06					<0.50	ug/L	NC	20		
7708888	Total Dissolved Solids	2014/11/07	NC	80 - 120	88	80 - 120	<10	mg/L	3.1	20		
7708892	Total Suspended Solids	2014/11/07	85	80 - 120	101	80 - 120	<4.0	mg/L	NC	20		
7708907	Total Aluminum (Al)	2014/11/06					<100	mg/kg	0.91	35	107	70 - 130
7708907	Total Antimony (Sb)	2014/11/06	NC	75 - 125	102	75 - 125	<0.10	mg/kg	11	30	122	70 - 130
7708907	Total Arsenic (As)	2014/11/06	NC	75 - 125	99	75 - 125	<0.50	mg/kg	13	30	99	70 - 130
7708907	Total Barium (Ba)	2014/11/06	NC	75 - 125	100	75 - 125	<0.10	mg/kg	17	35	100	70 - 130
7708907	Total Beryllium (Be)	2014/11/06	98	75 - 125	100	75 - 125	<0.40	mg/kg	NC	30		
7708907	Total Bismuth (Bi)	2014/11/06					<0.10	mg/kg	NC	30		
7708907	Total Cadmium (Cd)	2014/11/06	100	75 - 125	106	75 - 125	<0.050	mg/kg	5.3	30	100	70 - 130
7708907	Total Calcium (Ca)	2014/11/06					<100	mg/kg	3.4	30	95	70 - 130
7708907	Total Chromium (Cr)	2014/11/06	96	75 - 125	103	75 - 125	<1.0	mg/kg	5.7	30	110	70 - 130
7708907	Total Cobalt (Co)	2014/11/06	97	75 - 125	103	75 - 125	<0.30	mg/kg	3.7	30	95	70 - 130
7708907	Total Copper (Cu)	2014/11/06	NC	75 - 125	106	75 - 125	<0.50	mg/kg	11	30	91	70 - 130
7708907	Total Iron (Fe)	2014/11/06					<100	mg/kg	5.3	30	99	70 - 130
7708907	Total Lead (Pb)	2014/11/06	NC	75 - 125	102	75 - 125	<0.10	mg/kg	12	35	101	70 - 130
7708907	Total Lithium (Li)	2014/11/06	94	75 - 125	98	75 - 125	<5.0	mg/kg	NC	30		
7708907	Total Magnesium (Mg)	2014/11/06					<100	mg/kg	2.2	30	98	70 - 130
7708907	Total Manganese (Mn)	2014/11/06	NC	75 - 125	105	75 - 125	<0.20	mg/kg	0.62	30	100	70 - 130
7708907	Total Mercury (Hg)	2014/11/06	98	75 - 125	102	75 - 125	<0.050	mg/kg	NC	35	103	70 - 130
7708907	Total Molybdenum (Mo)	2014/11/06	NC	75 - 125	105	75 - 125	<0.10	mg/kg	19	35	117	70 - 130
7708907	Total Nickel (Ni)	2014/11/06	100	75 - 125	103	75 - 125	<0.80	mg/kg	2.9	30	97	70 - 130
7708907	Total Phosphorus (P)	2014/11/06					<10	mg/kg	8.5	30	93	70 - 130
7708907	Total Potassium (K)	2014/11/06					<100	mg/kg	NC	35		
7708907	Total Selenium (Se)	2014/11/06	103	75 - 125	106	75 - 125	<0.50	mg/kg	NC	30		
7708907	Total Silver (Ag)	2014/11/06	91	75 - 125	102	75 - 125	<0.050	mg/kg	NC	35		
7708907	Total Sodium (Na)	2014/11/06					<100	mg/kg				
7708907	Total Strontium (Sr)	2014/11/06	NC	75 - 125	98	75 - 125	<0.10	mg/kg	11	35	103	70 - 130

Maxxam Job #: B4A0466
Report Date: 2014/12/31

QUALITY ASSURANCE REPORT(CONT'D)

