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GlencoreXstrata

Assessment Report

On the

2011-2012 Diamond Drill Program

For

Xstrata Canada Corporation

Sturgeon Lake Property

Bell Lake, Six Mile Lake, Valora Lake and Penassi Lake Areas

Patricia Mining Division

NTS Sheet 52 G/14 and 15

Claim Holder:
Xstrata Canada Corporation (Client # 130679)

July 2013

Steven Siemieniuk, P.Geo.

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1.0 Introduction

From October 11th, 2011 to April 2nd, 2012 a diamond drill program consisting of 9 holes was completed on Xstrata Canada Corporation's Sturgeon Lake Property (hereafter simply referred to as "the Property"). A total of 5,843 metres were drilled. 181 geochemical samples were taken and analyzed, as well as, 897 assays.

The objective of the exploration program was to evaluate the economic base metal potential of the area by drill testing previously identified areas of Zn-Cu mineralization as well as new geophysical and stratigraphic targets.

All work was carried out by Clark Exploration Consulting Inc. of Thunder Bay, Ontario and all geochemical samples and assays were sent to ALS Minerals for analysis.

More diamond drilling is recommended.

2.0 Property Description

The Property consists of 16 mining claims (these claims are currently work report pending due to a georeferencing program completed in the spring of 2013), 21 mining lease parcels and 4 patents (Tables 1 and 2). The Property covers a total of 18,147 hectares and is located in Bell Lake, Sixmile Lake, Valora Lake and Penassi Lake Area in the Patricia Mining Division of Ontario (Figures 1 and 2). The Property is host to the Sturgeon Lake VMS Camp. All claims are 100% owned by Xstrata Canada Corporation.

Please refer to Appendix A for a complete claim map of the property.

Figure 1: Property Location Map.

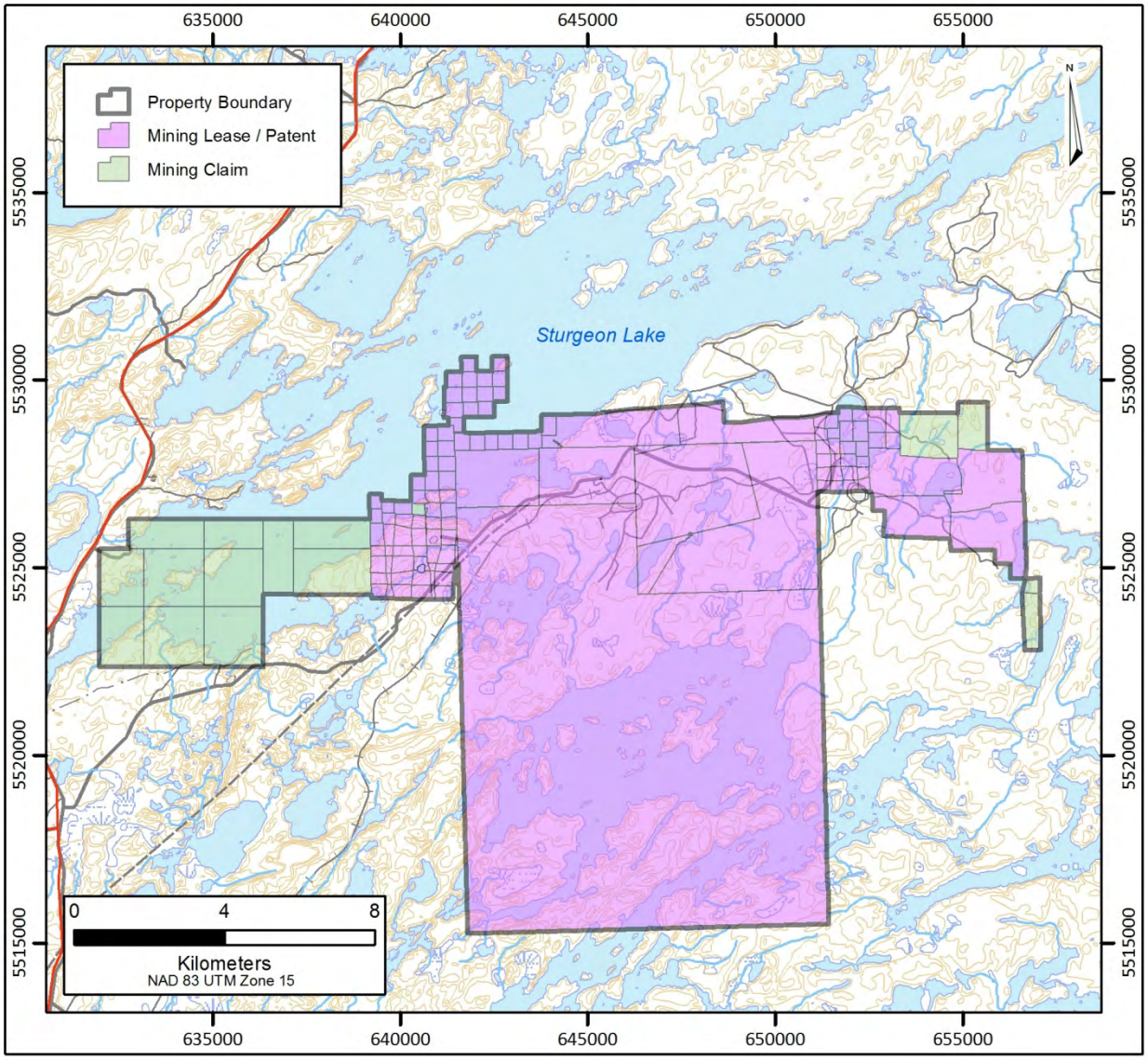


Figure 2: Property Claim Map .

Table 1: Claim Details.

Township/Area	Claim Number	Recording Date	Claim Due Date	Units	Work Required	Total Applied	Total Reserve
PENASSI LAKE AREA	1145072	1991-May-22	2015-May-22	1	$400	$8,800	$0
BELL LAKE AREA	1195743	1992-Jun-25	2013-Jun-25	4	$1,600	$30,400	$0
BELL LAKE AREA	1195858	1992-Aug-10	2013-Aug-10	1	$400	$7,600	$1,304
VALORA LAKE AREA (PAT)	4241547	2010-Jul-23	2014-Jul-23	15	$2,400	$15,600	$31,765
VALORA LAKE AREA (PAT)	4242860	2010-Jul-23	2013-Jul-23	10	$4,000	$4,000	$836
VALORA LAKE AREA (PAT)	4242923	2010-Jul-23	2013-Jul-23	10	$4,000	$4,000	$836
VALORA LAKE AREA (PAT)	4256551	2010-Sep-24	2013-Sep-24	8	$3,200	$3,200	$669
VALORA LAKE AREA (PAT)	4256552	2010-Sep-24	2013-Sep-24	16	$6,400	$6,400	$1,337
VALORA LAKE AREA (PAT)	4256553	2010-Sep-24	2013-Sep-24	16	$6,400	$6,400	$1,337
VALORA LAKE AREA (PAT)	4256554	2010-Sep-24	2013-Sep-24	16	$6,400	$6,400	$1,337
VALORA LAKE AREA (PAT)	4256555	2010-Sep-24	2013-Sep-24	16	$6,400	$6,400	$1,337
VALORA LAKE AREA (PAT)	4256556	2010-Sep-24	2013-Sep-24	10	$4,000	$4,000	$836
VALORA LAKE AREA (PAT)	4256557	2010-Sep-24	2013-Sep-24	12	$4,800	$4,800	$1,003
VALORA LAKE AREA (PAT)	4256558	2010-Sep-24	2013-Sep-24	12	$4,800	$4,800	$1,003
SIX MILE LAKE AREA	4258008	2010-Sep-24	2014-Sep-24	12	$2,400	$12,000	$65,906
SIX MILE LAKE AREA	4258009	2010-Sep-24	2013-Sep-24	6	$2,400	$2,400	$0

Table 2: Mining Lease / Parcel Details

Lease	Expiry Date	Disposition	Township
106677	28-02-2014	PA325230	Sixmile Lake
106678	28-02-2014	PA312563	Sixmile Lake
106679	30-04-2014	PA325409	Sixmile Lake
106680	30-04-2014	PA325236	Sixmile Lake
106682	31-10-2013	PA212610	Sixmile Lake
106682	31-10-2013	PA212611	Sixmile Lake
106682	31-10-2013	PA212612	Sixmile Lake
106682	31-10-2013	PA212613	Sixmile Lake
106682	31-10-2013	PA212614	Sixmile Lake
106682	31-10-2013	PA212615	Sixmile Lake
106682	31-10-2013	PA212616	Sixmile Lake
106682	31-10-2013	PA212617	Sixmile Lake
106682	31-10-2013	PA212735	Sixmile Lake
106682	31-10-2013	PA212736	Sixmile Lake
106683	31-10-2013	PA212741	Sixmile Lake
106683	31-10-2013	PA212742	Sixmile Lake
106958	30-09-2015	PA211905	Valora Lake
106958	30-09-2015	PA211906	Valora Lake
106958	30-09-2015	PA211907	Valora Lake
106958	30-09-2015	PA312564	Valora Lake
106958	30-09-2015	PA312565	Valora Lake
106958	30-09-2015	PA312566	Valora Lake
106958	30-09-2015	PA312567	Valora Lake
106958	30-09-2015	PA312568	Valora Lake
106958	30-09-2015	PA312569	Valora Lake
106994	30-11-2016	PA226440	Valora Lake
106994	30-11-2016	PA226441	Valora Lake
106994	30-11-2016	PA226444	Valora Lake
106994	30-11-2016	PA226445	Valora Lake
106994	30-11-2016	PA226446	Valora Lake
106994	30-11-2016	PA226447	Valora Lake
106994	30-11-2016	PA226448	Valora Lake
106994	31-03-2019	PA226490	Valora Lake
106994	30-11-2016	PA226491	Valora Lake
106994	30-11-2016	PA226496	Valora Lake
107160	31-03-2019	PA226437	Penassi Lake
107160	31-03-2019	PA226438	Penassi Lake
107160	31-03-2019	PA226439	Penassi Lake

Lease	Expiry Date	Disposition	Township
107160	31-03-2019	PA226442	Valora Lake
107161	31-03-2019	PA226443	Valora Lake
107161	31-03-2019	PA226449	Valora Lake
107161	31-03-2019	PA226450	Valora Lake
107161	31-03-2019	PA226451	Valora Lake
107161	31-03-2019	PA226452	Valora Lake
107161	31-03-2019	PA226453	Valora Lake
107161	31-03-2019	PA226454	Valora Lake
107161	31-03-2019	PA226455	Valora Lake
107161	31-03-2019	PA226456	Valora Lake
107161	31-03-2019	PA226457	Valora Lake
107161	30-11-2016	PA226497	Valora Lake
107161	31-03-2019	PA226498	Valora Lake
107161	31-03-2019	PA226499	Valora Lake
107161	31-03-2019	PA226500	Valora Lake
107161	31-03-2019	PA226501	Valora Lake
107161	31-03-2019	PA226502	Valora Lake
107161	31-03-2019	PA226503	Valora Lake
107161	31-03-2019	PA226504	Valora Lake
107161	31-03-2019	PA226505	Valora Lake
107332	30.04-2021	PA325203	Sixmile Lake
107332	30.04-2021	PA325204	Sixmile Lake
107332	30.04-2021	PA325205	Sixmile Lake
107332	30.04-2021	PA325206	Sixmile Lake
107332	30.04-2021	PA325207	Sixmile Lake
107333	30.04-2021	PA325202	Sixmile Lake
107333	30.04-2021	PA325208	Sixmile Lake
107333	30.04-2021	PA325209	Sixmile Lake
107333	30-04-2021	PA325232	Sixmile Lake
107333	30-04-2021	PA325233	Sixmile Lake
107333	30-04-2021	PA325234	Sixmile Lake
107333	30-04-2021	PA325235	Sixmile Lake
107405	31-05-2023	CLM 171	Sixmile Lake
107405	31-05-2023	CLM 171	Sixmile Lake
107406	31-05-2023	CLM 202	Bell Lake
107407	30-06-2023	CLM 201	Sixmile Lake / Bell Lake
107408	30-06-2023	CLM 170	Sixmile Lake
107453	30-09-2024	CLM 184	Bell Lake
107462	30-09-2024	CLM 185	Sixmile Lake

Lease	Expiry Date	Disposition	Township
108283	31-08-2029	PA355939	Sixmile Lake
108283	31-08-2029	PA355940	Penassi Lake / Sixmile Lake
108283	31-08-2029	PA355941	Penassi Lake
108283	31-08-2029	PA355942	Penassi Lake
108283	31-08-2029	PA355943	Penassi Lake
108283	31-08-2029	PA355955	Penassi Lake
108283	31-08-2029	PA355956	Penassi Lake
108284	31-08-2029	PA355957	Penassi Lake
108284	31-08-2029	PA355958	Penassi Lake
108284	31-08-2029	PA355959	Penassi Lake
108284	31-08-2029	PA355960	Penassi Lake
108284	31-08-2029	PA355961	Penassi Lake
108284	31-08-2029	PA355962	Penassi Lake
108284	31-08-2029	PA361473	Penassi Lake
108284	31-08-2029	PA361474	Penassi Lake
108284	31-08-2029	PA361475	Penassi Lake
108284	31-08-2029	PA361476	Valora Lake
108284	31-08-2029	PA361476	Penassi Lake
108284	31-08-2029	PA361478	Valora Lake / Penassi Lake
108284	31-08-2029	PA361479	Penassi Lake
108284	31-08-2029	PA361829	Penassi Lake
108284	31-08-2029	PA361830	Penassi Lake
108284	31-08-2029	PA361831	Penassi Lake
108284	31-08-2029	PA361832	Penassi Lake
108284	31-08-2029	PA361833	Penassi Lake
108284	31-08-2029	PA361834	Penassi Lake
108284	31-08-2029	PA361839	Penassi Lake
108284	31-08-2029	PA361840	Penassi Lake
108284	31-08-2029	PA361841	Penassi Lake
108284	31-08-2029	PA361842	Penassi Lake
108284	31-08-2029	PA436775	Penassi Lake
108284	31-08-2029	PA436776	Penassi Lake
108284	31-08-2029	PA436777	Penassi Lake
108284	31-08-2029	PA436778	Penassi Lake
108285	31-08-2029	PA361477	Valora Lake / Penassi Lake
108285	31-08-2029	PA361480	Penassi Lake
	Patent	CLS 115819	Sixmile Lake
	Patent	GTP BLOCK NO 7	Penassi Lake
	Patent	GTP NO 7	Bell Lake

Lease	Expiry Date	Disposition	Township
	Patent	Mattabi Mine Patent	Sixmile Lake

2.1 Location and Access

The Sturgeon Lake Property is situated in the Patricia Mining Division of Ontario, with the claims being located on NTS sheets 52 G/14 and 15. The property is located approximately 65 kilometers north-northeast of the town of Ignace, Ontario, approximately 85 kilometers east-southeast of the town of Sioux Lookout, Ontario, and is within 4 kilometers of the past-producing Lyon Lake, Creek and Sturgeon Lake Deposits of the Sturgeon Lake VMS Camp. The city of Thunder Bay, Ontario has a population of 110,000 and provides support services, equipment and skilled labour for both the mineral exploration and mining industry. Rail, national highway, port and international airport services are also available out of Thunder Bay.

From Thunder Bay, the property can be reached by travelling west on Highway 11/17 and then 17 until the turnoff north to Highway 599 located as one enters the town of Ignace, Ontario approximately 242 kilometers away. Highway 599 is followed for 60 kilometers north to Silver Dollar. The Mattabi Mine Road is located roughly 500 meters past Silver Dollar on Highway 599. The Mattabi Mine Road is followed for approximately 15 kilometers to the gate on the west side of the Sturgeon Lake VMS camp. The Sturgeon Lake camp is currently held by Xstrata Zinc and access is restricted to the past-producing mine workings and the active water treatment facility located on the property. Once through the gates, a series of well maintained road networks and winter drill roads are used to access various points along the property.

2.2 Topography and Vegetation

The property covers gently rolling, heavily forested, swampy terrain. Overburden is extensive on the Property with outcrop exposure being limited to less than 1%. The overburden varies from sand-rich glacial outwash to boulder-rich glacial till. The limited outcrop exposures are typically small. Climate in the area is typical of north central Canada with temperature ranges from -40°C to 40°C. Snow covers the project area normally from November through to May. Surface mineral exploration can be conducted year round, but during the late Fall to early spring drilling and geophysics are the most practical exploration methods.

3.0 Geological Setting

The Sturgeon Lake greenstone belt is located in the Wabigoon subprovince of Ontario's Superior province. The Sturgeon Lake caldera is a northward-younging pile of felsic to mafic volcanics rocks, with intermixed volcaniclastic and chemical sediments, locally intruded by syn- to post-volcanic plutons sills and dykes.

Laterally extensive mappable units within the submarine caldera are grouped into volcanic cycles comprised of, from base to top, mafic to intermediate volcanic flows, felsic pyroclastics, and a thin sedimentary layer. Within the 4500m thick package of caldera in-fill material, five major ash-flow tuff units are interpreted to represent five separate caldera-collapse events (Figure 3).

The pre-caldera mafic volcanic rocks at base of the caldera are intruded by the sill-like synvolcanic Beidelman Bay Intrusive Complex.

Please see figure 3 for a map showing the regional geology in the area.

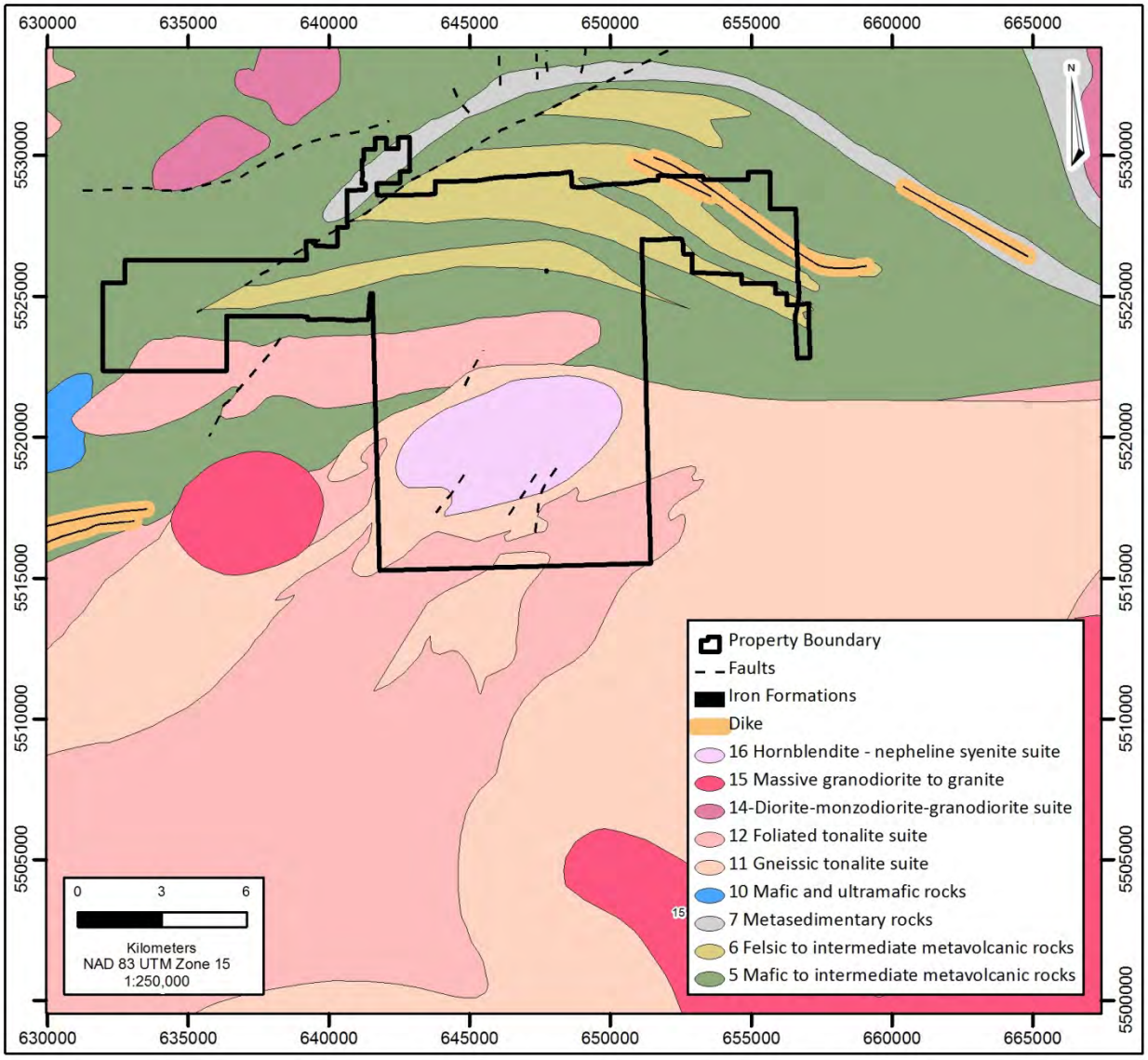


Figure 3: Regional Geology Map.

4.0 2011-2012 Winter Drill Program

The objective of the drill program was to discover an economic volcanogenic massive sulphide (VMS) deposit in the Sturgeon Lake camp. Mineralization is likely to occur within felsic volcanic units, at the upper contact of the pyroclastic felsic units with the volcaniclastic sediments.

A total of 9 holes were drilled (Table 3) and drilling was completely by Major Drilling on the property between October 11th, 2011 and April 2nd, 2012.

Drill holes were surveyed for changes in dip and direction using a reflex instrument. Readings were taken every 30 metres.

The on-site management of the drill program was carried out by professional geologists employed by Clark Exploration Consulting Inc. Procedures were provided and supervised by Xstrata geologists and all analytical results were supplied directly to Xstrata by ALS Minerals.

Drill core logging and sampling was carried out on site and all drill core is also being stored on site. All samples were collected and prepared in accordance with Xstrata procedures and shipped to ALS Chemex at their facilities in Thunder Bay, Ontario.

A total of 897 assays and 181 geochemical samples were submitted for analysis. Assay certificates can be found in Appendix E.

Please see Appendices B, C, and D for a drill hole plan map, drill logs, and drill hole sections.

Table 3: Drill Hole Details.

Hole ID	Easting	Northing	Depth	Azimuth	Dip
15-108	641758	5526981	554	125	-80
F-142	641257	5526021	551	330	-56
F-143	640709	5526339	692	125	-80
F-144	641635	5526030	866	322	-60
F-145	641350	5526022	719	328	-62
F-146	640983	5526723	77	150	-67
F-146A	640983	5526724	858	150	-70
F-147	640915	5526675	884	160	-67
F-148	641093	5526173	642	152	-66

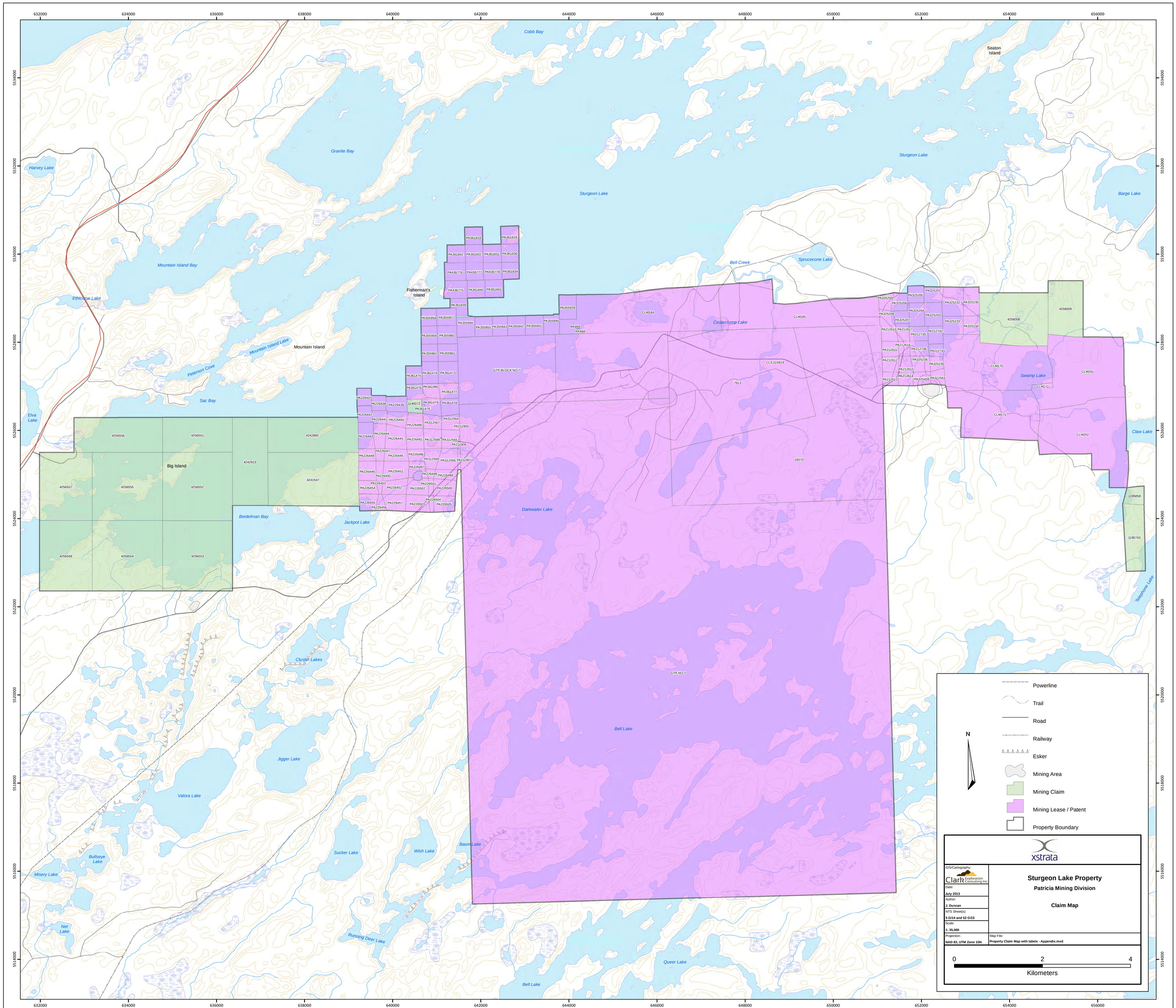
5.0 Conclusion and Recommendations

More drilling is warranted on the property.

Appendices

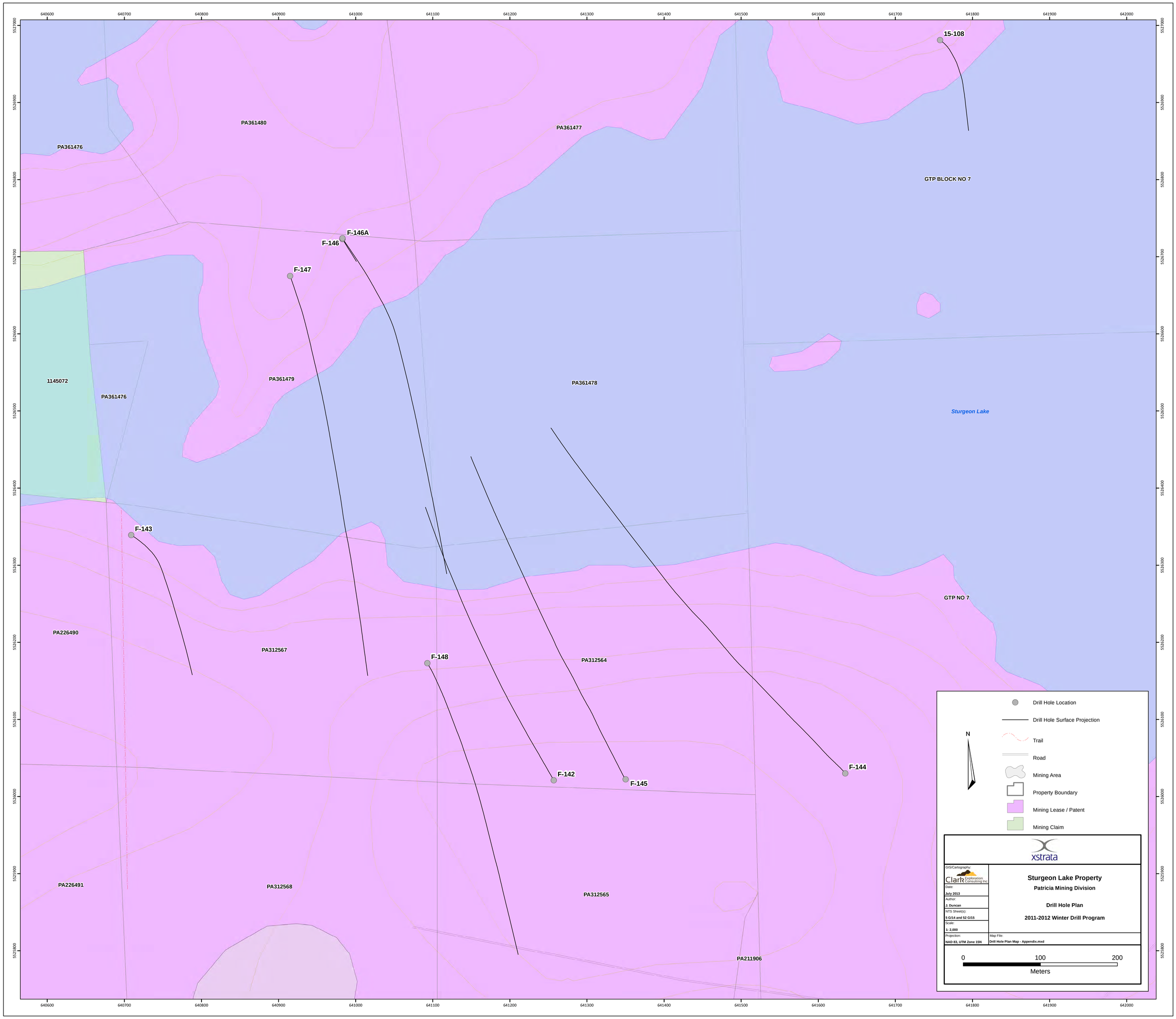
Appendix A

Claim Map


Cobb Bay
Seaton Island
Granite Bay
Harvey Lake
Sturgeon Lake
Sturgeon Lake
Barge Lake
Mountain Island Bay
Bell Creek
Sprucecone Lake
Fisherman's Island
Ethlouse Lake
Mountain Island Lake
Mountain Island
Cedarclump Lake
Peterson Cove
Sac Bay
Swamp Lake
Elva Lake
Claw Lake
Big Island
Beidelman Bay
Jackpot Lake
Darkwater Lake
Telephone Lake
Cluster Lakes
Jigger Lake
Valora Lake
Bullseye Lake
Misery Lake
Sucker Lake
Wish Lake
Basin Lake
Net Lake
Running Deer Lake
Queer Lake
Bell Lake
GTP BLOCK NO.7
GTP NO.7
CLM184
CLM185
CLS 115819
CLM170
CLM171
CLM201
CLM202
4258009
4258008
1195858
1195743
7913
16070
Powerline
Trail
Road
Railway
Esker
Mining Area
Mining Claim
Mining Lease / Patent
Property Boundary
N
xstrata
GIS/Cartography:
Clark Exploration Consulting Inc.
Date:
July 2013
Author:
J. Duncan
NTS Sheet(s):
5 G/14 and 52 G/15
Scale:
1: 35,000
Projection:
NAD 83, UTM Zone 15N
Sturgeon Lake Property
Patricia Mining Division
Claim Map
Map File:
Property Claim Map with labels - Appendix.mxd
0
2
4
Kilometers

Appendix B

Drill Hole Plan Map


15-108
PA361480
PA361477
PA361476
GTP BLOCK NO 7
F-146A
F-146
F-147
1145072
PA361479
PA361476
PA361478
Sturgeon Lake
F-143
GTP NO 7
PA226490
PA312567
F-148
PA312564
F-142
F-145
F-144
PA226491
PA312568
PA312565
PA211906
Drill Hole Location
Drill Hole Surface Projection
Trail
Road
Mining Area
Property Boundary
Mining Lease / Patent
Mining Claim
N
xstrata
GIS/Cartography:
Clark Exploration Consulting Inc.
Date:
July 2013
Author:
J. Duncan
NTS Sheet(s):
5 G/14 and 52 G/15
Scale:
1: 2,000
Projection:
NAD 83, UTM Zone 15N
Sturgeon Lake Property
Patricia Mining Division
Drill Hole Plan
2011-2012 Winter Drill Program
Map File:
Drill Hole Plan Map - Appendix.mxd
0
100
200
Meters

Appendix C

Drill Logs

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-148	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	152.0
LOGGED BY:	D.Cullen	NORTHING:	NA	ZONE:	15	DIP:	-66.0
START DATE:	13-Mar-12	EASTING:	NA	UTM Northing:	5,526,173	FINAL DEPTH (m):	642.00
FINISH DATE:	24-Mar-12	ELEVATION:	NA	UTM Easting:	641,093	CORE SIZE:	NQ
		Casing (m):	3.00	UTM Elevation:		Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	3m
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:					
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-148	Reflex	13-Mar-12	12	-66.2	148.8	56565		
F-148	Reflex	14-Mar-12	42	-58.6	154.5	56833	no correction	
F-148	Reflex	14-Mar-12	51	-57.9	155.5	56724		
F-148	Reflex	14-Mar-12	72	-56.9	155.5	56745		
F-148	Reflex	14-Mar-12	102	-56.4	158.2	56708		
F-148	Reflex	15-Mar-12	132	-55.1	158.8	56635		
F-148	Reflex	15-Mar-12	162	-55.3	159.4	56357		
F-148	Reflex	15-Mar-12	192	-54.2	158.7	56717		
F-148	Reflex	16-Mar-12	222	-53.3	161.7	56670		
F-148	Reflex	16-Mar-12	252	-53.2	160.4	56564		
F-148	Reflex	17-Mar-12	282	-52.1	161.7	56546		
F-148	Reflex	18-Mar-12	312	-51.3	163.5	56239		
F-148	Reflex	19-Mar-12	342	-50.6	164.8	56334		
F-148	Reflex	19-Mar-12	372	-50.0	165.2	56337		
F-148	Reflex	19-Mar-12	402	-49.5	165.9	56447		
F-148	Reflex	20-Mar-12	432	-49.1	166.5	56367		
F-148	Reflex	20-Mar-12	462	-48.4	164.7	56112		
F-148	Reflex	21-Mar-12	492	-47.5	166.9	56347		
F-148	Reflex	22-Mar-12	522	-46.5	166.7	56322		
F-148	Reflex	23-Mar-12	552	-45.8	166.1	56431		
F-148	Reflex	23-Mar-12	582	-45.1	166.6	56247		
F-148	Reflex	23-Mar-12	612	-44.8	166.6	56289		
F-148	Reflex	24-Mar-12	642	-44.5	166.5	56269		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-148	0.00	1.50	1.50	OVB	Casing/Overburden			
F-148	1.50	42.50	41.00	V1B	Rhyolite			8a MLFP
F-148	42.50	79.30	36.80	V1B	Rhyolite			7a LLPF
F-148	79.30	130.70	51.40	V1B	Rhyolite		pyrite mineralized unit; up to 10-15% str pyrite over 8m	6a MTQ
F-148	130.70	253.20	122.50	I2J	Diorite			IQD
F-148	253.20	308.90	55.70	V1B	Rhyolite		pyrite mineraization from 266.50 to 308.90m	6a MTQ
F-148	308.9	337.55	28.65	V1B	Rhyolite			6b MTQ/6b MTA
F-148	337.55	370.45	32.90	V1B	Rhyolite		local chalcopyrite over narrow intervals	6a MTQ
F-148	370.45	427.60	57.15	V2J	Anderite			3b HLPF/HLAT?
F-148	427.60	494.80	67.20	V2J	Anderite			5b TLAT/5a TLSED?
F-148	494.80	503.00	8.20	V1C	Rhyodacite			
F-148	503.00	642.00	139.00	V2J	Anderite			5a TLSED/3b HLPF?
F-148	642.00			EOH	End of Hole/Program			
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-148	0.00	1.50	1.50	OVB	Casing/Overburden					Casing reported to 3m, core appears to start at 1.5 - may be a blocking error as there is only 1.7m of core between the 6 and 9m blocks.
F-148	1.50	42.50	41.00	V1B	Rhyolite, Calc-alcalin	Por	Lap	Cx	8a MLFP	Medium to light grey; fine to medium (occasionally coarse) grained with occasional feldspar phenocrysts (possibly felsic lapilli) and quartz eyes/phenocrysts - 2-3mm, clear to grey, and sub-angular (~1%); up to 2-3% dark green crystals/grains - possibly chloritoid; moderate foliation at 40-45 degrees to core axis; moderate sericite throughout; top 15m exhibits moderate iron-oxide fractures, blocky core and local vuggy quartz-carb veins 1-2cm (due to surface weathering); trace pyrite stringers overall; lower contact gradational - appears somewhat brecciated and assimilated
F-148	42.50	79.30	36.80	V1B	Rhyolite, Calc-alcalin	Lap	Cx		7a LLPF	Lighter grey, more felsic-looking than above unit; generally aphyric, with possible, rare, fine quartz eyes (<1mm); common "peppered" appearance due to 2-3% fine grained (~1-2mm) chloritoid(?) - weak to moderate throughout; moderate foliation @ 40-50 degrees to core axis; moderate sericite throughout; locally lapilli up to several centimetres; 0.5-1% disseminated and stringer pyrite overall - locally up to 2-3% over 10-20cm; lower contact gradational
F-148	79.30	130.70	51.40	V1B	Rhyolite, Transitional	Lap	Ash	Cx	6a MTQ	Felsic pyroclastic - looks like a lapilli tuff down to ~90m, then poredominantly a bedded ash tuff; bedding at 45 degrees to core axis; medium to light grey; variable quartz eye content throughout, from <1% to 2-3% over tens of centimetres; quartz eyes are generally sub-rounded, clear to grey and 1-2mm, rarely up to 3-4mm; weak to moderate sericite throughout; local weak to moderate chloritoid, from 1-3mm; locally up to 50-60% net-textured, semi-massive pyrite over widths up to 1m; lower contact sharp and regular at 45 degrees to core axis
F-148	130.70	253.20	122.50	I2J	Diorite, Transitional	Mass	EQ		IQD	Intermediate intrusive; possibly a massive ash flow/tuff; medium grey; fine to medium grained; massive - equigranular; occasional irregular and regular quartz-carb veinlets and fractures, at variable core angles, and up to 10cm in width; trace pyrite and chalcopyrite usually associated with quartz-carb veins; lower contact sharp and regular at 45 degrees to core axis
F-148	253.20	308.90	55.70	V1B	Rhyolite, Calc-alcalin	Lap	Ash	Cx	6a MTQ	As from 79.30 to 130.70; with more lapilli scattered throughout entire interval; below ~275m unit looks somwehat more chaotic - possibly more of a debris flow/flow breccia; below ~298m start to get occasional beds with increased quartz eye content - up to ~10% over up to 30cm - similar to unit below; lower contact somewhat gradational - intercalated with unit below; variable stringer and pyrite mineralization, up to 15-20% over 30cm
F-148	308.9	337.55	28.65	V1B	Rhyolite, Calc-alcalin	Ash	Cx		6b MTQ/6b MTA	Looks more intermediate and less felsic than above unit; medium grey; quartz-phyric with marked increase in quartz eye content - about 10-15% throughout, 1-2mm, grey to clear; sub-rounded to sub-angular; other than quartz eyes thge unit is fine to very fine grained and massive - no bedding or foliation apparent; weak local sericite; trace to 1% disseminated and blerbs of pyrite throughout - up to 1-2% near lower contact; lower contact defined by re-introduction of fine ash (sediment?) bedding at 40 degrees to core axis
F-148	337.55	370.45	32.90	V1B	Rhyolite, Transitional	Lap	Ash	Cx	6a MTQ	Similar to 79.30 to 103.70m, but more intermediate looking; looks like a flow breccia or debris flow - more chaotic, with local ash beds looking brecciated; thin ash beds for first metre; weak to moderate sericite throughout; quartz eye content from 2-3% up to 5-10% over intervals of 20-30cm - quartz eyes are coarser than above unit - commonly 3-4mm, clear to grey, sub-rounded to sub-angular; trace sulphides overall, as stringer pyrite and chalcopyrite - up to 10-15% over 10cm; lower contact sharp and irregular at ~60 degrees
F-148	370.45	427.60	57.15	V2J	Anderite, Calc-alcalin	Lap	Pyr	Bx?	3b HLPF/HLAT?	Lapilli tuff/debris flow - mix of sub-angular clasts with most clasts looking rhyolitic - light grey and very fine grained, up to 4-5cm but generally ~0.5 to 1cm, in a more mafic to intermediate matrix; no quartz eyes
F-148	427.60	494.80	67.20	V2J	Anderite, Calc-alcalin	Pyr	Lap	Ash	5b TLAT/5a TLSED?	Similar composition to above but clasts/lapilli are less common - generally confined to beds ~10cm wide; generally fine to medium grained with ash beds common; moderate chlorite throughout; local moderate sericite; lapilli (debris flow?) gradually increase until unit looks like a straight lapilli tuff/debris flow by ~539m, similar to 370.45 to 427.60m; lower contact gradtional
F-148	494.80	503.00	8.20	V1C	Rhyodacite, Calc-alcalin					
F-148	503.00	642.00	139.00	V2J	Anderite, Transitional	Lap	Pyr		5a TLSED/3b HLPF?	Intermediate lapilli tuff and/or debris flow as from 370.45 to 427.60m; rare blebs/stringers pyrite and chalcopyrite
F-148	642.00			EOH						

Xstrata Zinc Canada

Lithogeochem Sampling

Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-148	E460932	ALS Minerals; Thunder Bay lab	TB12065278		29.70	30.00	0.30															
F-148	E460933	ALS Minerals; Thunder Bay lab	TB12065278		59.70	60.00	0.30															
F-148	E460934	ALS Minerals; Thunder Bay lab	TB12065278		93.00	93.30	0.30															
F-148	E460935	ALS Minerals; Thunder Bay lab	TB12065278		128.00	128.30	0.30															
F-148	E460936	ALS Minerals; Thunder Bay lab	TB12065278		150.00	150.30	0.30															
F-148	E460937	ALS Minerals; Thunder Bay lab	TB12065278		180.00	180.30	0.30															
F-148	E460938	ALS Minerals; Thunder Bay lab	TB12065278		219.00	219.30	0.30															
F-148	E460939	ALS Minerals; Thunder Bay lab	TB12065278		252.00	252.30	0.30															
F-148	E460940	ALS Minerals; Thunder Bay lab	TB12065278		282.30	282.60	0.30															
F-148	E460941	ALS Minerals; Thunder Bay lab	TB12065278		315.00	315.30	0.30															
F-148	E460942	ALS Minerals; Thunder Bay lab	TB12065278		345.00	345.30	0.30															
F-148	E460943	ALS Minerals; Thunder Bay lab	TB12065278		378.00	378.30	0.30															
F-148	E460944	ALS Minerals; Thunder Bay lab	TB12065278		405.00	405.30	0.30															
F-148	E460945	ALS Minerals; Thunder Bay lab	TB12065278		438.00	438.30	0.30															
F-148	E460946	ALS Minerals; Thunder Bay lab	TB12068533		468.00	468.30	0.30															
F-148	E460947	ALS Minerals; Thunder Bay lab	TB12068533		498.00	498.30	0.30															
F-148	E460948	ALS Minerals; Thunder Bay lab	TB12068533		528.00	528.30	0.30															
F-148	E460949	ALS Minerals; Thunder Bay lab	TB12068533		555.00	555.30	0.30															
F-148	E460950	ALS Minerals; Thunder Bay lab	TB12068533		587.70	588.00	0.30															
F-148	E460951	ALS Minerals; Thunder Bay lab	TB12068533		618.00	618.30	0.30															
F-148	E460952	ALS Minerals; Thunder Bay lab	TB12068533		641.70	642.00	0.30															