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7708907	Total Thallium (Tl)	2014/11/06	97	75 - 125	105	75 - 125	<0.050	mg/kg	NC	30	97	70 - 130
7708907	Total Tin (Sn)	2014/11/06	NC	75 - 125	96	75 - 125	<0.10	mg/kg	12	35		
7708907	Total Titanium (Ti)	2014/11/06	NC	75 - 125	96	75 - 125	<1.0	mg/kg	4.2	35	108	70 - 130
7708907	Total Uranium (U)	2014/11/06	99	75 - 125	100	75 - 125	<0.050	mg/kg	3.4	30	97	70 - 130
7708907	Total Vanadium (V)	2014/11/06	NC	75 - 125	97	75 - 125	<2.0	mg/kg	3.4	30	109	70 - 130
7708907	Total Zinc (Zn)	2014/11/06	NC	75 - 125	108	75 - 125	<1.0	mg/kg	7.8	30	93	70 - 130
7708907	Total Zirconium (Zr)	2014/11/06					<0.50	mg/kg	NC	30		
7708909	Soluble (2:1) pH	2014/11/07			101	97 - 103			0.28	N/A		
7709354	Alkalinity (PP as CaCO3)	2014/11/06					<0.50	mg/L				
7709354	Alkalinity (Total as CaCO3)	2014/11/06			97	80 - 120	<0.50	mg/L				
7709354	Bicarbonate (HCO3)	2014/11/06					<0.50	mg/L				
7709354	Carbonate (CO3)	2014/11/06					<0.50	mg/L				
7709354	Hydroxide (OH)	2014/11/06					<0.50	mg/L				
7709370	pH	2014/11/06			101	97 - 103			0.28	N/A		
7709371	Conductivity	2014/11/06			99	80 - 120	<1.0	uS/cm	1.3	20		
7709558	Dissolved Aluminum (Al)	2014/11/08	104	80 - 120	100	80 - 120	<3.0	ug/L	NC	20		
7709558	Dissolved Antimony (Sb)	2014/11/08	105	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
7709558	Dissolved Arsenic (As)	2014/11/08	108	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
7709558	Dissolved Barium (Ba)	2014/11/08	NC	80 - 120	98	80 - 120	<1.0	ug/L	0.070	20		
7709558	Dissolved Beryllium (Be)	2014/11/08	107	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
7709558	Dissolved Bismuth (Bi)	2014/11/08	102	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
7709558	Dissolved Boron (B)	2014/11/08					<50	ug/L	NC	20		
7709558	Dissolved Cadmium (Cd)	2014/11/08	103	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
7709558	Dissolved Chromium (Cr)	2014/11/08	106	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
7709558	Dissolved Cobalt (Co)	2014/11/08	105	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
7709558	Dissolved Copper (Cu)	2014/11/08	102	80 - 120	103	80 - 120	<0.20	ug/L	NC	20		
7709558	Dissolved Iron (Fe)	2014/11/08	NC	80 - 120	110	80 - 120	<5.0	ug/L	9.4	20		
7709558	Dissolved Lead (Pb)	2014/11/08	103	80 - 120	100	80 - 120	<0.20	ug/L	NC	20		
7709558	Dissolved Lithium (Li)	2014/11/08	104	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
7709558	Dissolved Manganese (Mn)	2014/11/08	NC	80 - 120	102	80 - 120	<1.0	ug/L	4.6	20		
7709558	Dissolved Molybdenum (Mo)	2014/11/08	NC	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
7709558	Dissolved Nickel (Ni)	2014/11/08	99	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		

Maxxam Job #: B4A0466
Report Date: 2014/12/31

QUALITY ASSURANCE REPORT(CONT'D)

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7709558	Dissolved Selenium (Se)	2014/11/08	105	80 - 120	96	80 - 120	<0.10	ug/L	NC	20		
7709558	Dissolved Silicon (Si)	2014/11/08					<100	ug/L	6.6	20		
7709558	Dissolved Silver (Ag)	2014/11/08	94	80 - 120	89	80 - 120	<0.020	ug/L	NC	20		
7709558	Dissolved Strontium (Sr)	2014/11/08	NC	80 - 120	96	80 - 120	<1.0	ug/L	1.3	20		
7709558	Dissolved Thallium (Tl)	2014/11/08	100	80 - 120	93	80 - 120	<0.050	ug/L	NC	20		
7709558	Dissolved Tin (Sn)	2014/11/08	NC	80 - 120	93	80 - 120	<5.0	ug/L	NC	20		
7709558	Dissolved Titanium (Ti)	2014/11/08	114	80 - 120	107	80 - 120	<5.0	ug/L	NC	20		
7709558	Dissolved Uranium (U)	2014/11/08	104	80 - 120	97	80 - 120	<0.10	ug/L	1.3	20		
7709558	Dissolved Vanadium (V)	2014/11/08	112	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
7709558	Dissolved Zinc (Zn)	2014/11/08	107	80 - 120	106	80 - 120	<5.0	ug/L	NC	20		
7709558	Dissolved Zirconium (Zr)	2014/11/08					<0.50	ug/L	NC	20		
7709991	Dissolved Chloride (Cl)	2014/11/06	NC	80 - 120	99	80 - 120	<0.50	mg/L	0.20	20		
7709993	Dissolved Sulphate (SO4)	2014/11/06	NC	80 - 120	91	80 - 120	<0.50	mg/L	1.4	20		
7711132	Moisture	2014/11/08					<0.30	%	0.47	20		
7711358	Moisture	2014/11/08					<0.30	%	2.9	20		
7711373	Moisture	2014/11/08					<0.30	%	4.3	20		
7711903	Moisture	2014/11/09					<0.30	%	1.2	20		
7713375	EPH (C10-C19)	2014/11/10	83	50 - 130	86	50 - 130	<100	mg/kg	NC	40		
7713375	EPH (C19-C32)	2014/11/10	92	50 - 130	94	50 - 130	<100	mg/kg	NC	40		
7714253	EPH (C10-C19)	2014/11/10	88	50 - 130	83	50 - 130	<100	mg/kg	NC	40		
7714253	EPH (C19-C32)	2014/11/10	98	50 - 130	92	50 - 130	<100	mg/kg	NC	40		
7719366	Total Mercury (Hg)	2014/11/14	94	80 - 120	91	80 - 120	<0.010	ug/L	NC	20		
7719978	Total Mercury (Hg)	2014/11/15	91	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
7720177	Dissolved Mercury (Hg)	2014/11/15	112	80 - 120	118	80 - 120	<0.010	ug/L	NC	20		

QUALITY ASSURANCE REPORT(CONT'D)

CANADIAN ZINC CORPORATION
Client Project #: PRAIRIE CREEK MINE, NORTHWEST
Sampler Initials: DH

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7766585	Total Organic Carbon (C)	2014/12/30			98	75 - 125	0.020, RDL=0.020	%	49 (1)	35	107	75 - 125

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



08350188

Burnaby: 4800 Canada Way, Burnaby, BC V5G 1K5 Ph: (604) 734-7278 Fax: (604) 731-2388, Toll Free: (800) 669-8588

CHAIN OF CUSTODY RECORD



COC #:

[Click here to get the COC number](#)

Page 1 of 1

Invoice To: Request Report? Yes ☒ No ☐

Company Name: #09030 Canadian Zinc Corporation

Contact Name: David Huxley, VP of Environment & Permit

Address: Suite 1710 - 880 West Georgia Street

Vancouver BC: V6B 4N9

Phone / Fax: P: 604-888-2001 F: 604-888-2043

E-mail: david@canadianzinc.com

Company Name: Same as Invoice
Contact Name: _____
Address: _____

Phone / Fax: _____ PC
E-mail: _____ Mr _____ Fax _____

PO #:	
Quotation #:	800711
Project #:	
Proj. Name:	Prairie Creek Mine, Northwest Territories
Location:	
Sampled by:	D Harpley

REGULATORY REQUIREMENTS: SERVICE REQUESTED:

☐ CSR
☒ CCME
☐ BC Water Quality
☐ Other _____
☐ DRINKING WATER

☒ Regular Turn Around Time (TAT)
 (5 days for most tests)
☐ RUSH (Please contact the lab)
☐ 1 Day ☐ 2 Day ☐ 3 Day