Hole: _____

Xstrata Zinc Canada

Assays

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Cu%_2	Zn%_2	Au_ppm
F-148	J529667	TB12065277	78.30	79.30	1.00									
F-148	J529668	TB12065277	79.30	81.00	1.70									
F-148	J529669	TB12065277	81.00	82.50	1.50									
F-148	J529670	TB12065277	82.50	84.00	1.50									
F-148	J529671	TB12065277	84.00	85.50	1.50									
F-148	J529672	TB12065277	85.50	87.00	1.50									
F-148	J529673	TB12065277	87.00	87.90	0.90									
F-148	J529674	TB12065277	87.90	89.00	1.10									
F-148	J529675	TB12065277	Standard											
F-148	J529676	TB12065277	89.00	90.00	1.00									
F-148	J529677	TB12065277	90.00	91.00	1.00									
F-148	J529678	TB12065277	91.00	92.00	1.00									
F-148	J529679	TB12065277	Blank											
F-148	J529680	TB12065277	92.00	93.00	1.00									
F-148	J529681	TB12065277	93.00	94.50	1.50									
F-148	J529682	TB12065277	94.50	96.00	1.50									
F-148	J529683	TB12065277	96.00	97.25	1.25									
F-148	J529684	TB12065277	97.25	98.30	1.05									
F-148	J529685	TB12065277	Duplicate of J529684											
F-148	J529686	TB12065277	98.30	99.30	1.00									
F-148	J529687	TB12065277	99.30	100.50	1.20									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Cu%_2	Zn%_2	Au_ppm
F-148	J529688	TB12065277	100.50	102.00	1.50									
F-148	J529689	TB12065277	102.00	103.50	1.50									
F-148	J529690	TB12065277	103.50	104.50	1.00									
F-148	J529691	TB12065277	104.50	105.50	1.00									
F-148	J529692	TB12065277	111.00	112.00	1.00									
F-148	J529693	TB12065277	112.00	113.00	1.00									
F-148	J529694	TB12065277	113.00	114.00	1.00									
F-148	J529695	TB12065277	114.00	115.00	1.00									
F-148	J529696	TB12065277	115.00	116.00	1.00									
F-148	J529697	TB12065277	116.00	117.00	1.00									
F-148	J529698	TB12065277	117.00	118.00	1.00									
F-148	J529699	TB12065277	118.00	119.00	1.00									
F-148	J529700	TB12065277	Standard											
F-148	J529701	TB12065277	119.00	120.00	1.00									
F-148	J529702	TB12065277	120.00	121.00	1.00									
F-148	J529703	TB12065277	121.00	122.00	1.00									
F-148	J529704	TB12065277	122.00	123.00	1.00									
F-148	J529705	TB12065277	Blank											
F-148	J529706	TB12065277	123.00	124.00	1.00									
F-148	J529707	TB12065277	124.00	125.00	1.00									
F-148	J529708	TB12065277	125.00	126.00	1.00									
F-148	J529709	TB12065277	126.00	127.00	1.00									
F-148	J529710	TB12065277	127.00	128.00	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Cu%_2	Zn%_2	Au_ppm
F-148	J529711	TB12065277	Duplicate of J529710											
F-148	J529712	TB12065277	128.00	129.00	1.00									
F-148	J529713	TB12065277	129.00	130.70	1.70									
F-148	J529714	TB12065277	130.70	131.70	1.00									
F-148	J529715	TB12065277	265.50	266.50	1.00									
F-148	J529716	TB12065277	266.50	268.00	1.50									
F-148	J529717	TB12065277	268.00	269.50	1.50									
F-148	J529718	TB12065277	269.50	271.00	1.50									
F-148	J529719	TB12065277	271.00	272.50	1.50									
F-148	J529720	TB12065277	272.50	274.00	1.50									
F-148	J529721	TB12065277	274.00	275.65	1.65									
F-148	J529722	TB12065277	275.65	277.00	1.35									
F-148	J529723	TB12065277	277.00	278.25	1.25									
F-148	J529724	TB12065277	278.25	279.25	1.00									
F-148	J529725	TB12065277	Standard											
F-148	J529726	TB12065277	279.25	280.00	0.75									
F-148	J529727	TB12065277	280.00	281.00	1.00									
F-148	J529728	TB12065277	281.00	282.00	1.00									
F-148	J529729	TB12065277	282.00	283.00	1.00									
F-148	J529730	TB12065277	Blank											
F-148	J529731	TB12065277	283.00	284.40	1.40									
F-148	J529732	TB12065277	286.50	288.00	1.50									
F-148	J529733	TB12065277	288.00	289.50	1.50									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Cu%_2	Zn%_2	Au_ppm
F-148	J529734	TB12065277	289.50	291.10	1.60									
F-148	J529735	TB12065277	291.10	292.70	1.60									
F-148	J529736	TB12065277	Duplicate of J529735											
F-148	J529737	TB12068532	299.00	300.00	1.00									
F-148	J529738	TB12068532	300.00	301.50	1.50									
F-148	J529739	TB12068532	301.50	303.00	1.50									
F-148	J529740	TB12068532	303.00	304.00	1.00									
F-148	J529741	TB12068532	304.00	305.00	1.00									
F-148	J529742	TB12068532	305.00	306.00	1.00									
F-148	J529743	TB12068532	306.00	307.00	1.00									
F-148	J529744	TB12068532	307.00	308.00	1.00									
F-148	J529745	TB12068532	308.00	309.00	1.00									
F-148	J529746	TB12068532	309.00	337.50	28.50									
F-148	J529747	TB12068532	337.50	338.50	1.00									
F-148	J529748	TB12068532	338.50	339.50	1.00									
F-148	J529749	TB12068532	339.50	340.50	1.00									
F-148	J529750	TB12068532	Standard											
F-148	J529751	TB12068532	348.20	349.20	1.00									
F-148	J529752	TB12068532	349.20	349.70	0.50									
F-148	J529753	TB12068532	349.70	350.70	1.00									
F-148	J529754	TB12068532	404.00	405.30	1.30									
F-148	J529755	TB12068532	405.30	406.80	1.50									
F-148	J529756	TB12068532	406.80	408.00	1.20									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Cu%_2	Zn%_2	Au_ppm
F-148	J529757	TB12068532	408.00	409.50	1.50									
F-148	J529758	TB12068532	409.50	411.00	1.50									
F-148	J529759	TB12068532	411.00	412.50	1.50									
F-148	J529760	TB12068532	412.50	414.00	1.50									
F-148	J529761	TB12068532	414.00	415.50	1.50									
F-148	J529762	TB12068532	415.50	417.00	1.50									
F-148	J529763	TB12068532		Blank										
F-148	J529764	TB12068532	417.00	418.50	1.50									
F-148	J529765	TB12068532	418.50	420.00	1.50									
F-148	J529766	TB12068532	420.00	421.50	1.50									
F-148	J529767	TB12068532	421.50	423.00	1.50									
F-148	J529768	TB12068532	423.00	424.00	1.00									
F-148	J529769	TB12068532	424.00	425.00	1.00									
F-148	J529770	TB12068532	452.00	453.00	1.00									
F-148	J529771	TB12068532	453.00	453.50	0.50									
F-148	J529772	TB12068532	453.50	454.50	1.00									
F-148	J529773	TB12068532	461.00	462.00	1.00									
F-148	J529774	TB12068532	462.00	463.10	1.10									
F-148	J529775	TB12068532	463.10	464.10	1.00									

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-147	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	160.0
LOGGED BY:	D.Cullen	NORTHING:	NA	ZONE:	15	DIP:	-67.0
START DATE:	14-Feb-12	EASTING:	NA	UTM Northing:	5,526,675	FINAL DEPTH (m):	884.00
FINISH DATE:	29-Feb-12	ELEVATION:	NA	UTM Easting:	640,915	CORE SIZE:	NQ
		Casing (m):	23.00	UTM Elevation:		Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	23
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:					
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-147	Reflex	17-Feb-12	35	-64.7	161.6	57237	no correction	
F-147	Reflex	17-Feb-12	65	-63.6	161.6	57016		
F-147	Reflex	17-Feb-12	95	-63.1	161.4	57341		
F-147	Reflex	17-Feb-12	125	-62.3	164.8	57021		
F-147	Reflex	18-Feb-12	155	-60.8	165.8	56892		
F-147	Reflex	18-Feb-12	185	-59.4	166.6	56801		
F-147	Reflex	18-Feb-12	215	-58.0	166.8	56787		
F-147	Reflex	18-Feb-12	245	-57.8	167.0	56891		
F-147	Reflex	19-Feb-12	275	-56.9	167.3	56948		
F-147	Reflex	19-Feb-12	305	-56.4	167.0	56879		
F-147	Reflex	19-Feb-12	335	-55.8	168.4	56652		
F-147	Reflex	20-Feb-12	365	-55.2	169.2	56874		
F-147	Reflex	20-Feb-12	395	-54.7	169.1	56769		
F-147	Reflex	21-Feb-12	425	-54.2	170.6	56423		
F-147	Reflex	21-Feb-12	455	-53.7	169.9	56684		
F-147	Reflex	21-Feb-12	485	-53.0	169.8	56709		
F-147	Reflex	22-Feb-12	515	-52.5	170.5	56736		
F-147	Reflex	22-Feb-12	545	-51.9	170.4	56571		
F-147	Reflex	22-Feb-12	575	-48.9	172.1	56650		
F-147	Reflex	23-Feb-12	605	-47.7	170.5	56827		
F-147	Reflex	24-Feb-12	635	-46.8	168.5	55876		
F-147	Reflex	24-Feb-12	665	-46.3	170.4	56665		
F-147	Reflex	25-Feb-12	695	-45.4	171.2	56365		

Hole: _____

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-147	Reflex	25-Feb-12	725	-45.0	171.8	56767		
F-147	Reflex	26-Feb-12	755	-43.2	171.1	56233		
F-147	Reflex	27-Feb-12	785	-42.7	171.7	56468		
F-147	Reflex	27-Feb-12	815	-41.8	172.5	56384		
F-147	Reflex	29-Feb-12	860	-40.4	172.2	56259		
F-147	Reflex	29-Feb-12	884	-39.9	172.4	56421		
			E.O.H.					

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-147	0.00	23.00	23.00	OVB	Casing/Overburden			
F-147	23.00	95.00	72.00	V1B	Rhyolite			
F-147	95.00	207.40	112.40	V2J/I2J	Anderite/Diorite			
F-147	207.40	317.30	109.90	I3A	Gabbro			
F-147	317.30	365.45	48.15	V2J	Anderitic tuff			
F-147	365.45	533.25	167.80	V2J	Anderite			
F-147	533.25	540.40	7.15	V1C-V1B	Rhyodacite - Rhyolite			
F-147	540.40	566.50	26.10	V2J	Anderite			
F-147	566.50	583.45	16.95	V1C-V1B	Rhyodacite - Rhyolite			
F-147	583.45	633.40	49.95	I2J	Diorite			
F-147	633.40	654.55	21.15	V1D	Dacite			
F-147	654.55	658.60	4.05	V1C	Rhyodacite			
F-147	658.60	661.80	3.20	V1D	Dacite			
F-147	661.80	674.20	12.40	V1C	Rhyodacite			
F-147	674.20	682.60	8.40	V1B	Rhyolite			
F-147	682.60	727.40	44.80	V1D	Dacite			
F-147	727.40	761.00	33.60	V1B	Rhyolite			
F-147	761.00	776.20	15.20	V1C	Rhyodacite			
F-147	776.20	884.00	107.80	V3A	Basaltic anderite			
F-147	884.00							
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-147	0.00	23.00	23.00	OVB	Casing/Overburden					
F-147	23.00	95.00	72.00	V1B	Rhyolite, Calc-alcalin	Por	Bed	Pyr	11b BRLDQ	Medium to light grey-green; fine to coarse grained; moderately to well-foliated/bedded, variable at 40 to 60 degrees to core axis; moderately to strongly sericitic, parallel to foliation/bedding; moderate chlorite throughout; commonly quartz and plagioclase-phyric , with phenocrysts/clasts from several millimetres to 1cm; siliceous - locally cherty and thinly bedded; occasional pyrite stringers parallel to foliation and blebs/patches - trace to 0.5% overall, with trace chalcopyrite; locally moderately broken/blocky core, with occasional vugs, from ~23 to 45 metres; lower contact is sharp and irregular
F-147	95.00	207.40	112.40	I2J	Diorite	Por/Am	Mass	Bed/Fol	11a/11b BRLDL/BRLDQ	Medium to light green-grey (looks more mafic than above unit); fine to medium grained; moderate foliation/bedding at 30-45 degrees to core axis - locally well bedded; locally quartz and plagioclase phyric, with phenocrysts often resembling amygdules, from several millimetres to ~1cm; moderately chloritic with some beds/intervals exhibiting clots/wisps, usually 2-5mm long, parallel to foliation/bedding; occasional quartz-carbonate veinlets/veins, up to 4-5cm wide, regular and irregular, some parallel to foliation and others cross-cutting; trace pyrite and chalcopyrite, usually associated with quartz-carb veins; lower contact somewhat gradational and arbitrary
F-147	207.40	259.80	52.40	I3A	Gabbro	Mass	Fol/Bed		11a BRLDL	Unit is similar to above but more massive and slightly darker, more mafic-looking (medium green-grey); aphyric - phenocrysts and amygdules are absent; moderate chlorite throughout, locally in clots and wisps parallel to foliation/bedding; moderate foliation/bedding at 45-55 degrees to core axis;common quartz-carbonate veinlets and veins, irregular and regular at variable core angles, down to about 245m, then decreasing; trace pyrite; towards lower contact unit becomes lighter coloured - chloritic clots (+ chloritoid?) more common - up to ~10%; lower contact sharp and regular at 45 degrees to core axis
F-147	259.80	317.30	57.50	I2J	Diorite, Calc-alcaline					
F-147	317.30	365.45	48.15	V2J	Anderitic tuff, Calc-alcalin to transitional	Por	Pyr		9a ULPF	Intermediate tuff; fine to medium grained; medium to locally light grey; generally well-bedded at 50-60 degrees to core axis; weak to moderate sericite throughout; weak chlorite - locally moderate; common quartz eyes, 0.5-2mm, angular to sub-rounded, clear to grey, up to 10%; local plagioclase phenocrysts - white, sub-angular, 2-5mm; local chloritoid-rich beds - up to ~5% over 1m; 2-3% stringer, patchy and disseminated pyrite - locally semi-massive; lower contact sharp and regular at 60 degrees to core axis
F-147	365.45	533.25	167.80	V2J	Anderite, Calc-alcaline	Pyr	Por/Am	Bed/Fol	9a ULPF	Medium grey-green; fine to medium grained with coarse grained local quartz and plagioclase phenocrysts - commonly look more like amygdules - rounded to sub-angular, often with carbonate; top 10m exhibit common sub-rounded quartz eyes, clear to grey, 1-5mm; moderate chlorite throughout; local moderate chloritoid - 1-2mm, up to ~5% over several metres; moderate bedding at 45-55 degrees to core axis; trace pyrite stringers and disseminated; generally weakly to moderately magnetic; local weak breccia zones with quartz-carbonate cavity-filling up to 20-30cm; lower contact sharp and regular at 45 degrees to core axis
F-147	533.25	540.40	7.15	V1C-V1B	Rhyodacite - Rhyolite	Por	Fol		8a MLPF	Medium to light grey; fine to coarse grained, porphyritic with up to 10-15% feldspar phenocrysts commonly strained parallel to foliation at 45-50 degrees to core axis, up to 5mm long; feldpsars appear pink to buff-coloured (K-spar?); also local reddish-buff coloured alteration - potassic? 1-2% clear to grey quartz-eyes, commonly 2-3mm, sub-rounded to sub-angular; trace sulphides; lower contact sharp and regular at 45 degrees to core axis
F-147	540.40	566.50	26.10	V2J	Anderite, Calc-alcaline	Pyr	Por/Am		7a LLPF	Similar to 365.45 to 553.25, but with quartz eyes/phenocrysts almost absent /rare and feldspar phenocrysts (amygdules?) less common - 2-3% throughout unit; pervasive moderate fine grained (~1mm) chloritoid; weak to moderate foliation at 45-50 degrees to core axis; generally darker green-grey; lower contact sharp and regular at 60 degrees to core axis
F-147	566.50	583.45	16.95	V1C-V1B	Rhyodacite - Rhyolite	Por	Pyr		8a MLPF/MLAT	Medium to light grey (locally slightly purple-grey - possibly k-spar?); fine to medium grained, with some intervals exhibiting up to 20-25% plagiocalse feldspar phenocrysts up to 2-4mm; weakly to strongly magnetic, with intervals up to ~0.5m exhibiting magnetite clots up to 3-4mm and magnetic seams/wisps; moderate foliation/bedding at 45-55 degrees to core axis; rare quartz-carb veinlets/fractures; trace disseminated pyrite; lower contact sharp and irregular at ~70-80 degrees to core axis
F-147	583.45	633.40	49.95	I2J	Diorite, Calc-alcaline	Pyr	Mass		7a LLPF/LLAT	Aphyric; medium to dark grey-green; generally massive to weakly bedded/foliated at 60 degrees to core axis; rare quartz-carbonate fractures; pervasive weak to moderate chlorite; local weak to moderate chloritoid; fine to locally medium grained; trace disseminated pyrite; lower contact sharp and irregular

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-147	633.40	654.55	21.15	V1D	Dacite, Calc-alcalin	Fol	Mass	Por	11b BRLDQ	Medium to dark grey-green; fine to coarse grained - locally porphyritic with light grey to light red (hematite or poaticc alteration?) to light green feldspar up to 4-5mm; massive to weakly to moderately foliated at 50 degrees to core axis; occasional barren quartz-carb veins up to 10cm; locally exhibits medium to dark green phenocrysts (mafic minerals?) up to ~5mm, up to 10-15%, giving it an intrusive texture; locally weakly to moderately magnetic; trace pyrite; lower contact sharp and regular at 50 degrees to core axis
F-147	654.55	658.60	4.05	I2J	Diorite	Mass	Bed		7a LLAT	Medium grey-green; fine grained; massive to weakly bedded at 50 degrees to core axis; no sulphides; lower contact sharp and regular at 45 degrees to core axis
F-147	658.60	661.80	3.20	V1D	Dacite	Fol	Mass	Por	11b BRLDQ	Similar to porphyritic sections of unit from 633.40 to 654.55; lower contact sharp and regular at 45 degrees to core axis
F-147	661.80	674.20	12.40	I2J	Diorite	Mass	Bed		7a LLAT	As from 654.55 to 658.60; lower contact sharp and regular at 50 degrees to core axis
F-147	674.20	682.60	8.40	V1B	Rhyolite, Calc-alcalin	Por/pyr	Lap	Fol	11b BRLDQ	Rhyolite porphyritic flow, possibly lapilli tuff, with less than 1% quartz eyes/phenocrysts 1-2mm, generally clear but occasionally blue, sub-rounded; local feldspar phenocrysts up to 1cm, 2-3%; weak to moderate pervasive sericite; local weak to moderate chlorite; moderate foliation/bedding at 50 degrees to core axis; 1-2% fine grained stringer pyrite; lower contact sharp and regular at 50 degrees to core axis
F-147	682.60	727.40	44.80	V1D	Dacite, Calc-alcalin	Fol			11b BRLDQ	Medium to light grey; fine to medium grained; weak to moderate foliation at 45-50 degrees to core axis; pervasive weak to moderate chloritoid grains, 0.5 to 1mm, up to ~5%; local weak chlorite; occasional quartz-carb (+chlorite) veins, irregular, up to 20cm wide; becomes moderately sericitic the last metre; lower contact sharp and regular at 60 degrees to core axis
F-147	727.40	761.00	33.60	V1B	Rhyolite, Calc-alcalin	Lap	Cx	pyr	6a MTQ / MTA	Quartz eye rhyolite debris flows and lapilli tuff; medium to light grey; commonly chaotic-looking; local lapilli and bombs from ~1cm up to 10cm; locally cherty/ash beds and clasts, up to 10-20cm; quartz eyes are predominantly 1-2mm, grey to occasionally clear or bluish; pervasive weak to moderate sericite; local weak to moderate chlorite; <1% stringer pyrite and trace chalcopyrite overall, locally up to 5-7%; lower contact sharp and regular at 45 degrees to core axis
F-147	761.00	776.20	15.20	V1C	Rhyodacite, Calc-alcalin	Lap			6a MTQ / MTA	As above, with quartz eyes absent
F-147	776.20	838.70	62.50	V3A	Basaltic Andesite, Transitional	Bed	Lap		7a LLPF/LLAT	Darker green-grey - more mafic-looking; lapilli to crystal tuff, with lapilli content generally decreased from above unit; local common fine feldspar crystals, 1-3mm; moderately bedded at 60 degrees to core axis; trace disseminated and stringer pyrite; occasional white, barren quartz-carbonate veins parallel to bedding; pervasive moderate chlorite, often in clots/wisps parallel to bedding; lower contact gradational
F-147	838.70	884.00	45.30	V3A	Basaltic Andesite, Transitional	Lap	Bed		7a LLPF/LLAT	Unit looks more felsic than above, with increasing lapilli content again; lapilli generally light grey to creamy white; moderate bedding at 60 degrees to core axis; local weak to moderate chlorite alteration; local pyrite stringers up to 5-7% over 0.5m
F-147	884.00			E.O.H.						

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-147	E460786	ALS Minerals; Thunder Bay lab	TB12040526		50.00	50.30	0.30															
F-147	E460787	ALS Minerals; Thunder Bay lab	TB12040526		80.00	80.30	0.30															
F-147	E460788	ALS Minerals; Thunder Bay lab	TB12040526		110.00	110.30	0.30															
F-147	E460789	ALS Minerals; Thunder Bay lab	TB12040526		139.70	140.00	0.30															
F-147	E460790	ALS Minerals; Thunder Bay lab	TB12040526		170.00	170.30	0.30															
F-147	E460791	ALS Minerals; Thunder Bay lab	TB12040526		200.00	200.30	0.30															
F-147	E460792	ALS Minerals; Thunder Bay lab	TB12040526		230.00	230.30	0.30															
F-147	E460793	ALS Minerals; Thunder Bay lab	TB12040526		262.70	263.00	0.30															
F-147	E460794	ALS Minerals; Thunder Bay lab	TB12040526		293.00	293.30	0.30															
F-147	E460795	ALS Minerals; Thunder Bay lab	TB12040526		320.00	320.30	0.30															
F-147	E460796	ALS Minerals; Thunder Bay lab	TB12040526		350.00	350.30	0.30															
F-147	E460797	ALS Minerals; Thunder Bay lab	TB12040526		380.00	380.30	0.30															
F-147	E460798	ALS Minerals; Thunder Bay lab	TB12040526		410.00	410.30	0.30															
F-147	E460799	ALS Minerals; Thunder Bay lab	TB12040526		440.00	440.30	0.30															
F-147	E460800	ALS Minerals; Thunder Bay lab	TB12040526		470.00	470.30	0.30															
F-147	E460801	ALS Minerals; Thunder Bay lab	TB12040526		500.00	500.30	0.30															
F-147	E460802	ALS Minerals; Thunder Bay lab	TB12040526		530.00	530.30	0.30															
F-147	E460803	ALS Minerals; Thunder Bay lab	TB12040526		560.00	560.30	0.30															
F-147	E460804	ALS Minerals; Thunder Bay lab	TB12040526		590.00	590.30	0.30															
F-147	E460805	ALS Minerals; Thunder Bay lab	TB12040526		620.00	620.30	0.30															
F-147	E460806	ALS Minerals; Thunder Bay lab	TB12040526		650.00	650.30	0.30															
F-147	E460807	ALS Minerals; Thunder Bay lab	TB12040526		679.70	680.00	0.30															
F-147	E460808	ALS Minerals; Thunder Bay lab	TB12040526		710.00	710.30	0.30															
F-147	E460809	ALS Minerals; Thunder Bay lab	TB12056977		740.00	740.30	0.30															
F-147	E460810	ALS Minerals; Thunder Bay lab	TB12056977		770.00	770.30	0.30															
F-147	E460811	ALS Minerals; Thunder Bay lab	TB12056977		809.00	809.30	0.30															
F-147	E460812	ALS Minerals; Thunder Bay lab	TB12056977		839.00	839.30	0.30															
F-147	E460813	ALS Minerals; Thunder Bay lab	TB12056977		872.00	872.30	0.30															

Hole: _____

Xstrata Zinc Canada

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu	Pb	Zn	Ag	Cu	Zn	Au
								Cu%	Pb%	Zn%	Ag_ppm	Cu2%	Zn2%	Au_ppm
F-147	K015527	TB12040525	317.00	318.50	1.50									
F-147	K015528	TB12040525	318.50	320.00	1.50									
F-147	K015529	TB12040525	320.00	321.50	1.50									
F-147	K015530	TB12040525	321.50	323.00	1.50									
F-147	K015531	TB12040525	323.00	324.50	1.50									
F-147	K015532	TB12040525	324.50	326.00	1.50									
F-147	K015533	TB12040525	326.00	327.50	1.50									
F-147	K015534	TB12040525	327.50	329.00	1.50									
F-147	K015535	TB12040525	Duplicate of K015534											
F-147	K015536	TB12040525	329.00	330.10	1.10									
F-147	K015537	TB12040525	330.10	331.20	1.10									
F-147	K015538	TB12040525	Blank											
F-147	K015539	TB12040525	331.20	332.00	0.80									
F-147	K015540	TB12040525	332.00	333.50	1.50									
F-147	K015541	TB12040525	333.50	335.00	1.50									
F-147	K015542	TB12040525	335.00	336.50	1.50									
F-147	K015543	TB12040525	336.50	338.00	1.50									
F-147	K015544	TB12040525	338.00	339.50	1.50									
F-147	K015545	TB12040525	339.50	341.00	1.50									
F-147	K015546	TB12040525	341.00	342.50	1.50									
F-147	K015547	TB12040525	342.50	344.00	1.50									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu2%	Zn2%	Au_ppm
F-147	K015548	TB12040525	344.00	345.50	1.50									
F-147	K015549	TB12040525	345.50	347.00	1.50									
F-147	K015550	TB12040525	Standard											
F-147	K015551	TB12040525	347.00	348.40	1.40									
F-147	K015552	TB12040525	348.40	349.40	1.00									
F-147	K015553	TB12040525	349.40	350.40	1.00									
F-147	K015554	TB12040525	350.40	351.50	1.10									
F-147	K015555	TB12040525	351.50	353.00	1.50									
F-147	K015556	TB12040525	353.00	354.50	1.50									
F-147	K015557	TB12040525	354.50	356.00	1.50									
F-147	K015558	TB12040525	356.00	357.50	1.50									
F-147	K015559	TB12040525	357.50	359.00	1.50									
F-147	K015560	TB12040525	Duplicate of K015559											
F-147	K015561	TB12040525	359.00	360.50	1.50									
F-147	K015562	TB12040525	360.50	362.00	1.50									
F-147	K015563	TB12040525	362.00	363.50	1.50									
F-147	K015564	TB12040525	363.50	365.00	1.50									
F-147	K015565	TB12040525	365.00	366.00	1.00									
F-147	K015566	TB12040525	Blank											
F-147	K015567	TB12040525	366.00	367.00	1.00									
F-147	K015568	TB12040838	677.00	678.00	1.00									
F-147	K015569	TB12040838	678.00	679.50	1.50									
F-147	K015570	TB12040838	679.50	681.00	1.50									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu2%	Zn2%	Au_ppm
F-147	K015571	TB12040838	681.00	682.60	1.60									
F-147	K015572	TB12040838	682.60	683.60	1.00									
F-147	K015573	TB12040838	727.40	728.90	1.50									
F-147	K015574	TB12040838	728.90	730.40	1.50									
F-147	K015575	TB12040838	Standard											
F-147	K015576	TB12040838	730.40	731.40	1.00									
F-147	K015577	TB12040838	731.40	732.40	1.00									
F-147	K015578	TB12040838	732.40	733.40	1.00									
F-147	K015579	TB12040838	733.40	734.40	1.00									
F-147	K015580	TB12040838	734.40	735.40	1.00									
F-147	K015581	TB12040838	735.40	736.55	1.15									
F-147	K015582	TB12040838	749.20	750.70	1.50									
F-147	K015583	TB12040838	750.70	752.20	1.50									
F-147	K015584	TB12040838	752.20	753.70	1.50									
F-147	K015585	TB12040838	Duplicate of K015584											
F-147	K015586	TB12040838	753.70	755.20	1.50									
F-147	K015587	TB12040838	755.20	756.70	1.50									
F-147	K015588	TB12040838	756.70	758.20	1.50									
F-147	K015589	TB12040838	Blank											
F-147	K015590	TB12040838	766.00	767.00	1.00									
F-147	K015591	TB12040838	767.00	768.00	1.00									
F-147	K015592	TB12040838	768.00	769.10	1.10									
F-147	K015593	TB12040838	769.10	770.00	0.90									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu2%	Zn2%	Au_ppm
F-147	K015594	TB12040838	770.00	771.50	1.50									
F-147	K015595	TB12040838	771.50	773.00	1.50									
F-147	K015596	TB12040838	773.00	774.00	1.00									
F-147	K015597	TB12040838	774.00	775.00	1.00									
F-147	K015598	TB12040838	775.00	776.00	1.00									
F-147	K015599	TB12040838	776.00	776.50	0.50									
F-147	K015600	TB12040838	Standard											
F-147	K015601	TB12040838	810.30	811.30	1.00									
F-147	K015602	TB12040838	811.30	811.80	0.50									
F-147	K015603	TB12040838	811.80	812.80	1.00									
F-147	K015604	TB12040838	852.80	853.80	1.00									
F-147	K015605	TB12040838	853.80	854.30	0.50									
F-147	K015606	TB12040838	854.30	855.70	1.40									
F-147	K015607	TB12040838	855.70	857.00	1.30									
F-147	K015608	TB12040838	857.00	858.50	1.50									
F-147	K015609	TB12040838	858.50	860.00	1.50									
F-147	K015610	TB12040838	Duplicate of K015609											
F-147	K015611	TB12040838	860.00	861.50	1.50									
F-147	K015612	TB12040838	861.50	863.00	1.50									
F-147	K015613	TB12040838	863.00	864.00	1.00									
F-147	K015614	TB12040838	864.00	865.00	1.00									
F-147	K015615	TB12040838	865.00	866.00	1.00									
F-147	K015616	TB12040838	866.00	867.00	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu2%	Zn2%	Au_ppm
F-147	K015617	TB12040838		Blank										

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-146A	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	150.0
LOGGED BY:	D.Cullen/B.Nelson	NORTHING:	NA	ZONE:	15	DIP:	-70.0
START DATE:	19-Feb-12	EASTING:	NA	UTM Northing:	5,526,724	FINAL DEPTH (m):	858.00
FINISH DATE:	12-Mar-12	ELEVATION:	NA	UTM Easting:	640,983	CORE SIZE:	NQ
		Casing (m):	21m	UTM Elevation:		Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	21m
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:					
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-146A	Reflex	19-Feb-12	30	-70.1	144.2	58119	no correction	
F-146A	Reflex	20-Feb-12	60	-69.4	146.5	56974		
F-146A	Reflex	20-Feb-12	90	-69.4	146.5	56974		
F-146A	Reflex	20-Feb-12	120	-69.4	145.7	56409		
F-146A	Reflex	21-Feb-12	150	-69.3	148.6	56739		
F-146A	Reflex	21-Feb-12	180	-68.6	149.7	57065		
F-146A	Reflex	21-Feb-12	210	-67.7	150.8	56896		
F-146A	Reflex	22-Feb-12	240	-67.3	150.9	57050		
F-146A	Reflex	22-Feb-12	270	-66.7	150.9	56958		
F-146A	Reflex	22-Feb-12	300	-65.5	155.3	56966		
F-146A	Reflex	23-Feb-12	330	-64.0	156.3	56375		
F-146A	Reflex	23-Feb-12	360	-60.5	162.0	56805		
F-146A	Reflex	24-Feb-12	390	-57.1	165.2	56667		
F-146A	Reflex	24-Feb-12	420	-55.6	165.6	56938		
F-146A	Reflex	25-Feb-12	450	-53.2	166.5	56620		
F-146A	Reflex	26-Feb-12	480	-53.2	166.5	56620		
F-146A	Reflex	27-Feb-12	510	-51.2	167.6	56890		
F-146A	Reflex	27-Feb-12	540	-50.4	167.1	56447		
F-146A	Reflex	27-Feb-12	570	-49.7	168.4	56597		
F-146A	Reflex	28-Feb-12	630	-48.6	168.0	55914		
F-146A	Reflex	29-Feb-12	660	-47.8	168.5	56170		
F-146A	Reflex	1-Mar-12	690	-46.2	168.9	56464		
F-146A	Reflex	1-Mar-12	720	-45.1	168.3	56057		

Hole: _____

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-146A	Reflex	2-Mar-12	750	-44.5	169.0	56176		
F-146A	Reflex	3-Mar-12	780	-44.0	168.8	56176		
F-146A	Reflex	5-Mar-12	810	-43.5	169.7	56246		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-146A	0.00	23.00	23.00	OVB	Casing/Overburden			
F-146A	23.00	66.05	43.05	S10 - V2A	Sediment and Intermed Ash Tuff			
F-146A	66.05	173.70	107.65	V1C - V1B	Rhyodacite and Rhyolite			
F-146A	173.70	292.00	118.30	V2J	Anderite			
F-146A	292.00	303.60	11.60	I3O	Lamprophyre dyke			
F-146A	303.60	328.80	25.20	I3A	Gabbro			
F-146A	328.80	365.00	36.20	V2J	Anderite			
F-146A	365.00	397.00	32.00	V2J (S10)	Anderite (local sediments)			
F-146A	397.00	406.70	9.70	V2J - S10	Anderitic tuff and sediments			
F-146A	406.7	438.00	31.30	V2J	Anderite			
F-146A	438.00	478.40	40.40	V2J - S10	Anderitic tuff and sediments			
F-146A	478.4	627.67	149.27	I2J	Diorite			
F-146A	627.67	635.30	7.63	I1	Qz-Fp Porphyry			
F-146A	635.00	696.90	61.90	I2J	Diorite			
F-146A	696.90	836.05	139.15	V1B	Rhyoliye			
F-146A	836.05	858.00	21.95	V2J	Anderite			
F-146A	858.00			E.O.H.				
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-146A	0.00	23.00	23.00	OVB	Casing/Overburden					Casing reported to 21m - looks like the core starts at 23m
F-146A	23.00	66.05	43.05	S10 - V2J	Sediment or anderitic Ash Tuff, Calc-alcalin	Bed			9b ULSED	Interval varies from light grey to medium grey to locally dark grey-black; genrally fine to very fine grained, with rare coarser grains/clasts/lapilli(?) up to ~5mm; bedding common, variable, often at 30-45 degrees to core axis; in the top 45m the "beds" often appear convoluted/contorted/broken - looks like it could be an agglomerate, with bombs up to ~10-15cm; rare quartz-carb veining <1cm, at variable core angles; lower contact sharp and regular at 45 degrees to core axis
F-146A	66.05	173.70	107.65	V1C-V1B	Rhyodacite and Rhyolite, Calc-alcalin	Pyr	Lap	Por	11b BRLDQ or 9a ULPF	Medium grey to locally grey-green; fine to coarse grained, with variable quartz eye content, generally 1-3mm, sub-rounded to sub-angular, clear to grey, locally up to ~10%; weakly to locally moderately sericitic; occasional dark grey-black cherty clasts, locally up to ~5% over several metres, from 0.5 to 2-3cm in size - usually angular to sub-angular; local cherty/ash beds up to ~10cm; local moderate foliation/bedding usually at 40 degrees to core axis, locally wavy, sub-parallel to core axis; possible introduction of chloritoid below 163m; lower contact sharp and regular at 40 degrees to core axis
F-146A	173.70	208.10	34.40	V2J	Anderite, Transitional	Por/Am			11a BRLDL/11b BRLDQ	Medium green-grey; fine to medium grained with feldspar and quartz (+carb?) phenocrysts or amygdules up to ~1cm - locally up to 5-10% over 2-3m; phenocrysts/amygdules commonly strained parallel to moderate foliation (bedding?) at 45 degrees to core axis, and are rounded to sub-rounded; moderately chloritic, with local intervals exhibiting chlorite clots/wisps 2-4mm; possible local moderate chloritoid; occasional quartz-carb veinlets/fractures at variable core angles, most commonly parallel to foliation; trace sulphides (py) with veins; local weak sericite; lower contact somewhat gradational - determined by the absence of phenocrysts/amygdules
F-146A	208.10	292.00	83.90	V2J	Andesite, Calc-alcalin	Mass	Bed/Fol		11a BRLDQ	Similar to above unit, but slightly darker to medium green-grey; phenocrysts and amygdules are absent to very rare - occasional interval 10-20cm; moderate chlorite throughout - locally as clots and wisps strained parallel to foliation; moderate foliation at 35-45 degrees to core axis; locally weakly to moderately magnetic; common irregular and regular quartz-carb veinlets and fractures parallel to foliation and at variable core angles; lower contact sharp and regular at 45 degrees - somewhat arbitrary as this unit is intercalated with the unit below over ~1m
F-146A	292.00	303.60	11.60	I3O	Lamprophyre dyke					
F-146A	303.60	328.80	25.20	I3A	Gabbro, Tholeiitic					
F-146A	328.80	365.00	36.20	V2J	Anderite, Calc-alcalin	Pyr	Bed		9a ULPF/ULAT	Intermediate to felsic tuff; predominantly fine to medium grained, locally coarse, with occasional quartz eyes and feldspar phenocrysts - phenocrysts often resemble amygdules, often zoned; quartz eyes <1%, sub-rounded to sub-angular, 1-2mm, clear to grey; local moderate sericite; weak to moderate chlorite throughout; local moderate chloritoid; massive to locally moderately bedded at 45 degrees to core axis;local moderate irregular quartz-carb veining and flooding generally with chlorite; local hematite fractures; occasional pyrrhotite and pyrite seams and stringers - trace overall; lower contact sharp and regular at 45 degrees to core axis
F-146A	365.00	397.00	32.00	V2J (S)	Anderite, local sediments, Calc-alcalin to transitional					
F-146A	397.00	406.70	9.70	V2J - S10	Anderitic tuff and Chemical sediments					

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-146A	406.7	438.00	31.30	V2J	Anderite, Transitional	Por/Am	Bed		11a BRLDL/11b BRLDQ	As from 173.70 to 208.10m; 406.7 to 420.7 exhibits common local broken, convoluted and contorted bedding, occasionally brecciated in appearance, with quartz-carb infilling and trace stringer pyrite up to 2-3% over 20cm - possible flow top disruption? moderate foliation/bedding at 45-50 degrees to core axis; quartz-carb and feldspar phenocrysts/amygdules gradually diminish downhole - below ~560m they're virtually gone, and unit becomes a massive dacitic flow (to andesitic to rhyodacitic); lower contact sharp and regular at 60 degrees to core axis
F-146A	438	478.40	40.40	V2J - S10	Anderitic tuff and Chemical sediments, Calc-alcalin to transitional					
F-146A	478.4	627.67	149.27	I2J	Diorite, Transitional to calc-alcalin	Mass				
F-146A	627.67	635.30	7.63	I1	Felsic Qz-Fp prophyry dyke	Por	Lap		8a MLPF	Quartz and feldspar porphyritic flow (K-spar? - often exhibits an orange-red-buff colour); phenocrysts from 1mm to 6-7mm; moderate foliation at 45-60 degrees to core axis; common quartz-carbonate-K-spar veins, up to 20cm, at variable core angles, with common potassic alteration around veins; lower contact sharp and regular 45 degrees to core axis
F-146A	635.30	696.90	61.60	I2J	Diorite, Calc-alcalin	Mass	Fol		11a BRLDL/11b BRLDQ	As from 406.70 to 627.67m, with phenocrysts and amygdules absent and weak foliation at 45-55 degrees to core axis,rock gradually darkens to a very dark grey and very fine grained as approach lower contact, sharp lower contact at 60 degrees to core axis marked by textural change and increase in pyrite content.
F-146A	696.90	836.05	139.15	V1B	Rhyolite, Calc-alcalin	Por	Lap	Bx	6a MTQ	Brecciated lapilli tuff to debris flow, chaotic distribution of light to medium grey sub-rounded to angular lapilli of predominantly felsic composition set in a dark grey to slightly greenish-grey moderately to locally strongly chloritic matrix, fragment population varies from <5% to 90% fragments, locally exhibits a brecciated texture, locally foliated @ 60 to 75 to core axis, minor to locally 20% <1mm to 3mm sub-rounded dark grey quartz crystals, overall weak to moderate to locally strong chlorite, very local strong sericite, overall 1-2% disseminated to stringer pyrite, sphalerite mineralization appears within distinct zones. From 703.8 to 707.0 - 3% light brown stringer to patchy sphalerite, 1-2% disseminated to stringer pyrite, moderate to strong inter-fragment chlorite within mineralized zone, foliation/deformation fabric at 60-70 degrees to core axis, gradational-diffuse upper and lower contacts over 10-20 cm. From 730.1 to 742.0 - sphalerite mineralized zone containing 1-2% light brown stringer to disseminated sphalerite, 1-2% disseminated to stringer pyrite, weak to locally moderate inter-fragment chlorite, gradational-diffuse upper and lower contacts. From795.65 to 795.96 - Semi-massive sulphides, 50% py as large irregular patchy/veiny pyrite, patches/veins crudely oriented @ 60-70 to core axis within foliation plane. From 795.95 to 796.7 - 3-5% disseminated to clotty to stringer pyrite commonly aligned/concentrated within foliation plane @ 60 to70 to core axis, strongly foliated sub-section. From 803.7-813.5 - Intensely altered sub-section containing 1-2% clotty/veiny to disseminated pyrite, minor associated splashses of chalcopyrite, possible minor dark brown sphalerite, hint of possible minor galena. Fracture zone from 700.2 to 704.2m
F-146A	836.05	858.00	21.95	V2A	Anderite, Calc-alcalin	Lap	Bx		6a MTQ	Similar in texture to above unit, but less chaotic and brecciated - more of a lapilli tuff instead of debris flow/flow breccia; quartz eyes absent; getting more finer grained, locally cherty, ash beds; less altered than above unit - generally weak to locally moderate sericite and chlorite; 0.5 to 1% stringer and disseminated pyrite and chalcopyrite
F-146A	858.00			E.O.H.						

Xstrata Zinc Canada

Lithogeochem Sampling

Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-146A	E460903	ALS Minerals; Thunder Bay lab	TB12040527		45.00	45.30	0.30															
F-146A	E460904	ALS Minerals; Thunder Bay lab	TB12040527		75.00	75.30	0.30															
F-146A	E460905	ALS Minerals; Thunder Bay lab	TB12040527		105.00	105.30	0.30															
F-146A	E460906	ALS Minerals; Thunder Bay lab	TB12040527		135.00	135.30	0.30															
F-146A	E460907	ALS Minerals; Thunder Bay lab	TB12040527		165.00	165.30	0.30															
F-146A	E460908	ALS Minerals; Thunder Bay lab	TB12040527		195.00	195.30	0.30															
F-146A	E460909	ALS Minerals; Thunder Bay lab	TB12040527		224.70	225.00	0.30															
F-146A	E460910	ALS Minerals; Thunder Bay lab	TB12040527		255.00	255.30	0.30															
F-146A	E460911	ALS Minerals; Thunder Bay lab	TB12040527		285.00	285.30	0.30															
F-146A	E460912	ALS Minerals; Thunder Bay lab	TB12040527		315.00	315.30	0.30															
F-146A	E460913	ALS Minerals; Thunder Bay lab	TB12040527		345.00	345.30	0.30															
F-146A	E460914	ALS Minerals; Thunder Bay lab	TB12040527		375.00	375.30	0.30															
F-146A	E460915	ALS Minerals; Thunder Bay lab	TB12040527		396.00	396.30	0.30															
F-146A	E460916	ALS Minerals; Thunder Bay lab	TB12040527		411.00	411.30	0.30															
F-146A	E460917	ALS Minerals; Thunder Bay lab	TB12040527		444.00	444.30	0.30															
F-146A	E460918	ALS Minerals; Thunder Bay lab	TB12065278		474.00	474.30	0.30															
F-146A	E460919	ALS Minerals; Thunder Bay lab	TB12065278		504.00	504.30	0.30															
F-146A	E460920	ALS Minerals; Thunder Bay lab	TB12065278		534.00	534.30	0.30															
F-146A	E460921	ALS Minerals; Thunder Bay lab	TB12065278		564.00	564.30	0.30															
F-146A	E460922	ALS Minerals; Thunder Bay lab	TB12065278		594.00	594.30	0.30															
F-146A	E460923	ALS Minerals; Thunder Bay lab	TB12065278		624.00	624.30	0.30															
F-146A	E460924	ALS Minerals; Thunder Bay lab	TB12065278		654.00	654.30	0.30															
F-146A	E460925	ALS Minerals; Thunder Bay lab	TB12065278		687.00	687.30	0.30															
F-146A	E460926	ALS Minerals; Thunder Bay lab	TB12065278		714.00	714.30	0.30															
F-146A	E460927	ALS Minerals; Thunder Bay lab	TB12065278		744.00	744.30	0.30															
F-146A	E460928	ALS Minerals; Thunder Bay lab	TB12065278		774.00	774.30	0.30															
F-146A	E460929	ALS Minerals; Thunder Bay lab	TB12065278		792.00	792.30	0.30															
F-146A	E460930	ALS Minerals; Thunder Bay lab	TB12065278		814.40	814.70	0.30															
F-146A	E460931	ALS Minerals; Thunder Bay lab	TB12065278		846.00	846.30	0.3															

Hole: _____

Xstrata Zinc Canada

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu	Pb	Zn	Ag	Cu	Zn	Au	
								Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529516	TB12040524	75.30	76.50	1.20										
F-146A	J529517	TB12040524	76.50	78.00	1.50										
F-146A	J529518	TB12040524	78.00	79.50	1.50										
F-146A	J529519	TB12040524	79.50	81.00	1.50										
F-146A	J529520	TB12040524	81.00	82.50	1.50										
F-146A	J529521	TB12040524	82.50	84.00	1.50										
F-146A	J529522	TB12040524	84.00	85.50	1.50										
F-146A	J529523	TB12040524	85.50	87.00	1.50										
F-146A	J529524	TB12040524	87.00	88.50	1.50										
F-146A	J529525	TB12040524	Standard												
F-146A	J529526	TB12040524	88.50	90.00	1.50										
F-146A	J529527	TB12040524	90.00	91.50	1.50										
F-146A	J529528	TB12040524	91.50	93.00	1.50										
F-146A	J529529	TB12040524	93.00	94.50	1.50										
F-146A	J529530	TB12040524	94.50	96.00	1.50										
F-146A	J529531	TB12040524	96.00	97.50	1.50										
F-146A	J529532	TB12040524	97.50	99.00	1.50										
F-146A	J529533	TB12040524	99.00	100.50	1.50										
F-146A	J529534	TB12040524	100.50	102.00	1.50										
F-146A	J529535	TB12040524	102.00	103.50	1.50										
F-146A	J529536	TB12040524	103.50	105.00	1.50										
F-146A	J529537	TB12040524	105.00	106.50	1.50										
F-146A	J529538	TB12040524	106.50	108.00	1.50										
F-146A	J529539	TB12040524	108.00	109.00	1.00										
F-146A	J529540	TB12040524	109.00	110.00	1.00										
F-146A	J529541	TB12040524	Duplicate of J529540												
F-146A	J529542	TB12040524	110.00	111.00	1.00										
F-146A	J529543	TB12040524	111.00	112.00	1.00										

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529544	TB12040524	112.00	113.00	1.00										
F-146A	J529545	TB12040524		Blank											
F-146A	J529546	TB12040524	113.00	114.00	1.00										
F-146A	J529547	TB12040524	114.00	115.50	1.50										
F-146A	J529548	TB12040524	115.50	117.00	1.50										
F-146A	J529549	TB12040524	117.00	118.50	1.50										
F-146A	J529550	TB12040524		Standard											
F-146A	J529551	TB12040524	118.50	120.00	1.50										
F-146A	J529552	TB12040524	120.00	121.45	1.45										
F-146A	J529553	TB12040524	121.45	123.00	1.55										
F-146A	J529554	TB12040524	123.00	124.00	1.00										
F-146A	J529555	TB12040524	386.50	387.50	1.00										
F-146A	J529556	TB12040524	391.30	392.30	1.00										
F-146A	J529557	TB12056976	694.50	696.00	1.50										
F-146A	J529558	TB12056976	696.00	696.90	0.90										
F-146A	J529559	TB12056976	696.90	698.00	1.10										
F-146A	J529560	TB12056976	698.00	699.00	1.00										
F-146A	J529561	TB12056976	699.00	700.50	1.50										
F-146A	J529562	TB12056976	700.50	702.00	1.50										
F-146A	J529563	TB12056976	702.00	703.00	1.00										
F-146A	J529564	TB12056976	703.00	703.80	0.80										
F-146A	J529565	TB12056976	703.80	705.00	1.20										
F-146A	J529566	TB12056976	705.00	706.00	1.00										
F-146A	J529567	TB12056976	706.00	707.00	1.00										
F-146A	J529568	TB12056976	707.00	708.00	1.00										
F-146A	J529569	TB12056976	708.00	709.50	1.50										
F-146A	J529570	TB12056976	709.50	711.00	1.50										
F-146A	J529571	TB12056976	711.00	712.50	1.50										
F-146A	J529572	TB12056976	712.50	714.30	1.80										
F-146A	J529573	TB12056976	714.30	715.50	1.20										

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529574	TB12056976	715.50	717.00	1.50										
F-146A	J529575	TB12056976	Standard												
F-146A	J529576	TB12056976	717.00	718.50	1.50										
F-146A	J529577	TB12056976	718.50	720.00	1.50										
F-146A	J529578	TB12056976	720.00	721.50	1.50										
F-146A	J529579	TB12056976	721.50	723.00	1.50										
F-146A	J529580	TB12056976	blank												
F-146A	J529581	TB12056976	723.00	724.50	1.50										
F-146A	J529582	TB12056976	724.50	726.00	1.50										
F-146A	J529583	TB12056976	726.00	727.50	1.50										
F-146A	J529584	TB12056976	727.50	729.00	1.50										
F-146A	J529585	TB12056976	729.00	730.10	1.10										
F-146A	J529586	TB12056976	730.10	731.00	0.90										
F-146A	J529587	TB12056976	731.00	732.00	1.00										
F-146A	J529588	TB12056976	732.00	733.00	1.00										
F-146A	J529589	TB12056976	733.00	734.00	1.00										
F-146A	J529590	TB12056976	)licate of J529589												
F-146A	J529591	TB12056976	734.00	735.00	1.00										
F-146A	J529592	TB12056976	735.00	736.00	1.00										
F-146A	J529593	TB12056976	736.00	737.00	1.00										
F-146A	J529594	TB12056976	737.00	738.00	1.00										
F-146A	J529595	TB12056976	738.00	739.00	1.00										
F-146A	J529596	TB12056976	739.00	740.00	1.00										
F-146A	J529597	TB12056976	740.00	741.00	1.00										
F-146A	J529598	TB12056976	741.00	742.00	1.00										
F-146A	J529599	TB12056976	742.00	743.00	1.00										
F-146A	J529600	TB12056976	Standard												
F-146A	J529601	TB12056976	743.00	744.00	1.00										
F-146A	J529602	TB12056976	744.00	745.50	1.50										
F-146A	J529603	TB12056976	745.50	747.00	1.50										

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529604	TB12056976	747.00	748.50	1.50										
F-146A	J529605	TB12056976	748.50	750.00	1.50										
F-146A	J529606	TB12056976	765.20	766.00	0.80										
F-146A	J529607	TB12056976	766.00	767.00	1.00										
F-146A	J529608	TB12056976	767.00	768.00	1.00										
F-146A	J529609	TB12056976	768.00	769.50	1.50										
F-146A	J529610	TB12056976	Blank												
F-146A	J529611	TB12056976	769.50	771.00	1.50										
F-146A	J529612	TB12056976	771.00	772.50	1.50										
F-146A	J529613	TB12056976	772.50	773.50	1.00										
F-146A	J529614	TB12056976	794.50	795.60	1.10										
F-146A	J529615	TB12056976	795.60	795.90	0.30										
F-146A	J529616	TB12056976	795.90	796.70	0.80										
F-146A	J529617	TB12056976	796.70	798.00	1.30										
F-146A	J529618	TB12056976	798.00	799.50	1.50										
F-146A	J529619	TB12056976	799.50	801.00	1.50										
F-146A	J529620	TB12056976	)licate of J529619												
F-146A	J529621	TB12056976	801.00	802.50	1.50										
F-146A	J529622	TB12056976	802.50	803.50	1.00										
F-146A	J529623	TB12056976	803.50	805.00	1.50										
F-146A	J529624	TB12056976	805.00	806.00	1.00										
F-146A	J529625	TB12056976	Standard												
F-146A	J529626	TB12056976	806.00	807.00	1.00										
F-146A	J529627	TB12056976	807.00	808.00	1.00										
F-146A	J529628	TB12056976	808.00	809.00	1.00										
F-146A	J529629	TB12056976	809.00	810.00	1.00										
F-146A	J529630	TB12056976	810.00	811.00	1.00										
F-146A	J529631	TB12056976	811.00	812.00	1.00										
F-146A	J529632	TB12056976	812.00	813.50	1.50										
F-146A	J529633	TB12056976	813.50	814.80	1.30										

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529634	TB12056976	814.80	816.00	1.20										
F-146A	J529635	TB12056976		blank											
F-146A	J529636	TB12056976	816.00	817.50	1.50										
F-146A	J529637	TB12056976	817.50	819.00	1.50										
F-146A	J529638	TB12065277	819.00	820.50	1.50										
F-146A	J529639	TB12065277	820.50	822.00	1.50										
F-146A	J529640	TB12065277	822.00	823.50	1.50										
F-146A	J529641	TB12065277	823.50	825.00	1.50										
F-146A	J529642	TB12065277	825.00	826.50	1.50										
F-146A	J529643	TB12065277	826.50	828.00	1.50										
F-146A	J529644	TB12065277	828.00	829.50	1.50										
F-146A	J529645	TB12065277		Duplicate of J529644											
F-146A	J529646	TB12065277	829.50	831.00	1.50										
F-146A	J529647	TB12065277	831.00	832.50	1.50										
F-146A	J529648	TB12065277	832.50	834.00	1.50										
F-146A	J529649	TB12065277	834.00	835.00	1.00										
F-146A	J529650	TB12065277		Standard											
F-146A	J529651	TB12065277	835.00	836.05	1.05										
F-146A	J529652	TB12065277	836.05	837.00	0.95										
F-146A	J529653	TB12065277	837.00	838.50	1.50										
F-146A	J529654	TB12065277	838.50	840.00	1.50										
F-146A	J529655	TB12065277	840.00	841.50	1.50										
F-146A	J529656	TB12065277	841.50	843.00	1.50										
F-146A	J529657	TB12065277	843.00	844.50	1.50										
F-146A	J529658	TB12065277	844.50	846.00	1.50										
F-146A	J529659	TB12065277	846.00	847.50	1.50										
F-146A	J529660	TB12065277	847.50	849.00	1.50										
F-146A	J529661	TB12065277	849.00	850.50	1.50										
F-146A	J529662	TB12065277	850.50	852.00	1.50										
F-146A	J529663	TB12065277	852.00	853.50	1.50										

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Cu%_2	Zn%_2	Au_ppm	
F-146A	J529664	TB12065277	853.50	855.00	1.50										
F-146A	J529665	TB12065277	855.00	856.50	1.50										
F-146A	J529666	TB12065277	856.50	858.00	1.50										

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-146	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	150.0
LOGGED BY:	D.Cullen	NORTHING:	NA	ZONE:	15	DIP:	-67.0
START DATE:	15-Feb-12	EASTING:	NA	UTM Northing:	5,526,723	FINAL DEPTH (m):	77m
FINISH DATE:	19-Feb-12	ELEVATION:	NA	UTM Easting:	640,983	CORE SIZE:	NQ
		Casing (m):	24.00	UTM Elevation:		Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	24m
Material Left in Hole:				Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:	Hole stopped due to excessive deviation, and re-started approx. 1m north as F-146A				
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-146	Reflex	18-Feb-12	39	-63.0	147.5	56469	no correction	
F-146	Reflex	18-Feb-12	69	-61.9	148.6	56340		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-146	0.00	25.00	25.00	OVB	Casing/Overburden			
F-146	25.00	56.90	31.90	S / V2J	Sediment / Anderitic Ash Tuff			
F-146	56.90	77.00	20.10	V1C	Rhyodacite			
F-146	77.00			E.O.H.				
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-146	0.00	25.00	25.00	OVB	Casing/Overburden					
F-146	25.00	56.90	31.90	V2J/S	Andesitic Ash Tuff / Sediment, Calc-alcalin	Bed			9b ULSED	Interval varies from medium-light grey-green, to light grey to dark black; generall very fine grained to fine grained - rare coarser clasts up to 1cm; generally well-bedded, predominantly at 45 degrees but often broken, convoluted and contorted bedding; beds range from 1-2mm up to tens of centimetres; locally sulphide-rich zones, up to 5% over 1.7m; local possible graphite-rich(? black to dark grey); lower contact sharp and regular at 40 degrees to core axis
F-146	56.90	77.00	20.10	V1C	Rhyodacite, Transitional	Por	Pyr		9a ULPF	Medium to light grey green; fine to coarse grained, with plagiocalse and quartz phenocrysts/clasts from 1-2mm up to about 1cm; occasional sub-angular dark grey-black cherty clasts; local quartz eyes, sub-rounded, clear to grey, 1-3mm, up to 2-3% over several metres; moderately sericitic throughout; moderate foliation at 30-45 degrees to core axis; 1-2% stringer and disseminated py and po overall, locally up to 3-5%, with trace cpy and sph
F-146	77.00			E.O.H.						

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-146	E460901	ALS Minerals; Thunder Bay lab	TB12040527		36.00	36.30	0.30															
F-146	E460902	ALS Minerals; Thunder Bay lab	TB12040527		63.00	63.30	0.30															

Hole: _____

Xstrata Zinc Canada								Cu	Pb	Zn	Ag	Cu	Zn	Au
HoleID	**Sample Number**	**Certificate Number**	**From_m**	**To_m**	**Length (m)**	**Rock Code**	**Percent Sulphide**	Cu%	Pb%	Zn%	Ag_ppm	Cu%2	Zn%2	Au_ppm
F-146	J529500	TB12040524	27.00	28.00	1.00									
F-146	J529501	TB12040524	28.00	28.90	0.90									
F-146	J529502	TB12040524	28.90	29.80	0.90									
F-146	J529503	TB12040524	29.80	30.80	1.00									
F-146	J529504	TB12040524	36.70	37.70	1.00									
F-146	J529505	TB12040524	37.70	39.20	1.50									
F-146	J529506	TB12040524	39.20	40.20	1.00									
F-146	J529507	TB12040524	66.00	67.00	1.00									
F-146	J529508	TB12040524	67.00	68.50	1.50									
F-146	J529509	TB12040524	68.50	70.00	1.50									
F-146	J529510	TB12040524	Duplicate of J529509											
F-146	J529511	TB12040524	70.00	71.50	1.50									
F-146	J529512	TB12040524	71.50	72.80	1.30									
F-146	J529513	TB12040524	72.80	73.60	0.80									
F-146	J529514	TB12040524	Blank											
F-146	J529515	TB12040524	73.60	74.60	1.00									

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-145	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	328.0
LOGGED BY:	D.Cullen, D. Hunt	NORTHING:	NA	ZONE:	15	DIP:	-62.0
START DATE:	27-Jan-12	EASTING:	NA	UTM Northing:	5,526,022	FINAL DEPTH (m):	719.00
FINISH DATE:	8-Feb-12	ELEVATION:	NA	UTM Easting:	641,350	CORE SIZE:	NQ
		Casing (m):		UTM Elevation:	450	Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:					
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-145	Reflex	27-Jan-12	17	-60.0	332.9	57110	no correction	
F-145	Reflex	28-Jan-12	47	-58.2	333.3	56787		
F-145	Reflex	28-Jan-12	77	-57.1	332.4	56881		
F-145	Reflex	28-Jan-12	107	-56.4	332.7	56751		
F-145	Reflex	28-Jan-12	137	-56.1	333.6	57100		
F-145	Reflex	28-Jan-12	167	-55.6	335.4	57098		
F-145	Reflex	29-Jan-12	197	-55.2	329.7	56900		
F-145	Reflex	29-Jan-12	227	-54.5	331.9	55615		
F-145	Reflex	29-Jan-12	257	-53.3	334.2	56840		
F-145	Reflex	29-Jan-12	287	-51.3	330.5	54652		
F-145	Reflex	30-Jan-12	317	-50.3	331.4	56007		
F-145	Reflex	30-Jan-12	347	-49.6	336.2	56323		
F-145	Reflex	31-Jan-12	377	-48.5	333.9	55791		
F-145	Reflex	31-Jan-12	407	-47.7	334.9	564765		
F-145	Reflex	31-Jan-12	437	-47.3	334.9	56565		
F-145	Reflex	1-Feb-12	467	-46.2	335.7	56756		
F-145	Reflex	2-Feb-12	497	-46.0	335.0	56786		
F-145	Reflex	3-Feb-12	527	-44.3	335.6	56563		
F-145	Reflex	3-Feb-12	557	-43.4	335.5	56597		
F-145	Reflex	5-Feb-12	587	-43.0	335.4	59560		
F-145	Reflex	6-Feb-12	620	-41.0	336.2	59692		
F-145	Reflex	7-Feb-12	647	-40.0	337.1	58696		
F-145	Reflex	7-Feb-12	677	-39.8	336.8	56608		

Hole: _____

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-145	Reflex	8-Feb-12	707	-39.2	337.5	56775		
F-145	Reflex	8-Feb-12	719	-39.1	337.7	56699		
				20.9	4.8			
			drift/30m	0.9	0.2			

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-145	0.00	4.50	4.50	OVB	Casing/Overburden			
F-145	4.50	73.20	68.70	I2J	Diorite			
F-145	73.20	94.40	21.20	V1B	Rhyolite			
F-145	94.40	382.60	288.20	I2J	Diorite			
F-145	382.60	457.35	74.75	V1B	Rhyolite			
F-145	457.35	536.70	79.35	V1B	Rhyolite			
F-145	536.70	579.96	43.26	V1B	Rhyolite		py, cp, sph, gn	Mineralized Zone
F-145	579.96	621.86	41.90	V1C	Rhyodacite (Dyke)			Crystal tuff
F-145	621.86	666.80	44.94	V1C	Rhyodacite			Mineralized Zone
F-145	666.80	686.79	19.99	V1B	Rhyolitic Ash and Lapilli Tuff			
F-145	686.79	698.94	12.15	V1B	Rhyolitic Ash and Lapilli Tuff			Mineralized Zone
F-145	698.94	719.00	20.06	I2J	Diorite			
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-145	0.00	4.50	4.50	OVB	Casing/Overburden					Overburden to 4.5m; Casing to 6m
F-145	4.50	73.20	68.70	I2J	Diorite, Transitional to calc-alcalin	Mass			IQD	Possibly a massive ash flow/tuff; medium grey;fine to medium grained; massive - equigranular; common irregular and regular quartz-carb veinlets and fractures, often at 45-60 degrees to core axis; trace pyrite and chalcopyrite usually associated with quartz-carb veins; lower contact sharp and regular at 60 degrees to core axis
F-145	73.20	94.40	21.20	V1B	Rhyolite, Qz eyes, Transitional	Bed			6a MTQ	Light to medium grey; very fine to medium grained; well-bedded, with bedding planes varying from 40-70 degrees to core axis; beds vary from light grey, very fine grained, and siliceous, to fine to medium grained, darker grey, more chloritic beds; moderate sericite throughout; up to 10% quartz eyes predominantly in the chloritic-sericitic layers - quartz eyes are sub-rounded, 1-2mm and occasionally up to 2-3mm, clear to grey (larger qz eyes are bluish); trace disseminated and stringer pyrite overall - up to 2-3% for the last 0.5m before the lower contact; lower contact is gradational - bedding grades into the intrusive or massive ash flow below
F-145	94.40	382.60	288.20	I2J	Diorite, Transitional	Mass			IQD	As from 5.20 to 73.20, with gradational, bedded-looking upper contact - possibly a massive ash flow/tuff; quartz-carbonate veins and patches, locally up to 1.5m in length sub-parallel to core axis, with occasional trace pyrite, chalcopyrite and local siderite (Fe-carb); quartz-carb veins locally brecciated; locally weakly-moderately magnetic; becomes weakly to moderately foliated (bedded?) at 40-45 degrees to core axis downhole
F-145	382.60	457.35	74.75	V1B	Rhyolite, Calc-alcalin	Bed	Lap	Fol?	7a LLPF/LLAT	Medium to light grey; fine to medium grained; moderately foliated (bedded?) ash to locally lapilli tuff, with top metre of unit exhibiting ~25-30% lapilli or crystals, white to light grey, 0.5 to 1cm; common chlorite(?) seams throughout defining moderate foliation(bedding?) at 40-45 degrees to core axis; moderate sericite throughout; common (up to 5-10%) grey-green phenocrysts generally 1-2 mm, up to 5mm - possibly feldspar? sulphides vary from 2-3% stringer and disseminated fine to medium grained pyrite - often appears to be more intimately associated with the chloritic seams and grey-green feldspar phenocrysts, up to 60-70% massive and semi-massive sulphides over 2m; sulphides appear to be predominantly pyrite, but the pyrite stringers commonly occur with a very fine grained, sub-metallic-looking, brown-grey mineral (possibly a variety of sphalerite?) and occasional patch or stringers of yellow-brown sphalerite; lower cointact sharp and regular at 45 degrees to core axis
F-145	457.35	536.20	78.85	V1B	Rhyolite, Calc-alcalin to transitional	Bed	Ash		7a LLAT	Similar to above unit, but lapilli disappear, sericite decreases, and its well-bedded with bedding planes common - every 1-2cm over intervals of several metres; unit is less siliceous, darker grey; chloritoid increases overall, locally up to ~10% over 2-3m; occasional bands of semi-massive pyrite, up to 5-6mm; bedding at 45-50 degrees to core axis; downhole (below ~500m) chloritoid decreases again, and bedding is not as "thin" i.e. bedding planes are fewer, beds thicker in general;
F-145	536.2	552.15	15.95	V1B	Rhyolite, Calc-alcalin	Bed	Ash		8a MLPF/MLAT	Similar to above , but with the introduction of quartz eyes, more predominant in specific beds - up to 10-15% over 0.5 to 1m; quartz eyes are grey to clear, locally bluish-grey, 1-2mm, and sub-rounded to sub-angular; shear zone from 541.6 to 552.15m
F-145	552.15	579.96	27.81	V1B	Mineralized Zone (Rhyolite)	Bed	Ash		8a MLPF/MLAT	Mineralized Zone - from 3-5% to 100% massive sphalerite, pyrite, galena, and chalcopyrite - see "Mineralization" sheet for a more detailed breakdown of sulphide. mineralization. Host still appears to be a rhyodaicitic to rhyolitic, bedded, perdominantly ash tuff - locally crystal tuff. Lower contact sharp at 90 deg. Shear zone from 562.1 to 577.3m.
F-145	579.96	621.86	41.90	V1C	Qz prophyry dyke, Calc-alcalin	Cx			8a MLPF/MLAT	Pale grey, fine to coarse grained, hard to moderately hard. Weakly chloritic near top of unit, chloritization decreases downward. Non-mineralized. Clear quartz eyes to 3-5mm scattered throughout. Foliation moderate at 25-55 deg. Lower contact undulating at 25 deg.
F-145	621.86	666.80	44.94	V1C	Mineralized Zone (Rhyodacite, Calc-alcalin)	Bed	Ash	Pyr	8a MLPF/MLAT	Mineralized Zone. Interbedded units of intermediate to felsic ash, crystal and lapilli tuff, and coarser grained pyroclastics. Locally chloritized and silicified sections. Sphalerite up to 40% as stringers and scattered coarse crystals. Locally massive. Pyrite up to 40% as disseminated cubes, lenses, stringers, and locally semi-massive. Galena up to 3% as scattered cubes. Chalcopyrite up to 5% as scattered splashes. Foliation moderate to strong from 25 to 50 deg. Lower contact at 45 deg. Two shear zones from 630.0 to 641.1m and from 650.5 to 658.5m .
F-145	666.80	686.79	19.99	V1B	Rhyolitic Ash and Lapilli Tuff, Calc-alcalin	Ash	Lap	Cx	8a MLPF/MLAT	Pale grey, fine to very coarse grained intermediate to felsic ash, crystal and lapilli tuff. Foliation moderate to strong at 40-50 deg. Local bleached patches. Trace to 10% pyrrhotite and trace to 5% pyrite, both as lenses and streaks parallel to foliation; pyrite rarely as disseminated cubes. Trace to 3% sphalerite mainly as thin streaks and lenses parallel to foliation.
F-145	686.79	698.94	12.15	V1B	Mineralized Zone: Rhyolitic Ash and Lapilli Tuff, Calc-alcalin	Ash	Lap	Cx	8a MLPF/MLAT	Felsic ash and lapilli tuff and minor pyroclastics. Pale grey to dark brownish grey, very fine to very coarse grained, hard to moderately hard. Foliation moderate to strong at 35-55 deg. 3-15% pyrrhotite mainly as stringers and bands parallel to foliation. Local weak to moderate chloritic alteration. Trace - 20% pyrite, trace - 5% sphalerite and trace - 3% galena, variable in different subunits, as described below. Lower contact undulating at 80 deg.

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-145	698.94	719.00	20.06	I2J	Diorite	Mass			1a DLLF	Medium greyish green, fine to very fine grained massive mafic volcanic. Foliation weak at 40-50 deg. 3% clear to white quartz-feldspar stringers, to 1 cm, parallel to foliation. Trace to 1% pyrite and pyrrhotite as scattered cubes and blebs.

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-144	**GRID:**	No grid	**DATUM:**	NAD 83	**AZIMUTH:**	322.0
LOGGED BY:	D.Cullen	**NORTHING:**	NA	**ZONE:**	15	**DIP:**	-60.0
START DATE:	13-Jan-12	**EASTING:**	NA	**UTM Northing:**	5,526,030	**FINAL DEPTH (m):**	866.00
FINISH DATE:	26-Jan-12	**ELEVATION:**	NA	**UTM Easting:**	641,635	**CORE SIZE:**	NQ
Hole extended t	13-Feb-12	**Casing (m):**	3m	**UTM Elevation:**		**Magnetic Declination:**	NA

Target:

Township: **NTS:** 52G15

Drill Contractor: **Major Drilling, Thunder Bay branch** **Cement:** **No** **Casing:** **3m**

Material Left in Hole: **Casing. Cap.** **Plug:** **No**

Core Recovery and Ground Conditions:

Core Storage: **Mattabi core yard.**

Downhole Survey:

Comments:

Number of Assays:

Number of Lithochem:

Xstrata Zinc Canada								Downhole Deviation
Hole ID	**Instrument**	**Date Measured**	**Depth**	**Dip**	**Azimuth**	**Magnetic Field**	**Corrected Azimuth**	**Comments**
F-144	Reflex	14-Jan-12	14	-58.9	315.4	57154	no correction	
F-144	Reflex	14-Jan-12	44	-57.6	313.1	56350		
F-144	Reflex	14-Jan-12	74	-55.8	317.6	56902		
F-144	Reflex	14-Jan-12	104	-55.1	316.5	56871		
F-144	Reflex	15-Jan-12	137	-54.4	315.4	56198		
F-144	Reflex	15-Jan-12	164	-54.0	314.9	56274		
F-144	Reflex	15-Jan-12	203	-53.0	316.6	56586		
F-144	Reflex	15-Jan-12	230	-52.6	316.2	56692		
F-144	Reflex	26-Jan-12	254	-52.2	316.0	56319		
F-144	Reflex	16-Jan-12	284	-52.2	316.9	56231		
F-144	Reflex	26-Jan-12	300	-49.90	314.7	56180		
F-144	Reflex	26-Jan-12	330	-49.60	315.2	56190		
F-144	Reflex	26-Jan-12	360	-47.50	319.6	56927		
F-144	Reflex	26-Jan-12	390	-45.90	319.5	56187		
F-144	Reflex	26-Jan-12	420	-44.80	319.4	56087		
F-144	Reflex	18-Jan-12	452	-45.5	315.0	56446		
F-144	Reflex	18-Jan-12	482	-44.4	319.0	56626		
F-144	Reflex	19-Jan-12	512	-43.6	318.9	56341		
F-144	Reflex	20-Jan-12	542	-42.9	322.6	56278		
F-144	Reflex	20-Jan-12	572	-42.5	322.2	56483		
F-144	Reflex	21-Jan-12	602	-42.2	321.9	56492		
F-144	Reflex	21-Jan-12	632	-41.7	322.3	56533		
F-144	Reflex	23-Jan-12	662	-41.1	322.7	56320		

Hole: _____

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
F-144	Reflex	24-Jan-12	692	-40.4	322.4	56353		
F-144	Reflex	25-Jan-12	722	-39.7	322.6	56441		
F-144	Reflex	25-Jan-12	752	-39.5	322.7	56404		
F-144	Reflex	26-Jan-12	782	-39.2	322.8	56435		
F-144	Reflex	11-Feb-12	812	-38.00	324.1	56468		
F-144	Reflex	13-Feb-12	842	-36.80	325.5	56550		
F-144	Reflex	13-Feb-12	866	-36.00	325.7	56540		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-144	0.00	3.00	3.00	OVB	Casing/Overburden			
F-144	3.00	153.55	150.55	I2J	Diorite			
F-144	153.55	476.20	322.65	I2J	Diorite			
F-144	476.20	546.85	70.65	I2J	Diorite			
F-144	546.85	553.40	6.55	V1B	Rhyolite - Mineralized Zone			
F-144	553.40	618.35	64.95	V1B	Rhyolite - Mineralized Zone			
F-144	618.35	641.33	22.98	V1B	Rhyolite			
F-144	641.33	644.95	3.62	I2J	Diorite			
F-144	644.95	766.50	121.55	V1B	Rhyolite			
F-144	766.50	798.08	31.58	V1B	Rhyolite			
F-144	798.08	830.70	32.62	V1B	Rhyolite			
F-144	830.70	834.10	3.40	I2J	Diorite			
F-144	834.10	858.36	24.26	V1B	Rhyolite Debris Flow			
F-144	858.36	866.00	7.64	I2J	Diorite			
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-144	0.00	3.00	3.00	OVB	Casing/Overburden					
F-144	3.00	153.55	150.55	I2J	Diorite, Transitional	Mass	locally poorly bedded		IQD	Medium grey; fine grained, aphyric; massive; occasional quartz-carb veinlets and fractures, regular to irregular, up to ~1cm, at variable core angles; occasional patchy iron oxide fractures and zones, locally vuggy, pitted, down to ~38m (surface weathering); downhole the unit exhibits occasional narrow intervals (10's of centimetres) with feldspar phenocrysts, sub-angular to rounded, up to ~5mm diameter; trace pyrite; locally weakly to moderately magnetic; lower contact sharp at 45 degrees, with lighter grey on the uphole side of contact, and medium to dark green-grey downhole; units look similar on both sides - the diorite may have started further uphole.
F-144	153.55	476.20	322.65	I2J	Diorite, Transitional to calc-alcalin	Mass			IQD	Medium to dark grey to green-grey, becoming lighter grey downhole; fine to locally medium grained, with local sections that appear amygdular to porphyritic, with amygdules/phenocrysts (interstitial quartz plates?) generally ~1mm, up to 3mm; generally massive, with occasional, local poorly/weakly bedded sections - may be inclusions of the pyroclastic flow above; bedding/foliation at 45 degrees to core axis; the diorite contact may have been further uphole - this unit often appears similar to the unit above; locally weakly to moderately magnetic, with occasional magnetite-rich bands/veins usually associated with quartz veins up to 1cm (re-crystallized chert?); occasional quartz-carb veinlets and fractures at variable core angles, and occasional larger quartz veins up to 30-40cm, at variable core angles, translucent to white, with minor chlorite; trace pyrite; put the lower contact at 476.20m because there's an obvious, sharp rock or bedding contact at 45 degrees to core axis; and the rock definitiely changes, but the contact may have been more gradational uphole, and we may have been in massive ash flow/tuff for some metres
F-144	476.20	546.85	70.65	I2J	Diorite, Transitional to calc-alcalin	Mass	Bed		7a LLAT	Medium grey to green-grey; fine grained to locally fine-medium grained; appears to be a massive to locally bedded ash tuff/flow, with bedding at 45 to 50 degrees to core axis; local beds appear lighter colour, siliceous (rhyolitic?); trace disseminetd pyrite; individual beds are variably magnetic, from weak to moderate; occasional narrow quartz-carb veinlets;
F-144	546.85	553.40	6.55	V1B	Rhyolite - Mineralized Zone	Mass	Bed		6a/6b MTQ/MTA	Mineralized Zone - not as felsic/siliceous as the zone below - poorly bedded, fine to medium grained ash flow/lapilli tuff - pyroclastic-looking; up to 7-10% stringer and net-textured pyrite with trace chalcopyrite and sphalerite; bedding/stringers at 50-60 degrees to core axis
F-144	553.40	618.35	64.95	V1B	Rhyolite, calc-alcalin, Mineralized Zone	Bed	Mass		6a/6b MTQ/MTA	Mineralized Zone - Medium grey; fine to locally medium grained; massive to bedded at 45-55 degrees to core axis, possibly lappili tuff - appears to exhibit common lapilli up to 1-2cm, but that appearance may be due to common chlorite seams and net-textured sulphides; local moderate sericite; silceous, felsic-looking; occasionally local quartz eyes starting at upper contact - generally grey, sub-rounded to sub-angular, up to 1-2mm, ~1-2% overall; rare quartz-carb veins/veinlets; lower contact gradational
F-144	618.35	641.33	22.98	V1B	Rhyolite, Calc-alcalin	Lap	Bed	Fol	7a LLAT	Medium grey - a bit darker than the previous unit; lapilli tuff, with common round to lozenge-shaped lapilli up to several centimetres; moderate bedding (foliation?) at ~60 degrees to core axis; commonly feldspar-phyric intervals with rounded to sub-angular feldspar phenos up to 1cm; less than 1% quartz eyes as from 553.40 to 618.35 - generally grey, sub-rounded to sub-angular, up to 1-2mm; common moderate sericite seams throughout; local moderate chloritoid; pervasive weak-moderate chlorite; 1-2% disseminated and stringer pyrite; lower contact sharp and irregular at ~80 degrees to core axis
F-144	641.33	644.95	3.62	I2J	Diorite	Mass	Bed		7a LLAT	Massive to weakly bedded/foliated ash tuff; bedding/foliation is at ~30 degrees to core axis; occasional quartz-carb veins, irregular, with moderate chlorite, epidote, and a bright lime-green mineral that looks like fuchsite (possibly a variety of chlorite?); weak, pervasive chlorite throughout; trace to 1% disseminated pyrite
F-144	644.95	766.50	121.55	V1B	Rhyolite, Calc-alcalin	Lap	Bed	Fol	8b MLMB	As from 618.35 to 641.33, with sulphide mineralization decreased to the odd stringer - trace overall; downhole the unit looks more chaotic, with local breccia zones - looks more like debris flows and/or breccia flows; bedding/foliation at 45-55 degrees to core axis; alteration is decreasing downhole; lower contact sharp and regular at 60 degrees to core axis; shear zone from 659.5 to 670.3m
F-144	766.50	798.08	31.58	V1B	Rhyolite, Calc-alcalin	Ash	Bed	Fol	7a LLAT	Bedded ash flow/tuff to locally lapilli tuff - looks like similar composition to above but debris/breccia flows have ended; moderate disseminated chloritoid(?) - ~1mm, 2-3% throughout; common chlorite seams/bedding planes at 60-70 degrees to core axis; occasional local moderate sericite; occasional blebs of pyrite - trace to 3%. Trace thin quartz stringers mainly parallel to foliation. Foliation weak at 35 to 50 deg. Lower contact at 45 deg.
F-144	798.08	830.70	32.62	V1B	Rhyolite, Calc-alcalin	Ash	Lap	Pyr	7a LLAT	Intermediate to felsic debris flow, variable ash, crystal and lapilli tuff with intermixed coarser pyroclastics. Pale to medium grey, hard to moderately soft. Foliation moderate to weak at 45 to 55 deg. Pyrite and pyrrhotite variable from trace to 7%, mainly as stringers, scattered cubes, blebs and nodules. Lower contact undulating at 10 deg.

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-144	830.70	834.10	3.40	I2J	Diorite	Mass				Massive mafic volcanic. Medium greyish green, very fine to fine grained, soft to moderately soft. 1-3% pyrite as scattered blebs and cubes. Lower contact unconformable with unit below at 10 deg.
F-144	834.10	858.36	24.26	V1B	Rhyolitic Debris Flows, calc-alcalin	Pyr	Bed	Bx	7aLLAT	Intermediate debris flow. Pale to dark grey, hard to soft, fine to very coarse grained. Highly heterogenious unit comprised of intermixed intermediate to felsic pyroclastics, banded clastic and chemical sediments and mafic volcanic clasts or thin flows, ash and lapilli tuffs. Foliation weak to moderate at 45 - 60 deg. Trace to 10% pyrite as lenses, stringers and scattered cubes and blebs. 3-5% pyrrhotite as scattered blebs and lenses often intermixed with pyrite. Fine grained sedimentary beds are often contorted. Thin fault gouge, at 50 deg., at 839.54m. Lower contact sharp at 45 deg.
F-144	858.36	866.00	7.64	I2J	Diorite, Transitional	Mass				Massive mafic volcanic. Possibly fine grained mafic intrusive. Medium greyish green, very fine to fine grained, soft to moderately soft, very weak local foliation at 45 deg. Trace pyrite as scattered cubes and blebs.