Date Required: _____

SPECIAL INSTRUCTIONS:
Return Cooler ☒ Ship Sample Bottles (please specify) ☐
To Villers Air Service Ltd - 170 Bell Road, Fort Nelson, BC V0C 1R0
Tel: 250-774-2072, Fax: 250-774-6182

Sample Identification	Date Collected	Sample Type	Date/Time (24 hr) Sampled	BTEXMPH	VOCMPH	EPH	PAH	CONE-PHS	CONE-PPH	CONE-PHO	PCB	Phenols by Method	TGS	Dissolved Metals (DMS)	Total Metals	Nitrate	Chloride	Total Sulfate	pH	Conductivity	BOD	Caliform T.	Asbestos	HOLD	Number or Name of Source	
1 Polje Creek	8/20/77	Surface W	14/09/19											X	X	X		X	X	X					2	
2 Funeral Creek	8/20/77	Surface W	14/09/19											X	X	X		X	X	X					2	
3																										
4																										
5																										
6																										
7 Funeral	8/20/77	Soil	14/09/19			X										X									2	
8 Sundog@Cat	8/20/77	Soil	14/09/19			X										X									2	
9 Polje	8/20/77	Soil	14/09/19			X										X									2	
10 Prairie	8/20/77	Soil	14/09/19			X										X									2	
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										

B4A0466

Samples are from a Drinking Water Source? YES

ARRIVED AT DEPOT:
OCT 30 2014
TEMP: 112/21
10:00
ILO

Print name and sign		Date (yy/mm/dd)		Time (24 hr)		Received by		Date of test		Time of test		Time Sensitive		Discrep		Discrep	
Ted Boychuk		2014/09/28		12:00		[Signature]		2014/10/01		09:45		☒ Sensitive ☐ Not Sensitive		☒ Discrep ☐ No Discrep		☒ Discrep ☐ No Discrep	

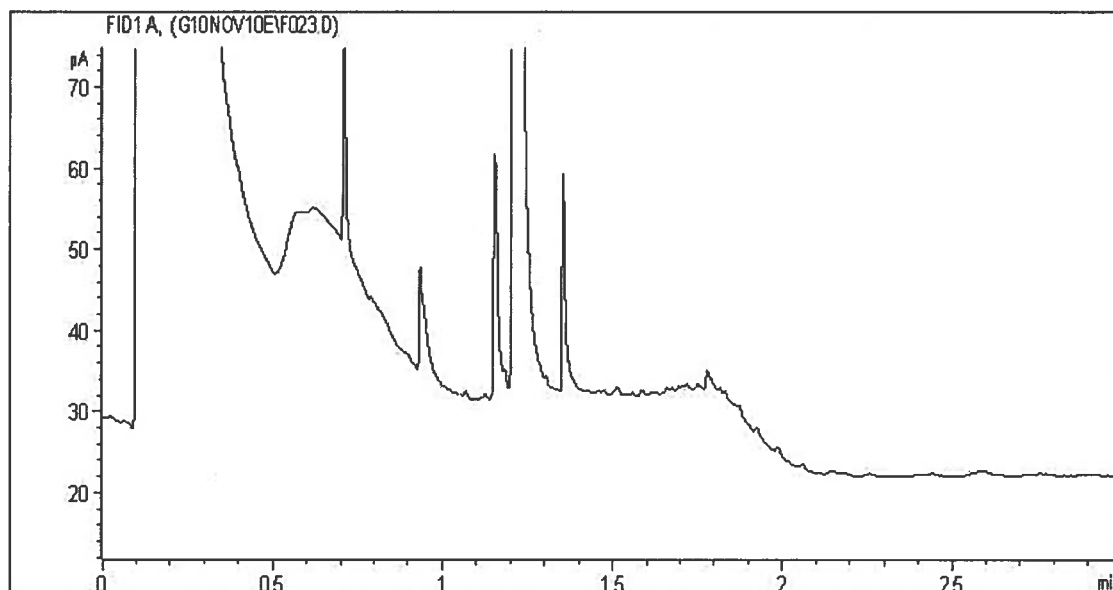
IT IS THE RESPONSIBILITY OF THE RELATIONSHIP TO SECURE THE ADEQUACY OF THE CHAIN OF CUSTODY RECORDS. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TEST DELAYS.

NAV PCD-00077R1 10

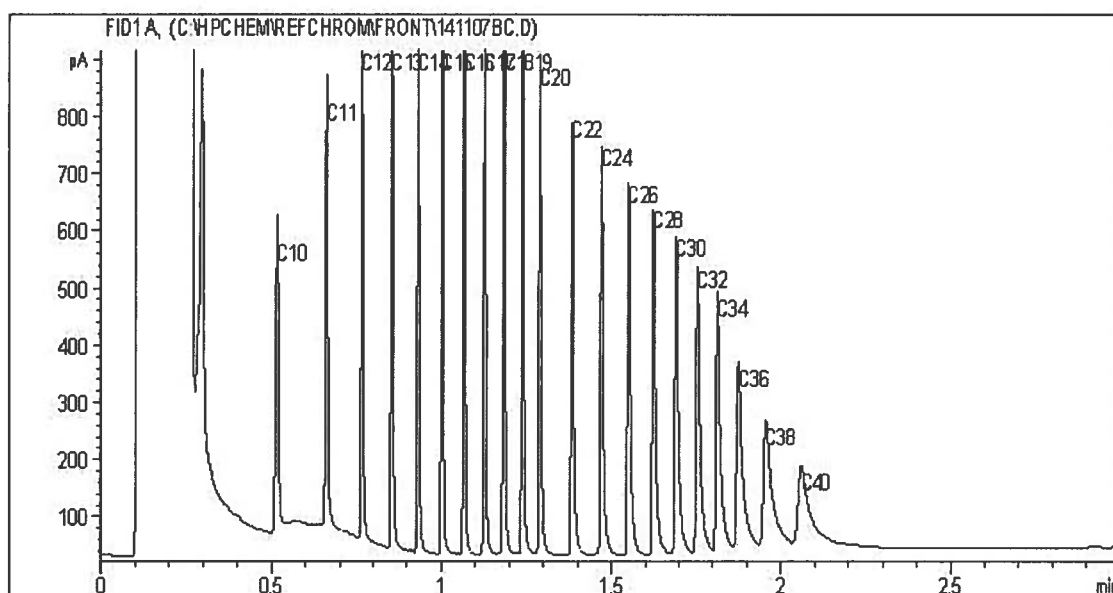
Maximum Analysis Success Through Science 9