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
								Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho	La
F-144	E460735	ALS Minerals; Thunder Bay lab	TB12010005		29.00	29.30	0.30															
F-144	E460736	ALS Minerals; Thunder Bay lab	TB12010005		62.00	62.30	0.30															
F-144	E460737	ALS Minerals; Thunder Bay lab	TB12010005		94.70	95.00	0.30															
F-144	E460738	ALS Minerals; Thunder Bay lab	TB12010005		125.00	125.30	0.30															
F-144	E460739	ALS Minerals; Thunder Bay lab	TB12010005		156.00	156.30	0.30															
F-144	E460740	ALS Minerals; Thunder Bay lab	TB12010005		185.00	185.30	0.30															
F-144	E460741	ALS Minerals; Thunder Bay lab	TB12016254		216.00	216.30	0.30															
F-144	E460742	ALS Minerals; Thunder Bay lab	TB12016254		245.00	245.30	0.30															
F-144	E460743	ALS Minerals; Thunder Bay lab	TB12016254		275.00	275.30	0.30															
F-144	E460744	ALS Minerals; Thunder Bay lab	TB12016254		305.00	305.30	0.30															
F-144	E460745	ALS Minerals; Thunder Bay lab	TB12016254		338.00	338.30	0.30															
F-144	E460746	ALS Minerals; Thunder Bay lab	TB12016254		371.00	371.30	0.30															
F-144	E460747	ALS Minerals; Thunder Bay lab	TB12016254		404.00	404.30	0.30															
F-144	E460748	ALS Minerals; Thunder Bay lab	TB12016254		434.00	434.30	0.30															
F-144	E460749	ALS Minerals; Thunder Bay lab	TB12016254		464.00	464.30	0.30															
F-144	E460750	ALS Minerals; Thunder Bay lab	TB12016254		495.00	495.20	0.20															
F-144	E460751	ALS Minerals; Thunder Bay lab	TB12016254		530.00	530.30	0.30															
F-144	E460752	ALS Minerals; Thunder Bay lab	TB12016254		570.00	570.30	0.30															
F-144	E460753	ALS Minerals; Thunder Bay lab	TB12016254		602.00	602.30	0.30															
F-144	E460754	ALS Minerals; Thunder Bay lab	TB12016254		634.70	635.00	0.30															
F-144	E460755	ALS Minerals; Thunder Bay lab	TB12016254		665.00	665.30	0.30															
F-144	E460756	ALS Minerals; Thunder Bay lab	TB12016254		695.00	695.30	0.30															
F-144	E460757	ALS Minerals; Thunder Bay lab	TB12016254		725.00	725.30	0.30															
F-144	E460758	ALS Minerals; Thunder Bay lab	TB12027386		755.00	755.30	0.30															
F-144	E460759	ALS Minerals; Thunder Bay lab	TB12027386		778.30	779.00	0.70															
F-144	E460783	ALS Minerals; Thunder Bay lab	TB12040526		810.93	811.18	0.25															
F-144	E460784	ALS Minerals; Thunder Bay lab	TB12040526		843.87	844.19	0.32															
F-144	E460785	ALS Minerals; Thunder Bay lab	TB12040526		863.73	863.98	0.25															

Hole: _____

Xstrata Zinc Canada

Assays

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2
F-144	K015138	TB12010006	106.50	107.50	1.00									
F-144	K015139	TB12010006	107.50	108.50	1.00									
F-144	K015140	TB12010006	108.50	109.50	1.00									
F-144	K015141	TB12010006	109.50	110.50	1.00									
F-144	K015142	TB12016253	545.80	546.80	1.00									
F-144	K015143	TB12016253	546.80	547.80	1.00									
F-144	K015144	TB12016253		Blank										
F-144	K015145	TB12016253	547.80	548.90	1.10									
F-144	K015146	TB12016253	548.90	550.00	1.10									
F-144	K015147	TB12016253	550.00	551.00	1.00									
F-144	K015148	TB12016253	551.00	552.00	1.00									
F-144	K015149	TB12016253	552.00	553.00	1.00		30-40%							
F-144	K015150	TB12016253		Standard										
F-144	K015151	TB12016253	553.00	554.00	1.00		30-40%							
F-144	K015152	TB12016253	554.00	555.00	1.00		7-10%							
F-144	K015153	TB12016253	555.00	556.00	1.00		7-10%							
F-144	K015154	TB12016253	556.00	557.00	1.00		7-10%							
F-144	K015155	TB12016253	557.00	558.00	1.00		7-10%							
F-144	K015156	TB12016253		Duplicate of K015155										
F-144	K015157	TB12016253	558.00	559.00	1.00		7-10%							
F-144	K015158	TB12016253	559.00	560.00	1.00									
F-144	K015159	TB12016253	560.00	561.00	1.00									
F-144	K015160	TB12016253	561.00	562.00	1.00									
F-144	K015161	TB12016253	562.00	563.00	1.00									
F-144	K015162	TB12016253	563.00	564.00	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2							
F-144	K015163	TB12016253	564.00	565.00	1.00																
F-144	K015164	TB12016253	565.00	566.00	1.00																
F-144	K015165	TB12016253	566.00	567.00	1.00																
F-144	K015166	TB12016253	567.00	568.00	1.00																
F-144	K015167	TB12016253	568.00	569.00	1.00																
F-144	K015168	TB12016253	569.00	570.00	1.00																
F-144	K015169	TB12016253	Blank																		
F-144	K015170	TB12016253	570.00	571.00	1.00																
F-144	K015171	TB12016253	571.00	572.00	1.00																
F-144	K015172	TB12016253	572.00	573.00	1.00																
F-144	K015173	TB12016253	573.00	574.00	1.00																
F-144	K015174	TB12016253	574.00	575.00	1.00																
F-144	K015175	TB12016253	Standard																		
F-144	K015176	TB12016253	575.00	576.00	1.00																
F-144	K015177	TB12016253	576.00	577.00	1.00																
F-144	K015178	TB12016253	577.00	578.00	1.00																
F-144	K015179	TB12016253	578.00	579.00	1.00																
F-144	K015180	TB12016253	Duplicate of K015179																		
F-144	K015181	TB12016253	579.00	580.00	1.00																
F-144	K015182	TB12016253	580.00	581.00	1.00																
F-144	K015183	TB12016253	581.00	582.00	1.00																
F-144	K015184	TB12016253	582.00	583.00	1.00																
F-144	K015185	TB12016253	583.00	584.00	1.00																
F-144	K015186	TB12016253	584.00	585.00	1.00																
F-144	K015187	TB12016253	585.00	586.00	1.00																
F-144	K015188	TB12016253	586.00	587.00	1.00																
F-144	K015189	TB12016253	587.00	588.00	1.00																
F-144	K015190	TB12016253	588.00	589.00	1.00																

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2							
F-144	K015191	TB12016253	589.00	590.00	1.00																
F-144	K015192	TB12016253	590.00	591.00	1.00																
F-144	K015193	TB12016253	591.00	592.00	1.00																
F-144	K015194	TB12016253	Blank																		
F-144	K015195	TB12016253	592.00	593.00	1.00																
F-144	K015196	TB12016253	593.00	594.00	1.00																
F-144	K015197	TB12016253	594.00	595.00	1.00																
F-144	K015198	TB12016253	595.00	596.00	1.00																
F-144	K015199	TB12016253	596.00	597.00	1.00																
F-144	K015200	TB12016253	Standard																		
F-144	K015201	TB12016253	597.00	598.00	1.00																
F-144	K015202	TB12016253	598.00	599.00	1.00																
F-144	K015203	TB12016253	599.00	600.00	1.00																
F-144	K015204	TB12016253	600.00	601.00	1.00																
F-144	K015205	TB12016253	Duplicate of K015204																		
F-144	K015206	TB12016253	601.00	602.00	1.00																
F-144	K015207	TB12016253	602.00	603.00	1.00																
F-144	K015208	TB12016253	603.00	604.00	1.00																
F-144	K015209	TB12016253	604.00	605.00	1.00																
F-144	K015210	TB12016253	605.00	606.00	1.00																
F-144	K015211	TB12016253	606.00	607.10	1.10																
F-144	K015212	TB12016253	607.10	608.20	1.10																
F-144	K015213	TB12016253	608.20	609.10	0.90		2-3%														
F-144	K015214	TB12016253	609.10	610.10	1.00		2-3%														
F-144	K015215	TB12016253	610.10	611.00	0.90																
F-144	K015216	TB12016253	611.00	612.00	1.00																
F-144	K015217	TB12016253	612.00	613.50	1.50																
F-144	K015218	TB12016253	613.50	614.10	0.60																

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2
F-144	K015219	TB12016253	614.10	615.00	0.90									
F-144	K015220	TB12016253	Blank											
F-144	K015221	TB12016253	615.00	616.00	1.00									
F-144	K015222	TB12016253	616.00	617.00	1.00									
F-144	K015223	TB12016253	617.00	618.35	1.35									
F-144	K015224	TB12016253	618.35	620.00	1.65									
F-144	K015225	TB12016253	Standard											
F-144	K015226	TB12016253	620.00	621.50	1.50									
F-144	K015227	TB12016253	621.50	623.00	1.50									
F-144	K015228	TB12016253	623.00	624.50	1.50									
F-144	K015229	TB12016253	624.50	626.00	1.50									
F-144	K015230	TB12016253	626.00	627.50	1.50									
F-144	K015231	TB12016253	Duplicate of K015230											
F-144	K015232	TB12016253	627.50	629.00	1.50									
F-144	K015233	TB12016253	629.00	630.50	1.50									
F-144	K015234	TB12016253	630.50	632.00	1.50									
F-144	K015235	TB12016253	632.00	633.50	1.50									
F-144	K015236	TB12016253	633.50	635.00	1.50									
F-144	K015237	TB12016253	635.00	636.50	1.50									
F-144	K015238	TB12016253	636.50	638.00	1.50									
F-144	K015239	TB12016253	638.00	639.50	1.50									
F-144	K015240	TB12016253	639.50	640.50	1.00									
F-144	K015241	TB12016253	640.50	641.33	0.83									
F-144	K015242	TB12016253	659.50	660.50	1.00									
F-144	K015243	TB12016253	660.50	661.50	1.00									
F-144	K015244	TB12016253	661.50	662.50	1.00									
F-144	K015245	TB12024581	779.60	780.60	1.00									
F-144	K015246	TB12024581	780.60	781.20	0.60									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2
F-144	K015247	TB12024581	781.20	782.00	0.80									
F-144	K015481	TB12030969	801.21	802.13	0.92		K015481							
F-144	K015482	TB12030969	802.13	803.13	1.00		K015482							
F-144	K015483	TB12030969	803.13	804.13	1.00		K015483							
F-144	K015484	TB12030969	804.13	805.16	1.03		K015484							
F-144	K015485	TB12030969	Duplicate of K015484				K015485							
F-144	K015486	TB12030969	805.16	806.16	1.00		K015486							
F-144	K015487	TB12030969	806.16	807.16	1.00		K015487							
F-144	K015488	TB12030969	807.16	808.18	1.02		K015488							
F-144	K015489	TB12030969	808.18	809.18	1.00		K015489							
F-144	K015490	TB12030969	809.18	810.18	1.00		K015490							
F-144	K015491	TB12030969	810.18	810.93	0.75		K015491							
F-144	K015492	TB12030969	Blank				K015492							
F-144	K015493	TB12030969	811.18	812.36	1.18		K015493							
F-144	K015494	TB12030969	814.38	815.39	1.01		K015494							
F-144	K015495	TB12030969	815.39	816.39	1.00		K015495							
F-144	K015496	TB12030969	816.39	817.39	1.00		K015496							
F-144	K015497	TB12030969	817.39	818.37	0.98		K015497							
F-144	K015498	TB12030969	818.37	819.37	1.00		K015498							
F-144	K015499	TB12030969	819.37	820.37	1.00		K015499							
F-144	K015500	TB12030969	Standard				K015500							
F-144	K015501	TB12030969	820.37	821.37	1.00		K015501							
F-144	K015502	TB12030969	821.37	822.37	1.00		K015502							
F-144	K015503	TB12030969	822.37	823.37	1.00		K015503							
F-144	K015504	TB12030969	823.37	824.37	1.00		K015504							
F-144	K015505	TB12030969	824.37	825.37	1.00		K015505							
F-144	K015506	TB12030969	825.37	826.64	1.27		K015506							
F-144	K015507	TB12030969	830.00	830.70	0.70		K015507							

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Cu%_2
F-144	K015508	TB12030969	834.20	835.20	1.00		K015508							
F-144	K015509	TB12030969	835.20	835.76	0.56		K015509							
F-144	K015510	TB12030969	Duplicate of K015509				K015510							
F-144	K015511	TB12030969	836.57	837.57	1.00		K015511							
F-144	K015512	TB12030969	837.57	838.57	1.00		K015512							
F-144	K015513	TB12030969	838.57	839.64	1.07		K015513							
F-144	K015514	TB12030969	839.64	840.64	1.00		K015514							
F-144	K015515	TB12030969	840.64	841.64	1.00		K015515							
F-144	K015516	TB12030969	841.64	842.89	1.25		K015516							
F-144	K015517	TB12030969	Blank				K015517							
F-144	K015518	TB12030969	844.41	845.41	1.00		K015518							
F-144	K015519	TB12030969	845.41	846.41	1.00		K015519							
F-144	K015520	TB12030969	846.41	847.39	0.98		K015520							
F-144	K015521	TB12030969	847.39	848.44	1.05		K015521							
F-144	K015522	TB12030969	848.44	848.86	0.42		K015522							
F-144	K015523	TB12030969	856.37	857.37	1.00		K015523							
F-144	K015524	TB12030969	857.37	857.87	0.50		K015524							
F-144	K015525	TB12030969	Standard				K015525							

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-143	**GRID:**	No grid	**DATUM:**	NAD 83	**AZIMUTH:**	125.0
LOGGED BY:	D.Cullen	**NORTHING:**	NA	**ZONE:**	15	**DIP:**	-80.0
START DATE:	18-Dec-11	**EASTING:**	NA	**UTM Northing:**	5,526,339	**FINAL DEPTH (m):**	692m
FINISH DATE:	12-Jan-12	**ELEVATION:**	NA	**UTM Easting:**	640,709	**CORE SIZE:**	NQ
	Note: 2 week break at Christmas	**Casing (m):**	6m	**UTM Elevation:**		**Magnetic Declination:**	NA

Target:

Township: **NTS:** 52G15

Drill Contractor: **Major Drilling, Thunder Bay branch** **Cement:** **No** **Casing:** **6m**

Material Left in Hole: **Casing. Cap.** **Plug:** **No**

Core Recovery and Ground Conditions:

Core Storage: **Mattabi core yard.**

Downhole Survey:

Comments: **Hole stopped for Christmas and excessive deviation at 260m - continued hole Jan 6, 2012.**

Number of Assays:

Number of Lithochem:

Xstrata Zinc Canada								Downhole Deviation
Hole ID	**Instrument**	**Date Measured**	**Depth**	**Dip**	**Azimuth**	**Magnetic Field**	**Corrected Azimuth**	**Comments**
F-143	Reflex	18-Dec-11	20	-79.8	122.8	56986	no correction	
F-143	Reflex	18-Dec-11	50	-79.8	125.8	56870		
F-143	Reflex	19-Dec-11	80	-78.7	128.1	57184		
F-143	Reflex	19-Dec-11	110	-78.2	130.8	57323		
F-143	Reflex	19-Dec-11	140	-78.3	135.4	57293		
F-143	Reflex	19-Dec-11	170	-78.0	136.0	56917		
F-143	Reflex	20-Dec-11	200	-77.4	143.1	56473		
F-143	Reflex	20-Dec-11	230	-76.5	148.7	56202		
F-143	Reflex	20-Dec-11	260	-75.1	155.5	56570		
F-143	Reflex	6-Jan-12	290	-72.7	159.3	56301		
F-143	Reflex	6-Jan-12	320	-70.8	161.8	56188		
F-143	Reflex	7-Jan-12	350	-70.3	161.8	56280		
F-143	Reflex	7-Jan-12	380	-70.0	162.0	56591		
F-143	Reflex	8-Jan-12	410	-69.5	162.5	56193		
F-143	Reflex	8-Jan-12	440	-69.4	163.8	56214		
F-143	Reflex	8-Jan-12	470	-69.3	164.0	56380		
F-143	Reflex	9-Jan-12	500	-69.2	162.9	56004		
F-143	Reflex	9-Jan-12	530	-68.9	164.4	55866		
F-143	Reflex	9-Jan-12	560	-68.9	164.4	56276		
F-143	Reflex	10-Jan-12	590	-68.7	165.4	56521		
F-143	Reflex	10-Jan-10	620	-68.4	165.6	56289		
F-143	Reflex	11-Jan-12	650	-68.6	166.1	56313		
F-143	Reflex	11-Jan-12	692	-68.1	166.7	56429		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-143	0.00	5.00	5.00	OVB	casing/overburden			
F-143	5.00	33.70	28.70	V1B	Rhyolite tuff			
F-143	33.70	130.60	96.90	I2J	Diorite			
F-143	130.60	152.85	22.25	V2J/I2J	Anderite/Diorite			
F-143	152.85	508.10	355.25	I2J	Diorite			
F-143	508.10	661.90	153.80	V2J/I2J	Anderite/Diorite			
F-143	661.90	672.60	10.70	S2/S3	Clastic and chemical sediment (iron formation?)			
F-143	672.60	692.00	19.40	V1B	Rhyolite			
F-143	692.00			EOH				
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-143	0.00	5.00	5.00	OVB	casing/overburden					Casing to 6m, overburden to 5m
F-143	5.00	33.70	28.70	V1B	Rhyolite tuff	Mass	Fr	Fol	9a ULPF?	Medium grey; fine grained; moderately fractured/foliated with irregular, wavy fractures/foliation and chloritic seams - commonly sub-parallel to core axis; siliceous - often cherty-looking; local weak to moderate chloritoid in grains ~1mm in size; occasional quartz-carb fractures and veinlets; trace fine grained pyrite - patchy and fracture-controlled; lower contact sharp and irregular
F-143	33.70	130.60	96.90	I2J	Diorite, Transitional	Mass	Am	EQ	11a BRLDL	Medium grey; fine to medium grained (locally coarse grained); massive equigranular texture with local amygdular/porphyritic intervals over 10's of centimeters - amygdules are up to 0.5cm and locally strained/stretched; looks like the amydules (or phenocrysts) are quartz + plagioclase (+ possibly dolomite); local hematite fractures; local irregular quartz-carb veins - generally at low core angles, 1-2cm wide; trace fine gained pyite and chalcopyrite; lower contact sharp and somewhat regular at 30 degrees to core axis, with abundant quartz-carb veining for last 1 metre
F-143	130.60	152.85	22.25	I2J/V2J	Diorite/Anderite, Transitional	Mass	Fol		11b BRLDQ	Rhyodacite flow/tuff; fine grained; massive to weakly foliated at low core angles; light to medium grey; appears to be fine grained disseminated chloritoid(?) throughout - dark green-black, <0.5mm, 3-5%; rare quartz-carb veinlet; trace disseminated pyrite; lower contact sharp and regular at 45 degrees to c.a.
F-143	152.85	508.10	355.25	I2J	Diorite, Transitional	Bed	Mass	Lap	11a BRLDL	More mafic, darker grey to green-grey than previous units; fine to locally coarse grained, with some beds of fine material, others exhibiting coarse (up to 1cm) lapilli or lithic fragments - locally feldspar phenocrysts and/or amygdules 1-2mm; moderately bedded at 30 (to locally 40) degrees to core axis, becoming 45-50 degrees below ~275m; local massive beds - generally becoming more massive downhole, and it may be diorite intrusive(?) downhole - the contact is not obvious; occasional quartz-carb veins and patches - locally up to 1-1.5m; weak to moderate chlorite throughout; locally weakly to moderately magnetic; trace pyrite
F-143	508.10	661.90	153.80	I2J/V2J	Diorite/Anderite, Transitional	Bed	Fol	Mass	11b BRLDQ	Medium green-grey; fine to medium grained; commonly massive to moderately foliated(bedded?) at 50-60 degrees to core axis; pervasive fine grained (<1mm) disseminated white to greenish grains (plagioclase?) - up to 5-10%; locally zones of bedded tuff with quartz-carb veining parallel to bedding/foliation and weak stringer and disseminated sulphides (mainly pyrite - trace overall); occasional quartz-carb veinlets and fractures throughout - both regular and irregular, at variable core angles; occasional narrow breccia zones associated with bedded tuff zones; lower contact is gradational/arbitrary - difficult to distinguish where the sediment below begins - picked the area where the sedimentary bedding appears and coincides roughly with increased magnetic susceptibilty; last few metres of this interval may be a volcaniclastic sediment
F-143	661.90	672.60	10.70	S2/S3	Clastic and chemical sediment (iron formation?)	Bed			9b ULSED	Medium grey; fine to very fine grained; commonly moderately bedded at 30-40 degrees to core axis; variably magnetic from weak to moderate, with disseminated and stringer magnetite, and occasional veinlets/seams of magnetite exhibiting small folds and cross-cutting bedding; occasional quartz-carb veinlets and fractures parallel to and cross-cutting bedding; lower contact sharp and regular at 30 degrees to core axis
F-143	672.60	692.00	19.40	V1B	Rhyolite, Transitional	Bed	Lap		8a MLPF	Medium to light grey; fine to medium grained; bedded at 45 degrees to core axis; beds locally exhibit quartz eyes - predominantly <1mm (occasionally up to 2mm), sub-angular, clear to grey, and up to 5% over several metres; local beds exhibit feldspar phenocrysts - up to 2-3mm, sub-rounded, andup to 5% over 1-2m; common patchy sericite, locally strong over 10's of centimetres, with occasional possible hematite (reddish-pink); trace pyrite overall - mainly as blebs/stringers, 2-3% from 672.60 to 673.50m
F-143	692.00			E.O.H.	End of Hole					

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-143	E460715	ALS Minerals; Thunder Bay lab	TB11269285		35.00	35.30	0.30															
F-143	E460716	ALS Minerals; Thunder Bay lab	TB11269285		71.00	71.30	0.30															
F-143	E460717	ALS Minerals; Thunder Bay lab	TB11269285		110.00	110.30	0.30															
F-143	E460718	ALS Minerals; Thunder Bay lab	TB11269285		149.00	149.30	0.30															
F-143	E460719	ALS Minerals; Thunder Bay lab	TB11269285		184.70	185.00	0.30															
F-143	E460720	ALS Minerals; Thunder Bay lab	TB11269285		221.00	221.30	0.30															
F-143	E460721	ALS Minerals; Thunder Bay lab	TB11269285		251.00	251.30	0.30															
F-143	E460722	ALS Minerals; Thunder Bay lab	TB12010005		285.00	285.30	0.30															
F-143	E460723	ALS Minerals; Thunder Bay lab	TB12010005		320.00	320.30	0.30															
F-143	E460724	ALS Minerals; Thunder Bay lab	TB12010005		350.00	350.30	0.30															
F-143	E460725	ALS Minerals; Thunder Bay lab	TB12010005		383.00	383.33	0.33															
F-143	E460726	ALS Minerals; Thunder Bay lab	TB12010005		416.00	416.30	0.30															
F-143	E460727	ALS Minerals; Thunder Bay lab	TB12010005		449.00	449.30	0.30															
F-143	E460728	ALS Minerals; Thunder Bay lab	TB12010005		482.00	482.30	0.30															
F-143	E460729	ALS Minerals; Thunder Bay lab	TB12010005		521.00	521.30	0.30															
F-143	E460730	ALS Minerals; Thunder Bay lab	TB12010005		553.70	554.00	0.30															
F-143	E460731	ALS Minerals; Thunder Bay lab	TB12010005		587.00	587.30	0.30															
F-143	E460732	ALS Minerals; Thunder Bay lab	TB12010005		620.00	620.30	0.30															
F-143	E460733	ALS Minerals; Thunder Bay lab	TB12010005		650.00	650.30	0.30															
F-143	E460734	ALS Minerals; Thunder Bay lab	TB12010005		680.00	680.30	0.30															

Hole: _____

Xstrata Zinc Canada

Assays

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-143	K015115	TB12010006	507.10	508.10	1.00									
F-143	K015116	TB12010006	508.10	509.00	0.90									
F-143	K015117	TB12010006	509.00	510.00	1.00									
F-143	K015118	TB12010006	510.00	511.10	1.10									
F-143	K015119	TB12010006	511.10	512.50	1.40									
F-143	K015120	TB12010006	512.50	513.50	1.00									
F-143	K015121	TB12010006	513.50	514.50	1.00									
F-143	K015122	TB12010006	514.50	515.50	1.00									
F-143	K015123	TB12010006	515.50	516.50	1.00									
F-143	K015124	TB12010006	516.50	517.60	1.10									
F-143	K015125	TB12010006	Standard											
F-143	K015126	TB12010006	517.60	518.60	1.00									
F-143	K015127	TB12010006	532.00	533.00	1.00									
F-143	K015128	TB12010006	548.00	549.00	1.00									
F-143	K015129	TB12010006	549.00	550.00	1.00									
F-143	K015130	TB12010006	550.00	551.00	1.00									
F-143	K015131	TB12010006	551.00	552.00	1.00									
F-143	K015132	TB12010006	552.00	553.00	1.00									
F-143	K015133	TB12010006	553.00	554.00	1.00									
F-143	K015134	TB12010006	Blank											
F-143	K015135	TB12010006	671.60	672.60	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-143	K015136	TB12010006	672.60	673.60	1.00									
F-143	K015137	TB12010006	673.60	674.60	1.00									

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	F-142	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	330.0
LOGGED BY:	D.Cullen	NORTHING:	NA	ZONE:	15	DIP:	-56.0
START DATE:	8-Dec-11	EASTING:	NA	UTM Northing:	5526021	FINAL DEPTH (m):	551m
FINISH DATE:	17-Dec-11	ELEVATION:	NA	UTM Easting:	641257	CORE SIZE:	NQ
		Casing (m):	12m	UTM Elevation:		Magnetic Declination:	0.00

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	12m
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:					
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada								Downhole Deviation
Hole ID	**Instrument**	**Date Measured**	**Depth**	**Dip**	**Azimuth**	**Magnetic Field**	**Corrected Azimuth**	**Comments**
F-142	Reflex	9-Dec-11	23	-53.9	329.9	57511	no correction	
F-142	Reflex	9-Dec-11	50	-49.2	330.3	57787		
F-142	Reflex	10-Dec-11	80	-48.0	329.5	57049		
F-142	Reflex	10-Dec-11	116	-47.4	331.0	57186		
F-142	Reflex	10-Dec-11	146	-47.0	331.3	56958		
F-142	Reflex	11-Dec-11	176	-46.4	331.4	56995		
F-142	Reflex	11-Dec-11	206	-45.7	333.2	56826		
F-142	Reflex	12-Dec-11	233	-45.4	334.1	56639		
F-142	Reflex	12-Dec-11	263	-44.5	334.6	56802		
F-142	Reflex	12-Dec-11	293	-43.9	334.8	56794		
F-142	Reflex	13-Dec-11	323	-43.1	335.3	56101		
F-142	Reflex	13-Dec-11	353	-42.8	336.3	56397		
F-142	Reflex	14-Dec-11	383	-42.1	337.1	56142		
F-142	Reflex	14-Dec-11	413	-41.2	337.4	56403		
F-142	Reflex	15-Dec-11	443	-40.9	337.6	56343		
F-142	Reflex	15-Dec-11	473	-39.8	339.3	56472		
F-142	Reflex	16-Dec-11	503	-39.1	339.9	56391		
F-142	Reflex	17-Dec-11	533	-38.0	340.5	56381		
F-142	Reflex	17-Dec-11	551	-37.8	340.7	56497		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
F-142	0.00	10.00	10.00	OVB	casing/overburden			
F-142	10.00	82.60	72.60	V1B	Rhyolite			
F-142	82.60	110.77	28.17	V1B	Quartz Eye Rhyolite			
F-142	110.77	219.30	108.53	I2J	Diorite			
F-142	219.30	286.56	67.26	V1B	Quartz Eye Rhyolite			
F-142	286.56	315.45	28.89	I2J	Diorite			
F-142	315.45	330.30	14.85	V1C	Rhyodacite			
F-142	330.30	354.95	24.65	I2J	Diorite			
F-142	354.95	384.70	29.75	V1B	Quartz Eye Rhyolite			
F-142	384.70	402.10	17.40	I2J	Diorite			
F-142	402.10	483.95	81.85	V1B	Quartz Eye Rhyolite			1% Sphalerite, trace chalcopyrite and 2-3% pyrite from 477.37 to 428.25
F-142	483.95	498.20	14.25	V1B	Quartz Eye Rhyolite			
F-142	498.20	502.40	4.20	S1/S2	Volcaniclastic (+chemical?) sediment			
F-142	502.40	551.00	48.60	V1B	Quartz Eye Rhyolite			
F-142	551.00			EOH	End of Hole			
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-142	0.00	10.00	10.00		casing/overburden					Casing to 12m
F-142	10.00	82.60	72.60	V1B	Rhyolite, Transitional	Bed			6a MTQ	Light to medium grey; fine to very fine grained; aphyric to locally weakly phyric, bedded ash tuff; weak to moderate bedding at 45 to 60 degrees to core axis; top 25 metres exhibit occasional iron-oxide fractures and vugs (surface weathering); scattered pyrite (and rare chalcopyrite) stringers and seams, increasing downhole, commonly along bedding planes; lower contact somewhat gradational at 45 degrees to core axis.
F-142	82.60	110.77	28.17	V1B	Quartz Eye Rhyolite, Calc-alcalin	Bed	Por		6a MTQ	Lighter grey and finer grained than the above unit - appears to be more siliceous, cherty; bedding planes are often more disrupted, irregular - possibly fractures; variable quartz eye content, with 3-5% quartz eyes overall, predominantly confined to darker grey, less cherty beds; quartz eyes are grey to clear, primarily 1-2mm (rarely up to 4-5mm), and angular to subrounded; 2-3% medium to fine grained pyrite overall, in irregular stringers, stringers parallel to bedding planes, disseminated and in irregular patches; moderate sericite throughout, predominantly in seams/stringers parallel to bedding; 2-3% local dark green-black mineral generally 1-3mm and subhedral (chloritoid?); lower contact sharp and somewhat regular at 60 degrees to core axis.
F-142	110.77	219.30	108.53	I2J	Diorite, Transitional to calc-alcalin	Mass			D IQD	Medium grey; fine to medium grained; massive to weakly foliated at 50-60 degrees to core axis; locally appears weakly amygdaloidal; locally weakly to moderately magnetic; occasional quartz-carbonate (? doesn't effervesce in HCL) regular and irregular veins, generally less than 1cm, but occasionally up to 25cm; trace pyrite generally in quartz-carb veins; lower contact sharp and regular at 45 degrees to core axis.
F-142	219.30	286.56	67.26	V1B	Quartz Eye Rhyolite, Calc-alcalin	Por	Bx	Bed	6a MTQ	Medium to light grey, with common light grey to whitish xenoliths, clasts and/or beds; fine to medium grained, commonly quartz phyric; unit is generally chaotic-looking, commonly brecciated in appearance with local bedding in clasts and xenoliths that look rotated and/or broken; locally cherty; overall looks like a lapilli-ash tuff; common quartz eyes, decreasing downhole with very few below ~276m; quartz eyes generally angular to subrounded, grey to clear, and 1-2mm in size - about 2-3% overall down to 276m; weak to moderate sericite throughout, wispy and in stringers; occasional irregular quartz (+carb) veins; 3-5% stringer, disseminated and locally semi-massive pyrite (possibly with trace chalcopyrite); possibly a rhyodacite-dacite from 260.75 to 265.50m; lower contact sharp and regular at 60 degrees to c.a.
F-142	286.56	315.45	28.89	I2J	Diorite, Transitional	Mass			6a MTA	Medium grey; fine grained; massive; very similar to diorite unit from 110.77 to 219.30, but previous diorite had a more intrusive-looking texture, and was coarser grained; locally weakly bedded at 45 degrees to c.a.; occasional quartz-carb veinlets and fractures; trace pyrite; lower contact sharp and regular at 60 degrees to c.a.
F-142	315.45	330.30	14.85	V1C	Rhyodacite	Bed			6a MTQ	Medium to locally light grey; fine to medium grained, with local beds of quartz and plagioclase phenocrysts; generally looks like a bedded lapilli tuff, with lapilli up to 1cm; becomes lighter grey, more sericitic towards bottom of unit; 2-3% fine to medium grained stirnger and fracture-controlled pyrite throughout interval; shear zone from 321.1 to 328.5m
F-142	330.30	354.95	24.65	I2J	Diorite, Transitional	Mass	Bed		6a MTQ-MTA	As from 286.56 to 315.45; lower contact sharp and regular at 70 degrees to c.a.
F-142	354.95	384.70	29.75	V1B	Quartz Eye Rhyolite	Bed			7a LLPT	Mixed massive and bedded rhyolite-rhyodacite tuff, with up to 7-10% angular to subrounded grey quartz eyes 1-2mm in size in some beds, over widths up to 2-3m; local chloritoid-rich beds also - most commonly associated with the same beds that exhibit quartz eyes, with chloritoid up to 3mm - chloritoid content decreases downhole; local weak sericite; occasional pyrite (+chalcopyrite) stringers and disseminations - trace overall; lower contact sharp and regular at 60 degrees to core axis
F-142	384.70	402.10	17.40	I2J	Diorite, Transitional	Mass				
F-142	402.10	483.95	81.85	V1B	Quartz Eye Rhyolite, Transitional to calc-alcalin	Bed				Asame as from 354.95 to 384.7m

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
F-142	483.95	498.20	14.25	V1B	Quartz Eye Rhyolite, Calc-alcalin	Por	Mass		7a LLPT	Light to medium grey; fine to coarse grained; quartz-pyhric with up to 7-10% pervasive quartz eyes, grey to clear to locally bluish, generally more rounded to subrounded than seen previously, and coarser grained - typically 3-5mm and occasionally larger; weak to moderate chloritoid throughout - generally 2-3% in grains 1-3mm, locally up to 5-7%; weak chlorite throughout - moderate in the first 2-3m; weak to moderate sericite throughout; chlorite-sericite give the unit a moderate foliation at 60-70 degrees to core axis; occasional irregular quartz-carb veins up to 4-5cm wide; trace pyrite; lower contact obscured by a massive quartz-carb vein
F-142	498.20	502.40	4.20	S1/S2	Volcaniclastic (+chemical?) sediment	Bed	Mass		7b LLSED	Top 1.5m is a massive bed, medium greenish grey, fine grained, chloritic; becomes a light grey-beige cherty sediment with numerous irregular beds within, then back into a darker green-grey locally thinly bedded sediment; beds at 60 degrees to core axis; appears to be possible fine grained wisps of chalcopyrite +/- sphalerite in bottom 0.5m; lower contact sharp and regular at 70 degrees to c.a.
F-142	502.40	551.00	48.60	V1B	Quartz Eye Rhyolite, Calc-alcalin	Por	Mass		7a LLPT	As from 483.95 to 498.20m; trace fine grained pyrite and chalcopyrite
F-142	551.00			E.O.H.						

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
F-142	E460701	ALS Minerals; Thunder Bay lab	TB11269285		49.70	50.00	0.30															
F-142	E460702	ALS Minerals; Thunder Bay lab	TB11269285		87.00	87.30	0.30															
F-142	E460703	ALS Minerals; Thunder Bay lab	TB11269285		125.00	125.30	0.30															
F-142	E460704	ALS Minerals; Thunder Bay lab	TB11269285		164.00	164.30	0.30															
F-142	E460705	ALS Minerals; Thunder Bay lab	TB11269285		200.00	200.30	0.30															
F-142	E460706	ALS Minerals; Thunder Bay lab	TB11269285		230.70	231.00	0.30															
F-142	E460707	ALS Minerals; Thunder Bay lab	TB11269285		275.00	275.30	0.30															
F-142	E460708	ALS Minerals; Thunder Bay lab	TB11269285		311.00	311.30	0.30															
F-142	E460709	ALS Minerals; Thunder Bay lab	TB11269285		350.00	350.30	0.30															
F-142	E460710	ALS Minerals; Thunder Bay lab	TB11269285		386.00	386.30	0.30															
F-142	E460711	ALS Minerals; Thunder Bay lab	TB11269285		422.00	422.30	0.30															
F-142	E460712	ALS Minerals; Thunder Bay lab	TB11269285		454.00	454.30	0.30															
F-142	E460713	ALS Minerals; Thunder Bay lab	TB11269285		495.00	495.30	0.30															
F-142	E460714	ALS Minerals; Thunder Bay lab	TB11269285		533.00	533.30	0.30															

Hole: _____

Xstrata Zinc Canada

Assays

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105001	TB11259421	21.30	22.30	1.00									
F-142	K105002	TB11259421	22.30	23.30	1.00									
F-142	K105003	TB11259421	23.30	24.30	1.00									
F-142	K105004	TB11259421	24.30	25.30	1.00									
F-142	K105005	TB11259421	50.80	51.30	0.50									
F-142	K105006	TB11259421	59.00	60.50	1.50									
F-142	K105007	TB11259421	60.50	62.00	1.50									
F-142	K105008	TB11259421	62.00	63.50	1.50									
F-142	K105009	TB11259421	63.50	65.00	1.50									
F-142	K105010	TB11259421	65.00	66.50	1.50									
F-142	K105011	TB11259421	66.50	68.00	1.50									
F-142	K105012	TB11259421	68.00	69.50	1.50									
F-142	K105013	TB11259421	69.50	71.00	1.50									
F-142	K105014	TB11259421	71.00	72.50	1.50									
F-142	K105015	TB11259421	72.50	74.00	1.50									
F-142	K105016	TB11259421	74.00	75.50	1.50									
F-142	K105017	TB11259421	75.50	77.00	1.50									
F-142	K105018	TB11259421	77.00	78.40	1.40									
F-142	K105019	TB11259421	78.40	79.70	1.30									
F-142	K105020	TB11259421	79.70	81.00	1.30									
F-142	K105021	TB11259421	81.00	82.00	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105022	TB11259421	82.00	82.70	0.70									
F-142	K105023	TB11259421	Blank											
F-142	K105024	TB11259421	82.70	84.00	1.30									
F-142	K105025	TB11259421	Standard											
F-142	K105026	TB11259421	84.00	85.50	1.50									
F-142	K105027	TB11259421	85.50	87.00	1.50									
F-142	K105028	TB11259421	87.00	88.50	1.50									
F-142	K105029	TB11259421	88.50	90.00	1.50									
F-142	K105030	TB11259421	90.00	91.50	1.50									
F-142	K105031	TB11259421	91.50	93.00	1.50									
F-142	K105032	TB11259421	93.00	94.50	1.50									
F-142	K105033	TB11259421	94.50	96.00	1.50									
F-142	K105034	TB11259421	96.00	97.50	1.50									
F-142	K105035	TB11259421	97.50	99.00	1.50									
F-142	K105036	TB11259421	99.00	100.50	1.50									
F-142	K105037	TB11259421	Duplicate of K105037											
F-142	K105038	TB11259421	100.50	102.00	1.50									
F-142	K105039	TB11259421	102.00	103.50	1.50									
F-142	K105040	TB11259421	103.50	105.00	1.50									
F-142	K105041	TB11259421	105.00	106.50	1.50									
F-142	K105042	TB11259421	Blank											
F-142	K105043	TB11259421	106.50	108.00	1.50									
F-142	K105044	TB11259421	108.00	109.50	1.50									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105045	TB11259421	109.50	110.77	1.27									
F-142	K105046	TB11269284	110.77	111.80	1.03									
F-142	K105047	TB11269284	242.10	243.60	1.50									
F-142	K105048	TB11269284	243.60	245.00	1.40									
F-142	K105049	TB11269284	245.00	246.50	1.50									
F-142	K105050	TB11269284	Standard											
F-142	K105051	TB11269284	246.50	248.00	1.50									
F-142	K105052	TB11269284	248.00	249.50	1.50									
F-142	K105053	TB11269284	249.50	250.50	1.00									
F-142	K105054	TB11269284	250.50	251.40	0.90									
F-142	K105055	TB11269284	251.40	252.00	0.60									
F-142	K105056	TB11269284	252.00	253.00	1.00									
F-142	K105057	TB11269284	253.00	254.00	1.00									
F-142	K105058	TB11269284	254.00	255.00	1.00									
F-142	K105059	TB11269284	255.00	256.00	1.00									
F-142	K105060	TB11269284	256.00	257.00	1.00									
F-142	K105061	TB11269284	257.00	258.00	1.00									
F-142	K105062	TB11269284	258.00	259.00	1.00									
F-142	K105063	TB11269284	259.00	260.00	1.00									
F-142	K105064	TB11269284	260.00	260.75	0.75									
F-142	K105065	TB11269284	260.75	261.75	1.00									
F-142	K105066	TB11269284	Duplicate of K105066											
F-142	K105067	TB11269284	261.75	262.75	1.00									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105068	TB11269284	262.75	263.75	1.00									
F-142	K105069	TB11269284	263.75	264.75	1.00									
F-142	K105070	TB11269284	264.75	265.50	0.75									
F-142	K105071	TB11269284	Blank											
F-142	K105072	TB11269284	265.50	267.00	1.50									
F-142	K105073	TB11269284	267.00	268.50	1.50									
F-142	K105074	TB11269284	268.50	270.00	1.50									
F-142	K105075	TB11269284	Standard											
F-142	K105076	TB11269284	270.00	271.50	1.50									
F-142	K105077	TB11269284	271.50	273.00	1.50									
F-142	K105078	TB11269284	273.00	274.50	1.50									
F-142	K105079	TB11269284	274.50	276.00	1.50									
F-142	K105080	TB11269284	276.00	277.50	1.50									
F-142	K105081	TB11269284	277.50	279.00	1.50									
F-142	K105082	TB11269284	279.00	280.50	1.50									
F-142	K105083	TB11269284	280.50	281.50	1.00									
F-142	K105084	TB11269284	281.50	282.50	1.00									
F-142	K105085	TB11269284	282.50	283.50	1.00									
F-142	K105086	TB11269284	283.50	284.50	1.00									
F-142	K105087	TB11269284	284.50	285.50	1.00									
F-142	K105088	TB11269284	285.50	286.56	1.06									
F-142	K105089	TB11269284	Duplicate of K105088											
F-142	K105090	TB11269284	286.56	287.50	0.94									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105091	TB11269284	314.50	315.45	0.95									
F-142	K105092	TB11269284	315.45	317.00	1.55									
F-142	K105093	TB11269284	317.00	318.50	1.50									
F-142	K105094	TB11269284	318.50	320.00	1.50									
F-142	K105095	TB11269284	320.00	321.50	1.50									
F-142	K105096	TB11269284	Blank											
F-142	K105097	TB11269284	321.50	323.00	1.50									
F-142	K105098	TB11269284	323.00	324.50	1.50									
F-142	K105099	TB11269284	324.50	326.00	1.50									
F-142	K105100	TB11269284	Standard											
F-142	K105101	TB11269284	326.00	327.50	1.50									
F-142	K105102	TB11269284	327.50	329.00	1.50									
F-142	K105103	TB11269284	329.00	330.30	1.30									
F-142	K105104	TB11269284	330.30	331.30	1.00									
F-142	K105105	TB11269284	456.30	457.30	1.00									
F-142	K105106	TB11269284	457.30	458.20	0.90									
F-142	K105107	TB11269284	458.20	459.20	1.00									
F-142	K105108	TB11269284	475.30	476.30	1.00									
F-142	K105109	TB11269284	476.30	477.30	1.00									
F-142	K105110	TB11269284	477.30	478.30	1.00									
F-142	K105111	TB11269284	478.30	479.30	1.00									
F-142	K105112	TB11269284	501.00	502.00	1.00									
F-142	K105113	TB11269284	502.00	502.40	0.40									

Hole: _____

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu %	Pb%	Zn %	Ag_ppm	Zn%_2	Au_ppm	Comments
F-142	K105114	TB11269284	502.40	503.40	1.00									

Hole: _____

Xstrata Zinc Canada **Header Data**

HOLE DESCRIPTION		HOLE LOCATION				HOLE ORIENTATION	
HOLE NO:	15-108	GRID:	No grid	DATUM:	NAD 83	AZIMUTH:	125.0
LOGGED BY:	B. Nelson / D.Cullen	NORTHING:	NA	ZONE:	15	DIP:	-80.0
START DATE:	2-Mar-12	EASTING:	NA	UTM Northing:	5,526,981	FINAL DEPTH (m):	554.00
FINISH DATE:	12-Mar-12	ELEVATION:	NA	UTM Easting:	641,758	CORE SIZE:	NQ
		Casing (m):		UTM Elevation:		Magnetic Declination:	NA

Target:					
Township:		NTS:	52G15		
Drill Contractor:	Major Drilling, Thunder Bay branch	Cement:	No	Casing:	
Material Left in Hole:	Casing. Cap.			Plug:	No
Core Recovery and Ground Conditions:					
Core Storage:	Mattabi core yard.				
Downhole Survey:					
Comments:	Hole stopped due to deteriorating ice conditions - losing access to Portage Island				
Number of Assays:					
Number of Lithochem:					

Xstrata Zinc Canada

Downhole Deviation

Hole ID	Instrument	Date Measured	Depth	Dip	Azimuth	Magnetic Field	Corrected Azimuth	Comments
15-108	Reflex	1-Mar-12	11	-80.4	130.0	56199		
15-108	Reflex	3-Mar-12	41	-80.5	131.7	56083	no correction	
15-108	Reflex	4-Mar-12	71	-80.5	138.9	56096		
15-108	Reflex	4-Mar-12	101	-80.5	145.4	56003		
15-108	Reflex	4-Mar-12	110	-80.1	146.9	56003		
15-108	Reflex	4-Mar-12	140	-80.0	151.5	56192		
15-108	Reflex	4-Mar-12	170	-79.4	151.3	56245		
15-108	Reflex	5-Mar-12	200	-79.1	155.0	55876		
15-108	Reflex	5-Mar-12	230	-79.2	159.6	56177		
15-108	Reflex	6-Mar-12	260	-79.1	163.4	57689		
15-108	Reflex	6-Mar-12	290	-78.6	160.4	56326	Test questionable	
15-108	Reflex	6-Mar-12	320	-77.3	165.1	56254		
15-108	Reflex	8-Mar-12	350	-74.8	171.2	56261		
15-108	Reflex	8-Mar-12	380	-73.3	171.8	56268		
15-108	Reflex	9-Mar-12	410	-72.9	172.3	56164		
15-108	Reflex	9-Mar-12	440	-71.9	173.6	56023		

Hole: _____

Xstrata Zinc Canada **Summary Geological Log**

Hole ID	Depth			Rock Type		Alteration	Mineralization	Comments
	From	To	Interval	Major Rock Code	Rock Name			
15-108	0.00	2.50		OVB	Casing/Overburden			
15-108	2.50	310.30		V3	Mafic Flow			
15-108	310.30	320.60		V1B	Rhyolite			
15-108	320.60	354.10		V1C	Rhyodacite			
15-108	354.10	369.75		V1C	Rhyodacite			
15-108	369.75	554.00		V1D-V2J	Dacite - Andesite			
15-108	554			E.O.H.				Hole stopped early due to deteriorationg ice road
		-	EOH	EOH				

Hole ID	From_m	To_m	Length_m	Major Rock Code	Major Rock Name	Major Texture 1	Major Texture 2	Major Texture 3	Stratigraphy	Comments
15-108	0.00	2.50		OVB	Casing/Overburden					
15-108	2.50	310.30		V3	Mafic Flow	Mass			11a BRLDL	Massive mafic flow, dark greenish-grey to locally black, fine grained to finer medium grained, massive, composed of 5% tiny white crystals set in a very finer mafic groundmass, locally moderately to weakly magnetic, overall 3% erratic white quartz-carbonate stringers, veinlets and veins, locally up to 10% quartz-carbonate veinlets over 1 to 2 metres, lack of sulphide mineralization; locally foliated at 30 degrees to core axis; trace to locally 1% fine to medium grained disseminated pyrite; lower contact sharp and regular at 40-45 degrees to core axis, with about a 5cm quartz vein
15-108	310.30	320.60		V1B	Rhyolite	Por			11b BRLDQ	Light grey-beige to locally light green-grey; predominantly fine grained with ~1%, locally up to 2-3% quartz eyes, clear to grey, rounded to sub-angular, 1-2mm, locally up to ~4mm; Local moderate sericite and chlorite, often in seams; weak bedding at 40 degrees to core axis; also local feldspar phenocrysts2-3mm (amygdules? - appear zoned); lower contact gradational
15-108	320.60	354.10		V1C	Rhyodacite	Por			11b BRLDQ	Quartz and feldspar-phric rhyodacite flow; medium grey-green; up to ~10% quartz eyes locally, 1-4mm in diameter, clear to grey, sub-rounded to sub-angular; up to 5-7% feldspar phenocrysts, up to 4-5mm, sub-angular, white to grey; weak to moderate chlorite throughout; local moderate sericite;trace pyrite; lower contact sharp and irregular at ~35-40 degrees
15-108	354.10	369.75		V1C	Rhyodacite	Por	Bx		11b BRLDQ (and 11a BRLDL?)	Unit is similar to above but quartz eyes are absent to very rare (trace); feldspar phenocrysts have decreased to 2-3%; top 5-6m exhibit angular fragments/shards up to ~1cm, dark green - possibly flow breccia; local pyrite mineralization up to 20% over 20cm - 1-2% overall; lower contact sharp and regular at 45 degrees to core axis
15-108	369.75	554.00		V1D-V2J	Dacite - Andesite	Por/Am	Bed		10a NNLAF?	Medium grey-green; fine to medium grained, with 1-2% quartz and feldspar phenocrysts/amygdules, clear to grey to white, rounded to sub-rounded, 2-10mm; below ~503m phenocrysts are absent to very rare; weak to moderate foliation/bedding at 40-45 degrees to core axis; occasional quartz-carbonate fractures and veinlets at variable core angles
15-108	554			E.O.H.						