2 SARANISIR TAKHAN 2014/11/04 6-5-8 0:11A
14:45

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram

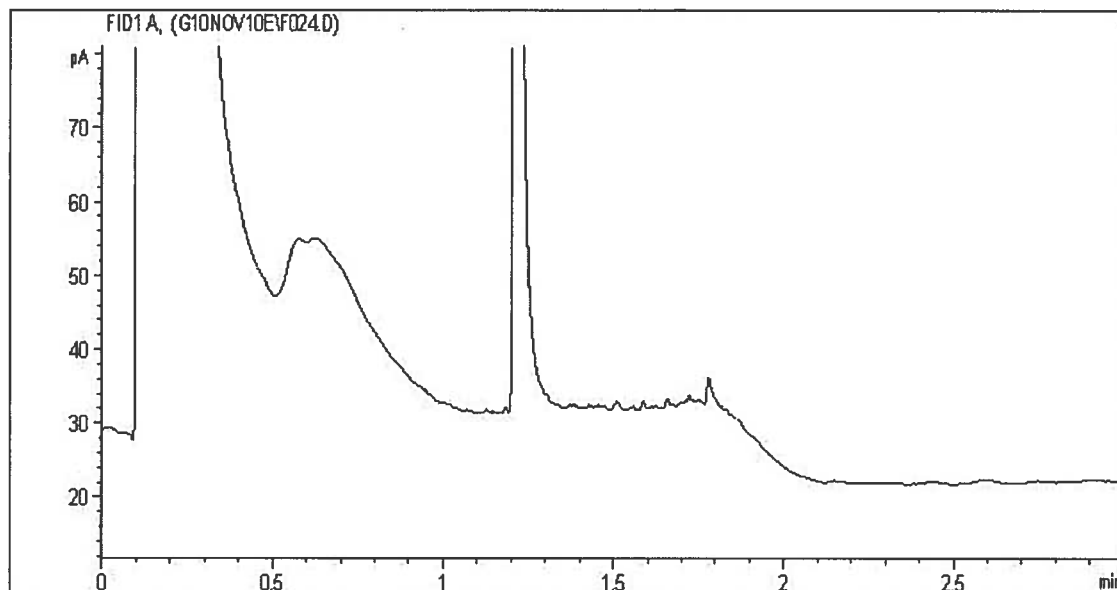


TYPICAL PRODUCT CARBON NUMBER RANGES

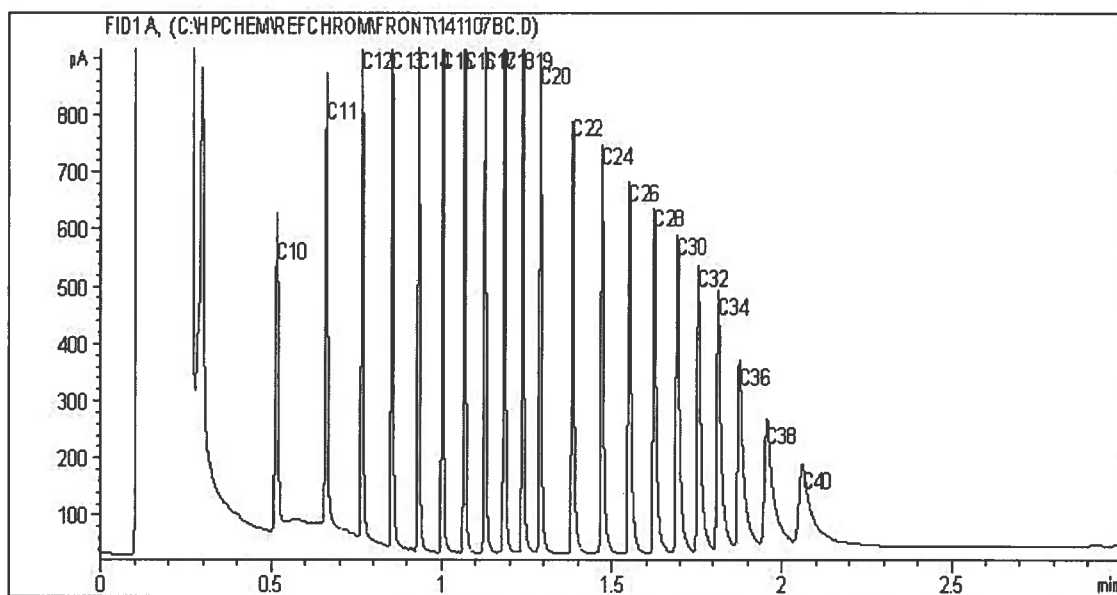
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram

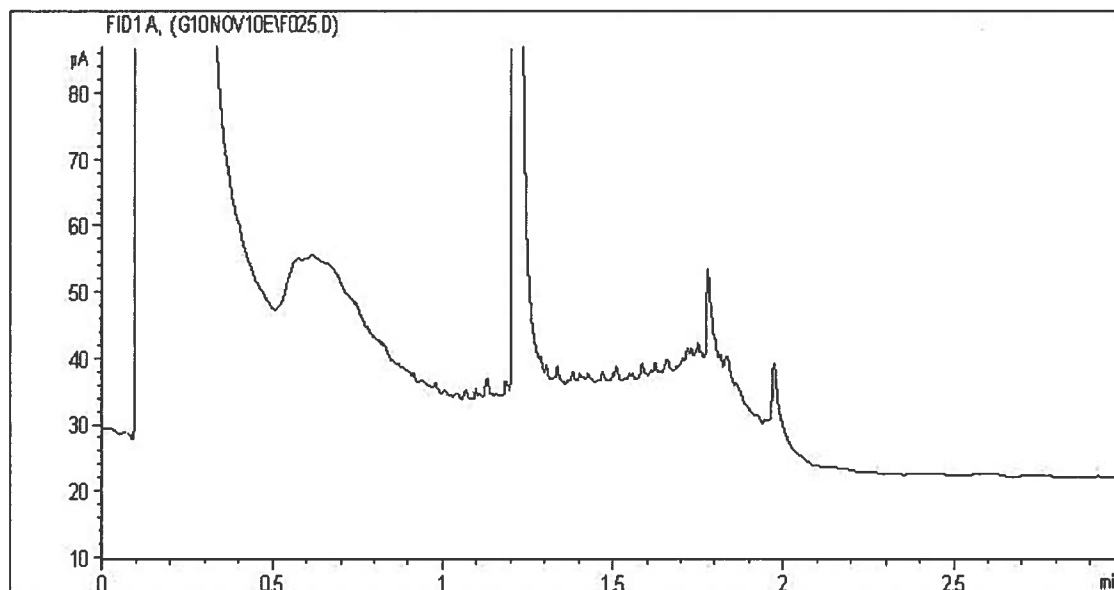


TYPICAL PRODUCT CARBON NUMBER RANGES

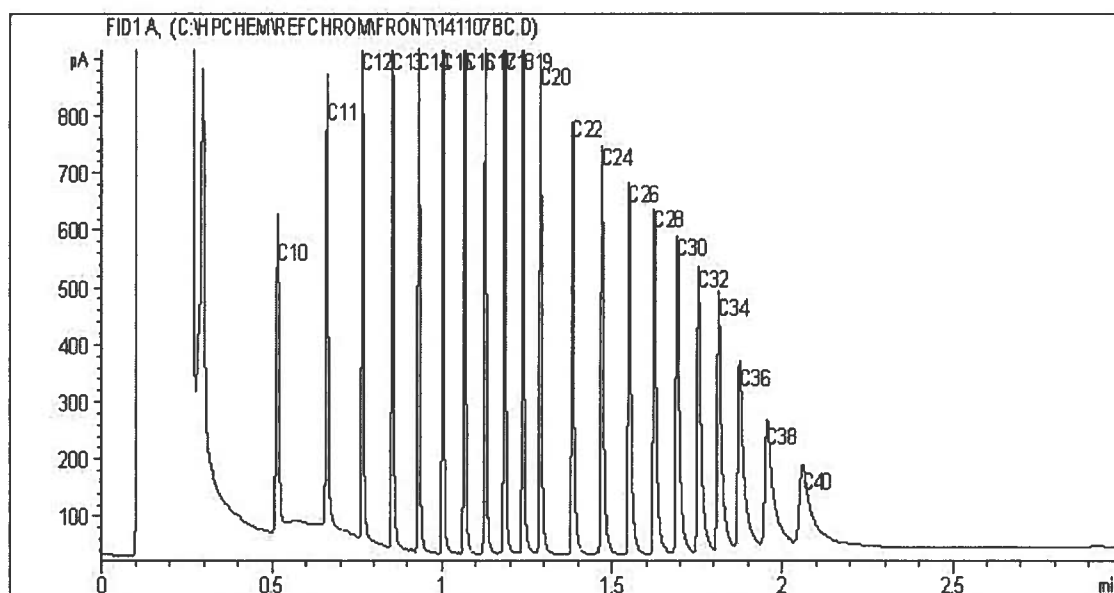
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