Xstrata Zinc Canada				Lithogeochem Sampling																
Hole ID	Sample Number	Lab	Certificate Number	AnalytyicalMethod	From_m	To_m	Length_m	Ag_ppm	Ba_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm	Dy_ppm	Er_ppm	Eu_ppm	Ga_ppm	Gd_ppm	Hf_ppm	Ho_ppm	La_ppm
15-108	E460814	ALS Minerals; Thunder Bay lab	TB12056977		5.00	5.30	0.30															
15-108	E460815	ALS Minerals; Thunder Bay lab	TB12056977		50.00	50.30	0.30															
15-108	E460816	ALS Minerals; Thunder Bay lab	TB12056977		100.00	100.30	0.30															
15-108	E460817	ALS Minerals; Thunder Bay lab	TB12056977		130.00	130.30	0.30															
15-108	E460818	ALS Minerals; Thunder Bay lab	TB12056977		180.00	180.30	0.30															
15-108	E460819	ALS Minerals; Thunder Bay lab	TB12056977		220.00	220.30	0.30															
15-108	E460820	ALS Minerals; Thunder Bay lab	TB12056977		250.00	250.30	0.30															
15-108	E460821	ALS Minerals; Thunder Bay lab	TB12056977		281.00	281.30	0.30															
15-108	E460822	ALS Minerals; Thunder Bay lab	TB12056977		311.00	311.30	0.30															
15-108	E460823	ALS Minerals; Thunder Bay lab	TB12056977		341.00	341.30	0.30															
15-108	E460824	ALS Minerals; Thunder Bay lab	TB12056977		371.00	371.30	0.30															
15-108	E460825	ALS Minerals; Thunder Bay lab	TB12056977		400.70	401.00	0.30															
15-108	E460826	ALS Minerals; Thunder Bay lab	TB12056977		431.00	431.30	0.30															
15-108	E460827	ALS Minerals; Thunder Bay lab	TB12056977		464.00	464.30	0.30															
15-108	E460828	ALS Minerals; Thunder Bay lab	TB12056977		494.00	494.30	0.30															
15-108	E460829	ALS Minerals; Thunder Bay lab	TB12056977		524.00	524.30	0.30															

Hole: _____

Xstrata Zinc Canada

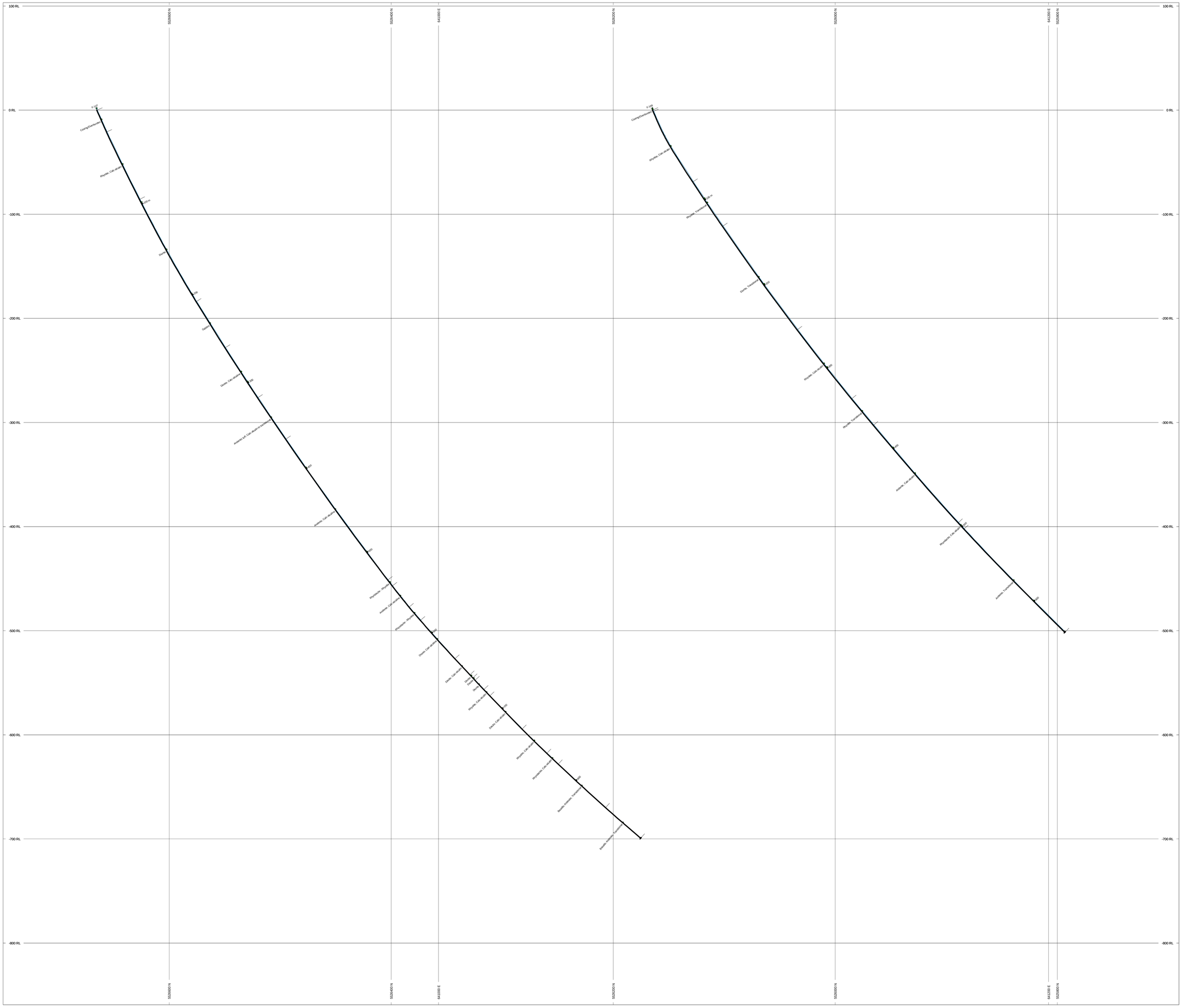
Assays

HoleID	Sample Number	Certificate Number	From_m	To_m	Length (m)	Rock Code	Percent Sulphide	Cu%	Pb%	Zn%	Ag_ppm	Zn%_2	Au_ppm	Comments
15-108	K015618	TB12065276	353.10	354.10	1.00									
15-108	K015619	TB12065276	354.10	355.60	1.50									
15-108	K015620	TB12065276	355.60	357.10	1.50									
15-108	K015621	TB12065276	357.10	358.80	1.70									
15-108	K015622	TB12065276	358.80	359.80	1.00									

Hole: _____

Appendix D

Drill Hole Sections



COMMENTS L/R TEXT
Unit L ---------

SECTION SPECS:

REF. PT. E, N	641050 m	5526220 m
EXTENTS	1127 m	962.7 m
SECTION TOP, BOT	103.4 m	-859.3 m
TOLERANCE +/-	62.5 m	

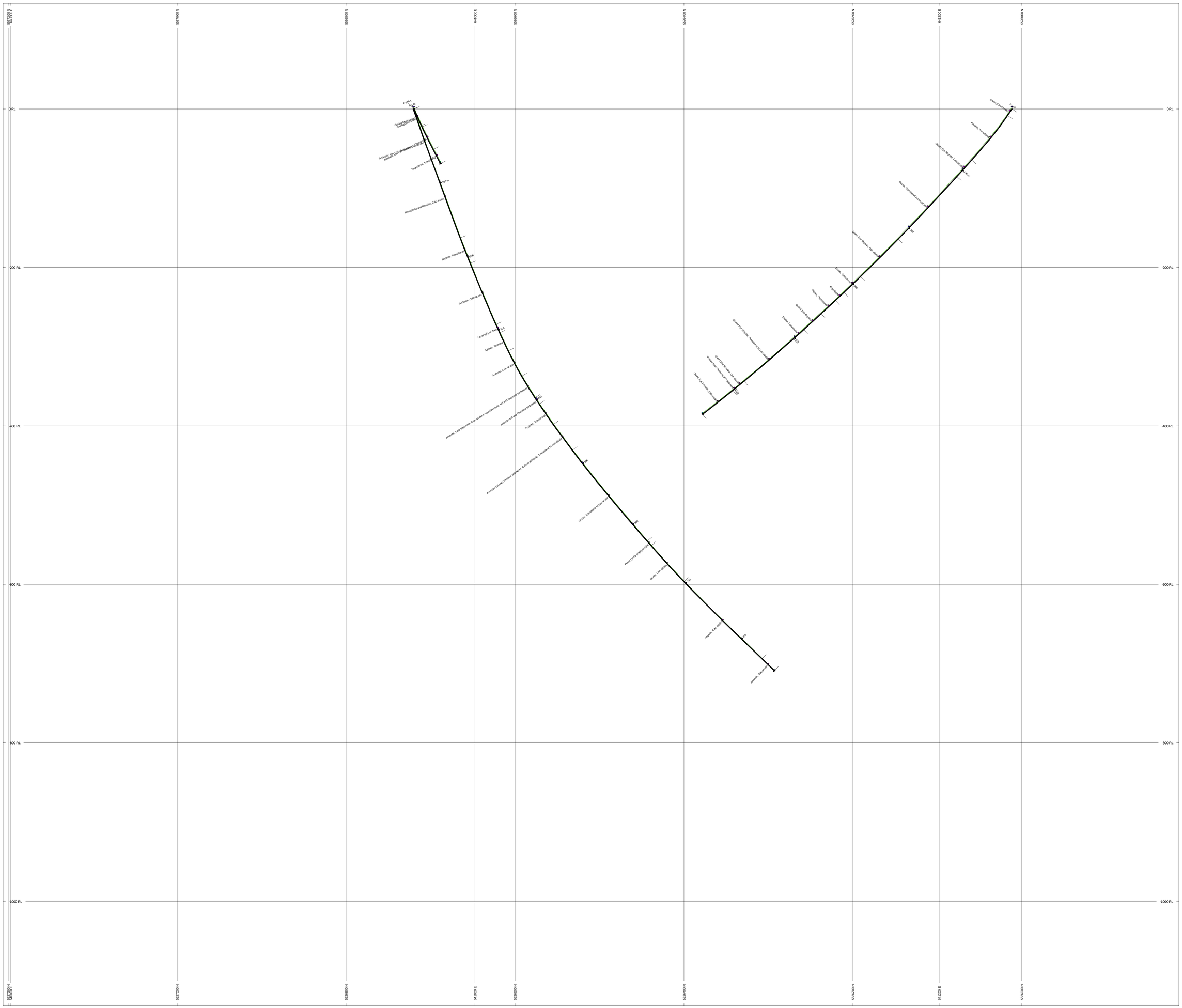
SCALE
(m)
-10 0 10 20 30 40 50
*unknown

AZIMUTH = 160°
N
W E
S

GlencoreXstrata

Sturgeon Lake

Drill Section



COMMENTS L/R TEXT
Unit L -------

SECTION SPECS:

REF. PT. E, N	641050 m	5526510 m
EXTENTS	1481 m	1265 m
SECTION TOP, BOT	133.6 m	-1132 m
TOLERANCE +/-	45 m	

SCALE
(m)
-20 0 20 40 60
*unknown

AZIMUTH = 160°
N
W E
S

GlencoreXstrata
Sturgeon Lake
Drill Section

5526500 N | 5526400 N | 641200 E | 5526300 N | 5526200 N | 641300 E | 5526100 N | 5526000 N

0 RL

-200 RL

-400 RL

-600 RL

-800 RL

-1000 RL

-1200 RL

E-145

Casing/Overburden

Diorite

Rhyolite

100 m

200

Diorite

300

400

Rhyolite

Rhyolite

Rhyolite

Rhyodacite (Dyke)

Rhyodacite

Rhyolitic Ash and LaDiorite

Rhyolitic Ash and LaDiorite

Rhyolitic Ash and LaDiorite

Diorite

COMMENTS		L/R	TEXT
Unit		R	-------

SECTION SPECS:

REF. PT. E, N	641260 m	5526210 m
EXTENTS	643.2 m	1265 m
SECTION TOP, BOT	61.32 m	-1204 m
TOLERANCE +/-	30 m	

SCALE

(m)

-20 0 20 40 60

NAD83 / UTM zone 15N

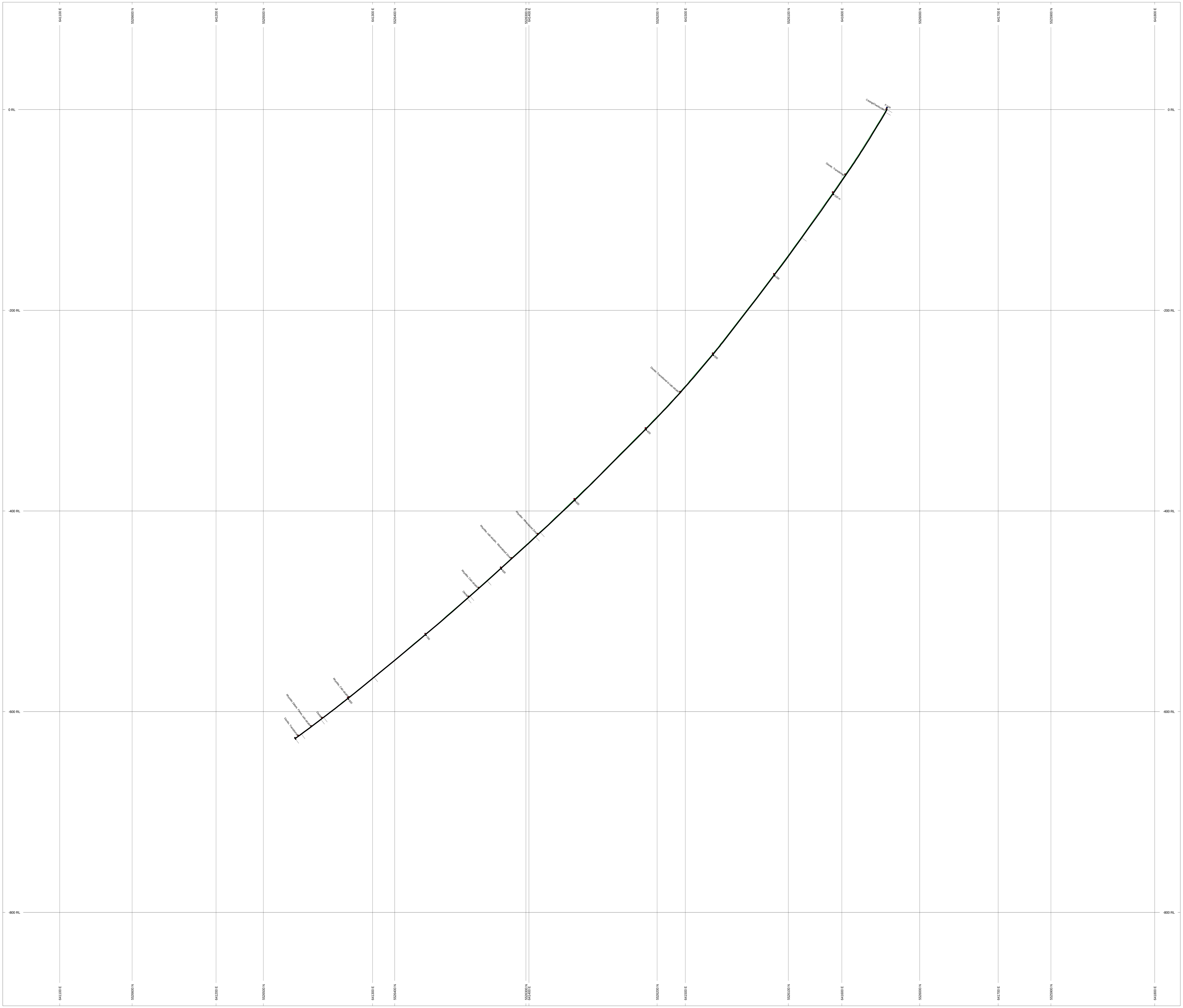
AZIMUTH = 155°

N W E S

GlencoreXstrata

Sturgeon Lake

Drill Section



COMMENTS	L/R	TEXT
Unit	L	-------

SECTION SPECS:

REF. PT. E, N	641440 m	5526250 m
EXTENTS	1171 m	1000 m
SECTION TOP, BOT	107.1 m	-893.1 m
TOLERANCE +/-	40 m	

SCALE

(m)

-10 0 10 20 30 40 50

*unknown

AZIMUTH = 140°

N W E S

GlencoreXstrata

Sturgeon Lake

Drill Section

5526600 N
640600 E
5526500 N
5526400 N
640700 E
5526300 N
5526200 N
640800 E
5526100 N
5526000 N
640900 E
5525900 N

0 RL
-100 RL
-200 RL
-300 RL
-400 RL
-500 RL
-600 RL
-700 RL

Casing/Overburden
Rhyolite tuff
Diorite, Transitional
100 m
Diorite/Andesite, Transitional
200
Diorite, Transitional
300
400
500
Diorite/Andesite, Transitional
600
Clastic and chemical sediment (non lithification)*
Rhyolite, Transitional

5526600 N
640600 E
5526500 N
5526400 N
640700 E
5526300 N
5526200 N
640800 E
5526100 N
5526000 N
640900 E
5525900 N

COMMENTS L/R TEXT
Unit L

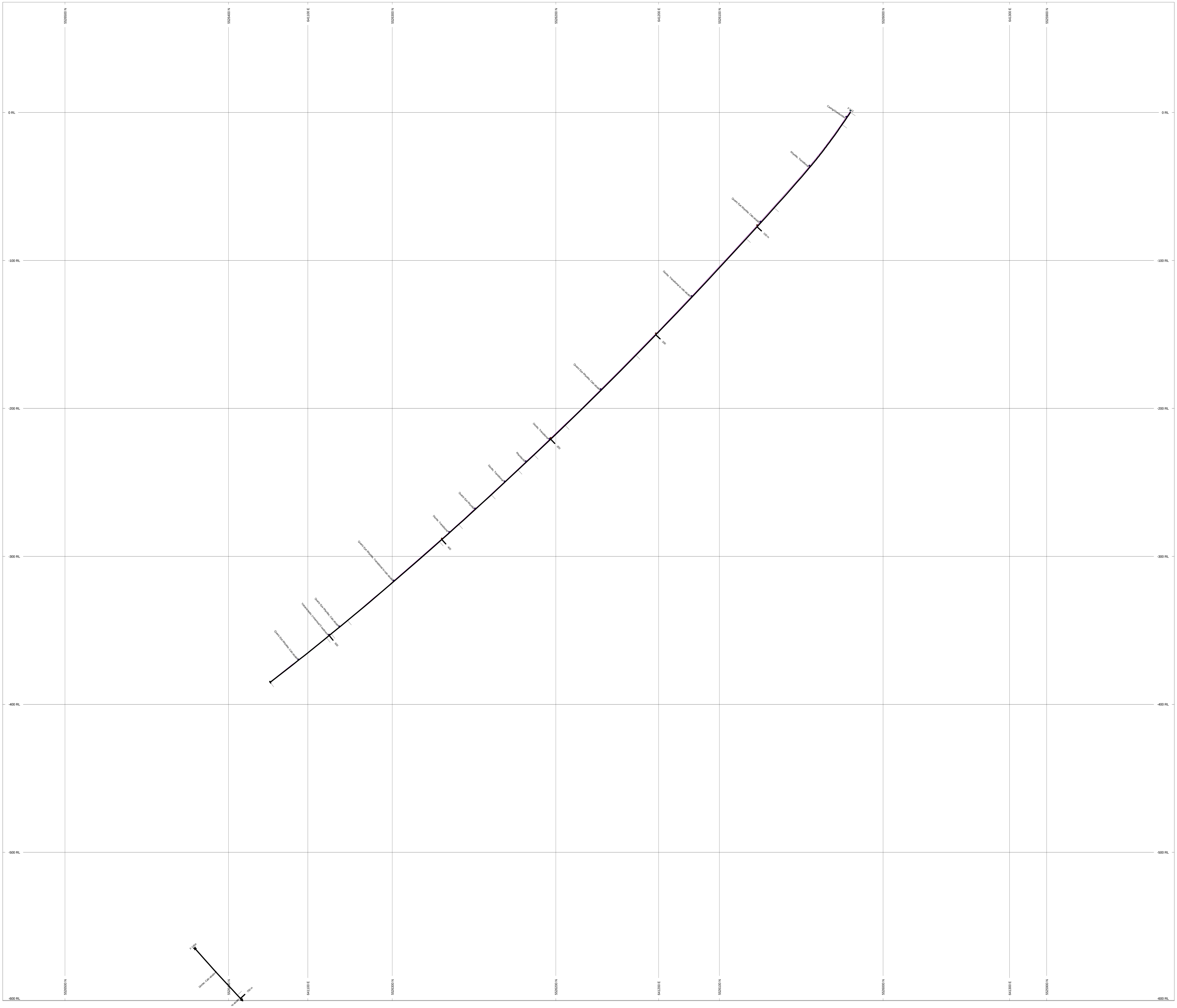
SECTION SPECS:

REF. PT. E, N	640756 m	5526250 m
EXTENTS	936.6 m	800 m
SECTION TOP, BOT	87.09 m	-712.9 m
TOLERANCE +/-	32.5 m	

SCALE
(m)
-10 0 10 20 30 40
*unknown

AZIMUTH = 155°
N
W E
S

GlencoreXstrata
Sturgeon Lake
Drill Section



COMMENTS	L/R	TEXT
Unit	L	-------

SECTION SPECS:

REF. PT. E, N	641180 m	5526180 m
EXTENTS	790.1 m	674.9 m
SECTION TOP, BOT	74.58 m	-600.3 m
TOLERANCE +/-	25 m	

SCALE

(m)

-10 0 10 20 30

*unknown

AZIMUTH = 155°

N W E S

GlencoreXstrata

Sturgeon Lake

Drill Section

5527050 N | 641750 E | 5527000 N | 5526950 N | 641800 E | 5526900 N | 5526850 N | 641850 E | 5526800 N

0 RL

15-108

Casing/Overburden

100 m

-100 RL

Mafic Flow

200

-200 RL

300

Rhyolite

Rhyodacite

Rhyodacite

400

-300 RL

-400 RL

Dacite - Andesite

500

-500 RL

554 m

-600 RL

5527050 N | 641750 E | 5527000 N | 5526950 N | 641800 E | 5526900 N | 5526850 N | 641850 E | 5526800 N

HOLES PLOTTED

TOTAL 1

15-108

COMMENTS	L/R	TEXT
Unit	R	-------

SECTION SPECS:

REF. PT. E, N	641790 m	5526930 m
EXTENTS	343 m	674.9 m
SECTION TOP, BOT	74.58 m	-600.3 m
TOLERANCE +/-	32.5 m	

SCALE

(m)

-10 0 10 20 30

NAD83 / UTM zone 15N

AZIMUTH = 155°

N W E S

GlencoreXstrata

Sturgeon Lake

Drill Section

Appendix E

Assay Certificates

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 6- JAN- 2012
Account: XSZNEX

CERTIFICATE TB11259421

Project: STURGEON LAKE

P.O. No.:

This report is for 45 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 13- DEC- 2011.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 6- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11259421

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015001		2.36	0.013	0.001	0.059	0.6		
K015002		2.45	0.022	0.003	0.029	5.0		
K015003		2.37	0.012	0.002	0.086	1.9		
K015004		2.33	0.016	0.001	0.113	1.4		
K015005		1.24	0.043	0.004	0.059	2.4		
K015006		3.60	0.038	0.014	0.447	3.2		
K015007		3.64	0.028	0.011	0.283	3.1		
K015008		3.83	0.040	0.023	0.393	4.3		
K015009		3.66	0.064	0.037	0.627	4.7		
K015010		3.79	0.036	0.024	0.337	4.4		
K015011		3.30	0.033	0.022	0.308	4.6		
K015012		3.80	0.037	0.021	0.338	4.1		
K015013		3.61	0.048	0.025	0.442	5.1		
K015014		3.38	0.010	0.015	0.082	2.5		
K015015		3.68	0.020	0.017	0.211	2.7		
K015016		3.78	0.051	0.029	0.524	5.2		
K015017		3.68	0.016	0.029	0.173	3.7		
K015018		3.35	0.053	0.066	0.503	7.5		
K015019		3.33	0.407	0.135	2.63	28.4	2.60	0.047
K015020		3.17	0.011	0.016	0.081	2.2		
K015021		2.52	0.016	0.011	0.280	2.6		
K015022		1.68	0.011	0.002	0.095	1.1		
K015023		2.47	0.011	0.001	0.067	1.0		
K015024		3.20	0.001	0.001	0.036	0.4		
K015025		0.03	0.194	0.013	4.93	3.0	5.23	0.052
K015026		3.57	0.005	0.002	0.041	0.7		
K015027		3.38	<0.001	0.001	0.016	0.2		
K015028		2.83	0.001	0.001	0.024	0.4		
K015029		3.58	0.008	<0.001	0.206	1.2		
K015030		3.75	0.001	0.001	0.009	0.5		
K015031		3.58	0.002	<0.001	0.038	0.5		
K015032		3.77	0.002	<0.001	0.020	0.4		
K015033		3.70	0.006	<0.001	0.108	1.6		
K015034		3.69	<0.001	<0.001	0.014	0.4		
K015035		3.17	0.002	<0.001	0.029	0.4		
K015036		1.70	0.001	<0.001	0.029	1.1		
K015037		1.60	0.003	0.002	0.030	0.9		
K015038		4.34	0.001	<0.001	0.007	0.4		
K015039		3.51	0.003	<0.001	0.013	0.3		
K015040		3.25	0.003	<0.001	0.051	0.3		

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 6- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11259421

Sample Description	Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015041		3.74	0.004	0.001	0.018	0.5		
K015042		2.32	0.013	0.002	0.055	1.0		
K015043		3.83	0.002	0.002	0.008	0.5		
K015044		3.95	0.001	0.001	0.011	0.4		
K015045		3.15	0.002	0.001	0.014	0.4		

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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 23- FEB- 2012
Account: XSZNEX

CERTIFICATE TB12027387

Project: STURGEON LAKE

P.O. No.:

This report is for 64 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 9- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Pb- OG62	Ore Grade Pb - Four Acid	VARIABLE
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS
Ag- AA46	Ore grade Ag - aqua regia/AA	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 23- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027387

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Pb- OG62 Pb % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005	Ag- AA46 Ag ppm 1
K015329		3.56	0.006	0.086	0.060	9.0					
K015330		1.64	0.003	0.083	0.088	11.7					
K015331		1.75	0.003	0.127	0.089	13.1					
K015332		3.67	<0.001	0.016	0.028	1.6					
K015333		3.51	0.003	0.071	0.027	9.5					
K015334		3.71	0.006	0.064	0.061	7.8					
K015335		2.94	0.003	0.050	0.035	6.0					
K015336		3.68	0.004	0.059	0.060	7.2					
K015337		3.55	0.002	0.048	0.115	5.1					
K015338		3.74	0.005	0.033	0.483	5.6					
K015339		3.71	0.005	0.064	0.256	10.4					
K015340		2.56	0.002	<0.001	0.013	<0.2					
K015341		3.30	0.003	0.007	0.023	2.0					
K015342		3.59	<0.001	0.008	0.018	2.0					
K015343		3.58	<0.001	0.001	0.003	0.4					
K015344		3.58	<0.001	0.001	0.015	0.2					
K015345		3.48	<0.001	0.001	0.015	0.2					
K015346		3.67	0.014	<0.001	0.016	0.8					
K015347		2.67	0.001	<0.001	0.006	0.3					
K015348		3.41	0.001	0.002	0.250	0.4					
K015349		2.33	0.002	0.005	0.122	1.2					
K015350		<0.02	1.399	0.139	20.3	33.1	1.430		19.70	0.780	
K015351		1.94	0.018	0.015	0.103	3.2					
K015352		2.36	0.064	0.037	4.29	8.7			4.38	0.062	
K015353		3.29	0.030	0.044	0.447	13.0					
K015354		2.77	0.005	0.009	0.030	1.0					
K015355		3.89	0.003	0.006	0.030	0.3					
K015356		2.37	0.021	0.019	0.027	2.6					
K015357		2.41	0.004	0.012	0.151	3.3					
K015358		2.58	0.006	0.009	0.385	4.8					
K015359		1.11	0.483	0.044	1.025	27.0			0.999	0.030	
K015360		1.08	0.323	0.030	0.894	16.7					
K015361		2.38	0.503	0.029	1.010	26.3			0.902	0.056	
K015362		2.75	0.320	0.174	6.28	37.6			6.24	0.151	
K015363		3.54	0.010	0.141	0.024	14.7					
K015364		3.54	0.039	0.092	0.232	20.2					
K015365		2.97	0.006	0.379	1.090	25.0			1.050	0.242	
K015366		1.62	0.203	3.89	23.7	>100		3.92	24.3	0.335	246
K015367		2.67	0.009	0.011	0.089	0.5					
K015368		1.80	0.037	0.197	0.346	63.9					

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 23- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027387

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Pb- OG62 Pb % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005	Ag- AA46 Ag ppm 1
K015369		2.49	0.038	1.705	3.85	>100		1.720	3.70	0.148	105
K015370		3.32	0.366	4.77	40.2	>100		4.80	>30.0	1.045	511
K015371		2.46	0.015	0.500	0.392	43.6					
K015372		2.61	0.010	0.095	0.209	9.5					
K015373		1.56	0.008	0.063	0.298	6.8					
K015374		3.33	0.014	0.103	0.103	19.7					
K015375		<0.02	1.331	0.139	19.05	31.2	1.415		19.50	0.542	
K015376		2.29	0.013	0.015	0.052	4.0					
K015377		1.76	0.021	0.014	0.239	3.2					
K015378		2.03	0.012	0.010	0.066	2.2					
K015379		2.42	0.013	0.014	0.227	2.4					
K015380		1.23	0.020	0.027	0.526	3.6					
K015381		2.60	0.016	0.006	0.036	1.2					
K015382		2.72	0.010	0.006	0.035	1.1					
K015383		2.23	0.008	0.005	0.077	0.9					
K015384		2.62	0.011	0.014	0.233	3.9					
K015385		2.25	0.010	0.012	0.072	4.3					
K015386		2.76	0.006	0.044	0.051	5.6					
K015387		2.47	0.004	0.016	0.149	2.8					
K015388		2.16	0.021	0.195	2.69	36.0			2.49	0.083	
K015389		3.10	0.109	0.201	6.39	23.1			6.28	0.126	
K015390		1.72	0.179	0.080	12.35	23.9			12.75	0.120	
K015391		2.10	0.486	0.225	4.86	59.0			4.70	0.122	
K015392		0.99	0.003	0.008	0.034	1.0					

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12030953

Project: STURGEON LAKE

P.O. No.:

This report is for 73 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 15- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Pb- OG62	Ore Grade Pb - Four Acid	VARIABLE
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS
Ag- AA46	Ore grade Ag - aqua regia/AA	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12030953

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Pb- OG62 Pb % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005	Ag- AA46 Ag ppm 1
K015393		1.83	0.019	0.001	0.776	3.0					
K015394		2.54	0.223	0.046	6.75	22.8			7.20	0.142	
K015395		0.93	0.176	0.113	4.88	31.4			5.04	0.094	
K015396		3.01	0.134	0.789	28.3	73.4			29.4	0.228	
K015397		2.99	0.058	2.50	18.30	>100		2.46	18.75	0.262	181
K015398		2.90	0.026	2.39	16.80	>100		2.29	17.05	0.274	165
K015399		3.04	0.025	2.02	26.7	>100		1.885	29.0	0.375	213
K015400		0.02	1.351	0.142	19.65	36.9	1.450		20.6	0.472	
K015401		2.53	0.070	1.080	15.70	>100		1.010	16.50	0.507	335
K015402		1.59	0.047	1.045	4.56	93.8		1.020	4.60	0.101	
K015403		2.91	0.138	0.787	18.80	77.6			19.40	0.178	
K015404		3.13	0.274	1.285	18.65	>100		1.275	20.8	0.272	213
K015405		2.62	0.094	0.723	10.40	95.7			11.40	0.185	
K015406		1.27	0.025	1.010	9.23	85.4		1.000	10.00	0.107	
K015407		2.65	0.015	0.150	0.766	20.0					
K015408		2.74	0.008	0.287	1.475	23.6			1.440	0.045	
K015409		1.10	0.001	0.028	0.203	3.9					
K015410		1.17	0.004	0.044	0.300	6.0					
K015411		1.19	0.001	0.018	0.014	1.0					
K015412		2.42	0.001	0.031	0.183	1.5					
K015413		2.52	<0.001	0.014	0.075	0.8					
K015414		2.39	<0.001	0.016	0.043	1.3					
K015415		2.48	<0.001	0.034	0.046	5.0					
K015416		2.08	<0.001	0.065	0.206	12.9					
K015417		2.43	<0.001	0.002	0.008	<0.2					
K015418		1.00	0.005	0.230	1.285	18.6			1.345	0.119	
K015419		2.91	0.022	3.41	7.42	>100		3.38	7.80	0.953	221
K015420		2.84	0.003	0.758	1.250	56.3			1.260	0.136	
K015421		2.75	0.049	0.535	14.40	35.9			14.30	0.163	
K015422		2.90	0.171	0.150	11.45	20.5			10.45	0.086	
K015423		2.21	0.006	0.006	0.332	1.4					
K015424		2.46	<0.001	0.003	0.096	0.2					
K015426		0.02	1.384	0.141	20.4	34.7	1.425		20.3	0.490	
K015427		1.41	0.041	0.009	1.405	2.0			1.335	0.017	
K015428		2.41	0.013	0.012	1.470	1.1			1.460	0.011	
K015429		2.57	0.034	0.011	2.82	1.6			3.02	0.020	
K015430		2.52	0.075	0.004	4.36	2.3			4.52	0.065	
K015431		2.64	0.037	0.005	4.56	2.8			4.77	0.066	
K015432		2.88	0.305	0.018	9.12	11.9			9.06	0.653	
K015433		2.55	0.106	0.008	3.50	4.1			3.28	0.051	

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12030953

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Pb- OG62 Pb % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005	Ag- AA46 Ag ppm 1
K015434		1.21	0.558	0.004	13.45	16.9			13.45	0.115	
K015435		1.17	0.572	0.003	11.85	18.1			11.75	0.092	
K015436		2.97	0.476	0.004	16.20	13.5			14.80	0.271	
K015437		2.56	0.098	0.005	8.07	3.9			8.20	0.117	
K015438		2.47	0.163	0.008	14.20	6.1			14.60	0.210	
K015439		2.77	<0.001	0.013	0.258	1.1					
K015440		2.72	0.036	0.020	6.84	13.9			7.09	0.088	
K015441		0.86	0.016	0.010	4.97	2.8			4.86	0.046	
K015442		2.44	0.011	0.001	0.025	0.2					
K015443		1.12	0.046	0.090	15.50	10.2			15.25	0.106	
K015444		1.38	0.037	1.150	31.4	62.0		1.105	>30.0	0.269	
K015445		3.20	0.029	1.280	4.18	74.9		1.260	4.31	0.334	
K015446		2.38	0.016	1.065	2.28	70.2		0.964	2.17	0.347	
K015447		2.69	0.041	1.780	16.35	>100		1.700	16.60	0.225	130
K015448		2.51	0.090	0.209	12.50	24.3			12.60	0.111	
K015449		2.43	0.044	0.127	9.94	11.2			10.05	0.076	
K015450		0.02	1.380	0.150	19.90	34.1	1.360		19.70	0.470	
K015451		0.78	0.054	1.415	21.5	73.8		1.360	22.1	0.132	
K015452		2.57	0.003	0.254	0.214	18.3					
K015453		2.40	0.001	0.013	0.035	1.2					
K015454		2.24	0.001	0.009	0.028	1.1					
K015455		2.40	0.002	0.032	0.079	3.2					
K015456		0.92	0.002	0.050	0.093	5.7					
K015457		2.41	0.003	0.085	0.256	7.9					
K015458		2.89	0.001	0.138	0.232	11.8					
K015459		0.83	0.010	0.187	0.489	16.8					
K015460		0.88	0.006	0.178	0.412	13.8					
K015461		2.41	0.005	0.416	0.650	33.2					
K015462		2.30	0.001	0.165	0.467	13.4					
K015463		1.23	0.011	0.055	0.171	5.6					
K015464		2.60	0.011	0.109	0.156	9.6					
K015465		2.13	0.007	0.019	0.177	2.9					
K015466		1.12	0.003	0.031	1.390	9.3			1.310	0.042	

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12030969

Project: STURGEON LAKE

P.O. No.:

This report is for 60 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 16- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12030969

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015467		2.25	0.009	0.001	0.009	<0.2			
K015468		2.39	0.002	0.004	1.730	1.3		1.665	0.012
K015469		2.04	0.006	0.314	3.22	24.0		3.08	0.042
K015470		2.27	0.003	0.022	1.500	2.8		1.440	0.019
K015471		2.60	0.004	0.326	1.415	38.4		1.330	0.110
K015472		2.49	0.001	0.085	0.139	11.4			
K015473		2.51	0.001	0.437	0.447	45.1			
K015474		2.29	0.002	0.143	0.117	22.0			
K015475		<0.02	1.378	0.140	19.30	34.7	1.390	19.40	0.486
K015476		2.58	0.002	0.027	0.036	2.0			
K015477		2.17	0.001	0.002	0.014	0.5			
K015478		3.24	0.017	0.014	0.169	6.1			
K015479		1.84	0.001	0.023	0.982	2.5			
K015480		1.49	0.004	0.006	0.013	2.4			
K015481		2.17	0.003	<0.001	0.011	<0.2			
K015482		2.84	0.014	<0.001	0.016	0.2			
K015483		2.34	0.011	<0.001	0.009	0.4			
K015484		1.11	0.007	<0.001	0.010	0.2			
K015485		1.12	0.010	<0.001	0.011	<0.2			
K015486		2.23	0.001	<0.001	0.009	<0.2			
K015487		2.34	0.016	<0.001	0.014	0.2			
K015488		2.39	0.009	<0.001	0.014	0.3			
K015489		2.42	0.006	<0.001	0.014	0.3			
K015490		2.37	0.004	<0.001	0.019	0.2			
K015491		1.81	0.006	<0.001	0.019	0.4			
K015492		2.44	0.006	<0.001	0.008	<0.2			
K015493		2.85	0.005	0.002	0.019	0.3			
K015494		2.64	0.001	<0.001	0.015	0.2			
K015495		2.07	0.005	<0.001	0.018	0.3			
K015496		2.07	0.001	<0.001	0.014	0.2			
K015497		2.25	0.003	<0.001	0.019	<0.2			
K015498		2.34	0.003	<0.001	0.021	<0.2			
K015499		2.50	0.004	0.001	0.047	<0.2			
K015500		0.02	1.384	0.140	20.3	34.6	1.460	21.1	0.452
K015501		2.34	0.008	<0.001	0.133	0.5			
K015502		2.35	0.004	<0.001	0.059	0.3			
K015503		2.38	0.007	<0.001	0.036	0.4			
K015504		2.35	0.007	<0.001	0.161	0.7			
K015505		2.33	0.030	<0.001	0.204	1.1			
K015506		2.82	0.063	<0.001	0.350	2.0			

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12030969

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015507		1.74	<0.001	<0.001	0.015	<0.2			
K015508		2.38	0.007	<0.001	1.515	0.8		1.465	0.010
K015509		0.72	<0.001	<0.001	0.019	0.2			
K015510		0.79	<0.001	<0.001	0.028	0.3			
K015511		2.31	<0.001	<0.001	0.014	0.2			
K015512		2.14	0.001	<0.001	0.008	<0.2			
K015513		2.50	0.003	0.001	0.045	0.3			
K015514		2.29	0.001	0.001	0.261	0.4			
K015515		2.58	0.012	0.002	0.106	0.7			
K015516		3.04	0.001	0.003	0.063	1.0			
K015517		2.52	0.005	<0.001	0.008	<0.2			
K015518		2.35	0.005	0.002	0.074	0.6			
K015519		2.36	0.010	<0.001	0.221	0.6			
K015520		1.95	<0.001	0.001	0.065	0.7			
K015521		2.54	<0.001	0.002	0.045	0.4			
K015522		0.89	<0.001	<0.001	0.026	<0.2			
K015523		2.39	0.002	0.003	0.552	0.2			
K015524		1.21	0.010	0.009	0.493	0.6			
K015525		<0.02	1.398	0.148	19.40	33.6	1.415	20.4	0.569
K015526		2.50	0.007	0.003	0.685	1.9			

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Finalized Date: 12- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12040524

Project: STURGEON LAKE

P.O. No.:

This report is for 57 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 27- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 12- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040524

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529500		2.14	0.008	0.001	0.012	0.2			
J529501		2.15	0.010	0.001	0.037	0.3			
J529502		2.55	0.014	0.001	0.019	0.3			
J529503		2.34	0.002	<0.001	0.031	<0.2			
J529504		2.35	0.002	0.001	0.028	0.2			
J529505		3.55	0.028	0.001	0.251	0.5			
J529506		2.55	0.006	0.001	0.016	<0.2			
J529507		2.44	<0.001	0.002	0.028	<0.2			
J529508		3.72	0.002	0.001	0.032	0.2			
J529509		1.71	0.002	<0.001	0.022	<0.2			
J529510		1.63	0.003	<0.001	0.018	0.2			
J529511		3.60	0.016	0.001	0.048	0.4			
J529512		2.93	0.006	<0.001	0.018	0.3			
J529513		1.82	0.060	0.002	0.264	0.8			
J529514		2.03	<0.001	<0.001	0.005	<0.2			
J529515		2.33	0.005	<0.001	0.087	<0.2			
J529516		2.98	0.009	0.001	0.014	0.3			
J529517		3.65	0.009	0.001	0.017	0.3			
J529518		3.47	0.008	<0.001	0.024	0.3			
J529519		3.60	0.006	0.001	0.013	0.2			
J529520		3.47	0.005	<0.001	0.006	0.2			
J529521		3.59	0.002	0.001	0.032	<0.2			
J529522		3.56	<0.001	0.001	0.041	<0.2			
J529523		3.46	0.005	<0.001	0.020	0.3			
J529524		3.37	0.010	<0.001	0.059	0.2			
J529525		0.02	1.371	0.143	19.90	33.7	1.380	20.2	0.557
J529526		3.53	0.017	0.001	0.055	0.5			
J529527		3.54	0.009	<0.001	0.015	<0.2			
J529528		3.33	0.005	<0.001	0.024	<0.2			
J529529		3.49	0.005	0.001	0.020	<0.2			
J529530		3.48	0.005	<0.001	0.018	<0.2			
J529531		3.56	0.003	<0.001	0.075	0.2			
J529532		3.36	0.013	0.001	0.434	0.4			
J529533		3.63	<0.001	0.002	0.035	<0.2			
J529534		3.61	0.004	0.001	0.031	<0.2			
J529535		3.38	0.002	0.001	0.028	<0.2			
J529536		3.55	0.004	0.002	0.082	<0.2			
J529537		3.17	0.002	<0.001	0.029	<0.2			
J529538		3.30	0.001	<0.001	0.026	<0.2			
J529539		2.45	0.003	<0.001	0.074	<0.2			

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 12- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040524

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529540		1.07	0.001	<0.001	0.274	<0.2			
J529541		1.03	0.001	<0.001	0.151	<0.2			
J529542		2.43	0.004	<0.001	0.571	<0.2			
J529543		2.37	0.007	0.001	0.387	0.2			
J529544		2.60	0.019	<0.001	0.497	<0.2			
J529545		2.19	<0.001	<0.001	0.005	<0.2			
J529546		2.23	0.005	<0.001	0.013	<0.2			
J529547		3.53	0.007	<0.001	0.039	<0.2			
J529548		3.55	0.023	<0.001	0.009	0.2			
J529549		3.74	0.018	0.001	0.016	0.3			
J529550		0.02	1.374	0.149	20.00	33.8	1.390	20.5	0.517
J529551		3.48	0.012	<0.001	0.027	0.4			
J529552		3.25	0.015	<0.001	0.020	0.2			
J529553		3.73	0.027	<0.001	0.024	0.3			
J529554		2.21	0.011	<0.001	0.006	0.2			
J529555		2.43	0.003	<0.001	0.012	0.2			
J529556		2.40	0.010	0.001	0.006	0.2			

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Finalized Date: 9- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12040525

Project: STURGEON LAKE

P.O. No.:

This report is for 41 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 27- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 9- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040525

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015527		3.64	0.006	<0.001	0.005	<0.2			
K015528		3.68	0.006	<0.001	0.014	0.2			
K015529		2.82	0.002	0.001	0.013	<0.2			
K015530		3.64	0.001	<0.001	0.011	<0.2			
K015531		3.53	0.001	<0.001	0.008	<0.2			
K015532		3.59	0.001	<0.001	0.008	<0.2			
K015533		3.52	0.001	<0.001	0.014	<0.2			
K015534		1.61	0.006	<0.001	0.018	<0.2			
K015535		1.65	0.006	0.001	0.017	<0.2			
K015536		2.91	0.005	0.002	0.007	0.4			
K015537		2.68	0.003	<0.001	0.007	0.3			
K015538		2.33	<0.001	<0.001	0.003	<0.2			
K015539		1.92	0.004	0.002	0.007	<0.2			
K015540		3.43	<0.001	<0.001	0.008	<0.2			
K015541		3.61	<0.001	<0.001	0.005	<0.2			
K015542		3.63	<0.001	<0.001	0.010	<0.2			
K015543		3.67	<0.001	<0.001	0.008	0.2			
K015544		3.78	0.001	<0.001	0.008	<0.2			
K015545		3.41	0.001	<0.001	0.008	0.2			
K015546		3.63	0.003	<0.001	0.009	<0.2			
K015547		3.61	0.002	<0.001	0.013	<0.2			
K015548		3.65	0.005	<0.001	0.012	<0.2			
K015549		3.63	0.008	<0.001	0.027	0.2			
K015550		<0.02	1.434	0.145	20.3	32.6	1.375	20.0	NSS
K015551		3.43	0.002	0.001	0.037	0.2			
K015552		2.57	0.022	0.001	0.030	<0.2			
K015553		1.91	0.001	<0.001	0.006	<0.2			
K015554		2.71	0.003	0.001	0.004	<0.2			
K015555		3.21	0.012	<0.001	0.007	<0.2			
K015556		3.69	0.008	<0.001	0.015	0.2			
K015557		3.34	0.002	<0.001	0.004	<0.2			
K015558		3.70	0.002	<0.001	0.015	<0.2			
K015559		1.71	0.003	<0.001	0.011	<0.2			
K015560		1.67	0.003	<0.001	0.012	<0.2			
K015561		3.53	0.007	<0.001	0.022	<0.2			
K015562		3.40	0.004	<0.001	0.007	<0.2			
K015563		3.62	0.005	<0.001	0.013	0.2			
K015564		3.61	0.009	<0.001	0.019	<0.2			
K015565		2.52	0.008	<0.001	0.011	<0.2			
K015566		2.31	0.001	<0.001	0.004	<0.2			

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 9- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040525

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015567		2.53	0.004	<0.001	0.014	<0.2			

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 9- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040525

Method	CERTIFICATE COMMENTS
ALL METHODS	NSS is non- sufficient sample.

ALS Canada Ltd.
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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 21- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12040526

Project: STURGEON LAKE

P.O. No.:

This report is for 28 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 27- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 21- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040526

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460781		1.63	1	526	88.3	2.4	<10	0.99	9	8.67	5.33	2.80	20.2	9.33	9.7	1.83
E460782		1.55	1	199.0	108.5	6.9	10	0.88	7	10.30	5.97	2.69	21.4	11.40	10.6	2.09
E460783		1.33	<1	401	84.6	1.2	10	0.59	70	8.29	4.94	1.25	16.3	8.72	9.4	1.74
E460784		1.53	<1	458	85.2	0.6	<10	0.54	10	9.54	5.77	1.50	19.3	9.77	10.6	2.02
E460785		1.23	<1	343	37.3	25.9	30	0.86	17	4.03	2.43	1.15	19.3	4.05	3.4	0.85
E460786		1.46	<1	496	112.5	<0.5	<10	1.76	<5	9.99	5.97	1.98	22.5	10.80	11.7	2.11
E460787		1.56	<1	231	86.5	0.8	10	1.32	29	8.78	5.22	1.57	18.1	9.17	9.7	1.88
E460788		1.48	<1	235	35.8	22.2	270	1.45	14	3.09	1.78	0.94	19.2	3.41	3.0	0.62
E460789		1.68	<1	194.5	26.3	30.6	130	0.83	<5	2.63	1.59	0.75	15.6	2.70	2.5	0.55
E460790		1.55	<1	224	34.6	22.1	160	1.59	17	2.75	1.61	0.89	16.8	3.07	2.7	0.57
E460791		1.56	<1	162.0	32.9	23.8	150	1.55	14	2.82	1.62	0.89	16.3	3.07	2.8	0.59
E460792		1.40	<1	233	13.3	46.2	50	0.43	85	2.96	1.85	0.63	15.0	2.45	1.5	0.65
E460793		1.56	<1	260	30.5	22.9	160	1.40	51	2.61	1.52	0.83	15.9	2.77	2.5	0.53
E460794		1.46	<1	364	29.7	31.0	160	0.70	42	2.63	1.60	0.86	16.0	2.86	2.5	0.55
E460795		1.37	<1	475	35.9	12.6	180	1.41	6	3.75	2.29	0.86	17.1	3.75	3.2	0.80
E460796		1.52	<1	590	35.7	21.0	80	1.69	8	3.51	2.09	0.97	21.0	3.86	3.5	0.74
E460797		1.62	<1	253	24.5	13.0	30	1.31	43	2.98	1.83	0.84	17.8	2.89	2.9	0.63
E460798		1.45	<1	203	31.7	20.9	70	1.12	24	3.11	1.79	1.04	18.0	3.46	2.9	0.62
E460799		1.61	<1	244	28.5	36.5	20	1.24	24	2.52	1.46	0.82	17.8	2.79	1.9	0.51
E460800		1.56	<1	301	33.0	20.2	70	1.29	20	3.51	2.05	1.06	18.4	3.68	3.2	0.74
E460801		1.42	<1	233	34.1	28.5	80	0.99	54	3.60	2.07	1.06	18.0	3.69	3.1	0.72
E460802		1.69	<1	183.5	34.7	23.5	40	0.97	58	3.47	2.08	1.07	16.8	3.77	3.2	0.73
E460803		1.52	<1	201	36.7	21.6	70	1.08	38	3.74	2.12	1.13	18.5	3.99	3.3	0.77
E460804		1.54	<1	236	32.8	13.4	100	1.35	92	3.17	1.72	1.06	19.7	3.53	3.1	0.64
E460805		1.54	<1	179.0	35.1	28.4	80	1.04	6	3.72	2.17	1.15	20.1	4.14	3.4	0.76
E460806		1.55	<1	255	32.5	12.9	20	0.56	<5	2.24	1.34	0.70	18.9	2.42	3.0	0.49
E460807		1.60	<1	499	174.5	4.7	<10	1.31	16	14.80	9.10	2.62	38.3	17.15	18.1	3.12
E460808		1.43	<1	287	40.9	14.8	20	0.75	<5	2.30	1.27	0.76	20.9	2.78	3.4	0.45

ALS Canada Ltd.
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North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 21- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040526

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460781		39.4	0.80	6	20.6	42.1	11	78	10.60	83.9	8.92	3	76.6	1.4	1.38	7.08
E460782		48.9	0.89	5	23.7	52.8	16	90	12.95	32.4	11.05	4	86.2	1.6	1.70	8.60
E460783		38.5	0.77	3	20.3	40.4	<5	19	10.25	54.2	8.52	3	57.8	1.4	1.34	7.31
E460784		34.2	0.90	4	22.9	44.5	<5	41	10.85	52.5	9.56	3	49.4	1.7	1.53	8.50
E460785		17.5	0.37	2	7.2	18.2	49	31	4.33	42.7	3.87	1	151.0	0.5	0.64	3.02
E460786		51.0	0.92	4	26.4	52.9	<5	6	13.35	111.5	10.70	4	123.5	1.9	1.63	9.27
E460787		38.7	0.82	3	21.1	42.0	<5	5	10.40	67.8	8.59	3	85.1	1.6	1.46	7.39
E460788		16.8	0.27	<2	6.0	16.7	88	<5	4.23	41.4	3.30	1	157.5	0.4	0.50	2.20
E460789		11.7	0.25	2	4.9	12.4	98	<5	3.04	27.4	2.52	1	200	0.4	0.42	1.83
E460790		16.0	0.24	<2	5.4	15.7	78	<5	3.92	34.6	3.12	1	162.5	0.4	0.47	2.01
E460791		15.2	0.24	<2	5.3	14.9	95	<5	3.83	34.5	2.90	1	136.0	0.4	0.47	2.10
E460792		6.0	0.29	<2	2.5	7.5	78	<5	1.71	14.5	1.91	1	112.0	0.2	0.42	1.40
E460793		14.0	0.22	2	5.2	13.8	70	<5	3.44	31.1	2.70	1	175.5	0.4	0.43	1.87
E460794		13.8	0.24	<2	5.2	14.0	139	<5	3.51	26.4	2.70	1	302	0.4	0.44	1.78
E460795		16.7	0.33	2	8.0	16.7	58	5	4.20	72.9	3.35	2	237	0.5	0.56	2.70
E460796		16.1	0.31	2	7.3	17.0	65	6	4.30	96.5	3.74	2	284	0.5	0.57	2.97
E460797		11.3	0.28	2	6.2	12.3	47	5	2.95	37.1	2.55	1	162.5	0.4	0.49	2.38
E460798		14.3	0.27	<2	6.3	15.7	37	5	3.79	29.4	3.33	1	186.5	0.5	0.51	2.52
E460799		13.0	0.22	<2	4.4	14.1	39	8	3.46	37.0	2.75	1	160.0	0.3	0.40	2.38
E460800		14.9	0.31	2	6.7	16.3	45	5	3.95	44.9	3.43	1	243	0.5	0.55	2.65
E460801		15.5	0.32	2	6.4	16.6	53	7	4.14	33.4	3.53	1	191.0	0.5	0.57	2.63
E460802		15.6	0.30	2	6.5	17.1	56	9	4.15	26.5	3.52	1	169.5	0.5	0.57	2.62
E460803		16.7	0.32	2	7.0	18.4	36	9	4.37	34.8	3.81	1	132.5	0.5	0.60	2.93
E460804		14.4	0.22	<2	6.4	16.1	37	17	3.91	52.6	3.33	1	146.5	0.5	0.53	2.71
E460805		15.7	0.32	2	6.7	17.7	72	15	4.33	39.1	3.79	1	153.5	0.5	0.61	2.77
E460806		17.3	0.22	<2	4.1	12.7	18	12	3.42	28.3	2.38	1	117.5	0.5	0.36	4.62
E460807		76.1	1.50	4	40.0	88.1	<5	51	21.5	72.4	18.90	7	207	2.8	2.43	14.05
E460808		20.9	0.21	<2	5.1	15.9	34	7	4.36	41.5	3.04	1	51.9	0.5	0.40	5.63

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Finalized Date: 21- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040526

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460781		5.5	0.82	1.76	7	1	51.4	5.01	368	465	75.5	11.95	1.94	1.39	0.85	0.45
E460782		0.6	0.88	1.97	<5	1	59.4	5.76	96	451	74.6	13.30	5.44	0.12	0.23	1.31
E460783		<0.5	0.78	1.76	<5	<1	45.5	4.82	122	392	70.7	9.99	6.61	0.30	2.99	0.19
E460784		0.5	0.86	2.01	<5	1	52.3	5.63	1220	454	74.8	11.35	4.64	0.03	2.00	0.27
E460785		<0.5	0.36	0.75	173	<1	22.9	2.43	101	156	51.0	15.45	9.31	6.53	1.94	1.39
E460786		<0.5	0.91	2.17	<5	1	56.4	5.95	25	506	72.7	13.15	1.95	1.69	0.86	0.95
E460787		<0.5	0.80	1.77	<5	1	48.7	5.09	48	405	68.6	10.30	4.40	3.02	1.45	0.63
E460788		<0.5	0.27	0.52	167	<1	16.6	1.66	50	136	59.9	16.80	5.71	3.36	1.72	3.04
E460789		<0.5	0.24	0.42	135	<1	14.8	1.54	78	113	60.2	13.50	7.76	4.67	1.77	2.24
E460790		<0.5	0.22	0.50	150	<1	14.8	1.54	66	125	57.6	15.40	7.04	5.18	2.09	1.71
E460791		<0.5	0.25	0.44	148	<1	15.1	1.51	60	122	52.7	14.95	7.71	6.40	2.64	1.74
E460792		<0.5	0.29	0.37	215	<1	16.9	1.79	80	66	45.4	12.90	9.43	9.79	5.93	1.59
E460793		<0.5	0.23	0.39	142	<1	14.4	1.41	55	116	57.9	13.90	5.68	5.91	1.87	1.76
E460794		<0.5	0.22	0.42	153	<1	14.8	1.53	64	115	52.5	14.15	7.45	9.23	3.92	1.69
E460795		<0.5	0.34	0.62	122	1	23.9	2.05	47	146	60.7	13.45	4.35	3.91	1.67	1.93
E460796		<0.5	0.30	0.61	170	1	21.4	1.95	55	157	53.1	16.65	4.50	4.25	1.51	2.29
E460797		<0.5	0.27	0.53	162	<1	16.7	1.79	73	131	53.0	14.55	8.41	6.38	1.70	1.95
E460798		<0.5	0.28	0.60	169	<1	17.2	1.72	58	141	57.9	15.10	6.75	5.24	1.54	2.75
E460799		<0.5	0.22	0.61	143	<1	13.8	1.38	81	85	48.5	15.10	7.89	6.89	3.16	2.54
E460800		<0.5	0.31	0.63	159	<1	19.3	1.99	57	145	54.6	15.70	7.81	5.28	2.07	2.89
E460801		<0.5	0.32	0.54	166	<1	19.0	1.95	121	141	52.8	15.55	8.79	6.40	1.96	1.66
E460802		<0.5	0.31	0.61	140	<1	19.3	1.91	48	139	51.4	14.30	7.37	7.29	2.11	2.86
E460803		<0.5	0.32	0.51	160	<1	20.2	2.06	80	149	55.3	15.65	7.33	5.64	1.30	1.65
E460804		<0.5	0.25	0.52	146	<1	16.8	1.49	38	143	55.8	17.10	5.16	5.15	1.52	2.47
E460805		<0.5	0.31	0.65	183	<1	19.7	1.99	90	151	56.6	17.10	9.28	3.44	1.59	2.79
E460806		<0.5	0.21	1.23	69	<1	12.8	1.36	72	120	64.9	14.70	4.65	2.67	2.20	4.24
E460807		<0.5	1.42	3.37	<5	1	83.9	9.29	911	758	68.6	19.70	2.73	0.08	0.45	1.90
E460808		<0.5	0.20	1.02	74	<1	12.3	1.33	110	143	72.0	17.00	4.05	1.24	1.57	0.51

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North Vancouver BC V7H 0A7
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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 21- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040526

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460781		2.50	<0.01	0.25	0.04	0.04	0.01	0.06	3.55	98.53
E460782		1.04	<0.01	0.28	0.03	0.06	0.02	0.02	3.22	99.67
E460783		1.97	<0.01	0.18	0.12	0.01	<0.01	0.05	5.26	98.37
E460784		1.86	<0.01	0.19	0.03	0.02	0.01	0.05	2.77	98.02
E460785		1.32	<0.01	0.80	0.14	0.18	0.02	0.04	11.20	99.32
E460786		2.67	<0.01	0.25	0.05	<0.01	0.01	0.06	4.39	98.73
E460787		1.89	<0.01	0.18	0.08	0.02	0.02	0.03	5.74	96.36
E460788		1.11	0.03	0.72	0.07	0.12	0.02	0.03	6.83	99.46
E460789		0.86	0.02	0.62	0.09	0.18	0.02	0.02	6.47	98.42
E460790		1.26	0.02	0.69	0.12	0.15	0.02	0.03	10.50	101.81
E460791		1.20	0.02	0.67	0.12	0.17	0.02	0.02	11.35	99.71
E460792		0.48	0.01	0.60	0.16	0.09	0.01	0.02	12.20	98.61
E460793		1.10	0.02	0.62	0.10	0.10	0.02	0.03	9.80	98.81
E460794		0.86	0.02	0.62	0.12	0.13	0.04	0.04	9.07	99.84
E460795		2.16	0.02	0.63	0.13	0.06	0.03	0.05	7.32	96.41
E460796		2.56	0.01	0.98	0.13	0.13	0.03	0.07	8.21	94.42
E460797		1.18	<0.01	0.74	0.15	0.11	0.02	0.03	10.90	99.12
E460798		0.93	0.01	0.83	0.11	0.19	0.02	0.02	9.32	100.71
E460799		1.10	<0.01	0.72	0.12	0.12	0.02	0.03	12.30	98.49
E460800		1.44	0.01	0.85	0.14	0.15	0.03	0.03	9.32	100.32
E460801		1.16	0.01	0.85	0.13	0.19	0.02	0.03	9.26	98.81
E460802		0.99	<0.01	0.74	0.11	0.14	0.02	0.02	11.95	99.30
E460803		1.25	0.01	0.85	0.13	0.17	0.02	0.02	8.88	98.20
E460804		1.68	0.01	0.86	0.10	0.17	0.02	0.03	9.34	99.41
E460805		1.30	0.01	0.91	0.07	0.19	0.02	0.02	6.73	100.05
E460806		0.99	<0.01	0.42	0.06	0.12	0.01	0.03	5.47	100.46
E460807		2.65	<0.01	0.38	<0.01	0.05	0.02	0.06	3.29	99.91
E460808		1.46	<0.01	0.49	0.04	0.12	0.01	0.03	2.67	101.19

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North Vancouver BC V7H 0A7
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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12040527

Project: STURGEON LAKE

P.O. No.:

This report is for 17 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 27- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 19- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040527

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460901		1.58	<1	318	43.2	22.1	10	1.27	81	3.68	2.16	1.26	16.1	3.96	3.7	0.76
E460902		1.59	<1	497	97.8	10.7	10	1.18	22	8.12	4.92	1.51	19.0	8.59	6.5	1.71
E460903		1.58	<1	447	45.4	8.1	10	1.45	18	3.98	2.23	1.20	18.1	4.23	4.2	0.81
E460904		1.50	<1	153.5	72.3	6.7	10	0.41	30	7.38	4.21	1.12	12.5	7.23	4.6	1.53
E460905		1.61	<1	348	61.8	8.7	10	1.46	87	5.39	3.17	1.33	18.7	5.59	6.5	1.09
E460906		1.45	<1	214	95.3	8.4	<10	0.98	<5	8.45	5.00	1.38	18.5	9.00	10.2	1.75
E460907		1.51	<1	282	94.2	3.8	10	1.43	<5	9.77	5.75	1.37	19.9	10.10	10.3	2.04
E460908		1.49	<1	105.0	31.8	30.7	170	0.91	5	2.97	1.79	0.86	18.2	3.11	2.7	0.61
E460909		1.59	<1	639	29.6	23.5	180	1.45	<5	2.62	1.55	0.85	18.3	2.79	2.8	0.53
E460910		1.49	<1	415	30.4	27.0	160	1.31	15	2.67	1.58	0.89	17.8	2.97	2.8	0.55
E460911		1.47	<1	169.0	32.0	31.1	160	1.36	38	2.73	1.62	0.93	18.2	2.92	3.1	0.55
E460912		1.56	<1	17.3	12.3	48.3	30	0.09	433	2.77	1.84	0.70	15.1	2.39	1.5	0.60
E460913		1.43	<1	306	32.8	21.4	250	1.80	8	3.10	1.72	0.95	18.6	3.39	2.9	0.60
E460914		1.61	<1	259	27.3	25.6	190	1.45	12	2.52	1.54	0.83	16.0	2.65	2.5	0.50
E460915		1.48	<1	231	25.3	32.6	240	1.27	28	2.40	1.47	0.79	16.5	2.49	2.6	0.49
E460916		1.46	<1	155.0	27.4	15.0	90	0.80	<5	4.24	2.50	0.83	21.5	4.83	4.1	0.83
E460917		1.71	<1	209	31.7	28.0	70	1.24	57	3.44	2.04	1.14	19.0	3.56	3.1	0.69

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040527

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460901		20.1	0.35	2	7.6	20.1	34	9	5.06	87.3	4.04	2	175.5	0.6	0.61	3.15
E460902		42.7	0.76	2	15.8	45.9	10	21	11.95	52.5	8.72	3	103.0	1.1	1.29	6.85
E460903		20.6	0.33	2	8.2	21.8	23	8	5.49	97.2	4.24	3	169.0	0.6	0.65	3.28
E460904		33.2	0.59	2	11.1	34.1	10	20	8.73	20.1	6.63	1	187.5	0.8	1.15	4.65
E460905		28.9	0.48	3	13.3	28.4	11	10	7.28	82.4	5.68	3	80.9	1.0	0.87	5.38
E460906		43.3	0.80	5	20.7	46.0	<5	<5	11.45	42.2	9.23	1	55.0	1.5	1.37	7.55
E460907		41.5	0.86	6	22.3	45.3	7	<5	11.30	62.8	9.52	3	67.0	1.6	1.61	8.04
E460908		16.1	0.27	<2	5.4	14.9	131	<5	3.91	18.4	3.05	1	157.0	0.4	0.50	2.05
E460909		14.6	0.24	<2	5.5	13.6	90	<5	3.71	52.3	2.82	1	147.5	0.4	0.45	2.17
E460910		15.1	0.23	<2	5.3	14.0	82	<5	3.76	37.4	2.88	1	116.5	0.4	0.47	2.08
E460911		16.0	0.24	<2	5.8	14.4	97	<5	3.94	29.8	3.06	1	204	0.5	0.46	2.26
E460912		6.0	0.29	3	2.2	7.0	53	<5	1.64	0.4	1.93	<1	129.0	0.2	0.42	1.27
E460913		16.7	0.26	<2	5.6	15.4	64	<5	4.09	61.8	3.28	1	79.4	0.4	0.52	2.19
E460914		13.6	0.23	<2	4.8	12.6	107	5	3.37	47.1	2.59	1	162.5	0.4	0.42	1.83
E460915		12.8	0.21	<2	4.9	11.6	79	5	3.10	41.8	2.35	1	150.0	0.4	0.40	1.87
E460916		12.9	0.35	<2	6.8	15.0	63	<5	3.66	27.7	3.95	2	159.5	0.5	0.73	2.42
E460917		15.5	0.29	<2	6.2	15.7	50	<5	4.07	35.7	3.39	1	144.5	0.5	0.56	2.73

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North Vancouver BC V7H 0A7
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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040527

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460901		<0.5	0.33	0.75	146	1	20.1	2.13	151	155	46.1	11.45	9.49	9.35	2.47	0.60
E460902		0.7	0.77	1.52	35	1	46.0	4.85	191	244	66.8	11.55	6.04	2.16	0.80	2.49
E460903		<0.5	0.33	0.84	186	1	21.2	2.10	70	187	59.3	13.10	5.53	4.57	1.57	0.95
E460904		<0.5	0.61	1.16	33	1	46.4	3.92	671	192	54.5	9.23	6.69	9.43	2.01	3.70
E460905		0.5	0.47	1.31	18	<1	29.4	3.02	521	278	67.4	12.50	5.63	2.33	1.79	0.95
E460906		<0.5	0.77	1.85	12	<1	44.6	5.03	51	447	77.1	10.85	5.58	0.46	1.81	0.73
E460907		<0.5	0.88	1.91	<5	<1	55.3	5.53	20	435	81.5	11.30	3.07	0.11	0.80	0.69
E460908		<0.5	0.25	0.46	172	<1	18.6	1.69	63	117	54.1	14.80	7.60	6.08	4.23	2.29
E460909		<0.5	0.24	0.47	181	<1	15.4	1.51	59	123	55.5	15.70	6.97	3.46	4.24	3.18
E460910		<0.5	0.24	0.45	154	<1	16.4	1.48	80	116	55.4	14.85	8.13	4.10	4.13	3.24
E460911		<0.5	0.24	0.48	155	1	16.4	1.54	68	127	57.4	15.15	6.72	5.85	2.49	1.43
E460912		<0.5	0.28	0.31	247	<1	18.0	1.79	85	57	46.4	12.40	10.20	10.40	5.43	2.85
E460913		<0.5	0.26	0.48	194	<1	17.4	1.65	70	122	57.5	16.10	7.01	3.59	2.09	1.44
E460914		<0.5	0.22	0.42	153	<1	15.3	1.43	58	105	46.6	13.20	7.21	9.22	3.59	1.52
E460915		<0.5	0.21	0.40	146	<1	14.5	1.36	63	105	57.2	14.15	6.47	6.12	2.54	1.74
E460916		<0.5	0.37	0.59	132	1	26.8	2.25	111	171	67.4	14.90	6.10	0.80	1.68	3.54
E460917		<0.5	0.30	0.59	163	<1	20.4	1.89	70	131	56.1	15.25	7.65	5.32	1.40	2.70

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2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040527

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460901		2.98	<0.01	0.81	0.16	0.14	0.02	0.04	14.65	98.26
E460902		2.06	<0.01	0.30	0.06	0.09	0.01	0.05	3.90	96.31
E460903		3.07	<0.01	0.96	0.08	0.22	0.02	0.05	7.01	96.43
E460904		0.80	<0.01	0.25	0.14	0.04	0.02	0.02	10.70	97.53
E460905		2.15	<0.01	0.29	0.06	0.09	0.02	0.06	4.80	98.07
E460906		1.10	<0.01	0.26	0.02	0.03	0.01	0.02	2.86	100.83
E460907		1.86	<0.01	0.22	0.01	0.01	0.01	0.03	2.15	101.76
E460908		0.57	0.02	0.73	0.12	0.13	0.02	0.01	9.66	100.36
E460909		1.70	0.02	0.73	0.14	0.15	0.02	0.08	7.31	99.20
E460910		1.38	0.02	0.71	0.09	0.14	0.01	0.05	6.62	98.87
E460911		1.09	0.02	0.74	0.11	0.14	0.02	0.02	8.00	99.18
E460912		0.01	<0.01	0.67	0.21	0.07	0.02	<0.01	10.45	99.11
E460913		2.45	0.03	0.77	0.14	0.14	0.01	0.04	7.63	98.94
E460914		1.53	0.02	0.64	0.16	0.11	0.02	0.03	15.40	99.25
E460915		1.38	0.03	0.67	0.14	0.11	0.02	0.03	10.95	101.55
E460916		0.88	0.01	0.88	0.04	0.15	0.02	0.02	2.70	99.12
E460917		1.10	0.01	0.91	0.13	0.17	0.02	0.03	8.97	99.76

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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Finalized Date: 2- APR- 2012
Account: XSZNEX

CERTIFICATE TB12040838

Project: STURGEON LAKE

P.O. No.:

This report is for 50 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 3- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

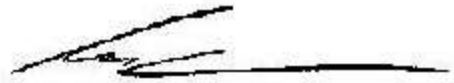
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: 

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040838

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015568		2.26	0.008	0.002	0.029	<0.2			
K015569		3.80	0.021	0.001	0.302	<0.2			
K015570		2.76	0.002	<0.001	0.025	<0.2			
K015571		3.52	0.005	0.001	0.022	<0.2			
K015572		2.43	<0.001	<0.001	0.019	<0.2			
K015573		3.52	0.041	<0.001	0.143	1.1			
K015574		3.47	0.013	0.001	0.037	0.4			
K015575		0.02	1.386	0.144	20.2	34.2	1.370	19.05	0.458
K015576		2.33	0.005	0.001	0.045	<0.2			
K015577		2.42	0.022	0.001	0.117	0.5			
K015578		2.33	0.023	0.001	0.038	1.2			
K015579		2.19	0.004	0.001	0.028	0.3			
K015580		2.29	0.003	0.001	0.023	0.4			
K015581		2.63	0.002	<0.001	0.021	0.4			
K015582		3.54	0.042	0.001	0.014	0.8			
K015583		3.58	0.030	0.001	0.014	0.7			
K015584		1.49	0.048	0.001	0.016	1.2			
K015585		1.53	0.042	0.001	0.015	0.9			
K015586		3.60	0.043	0.001	0.016	1.0			
K015587		3.60	0.028	0.002	0.016	0.7			
K015588		3.33	0.041	0.001	0.014	1.0			
K015589		2.20	<0.001	0.001	0.008	<0.2			
K015590		2.34	0.030	0.001	0.019	0.6			
K015591		2.42	0.893	0.003	0.083	13.1			
K015592		2.67	0.096	0.001	0.038	2.4			
K015593		2.14	0.008	<0.001	0.026	0.2			
K015594		2.77	0.102	<0.001	0.015	1.5			
K015595		3.62	0.068	0.001	0.046	1.0			
K015596		2.46	0.418	0.001	0.065	7.1			
K015597		2.48	0.127	0.001	0.096	1.4			
K015598		2.29	0.027	0.001	0.066	0.4			
K015599		1.27	0.139	0.001	0.052	2.3			
K015600		<0.02	1.400	0.145	19.95	34.2	1.390	19.25	0.540
K015601		2.25	0.002	0.002	0.029	<0.2			
K015602		1.25	0.005	0.001	0.018	<0.2			
K015603		2.37	0.010	0.002	0.022	<0.2			
K015604		2.42	0.008	0.001	0.015	<0.2			
K015605		1.25	0.013	0.004	0.027	0.5			
K015606		3.33	0.004	0.001	0.022	<0.2			
K015607		2.94	0.003	0.001	0.021	<0.2			

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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12040838

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015608		3.85	0.004	0.001	0.007	<0.2			
K015609		1.69	0.010	0.001	0.011	0.3			
K015610		1.69	0.010	0.001	0.010	<0.2			
K015611		3.53	0.003	0.001	0.014	<0.2			
K015612		3.51	0.007	0.001	0.012	<0.2			
K015613		2.37	0.006	0.001	0.012	<0.2			
K015614		2.40	0.002	<0.001	0.019	<0.2			
K015615		2.37	0.005	0.001	0.015	<0.2			
K015616		2.47	0.005	0.001	0.013	<0.2			
K015617		2.43	0.002	0.001	0.010	<0.2			

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

CERTIFICATE TB12056976

Project: STURGEON LAKE

P.O. No.:

This report is for 81 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 13- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
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Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056976

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529557		3.46	0.001	0.002	0.024	<0.2			
J529558		2.26	0.010	0.003	0.045	0.4			
J529559		2.48	0.008	0.002	0.019	0.5			
J529560		2.28	<0.001	0.002	0.014	0.2			
J529561		3.47	<0.001	<0.001	0.015	0.2			
J529562		3.58	<0.001	0.002	0.019	<0.2			
J529563		2.29	<0.001	0.004	0.026	<0.2			
J529564		1.93	<0.001	0.006	0.188	0.3			
J529565		2.94	0.004	0.460	2.37	11.6		2.38	0.029
J529566		2.40	0.032	0.014	2.44	2.4		2.26	0.055
J529567		2.41	0.070	0.004	2.32	4.7		2.27	0.038
J529568		2.31	0.005	0.001	0.087	0.3			
J529569		3.58	0.066	0.001	0.387	2.7			
J529570		3.53	0.003	0.002	0.100	0.3			
J529571		3.48	0.003	0.001	0.091	0.2			
J529572		3.57	0.025	<0.001	0.062	0.7			
J529573		3.07	0.010	0.001	0.034	0.2			
J529574		3.60	0.013	0.001	0.022	0.3			
J529575		<0.02	1.393	0.150	20.5	33.2	1.435	20.4	0.555
J529576		3.37	0.014	0.001	0.157	0.3			
J529577		3.43	0.019	0.002	0.044	0.5			
J529578		3.72	0.033	0.001	0.202	0.8			
J529579		3.63	0.007	0.001	0.023	<0.2			
J529580		2.21	0.002	<0.001	0.009	<0.2			
J529581		3.56	0.037	0.001	0.235	0.9			
J529582		3.49	0.015	<0.001	0.221	0.3			
J529583		3.66	0.016	<0.001	0.158	0.4			
J529584		3.53	0.005	0.001	0.114	0.3			
J529585		2.61	0.002	<0.001	0.096	<0.2			
J529586		2.13	0.003	0.001	1.075	0.3		1.050	<0.005
J529587		2.42	0.002	<0.001	0.286	<0.2			
J529588		2.38	0.003	0.001	0.472	0.2			
J529589		1.07	0.004	0.001	1.410	0.5		1.405	0.013
J529590		1.15	0.002	<0.001	1.335	0.4		1.320	0.011
J529591		2.28	0.004	<0.001	0.688	0.3			
J529592		2.38	0.008	0.003	1.380	0.8		1.345	0.015
J529593		2.30	0.001	0.010	0.249	0.9			
J529594		2.31	0.003	0.015	0.600	1.5			
J529595		2.39	0.012	0.002	1.980	0.7		1.820	0.011
J529596		2.28	0.016	0.001	1.255	0.9		1.255	0.006

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056976

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529597		2.39	0.045	0.001	2.16	1.9		2.02	0.011
J529598		2.38	0.011	<0.001	0.691	0.5			
J529599		2.26	0.001	<0.001	0.072	0.3			
J529600		0.02	1.363	0.145	18.75	34.4	1.500	20.8	0.481
J529601		2.22	0.003	<0.001	0.043	0.2			
J529602		2.66	0.006	<0.001	0.212	0.4			
J529603		3.37	0.007	0.001	0.149	0.5			
J529604		3.57	0.002	0.002	0.034	<0.2			
J529605		3.50	0.010	0.002	0.115	0.3			
J529606		1.89	0.028	0.001	0.020	0.5			
J529607		2.34	0.029	0.001	0.052	0.6			
J529608		2.29	0.022	0.001	0.030	0.3			
J529609		3.59	0.106	0.002	0.028	1.4			
J529610		2.19	0.002	0.001	0.007	<0.2			
J529611		3.54	0.029	0.001	0.029	0.3			
J529612		3.54	0.023	0.001	0.029	0.2			
J529613		2.38	0.006	0.001	0.050	<0.2			
J529614		2.84	0.025	<0.001	0.059	0.4			
J529615		0.88	0.102	0.005	0.130	4.1			
J529616		1.72	0.090	0.002	0.089	2.1			
J529617		3.00	0.023	0.002	0.033	0.4			
J529618		3.71	0.060	0.001	0.035	1.4			
J529619		1.48	0.049	0.001	0.021	0.7			
J529620		1.45	0.060	<0.001	0.021	0.7			
J529621		3.59	0.042	0.001	0.021	0.5			
J529622		2.59	0.101	0.001	0.020	1.0			
J529623		3.54	0.046	0.001	0.023	0.7			
J529624		2.49	0.073	0.002	0.023	1.2			
J529625		<0.02	1.306	0.147	19.05	33.1	1.430	20.2	0.504
J529626		2.47	0.032	0.002	0.046	0.9			
J529627		2.44	0.136	0.001	0.111	1.6			
J529628		2.36	0.058	0.002	0.031	1.0			
J529629		2.40	0.124	0.002	0.032	2.3			
J529630		2.32	0.082	0.001	0.022	1.4			
J529631		2.58	0.056	0.002	0.026	1.3			
J529632		3.46	0.080	0.001	0.022	1.1			
J529633		2.44	0.001	0.001	0.029	<0.2			
J529634		2.93	0.027	0.001	0.034	0.2			
J529635		2.15	0.002	<0.001	0.010	<0.2			
J529636		3.63	0.117	<0.001	0.016	1.0			

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056976

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529637		3.54	0.098	0.001	0.013	1.6			

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Finalized Date: 2- APR- 2012
Account: XSZNEX

CERTIFICATE TB12056977

Project: STURGEON LAKE

P.O. No.:

This report is for 21 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 13- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
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Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056977

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460809		1.47	<1	424	81.2	7.1	10	0.55	110	8.92	5.64	0.91	19.7	9.52	10.5	1.70
E460810		1.66	<1	453	72.7	9.3	10	0.40	24	6.28	4.48	0.79	18.4	6.66	8.5	1.28
E460811		1.74	<1	245	32.3	20.3	50	0.63	47	3.15	1.94	1.09	14.7	3.49	2.8	0.61
E460812		1.53	<1	586	38.0	23.9	60	0.71	63	3.40	2.07	1.20	16.7	3.91	3.2	0.65
E460813		1.55	<1	113.0	39.7	18.1	70	0.44	22	3.98	2.45	1.25	18.0	4.19	3.3	0.75
E460814		1.61	<1	43.6	14.8	51.3	10	0.82	75	3.47	2.44	0.81	17.7	3.09	1.9	0.71
E460815		1.22	<1	79.5	10.9	44.4	20	0.90	58	2.27	1.61	0.61	14.5	2.05	1.4	0.46
E460816		1.43	<1	420	30.3	28.8	150	0.79	9	2.55	1.59	0.86	15.8	2.79	2.9	0.49
E460817		1.34	<1	546	32.6	79.4	140	0.98	56	3.18	2.03	0.89	16.0	3.18	2.5	0.62
E460818		1.57	<1	107.0	9.5	43.0	30	0.30	88	2.20	1.52	0.69	14.4	1.92	1.2	0.45
E460819		1.42	<1	29.6	9.9	49.3	60	0.38	96	2.35	1.67	0.58	14.7	2.03	1.3	0.48
E460820		2.08	<1	63.7	9.3	51.1	70	1.08	78	2.10	1.48	0.57	15.3	1.91	1.2	0.43
E460821		1.70	<1	19.1	10.3	73.2	30	0.43	89	2.26	1.56	0.59	14.8	1.99	1.3	0.46
E460822		1.52	<1	554	37.0	15.7	80	1.67	9	3.31	2.03	1.11	17.6	3.54	3.4	0.63
E460823		1.57	<1	290	57.9	4.0	<10	0.82	13	5.14	3.31	1.01	14.8	5.30	6.4	0.99
E460824		1.51	<1	318	38.5	46.3	70	1.44	104	3.32	2.01	1.23	19.5	3.80	3.5	0.62
E460825		1.44	<1	384	32.7	26.6	20	1.20	141	3.17	2.07	0.96	17.0	3.34	3.3	0.61
E460826		1.35	<1	190.0	36.4	23.6	70	1.14	50	3.44	2.16	1.18	18.4	3.87	3.4	0.67
E460827		1.59	<1	289	97.8	31.1	550	0.93	36	3.02	1.48	1.85	15.2	5.21	3.6	0.50
E460828		1.42	<1	159.5	29.8	24.4	80	1.00	12	3.18	2.05	1.03	18.6	3.31	3.1	0.63
E460829		1.58	<1	13.5	13.5	48.2	20	0.13	82	2.89	2.00	0.75	16.3	2.57	1.8	0.58