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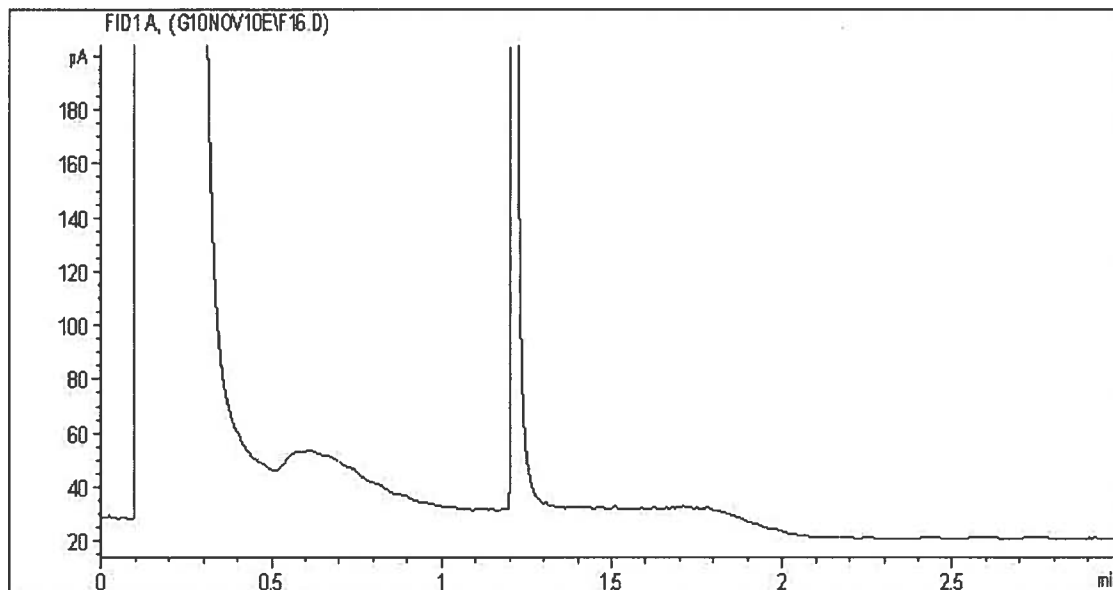


TYPICAL PRODUCT CARBON NUMBER RANGES

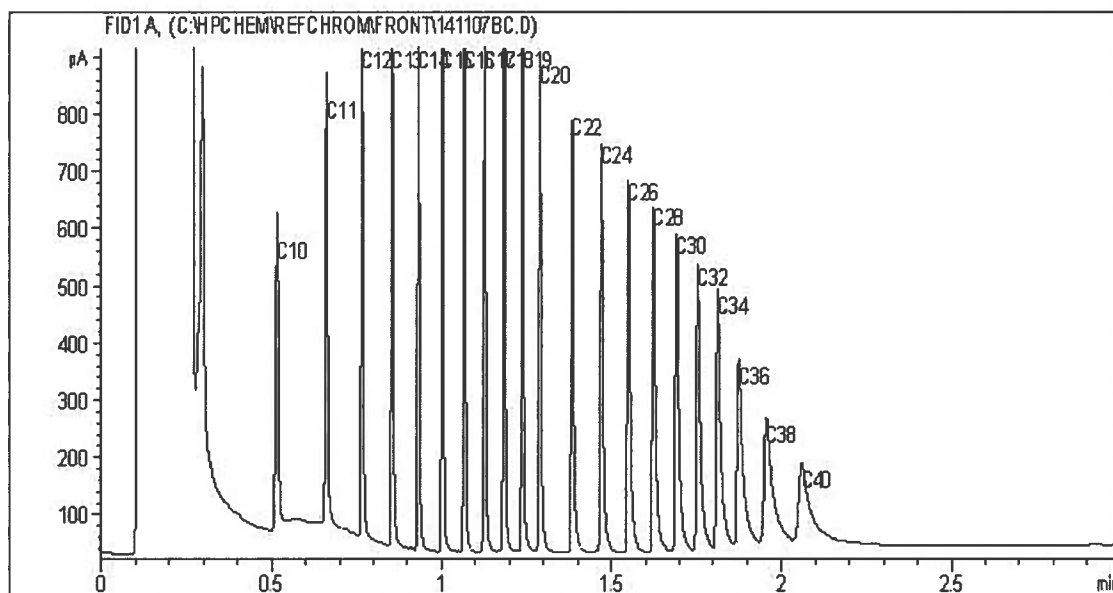
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