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056977

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460809		38.2	0.87	<2	23.7	43.2	<5	9	10.55	60.7	10.40	3	55.9	1.5	1.53	7.86
E460810		36.0	0.69	<2	20.3	35.8	5	9	8.99	37.7	7.56	2	48.4	1.2	1.05	6.75
E460811		15.5	0.27	<2	7.2	16.9	36	12	4.12	49.6	3.81	1	163.5	0.4	0.54	2.16
E460812		18.3	0.31	<2	8.2	19.8	46	6	4.84	43.1	4.38	1	82.2	0.5	0.60	2.43
E460813		19.2	0.34	<2	8.7	20.6	45	6	5.01	28.5	4.53	1	62.1	0.5	0.67	2.55
E460814		7.4	0.36	<2	3.0	8.7	27	7	1.93	6.7	2.47	<1	217	0.2	0.53	1.41
E460815		5.3	0.24	<2	2.3	6.4	39	<5	1.45	10.9	1.78	<1	103.5	0.1	0.36	1.06
E460816		15.6	0.23	<2	5.9	13.9	118	<5	3.62	39.9	2.92	1	91.6	0.4	0.43	2.12
E460817		16.8	0.28	<2	6.0	15.3	237	<5	3.94	41.8	3.29	1	246	0.3	0.52	1.85
E460818		4.8	0.23	<2	1.9	5.8	48	<5	1.27	4.2	1.64	<1	105.5	0.1	0.35	0.90
E460819		4.9	0.25	<2	2.1	5.8	72	<5	1.32	2.9	1.70	<1	137.0	0.1	0.37	0.99
E460820		4.7	0.23	<2	2.1	5.5	73	<5	1.24	8.6	1.60	<1	191.5	0.1	0.33	0.88
E460821		5.1	0.24	<2	2.2	6.1	180	<5	1.38	0.8	1.74	<1	154.5	0.1	0.35	1.01
E460822		18.8	0.27	<2	7.2	18.3	41	<5	4.52	106.0	4.00	1	160.5	0.5	0.58	2.65
E460823		29.6	0.49	<2	14.6	27.3	6	8	7.04	33.1	5.85	2	215	1.0	0.86	6.08
E460824		19.9	0.29	<2	7.0	19.0	64	7	4.77	66.6	4.17	1	216	0.5	0.58	2.82
E460825		16.9	0.29	<2	7.1	15.7	39	5	3.98	47.1	3.48	1	179.0	0.5	0.53	2.70
E460826		18.3	0.32	<2	7.2	18.6	44	<5	4.53	53.4	4.26	1	149.0	0.5	0.60	2.73
E460827		49.0	0.19	<2	6.9	43.7	170	6	11.35	37.1	7.92	1	264	0.4	0.65	6.95
E460828		15.0	0.29	<2	6.5	15.1	61	<5	3.74	31.5	3.50	1	160.5	0.4	0.54	2.42
E460829		6.7	0.31	<2	2.7	7.9	44	<5	1.75	0.3	2.24	1	200.0	0.2	0.46	1.40

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056977

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460809		<0.5	0.83	1.84	<5	<1	57.1	5.19	257	432	74.7	11.00	5.00	0.47	1.98	0.24
E460810		<0.5	0.67	1.57	20	1	41.6	4.27	155	341	73.4	11.50	5.50	0.29	2.34	0.32
E460811		<0.5	0.28	0.50	144	<1	18.8	1.70	139	107	48.0	11.65	7.82	7.77	5.55	0.78
E460812		<0.5	0.30	0.59	164	<1	20.6	1.89	82	123	56.1	13.05	8.49	3.28	5.92	1.76
E460813		<0.5	0.36	0.60	173	<1	24.7	2.16	95	130	53.5	14.35	8.41	4.30	6.18	1.55
E460814		<0.5	0.35	0.37	309	<1	20.9	2.24	91	62	51.4	14.25	12.65	7.84	5.28	1.90
E460815		<0.5	0.24	0.26	241	<1	14.5	1.51	70	49	48.2	13.10	11.00	8.53	6.44	2.29
E460816		<0.5	0.23	0.51	128	<1	15.2	1.44	66	108	54.5	13.90	7.43	6.06	5.04	2.10
E460817		<0.5	0.29	0.45	126	<1	21.5	1.71	76	100	49.6	12.45	7.56	9.82	4.32	2.41
E460818		<0.5	0.22	0.24	229	<1	14.0	1.40	66	39	44.2	12.15	9.81	11.85	5.44	2.37
E460819		<0.5	0.25	0.26	242	<1	14.8	1.49	83	44	47.7	13.15	10.05	10.85	6.47	1.43
E460820		<0.5	0.22	0.22	248	<1	13.9	1.36	76	40	49.3	14.45	10.85	9.62	6.69	2.57
E460821		<0.5	0.23	0.26	215	<1	14.6	1.43	74	44	47.2	13.15	12.20	8.80	10.30	1.80
E460822		<0.5	0.28	0.60	185	1	19.0	1.71	36	130	57.2	16.25	2.96	4.56	2.17	3.58
E460823		<0.5	0.50	1.44	6	1	32.3	3.07	81	244	77.2	9.31	3.27	1.36	1.20	1.16
E460824		<0.5	0.30	0.68	162	<1	19.6	1.77	60	135	56.6	15.45	6.41	5.14	1.54	2.33
E460825		<0.5	0.30	0.63	147	<1	19.5	1.78	43	127	58.1	14.20	5.38	5.20	1.32	3.01
E460826		<0.5	0.31	0.56	166	<1	20.8	1.93	69	124	53.0	15.25	8.33	5.91	1.77	3.13
E460827		<0.5	0.19	1.54	123	<1	15.9	1.20	75	133	45.2	11.50	7.44	8.76	6.17	2.26
E460828		<0.5	0.28	0.56	160	<1	20.5	1.75	73	118	54.7	15.30	9.14	5.16	2.16	3.35
E460829		<0.5	0.29	0.36	294	<1	18.2	1.82	81	59	48.7	13.00	11.65	9.69	5.15	1.68

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North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 2- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12056977

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460809		2.04	<0.01	0.22	0.05	0.02	0.01	0.05	3.10	98.88
E460810		1.36	<0.01	0.45	0.04	0.10	0.01	0.05	2.94	98.30
E460811		2.22	0.01	0.83	0.18	0.16	0.02	0.03	13.95	98.97
E460812		1.77	0.01	0.94	0.13	0.19	0.01	0.07	7.88	99.60
E460813		1.30	0.01	1.02	0.11	0.20	0.01	0.01	9.61	100.56
E460814		0.17	<0.01	0.87	0.22	0.05	0.03	0.01	5.53	100.20
E460815		0.43	<0.01	0.72	0.18	0.06	0.01	0.01	9.39	100.36
E460816		1.76	0.02	0.65	0.10	0.14	0.01	0.05	8.20	99.96
E460817		1.53	0.02	0.59	0.20	0.14	0.03	0.06	10.65	99.38
E460818		0.13	<0.01	0.58	0.19	0.05	0.01	0.01	11.60	98.39
E460819		0.09	0.01	0.65	0.17	0.05	0.02	<0.01	9.61	100.25
E460820		0.22	0.01	0.64	0.17	0.05	0.02	0.01	4.18	98.78
E460821		0.04	<0.01	0.60	0.19	0.05	0.02	<0.01	4.10	98.45
E460822		2.71	0.01	0.92	0.08	0.17	0.02	0.06	8.30	98.99
E460823		0.75	<0.01	0.22	0.05	0.03	0.02	0.03	3.56	98.16
E460824		1.44	0.01	0.93	0.09	0.18	0.02	0.04	9.15	99.33
E460825		1.20	<0.01	0.82	0.11	0.16	0.02	0.04	8.53	98.09
E460826		1.35	0.01	0.91	0.13	0.19	0.02	0.02	8.08	98.10
E460827		0.97	0.07	0.69	0.17	0.31	0.03	0.03	14.90	98.50
E460828		0.84	0.01	0.86	0.13	0.15	0.02	0.02	7.81	99.65
E460829		0.01	<0.01	0.80	0.18	0.07	0.02	<0.01	7.91	98.86

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Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 16- JAN- 2012
Account: XSZNEX

CERTIFICATE TB11269284

Project: STURGEON LAKE

P.O. No.:

This report is for 69 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 23- DEC- 2011.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
DRY- 21	High Temperature Drying
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 16- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269284

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015046		2.63	0.004	0.001	0.020	0.5		
K015047		3.70	0.001	<0.001	0.009	<0.2		
K015048		3.37	0.004	0.002	0.009	0.5		
K015049		3.78	0.004	0.001	0.016	0.2		
K015050		0.03	0.187	0.007	5.15	3.1	4.93	0.049
K015051		3.79	0.003	0.001	0.013	0.2		
K015052		3.74	0.001	0.001	0.011	0.2		
K015053		2.38	<0.001	<0.001	0.006	0.2		
K015054		2.21	0.001	<0.001	0.009	0.3		
K015055		1.66	0.003	0.002	0.008	0.6		
K015056		2.88	0.001	<0.001	0.004	0.3		
K015057		2.64	0.001	<0.001	0.007	0.4		
K015058		2.79	0.001	0.001	0.005	0.4		
K015059		2.60	0.001	<0.001	0.006	<0.2		
K015060		2.72	0.011	0.001	0.007	0.3		
K015061		2.67	0.002	<0.001	0.005	0.2		
K015062		2.81	0.002	0.001	0.005	0.3		
K015063		2.88	0.003	0.001	0.005	0.4		
K015064		2.41	0.003	0.001	0.005	0.6		
K015065		1.45	0.002	0.001	0.006	0.5		
K015066		1.40	0.005	0.002	0.005	0.6		
K015067		2.42	0.001	0.001	0.002	0.2		
K015068		2.86	0.003	0.001	0.002	0.5		
K015069		2.84	0.002	0.001	0.001	0.6		
K015070		2.18	0.002	0.001	0.001	0.4		
K015071		2.19	0.010	0.002	0.092	0.9		
K015072		3.69	<0.001	0.002	0.004	<0.2		
K015073		3.81	0.001	<0.001	0.004	0.2		
K015074		3.70	<0.001	<0.001	0.004	<0.2		
K015075		0.04	0.169	0.006	5.00	3.0	5.08	0.055
K015076		3.77	<0.001	<0.001	0.008	0.2		
K015077		3.67	<0.001	0.001	0.006	0.2		
K015078		3.67	<0.001	<0.001	0.003	<0.2		
K015079		2.79	<0.001	<0.001	0.003	0.2		
K015080		3.69	<0.001	<0.001	0.004	<0.2		
K015081		3.61	<0.001	<0.001	0.005	<0.2		
K015082		3.48	<0.001	<0.001	0.004	<0.2		
K015083		2.32	<0.001	0.001	0.005	<0.2		
K015084		2.60	<0.001	<0.001	0.005	0.3		
K015085		2.74	0.002	<0.001	0.005	0.5		

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 16- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269284

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015086		2.61	0.001	0.001	0.003	0.3		
K015087		2.77	0.004	<0.001	0.004	0.4		
K015088		1.37	0.003	<0.001	0.006	0.5		
K015089		1.39	0.006	0.001	0.005	0.6		
K015090		2.44	0.008	<0.001	0.020	0.3		
K015091		2.47	0.003	0.002	0.016	0.3		
K015092		3.70	0.019	0.001	0.013	0.7		
K015093		3.87	0.037	0.007	0.041	2.3		
K015094		3.83	0.005	0.001	0.032	1.1		
K015095		3.65	0.004	<0.001	0.025	0.6		
K015096		2.21	0.019	0.001	0.202	2.1		
K015097		3.79	0.013	0.001	0.077	1.6		
K015098		3.90	0.006	0.001	0.036	2.3		
K015099		3.73	0.001	<0.001	0.012	1.6		
K015100		0.03	0.178	0.004	5.33	3.0	4.88	0.045
K015101		3.68	0.001	<0.001	0.017	0.6		
K015102		3.94	0.002	<0.001	0.021	1.2		
K015103		3.26	0.002	0.001	0.004	0.3		
K015104		2.45	0.005	<0.001	0.014	0.4		
K015105		2.53	<0.001	0.001	0.004	0.4		
K015106		2.34	0.005	0.008	0.012	2.1		
K015107		2.37	<0.001	0.001	0.003	<0.2		
K015108		2.48	0.049	0.005	0.482	4.7		
K015109		2.55	0.012	0.004	0.124	2.2		
K015110		2.59	0.131	0.008	1.360	8.7	1.310	0.022
K015111		2.56	0.001	0.002	0.024	0.2		
K015112		2.42	0.014	0.001	0.013	0.6		
K015113		1.00	0.017	0.001	0.016	0.6		
K015114		2.31	<0.001	<0.001	0.002	<0.2		

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Finalized Date: 6- APR- 2012
Account: XSZNEX

CERTIFICATE TB12065276

Project: STURGEON LAKE

P.O. No.:

This report is for 5 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 23- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 6- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065276

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2
K015618		2.29	0.004	0.001	0.017	0.2
K015619		3.43	<0.001	<0.001	0.013	<0.2
K015620		3.34	<0.001	0.001	0.013	<0.2
K015621		3.88	0.002	0.001	0.017	0.2
K015622		2.26	<0.001	<0.001	0.012	<0.2

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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 15- APR- 2012
Account: XSZNEX

CERTIFICATE TB12065277

Project: STURGEON LAKE

P.O. No.:

This report is for 99 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 23- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
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***** See Appendix Page for comments regarding this certificate *****

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 15- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065277

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529638		3.44	0.107	0.003	0.017	2.1			
J529639		3.46	0.188	0.004	0.155	1.9			
J529640		3.54	0.007	0.003	0.034	0.3			
J529641		3.63	0.007	0.003	0.021	0.2			
J529642		3.32	0.006	0.002	0.018	0.2			
J529643		3.70	0.005	0.002	0.026	<0.2			
J529644		1.60	0.012	0.002	0.043	0.2			
J529645		1.57	0.011	0.002	0.038	0.2			
J529646		3.43	0.009	0.002	0.083	0.3			
J529647		3.25	0.006	0.003	0.215	0.4			
J529648		3.29	0.006	0.003	0.235	0.3			
J529649		2.36	0.006	0.002	0.183	0.2			
J529650		<0.02	1.370	0.145	20.0	34.2	1.405	19.55	0.506
J529651		2.39	0.008	0.002	0.173	0.3			
J529652		2.22	0.008	0.003	0.289	0.5			
J529653		3.58	0.042	0.002	0.272	2.1			
J529654		3.54	0.065	0.002	0.217	1.9			
J529655		3.52	0.087	0.003	0.282	4.0			
J529656		3.50	0.092	0.003	0.237	3.0			
J529657		3.53	0.025	0.004	0.123	1.0			
J529658		3.67	0.006	0.002	0.102	0.3			
J529659		2.84	0.006	0.003	0.039	0.2			
J529660		3.49	0.006	0.003	0.081	0.2			
J529661		3.18	0.009	0.002	0.160	0.3			
J529662		3.39	0.004	0.002	0.025	0.2			
J529663		3.11	0.006	0.003	0.026	0.3			
J529664		3.37	0.007	0.003	0.028	0.2			
J529665		3.22	0.004	0.003	0.033	<0.2			
J529666		2.94	0.008	0.003	0.064	<0.2			
J529667		2.27	<0.001	0.003	0.006	<0.2			
J529668		3.69	0.001	0.003	0.008	<0.2			
J529669		3.79	0.013	0.003	0.008	<0.2			
J529670		3.72	0.003	0.003	0.008	0.2			
J529671		3.71	0.002	0.003	0.008	0.2			
J529672		3.68	0.001	0.003	0.008	<0.2			
J529673		2.18	0.001	<0.001	0.009	<0.2			
J529674		2.96	0.002	<0.001	0.018	0.4			
J529675		<0.02	1.372	0.137	20.2	34.8	1.370	19.25	0.537
J529676		2.53	0.002	<0.001	0.027	0.6			
J529677		3.01	0.007	0.001	0.357	1.3			

***** See Appendix Page for comments regarding this certificate *****

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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 15- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065277

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529678		2.79	0.003	0.001	0.150	1.0			
J529679		2.28	0.001	<0.001	0.016	<0.2			
J529680		2.50	0.003	0.001	0.023	0.8			
J529681		2.85	0.002	<0.001	0.022	0.2			
J529682		3.44	0.001	<0.001	0.009	0.2			
J529683		2.84	0.001	<0.001	0.006	<0.2			
J529684		1.25	0.003	0.002	0.010	0.9			
J529685		1.33	0.004	0.002	0.021	0.8			
J529686		2.56	0.002	<0.001	0.009	<0.2			
J529687		2.92	0.002	0.001	0.010	0.4			
J529688		3.60	0.002	0.001	0.008	0.2			
J529689		3.40	0.001	<0.001	0.008	0.2			
J529690		2.44	0.002	0.001	0.009	0.2			
J529691		2.50	0.001	<0.001	0.011	<0.2			
J529692		2.42	<0.001	<0.001	0.012	<0.2			
J529693		2.47	0.002	0.002	0.010	<0.2			
J529694		2.51	0.002	0.001	0.012	0.3			
J529695		2.44	<0.001	<0.001	0.008	0.3			
J529696		2.33	<0.001	<0.001	0.004	0.2			
J529697		2.41	0.001	<0.001	0.004	0.2			
J529698		2.40	0.002	0.001	0.007	0.3			
J529699		2.44	0.001	<0.001	0.005	<0.2			
J529700		0.02	1.382	0.155	20.0	34.3	1.405	19.45	0.486
J529701		2.57	0.005	0.001	0.028	0.8			
J529702		2.45	0.004	0.001	0.012	0.6			
J529703		2.72	0.002	0.001	0.010	0.5			
J529704		2.52	0.002	0.001	0.009	0.4			
J529705		2.20	<0.001	0.001	0.008	<0.2			
J529706		2.41	0.001	0.001	0.008	0.2			
J529707		2.49	0.001	<0.001	0.007	0.3			
J529708		2.54	0.004	0.002	0.009	0.3			
J529709		2.31	0.002	0.001	0.013	<0.2			
J529710		1.35	0.002	<0.001	0.014	0.2			
J529711		1.32	0.003	<0.001	0.014	0.4			
J529712		1.80	0.002	<0.001	0.008	<0.2			
J529713		4.00	0.004	0.001	0.010	<0.2			
J529714		2.47	0.004	<0.001	0.014	<0.2			
J529715		2.31	0.003	0.001	0.013	0.2			
J529716		3.61	0.008	0.001	0.015	0.4			
J529717		3.60	0.002	<0.001	0.009	0.2			

***** See Appendix Page for comments regarding this certificate *****

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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 15- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065277

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529718		3.55	0.002	<0.001	0.014	0.3			
J529719		3.26	0.002	<0.001	0.027	0.2			
J529720		3.57	0.003	0.001	0.018	0.2			
J529721		3.60	0.004	0.001	0.033	0.3			
J529722		3.21	0.001	<0.001	0.031	<0.2			
J529723		3.38	0.003	<0.001	0.025	0.3			
J529724		2.28	0.002	<0.001	0.011	0.3			
J529725		0.02	1.470	0.149	20.4	34.2	1.560	21.2	NSS
J529726		1.80	0.003	0.001	0.021	0.6			
J529727		2.58	0.003	<0.001	0.009	1.1			
J529728		2.45	0.001	<0.001	0.009	0.5			
J529729		1.70	0.001	<0.001	0.010	0.2			
J529730		2.27	0.015	<0.001	0.009	<0.2			
J529731		3.57	0.007	<0.001	0.014	0.5			
J529732		3.52	0.001	<0.001	0.011	<0.2			
J529733		3.54	0.002	<0.001	0.016	0.3			
J529734		3.69	0.004	0.001	0.011	0.7			
J529735		1.78	0.004	<0.001	0.010	0.5			
J529736		1.80	0.006	<0.001	0.011	0.6			

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Finalized Date: 15- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065277

Method	CERTIFICATE COMMENTS
ALL METHODS	NSS is non- sufficient sample.

ALS Canada Ltd.
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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

CERTIFICATE TB12065278

Project: STURGEON LAKE

P.O. No.:

This report is for 28 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 23- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065278

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460918		1.53	<1	165.0	31.5	23.5	80	0.97	61	3.06	1.80	0.98	17.7	3.32	3.0	0.64
E460919		1.65	<1	200.0	35.7	29.4	70	0.87	60	3.63	2.18	1.08	18.5	3.84	3.4	0.75
E460920		1.41	<1	213	39.6	21.7	70	1.03	28	4.12	2.46	1.19	18.4	4.39	3.5	0.85
E460921		1.38	<1	188.0	37.5	24.0	80	0.93	27	3.69	2.20	1.09	18.9	4.08	3.4	0.77
E460922		1.48	<1	164.5	35.4	26.8	90	0.90	65	3.62	2.15	1.06	17.5	3.86	3.3	0.75
E460923		1.42	<1	252	34.1	26.7	100	1.08	116	3.44	1.96	1.06	20.0	3.85	3.3	0.73
E460924		1.38	<1	194.0	36.7	19.4	100	1.07	40	3.42	2.01	1.09	19.4	3.84	3.5	0.71
E460925		1.29	<1	217	50.2	31.2	50	1.01	<5	4.54	2.54	1.42	21.0	5.36	3.9	0.92
E460926		1.21	1	308	87.3	5.5	10	0.66	362	8.86	5.28	1.49	19.8	8.87	9.7	1.86
E460927		1.54	<1	356	85.2	2.9	10	0.68	21	7.40	4.58	0.97	18.8	7.46	8.6	1.58
E460928		1.60	<1	342	91.8	3.6	10	0.52	42	9.30	5.66	1.00	19.0	9.53	10.0	1.98
E460929		1.40	<1	427	76.3	4.8	10	0.45	499	7.14	4.26	0.67	14.9	7.16	7.9	1.48
E460930		1.32	<1	1280	127.5	40.4	710	0.85	8	3.49	1.38	2.51	14.9	6.93	3.7	0.59
E460931		1.59	<1	522	44.6	19.8	20	0.61	147	4.16	2.46	1.26	18.2	4.60	4.1	0.86
E460932		1.31	<1	416	89.9	1.4	10	0.94	11	8.16	4.91	1.69	20.1	8.52	9.2	1.70
E460933		1.53	<1	555	102.0	4.3	10	0.88	<5	7.90	4.63	1.97	18.9	9.06	8.5	1.63
E460934		1.58	<1	164.0	79.3	1.1	10	0.65	5	8.65	5.00	1.41	16.8	8.53	8.6	1.80
E460935		1.48	<1	89.8	38.2	17.3	60	1.08	110	4.57	2.99	1.11	21.8	4.76	4.0	0.92
E460936		1.57	<1	111.5	30.6	34.9	60	0.72	147	3.60	2.53	1.07	17.0	3.68	3.0	0.75
E460937		1.52	<1	156.0	33.4	24.9	60	1.11	<5	3.62	2.36	1.13	18.8	3.86	3.4	0.75
E460938		1.62	<1	92.2	37.8	31.3	70	0.90	<5	3.31	1.98	1.12	20.0	3.91	3.4	0.65
E460939		1.62	<1	242	32.8	33.7	60	0.80	132	3.83	2.59	1.13	18.4	4.04	3.5	0.79
E460940		1.47	<1	376	75.3	0.7	10	0.62	6	7.44	5.11	1.23	15.5	7.94	8.5	1.55
E460941		1.58	<1	361	88.5	2.2	10	0.46	24	8.74	5.99	1.41	19.1	9.12	10.3	1.82
E460942		1.47	<1	548	106.5	3.0	10	0.66	117	10.60	7.45	2.36	21.1	11.30	11.5	2.22
E460943		1.68	<1	431	51.1	36.5	20	0.55	12	4.24	2.77	1.21	19.6	4.48	4.5	0.86
E460944		1.60	<1	315	15.5	7.6	30	0.46	16	4.43	3.04	0.79	22.1	3.70	5.2	0.92
E460945		1.69	<1	342	38.4	30.5	10	0.38	<5	3.89	2.69	0.74	19.6	4.12	4.3	0.83

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065278

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460918		15.5	0.26	<2	5.8	15.4	42	<5	3.73	28.6	3.34	1	169.5	0.5	0.50	2.39
E460919		17.7	0.30	<2	6.4	17.7	48	<5	4.28	25.7	3.81	1	165.5	0.5	0.61	2.62
E460920		19.5	0.35	<2	6.6	19.6	47	<5	4.70	34.9	4.16	1	186.5	0.5	0.66	2.84
E460921		18.3	0.33	<2	6.4	18.6	53	<5	4.48	30.0	4.02	1	218	0.5	0.60	2.70
E460922		17.7	0.32	<2	6.1	17.6	58	5	4.21	31.2	3.74	1	214	0.5	0.60	2.56
E460923		16.6	0.28	<2	6.3	17.0	60	7	4.09	37.9	3.75	1	203	0.5	0.58	2.58
E460924		18.1	0.30	<2	6.4	18.1	64	14	4.37	30.3	3.91	1	172.0	0.5	0.57	2.67
E460925		23.1	0.38	<2	7.4	25.6	66	29	6.09	39.7	5.44	1	173.5	0.6	0.76	3.23
E460926		42.1	0.78	2	18.9	42.4	5	21	10.50	41.9	8.94	2	25.4	1.6	1.44	7.31
E460927		41.4	0.70	3	18.5	38.9	<5	28	9.89	48.3	7.97	3	51.5	1.4	1.18	6.73
E460928		42.8	0.85	3	21.0	44.6	<5	8	10.95	47.5	9.45	3	20.2	1.7	1.50	7.86
E460929		35.5	0.63	2	15.8	36.8	<5	8	9.12	42.4	7.52	2	18.3	1.3	1.15	5.99
E460930		62.8	0.16	<2	5.3	60.2	253	18	15.05	57.5	10.45	1	636	0.3	0.75	10.80
E460931		21.7	0.36	<2	8.6	21.9	35	18	5.30	54.4	4.64	2	62.0	0.7	0.71	3.19
E460932		42.7	0.73	<2	19.6	43.0	6	14	10.80	93.7	8.73	3	111.0	1.5	1.33	7.21
E460933		48.1	0.69	<2	18.3	48.9	9	15	12.10	75.8	10.00	3	124.5	1.4	1.36	6.84
E460934		36.9	0.73	2	18.2	38.3	<5	15	9.47	34.5	8.16	3	24.0	1.4	1.38	6.52
E460935		18.5	0.40	<2	8.2	18.3	50	8	4.83	16.8	3.97	4	47.7	0.6	0.80	3.28
E460936		14.2	0.35	<2	6.0	15.5	64	30	3.91	27.8	3.27	1	43.9	0.5	0.61	2.53
E460937		15.6	0.34	<2	6.9	16.2	68	13	4.25	36.8	3.48	1	118.5	0.5	0.60	2.82
E460938		18.8	0.27	<2	6.9	18.1	74	14	4.73	21.6	3.79	<1	100.0	0.5	0.60	2.90
E460939		15.4	0.35	<2	7.1	16.2	47	26	4.16	43.9	3.42	1	116.5	0.5	0.66	2.85
E460940		35.7	0.75	2	18.6	36.0	<5	8	9.60	49.6	7.40	2	59.7	1.4	1.26	6.83
E460941		40.5	0.88	2	23.2	42.7	<5	6	11.45	47.0	8.84	2	16.3	1.6	1.50	8.24
E460942		51.6	1.08	<2	28.6	53.3	6	12	14.35	60.7	11.05	5	19.3	2.1	1.82	10.65
E460943		24.1	0.39	<2	9.5	24.6	30	9	6.51	39.5	4.60	2	47.8	0.7	0.72	3.87
E460944		7.3	0.42	<2	11.0	7.9	32	11	2.00	41.3	2.15	1	44.7	0.8	0.72	3.34
E460945		18.1	0.39	<2	9.3	19.0	27	6	4.91	39.2	3.94	1	33.3	0.7	0.68	3.38

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2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065278

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460918		<0.5	0.26	0.55	159	<1	17.0	1.76	67	121	58.6	15.05	6.69	5.90	1.19	2.79
E460919		<0.5	0.31	0.91	178	<1	20.3	2.01	92	135	54.9	15.65	8.88	6.15	1.84	2.76
E460920		<0.5	0.36	0.73	175	<1	22.6	2.28	58	138	49.0	15.05	8.32	8.30	1.77	3.24
E460921		<0.5	0.31	0.68	176	<1	20.5	2.13	65	136	54.8	15.70	7.58	6.77	2.26	3.04
E460922		<0.5	0.31	0.64	154	<1	20.3	2.07	71	130	52.4	15.15	7.41	8.96	2.36	2.48
E460923		<0.5	0.29	0.69	199	<1	18.6	1.88	77	134	55.8	16.70	7.44	5.55	1.58	2.62
E460924		<0.5	0.29	0.63	179	<1	18.2	1.94	51	136	55.2	16.60	7.92	4.92	1.42	2.40
E460925		<0.5	0.36	0.80	208	<1	22.5	2.56	113	155	57.7	17.05	9.93	3.37	2.25	1.52
E460926		<0.5	0.76	1.79	<5	<1	49.0	5.09	367	370	70.9	10.65	8.69	0.23	2.82	0.30
E460927		<0.5	0.69	1.71	<5	<1	41.8	4.64	648	333	71.5	10.25	6.72	0.27	2.71	0.32
E460928		<0.5	0.83	2.02	<5	<1	52.1	5.58	305	378	74.5	10.50	5.81	0.37	2.49	0.19
E460929		<0.5	0.63	1.55	<5	1	38.7	4.26	1040	302	78.1	8.83	5.43	0.11	1.95	0.16
E460930		<0.5	0.19	2.31	127	<1	15.5	1.14	256	149	43.5	10.65	8.06	8.93	8.94	0.32
E460931		<0.5	0.36	0.83	200	1	22.6	2.30	274	161	56.9	13.75	8.05	2.41	5.46	0.38
E460932		0.6	0.71	1.83	<5	1	44.9	4.79	72	347	72.0	12.30	3.66	2.17	1.50	0.45
E460933		0.8	0.69	1.75	12	1	42.6	4.54	40	322	72.4	11.65	3.17	2.36	1.47	0.56
E460934		1.3	0.74	1.71	<5	<1	47.8	4.91	86	332	76.5	9.86	6.80	0.39	0.56	0.23
E460935		0.5	0.40	0.93	199	1	25.4	2.42	196	165	49.7	17.05	7.61	5.79	6.16	0.54
E460936		<0.5	0.35	0.61	175	<1	20.9	2.06	124	121	51.4	14.35	10.45	5.79	4.35	0.57
E460937		<0.5	0.33	0.62	178	<1	20.3	1.99	72	138	51.5	15.50	8.04	6.00	3.47	1.68
E460938		<0.5	0.26	0.52	198	<1	17.3	1.55	101	137	52.5	16.60	10.75	3.80	3.76	2.03
E460939		<0.5	0.36	0.66	179	<1	22.4	2.12	160	135	55.4	15.70	8.58	3.82	4.11	1.21
E460940		0.8	0.72	1.69	<5	<1	42.0	4.32	87	312	80.2	9.23	2.43	0.10	1.68	0.22
E460941		<0.5	0.85	1.99	<5	1	49.7	5.16	151	397	70.2	11.35	4.85	1.03	3.94	0.18
E460942		0.5	1.05	2.47	<5	<1	60.3	6.38	879	398	78.2	12.00	4.34	0.04	1.54	0.22
E460943		<0.5	0.38	0.91	174	1	23.2	2.23	285	177	56.7	14.80	8.83	0.38	6.65	0.26
E460944		0.6	0.42	1.08	199	<1	24.6	2.46	297	203	59.7	17.45	6.97	0.25	5.83	0.26
E460945		<0.5	0.37	0.80	210	1	22.3	2.22	223	167	49.5	13.60	12.15	0.28	8.16	0.20

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2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 8- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12065278

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460918		0.95	0.01	0.86	0.11	0.17	0.02	0.02	7.18	99.54
E460919		0.78	0.01	0.95	0.11	0.18	0.02	0.02	7.61	99.86
E460920		1.06	0.01	0.91	0.16	0.16	0.02	0.02	10.60	98.62
E460921		0.90	0.01	0.91	0.12	0.18	0.03	0.02	8.35	100.67
E460922		0.94	0.01	0.83	0.14	0.16	0.03	0.02	10.05	100.94
E460923		1.21	0.01	0.93	0.09	0.17	0.02	0.03	8.48	100.63
E460924		0.98	0.01	0.87	0.11	0.16	0.02	0.02	8.68	99.31
E460925		1.30	0.01	0.95	0.12	0.16	0.02	0.03	7.25	101.66
E460926		1.58	<0.01	0.21	0.23	0.05	<0.01	0.04	4.83	100.53
E460927		1.81	<0.01	0.20	0.15	0.01	0.01	0.04	4.64	98.63
E460928		1.83	<0.01	0.20	0.07	<0.01	<0.01	0.04	3.34	99.34
E460929		1.69	<0.01	0.17	0.11	0.01	<0.01	0.05	3.47	100.08
E460930		1.95	0.09	0.64	0.16	0.42	0.07	0.16	17.55	101.44
E460931		2.37	<0.01	0.99	0.28	0.20	0.01	0.06	8.99	99.85
E460932		2.62	<0.01	0.29	0.07	0.04	0.01	0.05	4.92	100.08
E460933		2.15	<0.01	0.27	0.06	0.03	0.01	0.07	4.59	98.79
E460934		1.13	<0.01	0.19	0.04	<0.01	<0.01	0.02	3.80	99.52
E460935		0.55	0.01	0.94	0.08	0.21	0.01	0.01	9.34	98.00
E460936		0.86	0.01	0.78	0.16	0.16	0.01	0.01	10.15	99.05
E460937		1.13	0.01	0.87	0.11	0.17	0.02	0.02	11.50	100.02
E460938		0.69	0.01	0.89	0.13	0.19	0.01	0.01	8.62	99.99
E460939		1.32	0.01	0.88	0.11	0.18	0.01	0.03	8.50	99.86
E460940		1.89	<0.01	0.17	0.02	0.03	0.01	0.04	2.46	98.48
E460941		1.71	<0.01	0.23	0.18	0.03	<0.01	0.04	4.61	98.35
E460942		2.16	<0.01	0.21	0.07	0.01	<0.01	0.06	2.96	101.81
E460943		1.46	<0.01	0.97	0.18	0.20	0.01	0.05	7.66	98.15
E460944		1.54	<0.01	1.12	0.05	0.19	0.01	0.04	4.87	98.28
E460945		1.49	<0.01	1.00	0.31	0.19	<0.01	0.04	12.05	98.97

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North Vancouver BC V7H 0A7
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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- APR- 2012
Account: XSZNEX

CERTIFICATE TB12068532

Project: STURGEON LAKE

P.O. No.:

This report is for 39 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 28- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

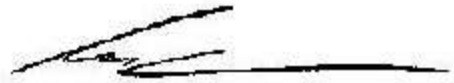
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: 

Colin Ramshaw, Vancouver Laboratory Manager

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To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 19- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12068532

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
J529737		2.57	0.005	0.002	0.014	0.8			
J529738		3.62	0.001	<0.001	0.010	<0.2			
J529739		3.90	0.035	0.001	0.021	2.2			
J529740		2.69	0.020	0.002	0.017	1.2			
J529741		2.88	0.005	0.002	0.011	0.7			
J529742		2.38	0.009	<0.001	0.011	0.5			
J529743		2.39	0.014	0.001	0.013	0.5			
J529744		2.53	0.028	0.003	0.016	0.5			
J529745		2.43	0.012	0.001	0.013	0.4			
J529746		3.47	0.011	<0.001	0.041	0.2			
J529747		2.38	0.020	<0.001	0.095	0.6			
J529748		2.47	0.015	0.002	0.232	0.9			
J529749		2.39	0.005	0.001	0.081	0.4			
J529750		<0.02	1.439	0.144	19.35	35.1	1.420	19.55	0.543
J529751		2.23	0.015	<0.001	0.036	0.5			
J529752		1.17	0.154	0.006	0.116	3.9			
J529753		2.27	0.034	0.001	0.019	0.5			
J529754		2.29	0.007	0.002	0.033	0.2			
J529755		4.28	0.011	0.001	0.005	0.3			
J529756		2.86	0.018	0.002	0.034	0.6			
J529757		3.96	0.031	<0.001	0.028	0.5			
J529758		3.85	0.006	<0.001	0.029	0.3			
J529759		3.80	0.005	0.001	0.018	0.3			
J529760		3.86	0.006	0.001	0.056	0.3			
J529761		4.16	0.005	0.001	0.013	0.2			
J529762		3.76	0.004	0.002	0.025	0.2			
J529763		2.18	0.006	0.001	0.002	<0.2			
J529764		3.75	0.003	<0.001	0.019	0.2			
J529765		3.76	0.005	0.001	0.021	0.2			
J529766		3.67	0.002	0.001	0.026	0.2			
J529767		3.67	0.003	<0.001	0.049	0.3			
J529768		2.40	0.028	0.001	0.087	0.7			
J529769		2.50	0.003	0.001	0.027	<0.2			
J529770		2.39	0.256	0.001	0.068	1.5			
J529771		1.20	0.502	0.002	0.055	2.3			
J529772		2.49	0.004	0.002	0.028	<0.2			
J529773		2.49	0.203	0.002	0.041	1.4			
J529774		2.89	0.508	0.002	0.041	2.9			
J529775		2.50	0.003	<0.001	0.018	<0.2			

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North Vancouver BC V7H 0A7
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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 12- APR- 2012
Account: XSZNEX

CERTIFICATE TB12068533

Project: STURGEON LAKE

P.O. No.:

This report is for 7 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 28- MAR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 12- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12068533

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460946		1.58	<1	342	50.1	29.1	10	0.41	<5	4.69	2.76	1.61	20.7	5.19	4.9	0.96
E460947		1.55	<1	413	58.9	13.8	10	0.43	262	7.60	4.81	0.57	17.8	6.73	8.5	1.67
E460948		1.65	<1	740	44.6	38.8	70	0.42	28	4.16	2.37	1.39	20.0	4.69	3.6	0.87
E460949		1.64	<1	462	40.7	29.2	70	0.41	153	3.81	2.24	1.26	18.5	4.15	3.5	0.79
E460950		1.48	<1	531	35.7	29.3	60	0.27	42	3.18	1.83	1.00	17.4	3.51	3.1	0.65
E460951		1.42	<1	274	56.6	38.2	80	0.34	13	5.37	3.05	0.76	20.5	5.39	3.8	1.11
E460952		1.44	<1	218	43.1	31.9	60	0.29	6	3.56	2.05	0.94	16.6	3.96	3.2	0.75

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Finalized Date: 12- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12068533

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460946		23.2	0.41	<2	10.9	24.5	25	7	6.20	46.8	5.21	2	72.2	0.8	0.78	4.12
E460947		26.3	0.74	2	19.1	28.8	12	<5	7.43	47.4	6.43	1	55.1	1.4	1.24	7.14
E460948		20.0	0.35	<2	8.7	22.4	48	8	5.60	51.5	4.79	1	63.3	0.6	0.70	2.95
E460949		18.6	0.32	<2	8.4	20.5	47	<5	5.16	45.8	4.39	1	129.0	0.6	0.64	2.78
E460950		16.0	0.29	<2	7.6	17.7	41	<5	4.51	32.4	3.77	1	36.6	0.6	0.55	2.46
E460951		25.2	0.40	<2	9.1	27.8	51	<5	7.14	21.3	5.65	1	13.5	0.7	0.88	3.33
E460952		19.1	0.29	<2	7.7	21.0	44	<5	5.40	17.3	4.30	1	14.5	0.5	0.61	2.51

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Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12068533

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460946		<0.5	0.41	1.01	230	1	26.1	2.60	295	198	55.4	16.30	11.00	0.31	5.29	0.26
E460947		<0.5	0.73	1.78	38	1	45.4	4.85	136	332	69.4	11.55	6.37	0.32	3.58	0.20
E460948		<0.5	0.36	0.73	193	1	22.8	2.38	461	147	52.9	14.75	9.21	3.98	5.48	0.23
E460949		<0.5	0.32	0.72	188	1	21.0	2.07	2660	142	49.2	13.55	9.67	2.72	6.10	0.26
E460950		<0.5	0.27	0.61	171	2	17.5	1.82	313	128	50.0	13.15	13.25	1.70	7.13	0.16
E460951		<0.5	0.43	0.74	209	4	29.4	2.71	529	155	52.4	15.50	14.20	0.41	7.87	0.09
E460952		<0.5	0.30	0.64	168	2	19.9	1.98	477	128	55.4	13.05	12.75	1.66	7.48	0.09

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Finalized Date: 12- APR- 2012
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Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12068533

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460946		2.10	<0.01	1.13	0.34	0.20	0.01	0.04	8.07	100.45
E460947		2.05	<0.01	0.34	0.14	0.05	0.01	0.05	5.01	99.07
E460948		2.07	0.01	0.96	0.40	0.18	0.01	0.09	8.96	99.23
E460949		1.74	0.01	0.95	0.40	0.23	0.02	0.05	10.40	95.30
E460950		1.54	0.01	0.87	0.40	0.18	0.01	0.06	11.20	99.66
E460951		0.91	0.01	1.04	0.12	0.21	<0.01	0.03	5.86	98.65
E460952		0.70	0.01	0.87	0.29	0.18	<0.01	0.03	7.18	99.69

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Finalized Date: 18- APR- 2012
Account: XSZNEX

CERTIFICATE TB12080820

Project: STURGEON LAKE

P.O. No.:

This report is for 3 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 12- APR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND- 02	Find Sample for Addn Analysis

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au- AA23	Au 30g FA- AA finish	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
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North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 18- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12080820

Sample Description	Method Analyte Units LOR	Au- AA23 Au ppm 0.005
K015363		0.165
K015364		0.170
K015368		0.054

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Finalized Date: 17- APR- 2012
Account: XSZNEX

CERTIFICATE TB12080821

Project: STURGEON LAKE

P.O. No.:

This report is for 3 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 12- APR- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND- 02	Find Sample for Addn Analysis

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au- AA23	Au 30g FA- AA finish	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 17- APR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12080821

Sample Description	Method Analyte Units LOR	Au- AA23 Au ppm 0.005
K015423		<0.005
K015424		<0.005
K015439		<0.005

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Finalized Date: 25- JAN- 2012
Account: XSZNEX

CERTIFICATE TB11269285

Project: STURGEON LAKE

P.O. No.:

This report is for 21 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 23- DEC- 2011.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 25- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269285

Sample Description	Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS81 Ag ppm 1	ME- MS81 Ba ppm 0.5	ME- MS81 Ce ppm 0.5	ME- MS81 Co ppm 0.5	ME- MS81 Cr ppm 10	ME- MS81 Cs ppm 0.01	ME- MS81 Cu ppm 5	ME- MS81 Dy ppm 0.05	ME- MS81 Er ppm 0.03	ME- MS81 Eu ppm 0.03	ME- MS81 Ga ppm 0.1	ME- MS81 Gd ppm 0.05	ME- MS81 Hf ppm 0.2	ME- MS81 Ho ppm 0.01
E460701		1.38	1	82.4	107.5	4.4	10	0.30	105	10.20	6.21	1.65	21.0	9.35	9.7	2.20
E460702		1.27	<1	66.9	112.0	3.1	30	0.31	64	7.09	4.06	1.68	20.3	7.55	8.9	1.47
E460703		1.61	1	128.5	40.3	34.8	80	0.69	35	3.97	2.35	1.20	21.1	3.93	3.7	0.85
E460704		1.42	<1	188.0	33.4	20.1	50	1.12	5	3.17	1.97	1.01	16.6	3.20	3.0	0.68
E460705		1.50	<1	135.5	36.8	26.1	70	0.76	<5	2.93	1.72	1.10	19.6	3.17	3.6	0.62
E460706		1.62	<1	130.0	98.8	2.2	<10	0.80	5	8.71	5.40	1.62	20.1	8.07	10.4	1.90
E460707		1.69	<1	120.5	77.5	1.7	<10	0.83	<5	6.98	4.03	1.48	15.0	6.82	7.5	1.48
E460708		1.64	<1	188.5	33.7	76.4	60	0.67	37	2.84	1.65	0.99	14.9	2.86	2.6	0.62
E460709		1.61	<1	372	34.3	18.1	60	0.94	10	3.76	2.18	1.04	17.1	3.62	3.1	0.80
E460710		1.53	<1	169.5	37.5	16.9	60	0.44	80	3.67	2.24	1.02	18.1	3.57	3.2	0.77
E460711		1.53	<1	129.0	97.6	1.2	<10	0.70	5	7.83	4.95	1.59	18.0	7.85	9.1	1.74
E460712		1.37	<1	98.8	62.3	1.2	10	0.67	10	6.25	4.00	1.03	18.2	5.08	8.6	1.36
E460713		1.57	<1	17.8	51.3	7.5	10	0.48	5	7.45	4.33	1.03	13.3	5.48	9.8	1.57
E460714		1.56	<1	15.0	60.7	2.5	10	0.70	<5	4.00	2.24	0.87	13.5	3.94	6.1	0.82
E460715		1.57	<1	179.5	40.5	32.9	90	0.90	30	4.04	2.33	1.15	21.2	4.04	3.6	0.87
E460716		1.70	<1	320	37.4	31.5	80	1.64	45	3.55	2.17	1.14	18.1	3.45	3.2	0.79
E460717		1.61	<1	298	39.8	22.9	90	1.69	5	3.61	2.18	1.26	19.8	3.62	3.3	0.77
E460718		1.66	<1	358	30.6	16.6	60	1.56	53	3.09	1.84	0.96	15.9	3.08	2.9	0.68
E460719		1.50	<1	271	34.1	27.9	80	1.44	106	3.13	1.84	1.01	17.8	3.06	3.2	0.67
E460720		1.40	<1	264	62.4	27.7	190	1.33	5	3.64	2.02	1.65	15.5	4.40	2.9	0.76
E460721		1.33	<1	171.5	35.6	28.0	70	1.08	27	3.28	1.98	1.13	16.8	3.42	3.0	0.70

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Finalized Date: 25- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269285

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460701		51.3	0.95	2	25.4	52.2	11	55	13.40	13.6	10.95	6	63.7	2.0	1.64	10.00
E460702		54.2	0.64	2	23.8	51.7	24	19	13.70	10.7	9.74	9	59.3	1.8	1.21	9.77
E460703		19.4	0.37	<2	7.7	20.5	69	18	5.06	26.4	4.14	1	156.0	0.6	0.65	3.35
E460704		16.2	0.30	<2	6.3	16.6	54	9	4.16	54.9	3.48	1	70.8	0.5	0.50	2.61
E460705		17.8	0.26	<2	7.2	18.5	55	6	4.62	28.5	3.79	1	48.0	0.6	0.50	2.95
E460706		46.1	0.88	<2	23.9	48.3	5	7	12.45	38.7	9.69	3	49.0	1.8	1.40	9.46
E460707		37.0	0.63	2	17.0	38.2	<5	6	9.66	22.7	7.84	2	24.5	1.3	1.15	6.50
E460708		16.2	0.27	<2	5.5	16.5	67	45	4.14	24.4	3.47	1	158.0	0.4	0.47	2.37
E460709		16.6	0.33	<2	6.3	17.2	57	13	4.31	60.7	3.72	1	105.0	0.5	0.60	2.66
E460710		18.1	0.36	<2	6.7	18.3	62	7	4.67	24.7	4.04	2	46.5	0.5	0.59	2.74
E460711		46.5	0.81	2	21.8	47.5	<5	11	12.15	17.4	9.55	3	84.6	1.8	1.28	8.88
E460712		30.3	0.68	<2	21.3	29.1	<5	17	7.54	12.3	5.88	3	76.9	1.7	0.93	8.59
E460713		24.9	0.66	<2	13.6	24.4	17	7	6.30	4.2	5.24	2	43.6	1.1	1.12	6.53
E460714		29.3	0.34	<2	13.6	26.8	7	5	7.33	2.6	5.10	2	54.0	1.1	0.65	6.51
E460715		19.4	0.36	<2	8.3	20.2	58	<5	5.10	32.7	4.50	2	75.3	0.6	0.67	3.20
E460716		18.2	0.34	<2	6.7	18.8	55	<5	4.66	64.1	3.97	1	112.0	0.5	0.59	2.80
E460717		19.6	0.33	<2	7.1	20.3	51	<5	4.98	61.7	4.18	1	123.0	0.6	0.59	2.95
E460718		14.9	0.29	<2	6.2	15.2	40	5	3.81	48.1	3.26	1	170.0	0.5	0.51	2.45
E460719		16.3	0.29	<2	6.6	17.1	46	6	4.26	37.8	3.54	1	184.0	0.5	0.50	2.84
E460720		30.9	0.28	<2	5.9	30.5	68	7	7.76	37.8	5.72	1	184.0	0.4	0.64	4.80
E460721		17.2	0.30	<2	6.3	18.0	65	10	4.47	28.1	3.71	1	173.5	0.5	0.54	2.65

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Finalized Date: 25- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269285

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460701		0.9	0.93	1.83	6	1	62.7	6.04	1340	392	65.7	12.25	5.27	3.89	2.74	0.27
E460702		0.6	0.61	1.97	14	1	41.7	3.99	799	327	69.2	13.15	4.71	3.16	2.07	0.21
E460703		<0.5	0.34	0.56	185	<1	24.6	2.23	172	152	51.6	18.40	10.40	2.95	3.77	1.66
E460704		<0.5	0.27	0.53	139	<1	19.8	1.82	67	124	49.4	14.35	8.47	7.01	3.80	1.02
E460705		<0.5	0.24	0.60	159	<1	18.4	1.61	83	150	54.9	16.70	8.63	4.02	3.39	0.64
E460706		0.7	0.82	2.05	<5	1	56.2	5.52	56	432	75.6	12.30	3.26	0.82	1.51	0.55
E460707		1.6	0.60	1.43	<5	<1	41.7	4.01	40	307	70.4	8.55	3.10	4.62	3.02	0.39
E460708		0.5	0.25	0.60	133	<1	17.6	1.60	94	109	47.9	13.85	8.83	7.77	3.48	1.36
E460709		0.7	0.33	0.49	160	1	24.0	2.03	140	128	51.0	14.60	8.74	4.93	2.77	0.55
E460710		<0.5	0.34	0.47	159	<1	23.2	2.18	251	137	53.0	15.55	13.20	2.80	2.99	0.12
E460711		<0.5	0.75	1.36	5	1	48.2	5.09	65	317	81.4	10.65	2.33	1.16	0.91	0.37
E460712		0.8	0.63	2.03	6	1	40.3	4.25	125	319	80.1	11.00	1.74	1.82	0.64	0.34
E460713		<0.5	0.65	2.20	22	1	42.0	4.10	87	341	76.7	8.84	4.72	2.62	1.72	0.14
E460714		<0.5	0.34	1.97	5	1	23.6	2.19	71	226	78.7	9.10	2.33	3.03	2.00	0.21
E460715		<0.5	0.34	0.71	189	1	25.0	2.25	154	147	59.5	17.65	8.95	1.26	1.97	0.95
E460716		<0.5	0.32	0.53	152	<1	22.7	2.09	87	133	53.9	15.70	9.26	5.36	1.71	1.20
E460717		<0.5	0.31	0.51	173	<1	23.0	2.07	103	138	49.7	17.05	9.83	5.14	2.57	1.56
E460718		<0.5	0.26	0.49	146	<1	19.3	1.81	52	121	48.6	14.75	8.40	8.24	2.51	1.71
E460719		<0.5	0.27	0.66	159	<1	19.2	1.89	76	128	56.0	15.20	7.99	5.14	1.62	1.90
E460720		<0.5	0.29	0.89	132	<1	22.3	1.79	81	122	46.2	12.85	8.85	8.98	3.58	1.53
E460721		<0.5	0.29	0.57	157	<1	20.1	1.79	94	124	48.8	14.60	8.48	8.17	2.31	2.30

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 25- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB11269285

Sample Description	Method / Analyte / Units / LOR	ME- ICP06 K2O % 0.01	ME- ICP06 Cr2O3 % 0.01	ME- ICP06 TiO2 % 0.01	ME- ICP06 MnO % 0.01	ME- ICP06 P2O5 % 0.01	ME- ICP06 SrO % 0.01	ME- ICP06 BaO % 0.01	OA- GRA05 LOI % 0.01	TOT- ICP06 Total % 0.01
E460701		0.45	<0.01	0.26	0.14	0.06	0.01	0.01	6.22	97.27
E460702		0.38	<0.01	0.29	0.10	0.12	0.01	0.01	4.60	98.01
E460703		0.83	0.01	0.91	0.07	0.18	0.02	0.01	7.77	98.58
E460704		1.79	0.01	0.75	0.19	0.19	0.01	0.02	13.15	100.16
E460705		0.85	0.01	0.84	0.09	0.26	0.01	0.01	7.78	98.13
E460706		1.28	<0.01	0.23	0.02	0.10	0.01	0.01	3.60	99.29
E460707		0.67	<0.01	0.15	0.07	0.02	0.01	0.01	6.22	97.23
E460708		0.83	0.01	0.72	0.11	0.21	0.02	0.02	13.10	98.21
E460709		1.89	0.01	0.76	0.16	0.16	0.02	0.04	9.32	94.95
E460710		0.80	0.01	0.80	0.16	0.22	0.01	0.02	7.05	96.73
E460711		0.55	<0.01	0.20	0.03	0.05	<0.01	0.01	1.70	99.36
E460712		0.37	<0.01	0.22	0.02	0.09	0.01	0.01	2.40	98.76
E460713		0.14	<0.01	0.18	0.09	0.05	0.01	<0.01	4.29	99.50
E460714		0.09	<0.01	0.19	0.04	0.04	0.01	<0.01	4.00	99.74
E460715		0.96	0.01	0.93	0.10	0.28	0.01	0.02	4.98	97.57
E460716		1.92	0.01	0.82	0.13	0.37	0.02	0.03	10.10	100.53
E460717		1.98	0.01	0.85	0.18	0.18	0.01	0.03	8.48	97.57
E460718		1.58	0.01	0.81	0.13	0.15	0.02	0.04	13.95	100.90
E460719		1.16	0.01	0.79	0.13	0.18	0.02	0.03	9.58	99.75
E460720		1.11	0.02	0.68	0.16	0.23	0.02	0.03	14.70	98.94
E460721		0.83	0.01	0.79	0.10	0.19	0.02	0.02	12.10	98.72

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Finalized Date: 30- JAN- 2012
Account: XSZNEX

CERTIFICATE TB12010005

Project: STURGEON LAKE

P.O. No.:

This report is for 19 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 16- JAN- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 30- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12010005

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460722		1.63	<1	235	35.1	31.7	140	0.61	<5	3.31	2.06	1.01	17.2	3.37	3.1	0.69
E460723		1.55	<1	22.0	35.8	31.0	70	0.16	40	3.60	2.23	0.99	18.0	3.58	3.4	0.73
E460724		1.49	<1	528	38.0	32.4	70	1.78	14	3.69	2.28	1.06	18.9	3.70	3.5	0.74
E460725		1.68	<1	639	40.6	24.5	70	1.60	48	4.13	2.47	1.22	19.2	4.14	3.6	0.84
E460726		1.47	<1	121.0	35.9	30.3	70	2.41	12	3.73	2.30	1.07	17.8	3.68	3.2	0.77
E460727		1.61	<1	20.6	33.3	28.7	80	0.32	<5	3.44	2.11	1.12	17.6	3.34	3.0	0.70
E460728		1.56	<1	137.0	32.5	31.4	90	1.66	27	3.23	2.03	0.99	17.6	3.27	3.0	0.67
E460729		1.53	<1	347	34.7	24.9	80	0.96	19	3.27	1.97	1.03	16.8	3.26	2.9	0.68
E460730		1.68	<1	159.5	33.0	32.5	90	2.19	14	3.46	2.11	1.02	18.4	3.50	3.2	0.73
E460731		1.53	<1	123.5	30.8	35.2	90	1.53	69	3.21	2.01	1.02	17.3	3.18	3.0	0.66
E460732		1.39	<1	115.5	33.3	30.8	90	0.59	29	3.48	2.11	1.03	18.2	3.39	3.1	0.71
E460733		1.64	<1	101.5	33.6	24.4	40	0.17	20	3.58	2.16	1.01	17.5	3.43	3.3	0.75
E460734		1.48	<1	145.5	104.5	2.5	<10	0.73	28	8.76	5.66	1.31	17.9	8.42	9.1	1.84
E460735		1.41	<1	358	30.0	29.2	50	1.02	40	3.40	2.16	0.91	16.0	3.15	2.8	0.71
E460736		1.45	<1	135.5	34.0	23.0	50	0.62	<5	3.55	2.10	1.09	18.2	3.64	3.4	0.74
E460737		1.47	<1	147.5	32.9	33.1	60	0.69	<5	3.38	2.15	0.96	18.4	3.38	3.2	0.71
E460738		1.64	<1	144.5	31.7	20.9	50	0.68	<5	3.24	2.08	0.98	16.5	3.32	3.0	0.68
E460739		1.47	<1	193.5	33.4	32.1	60	0.63	<5	3.36	2.06	0.92	17.0	3.51	2.9	0.69
E460740		1.37	<1	140.5	31.7	26.3	50	0.66	<5	3.34	1.99	0.97	17.0	3.27	3.0	0.68

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 30- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12010005

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460722		16.2	0.30	<2	6.0	17.0	66	5	4.19	22.9	3.63	1	176.5	0.4	0.52	2.49
E460723		16.5	0.33	6	6.5	17.4	62	9	4.26	0.6	3.78	1	228	0.5	0.55	2.58
E460724		18.1	0.33	<2	6.8	18.5	63	5	4.57	65.0	3.92	1	207	0.5	0.57	2.75
E460725		19.1	0.36	3	7.0	19.6	52	<5	4.88	65.5	4.21	1	118.5	0.5	0.63	2.80
E460726		16.7	0.33	<2	6.4	17.3	62	<5	4.31	31.2	3.80	1	254	0.5	0.57	2.56
E460727		16.1	0.31	<2	5.8	15.8	64	<5	3.90	1.9	3.48	1	196.5	0.4	0.50	2.30
E460728		15.3	0.29	<2	6.0	15.4	69	5	3.85	26.6	3.36	1	198.5	0.4	0.49	2.35
E460729		16.0	0.28	<2	5.6	16.1	68	<5	4.02	58.2	3.33	<1	160.5	0.4	0.52	2.21
E460730		15.5	0.32	<2	6.1	15.8	70	8	3.94	31.1	3.49	1	305	0.5	0.53	2.45
E460731		14.7	0.28	<2	5.5	14.8	70	5	3.64	21.8	3.12	1	173.5	0.4	0.47	2.23
E460732		15.5	0.31	<2	6.1	15.9	69	<5	3.90	11.3	3.38	1	219	0.5	0.53	2.38
E460733		14.5	0.32	<2	6.4	16.5	57	<5	4.02	5.5	3.58	<1	190.0	0.5	0.55	2.55
E460734		47.1	0.92	<2	22.8	46.7	5	6	12.15	37.5	9.80	3	76.2	1.6	1.31	8.43
E460735		13.7	0.31	<2	5.6	14.1	60	<5	3.50	58.8	3.00	1	123.5	0.4	0.49	2.22
E460736		15.7	0.33	<2	6.5	16.4	54	<5	4.04	33.7	3.62	1	77.8	0.5	0.55	2.63
E460737		14.7	0.30	<2	6.3	16.0	62	<5	3.90	25.7	3.47	1	154.5	0.5	0.51	2.59
E460738		14.7	0.29	<2	5.7	15.4	62	<5	3.75	36.5	3.23	1	105.0	0.4	0.50	2.30
E460739		15.3	0.29	<2	5.7	16.3	62	<5	3.95	31.4	3.56	<1	114.5	0.4	0.52	2.28
E460740		15.0	0.29	<2	5.9	15.1	55	<5	3.73	26.5	3.29	1	125.5	0.5	0.51	2.37

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North Vancouver BC V7H 0A7
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Finalized Date: 30- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12010005

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460722		<0.5	0.30	0.61	164	<1	19.8	2.06	114	123	50.4	14.05	8.65	5.18	6.20	3.00
E460723		<0.5	0.31	0.61	162	<1	21.2	2.16	81	133	55.2	14.80	8.98	5.35	6.03	3.28
E460724		<0.5	0.31	0.66	177	<1	21.2	2.11	113	140	48.8	15.30	8.85	6.26	5.18	1.74
E460725		<0.5	0.34	0.66	192	<1	22.5	2.35	43	144	55.8	15.55	8.06	5.14	2.27	4.65
E460726		<0.5	0.33	0.60	153	<1	21.0	2.24	47	130	55.0	15.05	8.65	5.95	5.10	3.66
E460727		<0.5	0.29	0.55	153	<1	19.3	1.96	44	120	53.8	14.75	8.56	7.27	5.06	3.09
E460728		<0.5	0.28	0.56	169	<1	19.3	1.97	67	122	53.1	15.25	9.15	5.30	5.28	4.21
E460729		<0.5	0.30	0.60	149	<1	18.5	1.84	38	113	51.9	14.70	7.21	5.70	4.87	3.46
E460730		<0.5	0.30	0.60	181	<1	19.8	2.06	55	126	55.3	15.80	9.22	5.66	5.52	3.35
E460731		<0.5	0.28	0.54	171	<1	18.2	1.95	101	116	53.7	15.55	10.15	4.19	5.65	4.55
E460732		<0.5	0.30	0.57	166	<1	19.6	2.01	73	123	55.5	15.45	8.86	8.33	4.73	2.43
E460733		<0.5	0.33	0.61	167	<1	20.3	2.15	50	129	53.0	15.00	8.06	7.98	3.95	3.45
E460734		<0.5	0.84	1.70	<5	1	52.1	5.86	114	330	73.7	9.91	3.99	2.16	1.17	0.92
E460735		<0.5	0.31	0.53	150	<1	19.6	1.95	65	110	50.5	13.45	8.02	6.26	4.94	0.89
E460736		<0.5	0.30	0.59	178	<1	20.3	2.13	63	132	49.4	14.80	8.49	6.54	4.18	1.34
E460737		<0.5	0.29	0.59	157	<1	19.5	1.97	69	128	51.8	15.25	7.70	5.49	3.72	1.95
E460738		<0.5	0.30	0.57	153	<1	18.4	1.92	38	115	50.0	13.55	7.48	7.41	3.89	1.63
E460739		<0.5	0.29	0.64	153	<1	18.5	1.95	110	113	50.1	13.80	8.95	5.36	6.02	1.14
E460740		<0.5	0.28	0.58	158	<1	18.5	1.89	69	118	50.7	13.85	7.99	7.56	4.19	1.34

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Finalized Date: 30- JAN- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12010005

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460722		0.67	0.02	0.80	0.09	0.16	0.02	0.02	10.60	99.86
E460723		0.02	0.01	0.81	0.13	0.17	0.02	<0.01	5.29	100.09
E460724		2.25	0.01	0.87	0.09	0.18	0.02	0.06	9.15	98.76
E460725		2.19	0.01	0.96	0.06	0.21	0.01	0.07	4.90	99.88
E460726		0.80	0.01	0.79	0.09	0.18	0.03	0.01	4.79	100.11
E460727		0.05	0.01	0.77	0.10	0.18	0.02	<0.01	5.19	98.85
E460728		0.78	0.01	0.81	0.10	0.15	0.02	0.01	5.09	99.26
E460729		1.92	0.01	0.76	0.11	0.15	0.02	0.04	8.98	99.83
E460730		0.73	0.01	0.86	0.09	0.15	0.04	0.02	3.90	100.65
E460731		0.45	0.01	0.81	0.13	0.16	0.02	0.01	4.99	100.37
E460732		0.36	0.01	0.81	0.13	0.16	0.02	0.01	3.30	100.10
E460733		0.20	<0.01	0.79	0.11	0.16	0.02	0.01	6.49	99.22
E460734		1.16	<0.01	0.16	0.05	0.02	0.01	0.02	4.90	98.17
E460735		2.10	0.01	0.71	0.11	0.11	0.01	0.04	12.30	99.45
E460736		1.01	0.01	0.82	0.15	0.18	0.01	0.01	12.30	99.24
E460737		0.88	0.01	0.80	0.09	0.17	0.02	0.02	11.15	99.05
E460738		1.22	0.01	0.74	0.11	0.14	0.01	0.02	13.90	100.11
E460739		1.06	0.01	0.73	0.09	0.12	0.01	0.02	12.10	99.51
E460740		0.93	0.01	0.75	0.13	0.14	0.01	0.01	11.80	99.41

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Finalized Date: 1- FEB- 2012
Account: XSZNEX

CERTIFICATE TB12010006

Project: STURGEON LAKE

P.O. No.:

This report is for 27 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 16- JAN- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 1- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12010006

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015115		2.34	0.011	0.001	0.017	<0.2		
K015116		2.22	0.008	<0.001	0.009	<0.2		
K015117		2.40	0.010	<0.001	0.010	<0.2		
K015118		2.63	0.018	0.001	0.008	<0.2		
K015119		3.40	0.009	0.001	0.009	<0.2		
K015120		2.47	0.007	<0.001	0.008	<0.2		
K015121		2.39	0.006	0.001	0.008	<0.2		
K015122		2.49	0.008	0.001	0.016	<0.2		
K015123		2.20	0.005	0.001	0.014	<0.2		
K015124		2.72	0.007	<0.001	0.011	<0.2		
K015125		0.02	0.181	0.006	4.74	2.8	5.30	0.061
K015126		2.55	0.057	0.001	0.011	0.2		
K015127		2.29	0.051	0.001	0.006	0.2		
K015128		2.37	0.006	<0.001	0.008	<0.2		
K015129		2.58	0.015	<0.001	0.012	<0.2		
K015130		2.31	0.014	0.002	0.009	<0.2		
K015131		2.43	0.017	0.002	0.009	0.2		
K015132		2.36	0.007	0.001	0.007	<0.2		
K015133		1.65	0.006	<0.001	0.007	<0.2		
K015134		2.28	0.010	<0.001	0.010	<0.2		
K015135		2.43	0.008	<0.001	0.016	<0.2		
K015136		2.30	0.007	0.001	0.010	<0.2		
K015137		2.28	0.004	<0.001	0.013	<0.2		
K015138		2.34	0.003	<0.001	0.006	<0.2		
K015139		2.36	0.013	<0.001	0.007	<0.2		
K015140		2.44	0.004	<0.001	0.010	<0.2		
K015141		2.33	0.003	<0.001	0.011	<0.2		

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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- FEB- 2012
Account: XSZNEX

CERTIFICATE TB12016253

Project: STURGEON LAKE

P.O. No.:

This report is for 103 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 26- JAN- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
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ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
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Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
SUITE 400
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Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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To: XSTRATA ZINC CANADA
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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016253

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015142		2.42	0.006	0.005	0.046	0.5		
K015143		2.56	0.006	0.036	0.182	3.4		
K015144		2.51	0.006	<0.001	0.014	0.2		
K015145		2.76	0.004	0.032	0.555	4.2		
K015146		3.28	0.002	0.011	0.047	1.2		
K015147		2.71	0.003	0.019	0.044	4.1		
K015148		3.29	0.022	0.016	0.195	15.3		
K015149		2.73	0.011	0.004	1.940	4.8	1.815	0.018
K015150		0.02	0.184	0.007	5.05	3.3	5.22	0.046
K015151		2.94	0.016	0.003	5.80	5.9	5.61	0.051
K015152		2.82	0.055	0.003	5.31	7.3	5.13	0.031
K015153		2.95	0.024	0.003	2.50	7.2	2.39	0.036
K015154		2.55	0.008	0.003	1.285	3.5	1.255	0.013
K015155		1.15	0.040	0.002	7.19	3.1	6.64	0.011
K015156		1.18	0.027	0.002	7.60	3.1	7.04	0.006
K015157		2.98	0.564	0.024	5.80	47.2	5.86	0.077
K015158		3.17	0.294	0.013	0.802	32.4		
K015159		3.00	0.170	0.009	0.437	20.1		
K015160		2.54	0.004	0.005	0.031	2.0		
K015161		2.76	0.008	0.005	0.110	2.0		
K015162		2.93	0.007	0.008	0.023	4.4		
K015163		2.86	0.006	0.006	0.024	2.2		
K015164		2.81	0.006	0.006	0.025	2.6		
K015165		2.75	0.009	0.007	0.105	2.0		
K015166		2.70	0.008	0.005	0.080	3.2		
K015167		2.77	0.007	0.006	0.040	2.9		
K015168		2.72	0.011	0.005	0.164	1.6		
K015169		2.39	0.011	0.002	0.014	0.2		
K015170		1.77	0.004	0.004	0.166	1.0		
K015171		2.44	0.002	0.002	0.069	0.5		
K015172		2.51	0.003	0.003	0.114	0.7		
K015173		2.47	0.002	0.003	0.102	0.6		
K015174		2.51	0.003	0.003	0.138	0.6		
K015175		0.02	0.171	0.007	4.95	2.6	5.03	0.052
K015176		2.49	0.005	0.003	0.169	0.7		
K015177		2.52	0.009	0.006	0.723	0.8		
K015178		2.42	0.007	0.004	0.373	0.9		
K015179		1.14	0.002	0.005	0.364	0.5		
K015180		1.11	0.002	0.006	0.287	0.5		
K015181		2.34	0.005	0.017	0.337	3.2		

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North Vancouver BC V7H 0A7
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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016253

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015182		2.44	0.003	0.029	0.274	1.6		
K015183		2.46	0.002	0.025	0.158	1.5		
K015184		2.34	0.001	0.035	0.158	2.1		
K015185		2.60	0.002	0.050	0.141	2.4		
K015186		2.43	0.001	0.013	0.071	0.6		
K015187		2.42	0.001	0.008	0.092	0.5		
K015188		2.47	0.002	0.005	0.048	0.3		
K015189		2.51	0.003	0.002	0.028	0.2		
K015190		2.31	0.002	0.002	0.027	0.2		
K015191		2.45	0.006	0.002	0.056	0.3		
K015192		2.35	0.002	0.002	0.013	<0.2		
K015193		2.48	0.002	0.002	0.020	0.2		
K015194		2.66	0.011	<0.001	0.019	0.2		
K015195		2.32	0.002	0.002	0.011	<0.2		
K015196		2.41	0.001	0.002	0.012	<0.2		
K015197		2.32	<0.001	0.002	0.009	0.2		
K015198		2.38	0.017	0.005	0.024	0.2		
K015199		2.43	0.004	0.006	0.179	0.5		
K015200		0.02	0.167	0.006	4.86	2.8	4.89	0.049
K015201		2.66	0.003	0.004	0.112	0.3		
K015202		2.60	0.004	0.005	0.155	0.4		
K015203		2.36	0.004	0.004	0.100	0.2		
K015204		1.11	0.004	0.003	0.062	0.3		
K015205		1.15	0.004	0.004	0.066	0.4		
K015206		2.23	0.004	0.004	0.014	0.2		
K015207		1.96	0.002	0.003	0.012	0.2		
K015208		2.41	0.002	0.002	0.010	0.2		
K015209		2.37	0.002	0.002	0.012	0.3		
K015210		2.48	0.002	0.002	0.033	0.3		
K015211		2.63	0.001	0.001	0.096	0.2		
K015212		2.56	0.003	0.004	0.066	<0.2		
K015213		2.12	0.026	0.003	1.540	0.7	1.520	0.006
K015214		2.56	0.227	0.003	3.95	3.2	3.54	0.009
K015215		2.22	0.008	0.001	0.120	0.4		
K015216		2.42	0.024	0.002	0.050	0.7		
K015217		3.30	0.009	0.002	0.042	0.4		
K015218		1.68	0.001	0.001	0.019	<0.2		
K015219		2.17	0.002	<0.001	0.012	<0.2		
K015220		2.42	0.005	<0.001	0.014	<0.2		
K015221		2.48	0.001	<0.001	0.015	0.2		

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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 7- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016253

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015222		2.39	0.002	<0.001	0.018	0.2		
K015223		3.22	0.001	0.001	0.018	<0.2		
K015224		3.82	0.001	<0.001	0.025	<0.2		
K015225		0.02	0.172	0.007	5.23	2.8	5.35	0.045
K015226		3.49	<0.001	<0.001	0.029	0.3		
K015227		3.44	0.001	<0.001	0.020	<0.2		
K015228		3.49	<0.001	<0.001	0.019	<0.2		
K015229		3.52	0.001	<0.001	0.024	<0.2		
K015230		1.61	0.001	<0.001	0.033	<0.2		
K015231		1.59	0.009	<0.001	0.033	<0.2		
K015232		3.65	0.002	<0.001	0.028	<0.2		
K015233		3.61	0.002	<0.001	0.023	<0.2		
K015234		3.54	0.002	<0.001	0.024	<0.2		
K015235		3.58	0.001	<0.001	0.018	<0.2		
K015236		2.65	0.002	0.001	0.020	<0.2		
K015237		3.54	0.001	<0.001	0.020	<0.2		
K015238		3.69	0.003	0.001	0.018	<0.2		
K015239		3.59	0.001	0.001	0.019	<0.2		
K015240		2.31	0.020	<0.001	0.019	<0.2		
K015241		2.02	0.003	<0.001	0.019	<0.2		
K015242		2.32	0.003	<0.001	0.020	<0.2		
K015243		2.16	0.480	0.001	0.035	0.8		
K015244		2.49	0.003	<0.001	0.031	<0.2		

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Finalized Date: 13- FEB- 2012
Account: XSZNEX

CERTIFICATE TB12016254

Project: STURGEON LAKE

P.O. No.:

This report is for 17 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 26- JAN- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
8801 TRANS CANADA HWY
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Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 13- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016254

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS81 Ag ppm 1	ME- MS81 Ba ppm 0.5	ME- MS81 Ce ppm 0.5	ME- MS81 Co ppm 0.5	ME- MS81 Cr ppm 10	ME- MS81 Cs ppm 0.01	ME- MS81 Cu ppm 5	ME- MS81 Dy ppm 0.05	ME- MS81 Er ppm 0.03	ME- MS81 Eu ppm 0.03	ME- MS81 Ga ppm 0.1	ME- MS81 Gd ppm 0.05	ME- MS81 Hf ppm 0.2	ME- MS81 Ho ppm 0.01
E460741		1.56	<1	167.5	34.1	24.3	50	0.46	<5	3.41	2.03	1.07	16.8	3.60	3.4	0.70
E460742		1.52	<1	238	33.6	25.5	50	0.85	<5	3.28	2.00	1.00	16.9	3.48	3.2	0.67
E460743		1.44	<1	153.5	33.8	25.7	50	0.54	<5	3.36	2.00	0.91	16.3	3.52	3.2	0.69
E460744		1.38	<1	179.5	33.2	28.2	50	0.98	<5	3.26	2.05	0.92	16.8	3.37	3.2	0.69
E460745		1.47	<1	144.5	35.7	20.0	50	0.92	9	3.68	2.23	1.10	17.3	3.75	3.8	0.76
E460746		1.53	<1	157.0	33.1	26.0	30	0.86	<5	3.37	2.09	0.99	17.5	3.48	3.7	0.69
E460747		1.63	<1	101.0	29.2	29.5	50	0.76	137	3.40	2.12	0.99	17.4	3.48	3.7	0.70
E460748		1.76	<1	144.5	35.3	23.4	50	0.83	<5	2.82	1.71	0.90	15.1	2.94	2.7	0.56
E460749		1.56	<1	107.5	27.4	22.0	50	0.82	5	2.69	1.57	0.88	14.4	2.95	2.5	0.53
E460750		1.55	<1	170.5	31.4	22.1	60	0.90	<5	3.19	1.97	0.96	18.6	3.38	3.5	0.67
E460751		1.66	<1	121.5	34.1	26.0	60	0.60	<5	3.23	1.96	1.03	16.3	3.50	3.0	0.64
E460752		1.53	<1	505	67.3	1.2	10	0.80	41	6.63	4.27	1.40	16.1	6.60	8.1	1.39
E460753		1.55	<1	524	86.2	1.4	10	0.75	6	8.34	4.98	1.81	21.2	8.55	9.1	1.67
E460754		1.57	<1	378	86.2	2.3	10	0.55	12	8.31	5.14	1.79	19.1	8.59	9.3	1.70
E460755		1.54	<1	436	93.8	7.4	10	0.56	12	9.35	5.84	1.32	19.1	9.22	10.9	1.92
E460756		1.51	<1	431	104.0	3.0	20	0.46	<5	9.70	6.04	1.47	22.3	10.60	11.8	1.97
E460757		1.54	<1	497	72.5	4.6	10	0.40	6	8.03	5.15	0.96	17.9	7.44	9.9	1.66

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 13- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016254

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460741		15.9	0.31	<2	6.5	16.3	58	<5	4.22	23.8	3.69	1	189.5	0.4	0.53	2.68
E460742		15.3	0.31	<2	6.4	15.9	63	<5	4.16	42.6	3.52	1	141.5	0.3	0.51	2.59
E460743		15.5	0.30	<2	6.5	15.9	63	<5	4.10	31.3	3.65	<1	126.0	0.4	0.53	2.53
E460744		15.1	0.31	<2	6.5	15.4	58	<5	4.09	40.9	3.55	<1	124.5	0.4	0.53	2.56
E460745		16.9	0.32	<2	6.9	16.8	48	<5	4.44	37.4	3.84	1	144.0	0.4	0.58	3.03
E460746		15.3	0.29	<2	7.3	15.6	48	<5	4.09	38.3	3.55	1	77.8	0.4	0.54	2.77
E460747		13.2	0.29	<2	7.2	14.1	55	28	3.67	25.2	3.43	1	72.2	0.4	0.54	2.97
E460748		17.6	0.25	<2	5.4	15.5	63	7	4.18	28.6	3.29	1	135.5	0.3	0.45	2.21
E460749		12.5	0.24	<2	5.1	13.0	54	10	3.42	26.3	3.08	1	150.5	0.3	0.43	1.99
E460750		13.5	0.30	<2	6.9	15.6	69	24	4.02	35.0	3.43	<1	170.5	0.4	0.52	2.74
E460751		16.5	0.29	<2	5.9	16.4	52	37	4.23	17.7	3.45	<1	157.5	0.4	0.52	2.38
E460752		31.8	0.65	2	17.2	30.7	<5	42	8.08	54.1	6.19	3	41.0	1.2	1.05	6.18
E460753		39.3	0.74	2	19.7	41.6	<5	49	10.70	66.0	8.80	3	59.8	1.4	1.31	6.98
E460754		39.4	0.79	2	20.2	41.5	<5	11	10.80	41.3	8.85	2	53.6	1.5	1.32	7.14
E460755		42.7	0.89	3	23.6	45.3	5	12	11.80	44.9	9.57	3	66.1	1.7	1.50	8.31
E460756		47.2	0.95	3	25.4	51.3	6	5	13.20	39.5	11.05	2	53.3	1.9	1.61	9.13
E460757		33.3	0.81	2	21.1	34.2	<5	5	8.95	38.9	7.12	3	57.8	1.5	1.22	7.32

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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 13- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016254

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460741		<0.5	0.30	0.70	145	1	19.8	1.99	55	130	53.7	13.85	7.89	8.43	2.93	3.58
E460742		<0.5	0.28	0.59	147	<1	19.5	1.89	50	124	51.6	14.10	7.85	9.23	2.29	3.02
E460743		<0.5	0.30	0.58	140	<1	19.7	1.95	46	123	52.5	14.25	7.43	7.93	3.68	2.86
E460744		<0.5	0.30	0.55	143	<1	19.5	1.95	50	124	53.1	14.05	7.96	7.29	3.48	1.17
E460745		<0.5	0.31	0.82	152	<1	21.1	2.10	38	146	53.2	14.70	6.72	6.20	2.80	2.71
E460746		<0.5	0.30	0.65	187	<1	19.5	1.96	76	147	53.7	14.05	9.72	5.12	3.51	1.30
E460747		<0.5	0.28	0.60	156	<1	19.3	1.93	84	146	55.4	14.65	7.85	4.76	3.59	1.24
E460748		<0.5	0.25	0.56	139	<1	16.1	1.62	41	105	49.7	13.55	7.85	7.54	3.62	1.82
E460749		<0.5	0.23	0.47	125	<1	15.5	1.57	38	95	49.3	13.65	6.86	8.49	4.22	1.97
E460750		<0.5	0.28	0.61	159	<1	19.0	1.93	80	136	57.5	16.00	8.21	3.34	2.50	1.89
E460751		<0.5	0.31	0.59	157	<1	19.4	1.80	78	124	50.9	13.90	7.67	7.23	3.43	3.01
E460752		2.2	0.66	1.58	<5	1	40.7	4.10	1030	324	59.2	9.70	14.60	0.07	0.32	0.30
E460753		1.0	0.76	1.74	<5	1	49.8	4.73	93	366	73.2	12.15	4.25	0.59	1.69	0.34
E460754		<0.5	0.75	1.83	<5	1	49.6	4.84	173	380	70.4	11.45	6.31	0.35	3.79	0.21
E460755		<0.5	0.89	2.07	<5	1	57.2	5.50	159	436	71.3	11.10	5.52	1.04	2.71	0.24
E460756		<0.5	0.93	2.34	<5	1	58.0	5.88	132	473	70.7	12.00	5.77	0.80	3.55	0.36
E460757		<0.5	0.78	1.93	<5	<1	49.6	4.89	114	397	72.8	10.05	5.41	1.66	2.89	0.20

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North Vancouver BC V7H 0A7
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SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 13- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12016254

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460741		0.77	0.01	0.79	0.13	0.14	0.02	0.02	8.53	100.79
E460742		1.51	0.01	0.75	0.11	0.13	0.02	0.03	9.83	100.48
E460743		1.11	0.01	0.79	0.10	0.14	0.01	0.02	9.46	100.29
E460744		1.36	0.01	0.76	0.09	0.15	0.01	0.02	10.95	100.40
E460745		1.13	0.01	0.82	0.10	0.13	0.02	0.02	11.20	99.76
E460746		1.22	<0.01	1.04	0.12	0.16	0.01	0.02	9.22	99.19
E460747		0.76	<0.01	0.85	0.11	0.19	<0.01	0.01	3.89	93.30
E460748		0.96	0.01	0.72	0.12	0.12	0.02	0.02	13.35	99.40
E460749		0.91	0.01	0.68	0.11	0.12	0.02	0.01	14.75	101.10
E460750		1.20	0.01	0.86	0.08	0.16	0.02	0.02	7.66	99.45
E460751		0.64	0.01	0.76	0.11	0.15	0.02	0.01	13.10	100.94
E460752		2.15	<0.01	0.22	0.01	0.03	<0.01	0.06	8.73	95.39
E460753		2.57	<0.01	0.31	0.03	0.03	0.01	0.06	3.51	98.74
E460754		1.68	<0.01	0.26	0.11	0.03	0.01	0.04	4.45	99.09
E460755		1.81	<0.01	0.21	0.09	0.02	0.01	0.05	4.22	98.32
E460756		1.73	<0.01	0.22	0.07	0.01	0.01	0.05	4.35	99.62
E460757		1.59	<0.01	0.18	0.08	<0.01	0.01	0.05	5.04	99.96

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Finalized Date: 16- FEB- 2012
Account: XSZNEX

CERTIFICATE TB12024581

Project: STURGEON LAKE

P.O. No.:

This report is for 84 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 6- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um
LOG- 23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu- AA46	Ore grade Cu - aqua regia/AA	AAS
Pb- AA46	Ore grade Pb - aqua regia/AA	AAS
Zn- AA46	Ore grade Zn - aqua regia/AA	AAS
Cu- OG62	Ore Grade Cu - Four Acid	VARIABLE
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	VARIABLE
Au- AA23	Au 30g FA- AA finish	AAS
Ag- AA45	Trace Ag - aqua regia/AAS	AAS

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 16- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12024581

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015245		2.23	0.003	<0.001	0.029	<0.2			
K015246		1.55	1.845	0.008	0.051	13.8	1.850		0.171
K015247		1.95	0.006	0.001	0.030	<0.2			
K015248		2.56	0.003	0.001	0.015	<0.2			
K015249		2.45	0.005	0.001	0.007	0.4			
K015250		<0.02	0.183	0.007	4.93	3.1		5.20	0.041
K015251		3.48	<0.001	0.002	0.017	<0.2			
K015252		3.59	0.014	0.002	0.013	<0.2			
K015253		3.78	0.001	0.002	0.014	0.2			
K015254		3.68	0.001	0.001	0.016	0.3			
K015255		1.72	0.003	0.001	0.014	0.5			
K015256		1.78	0.009	0.001	0.014	0.7			
K015257		2.76	0.001	0.001	0.015	0.3			
K015258		3.70	0.001	0.001	0.015	0.3			
K015259		3.66	<0.001	0.001	0.014	0.2			
K015260		2.49	0.006	0.001	0.017	<0.2			
K015261		3.72	0.001	0.002	0.016	0.3			
K015262		3.24	0.011	0.002	0.014	0.2			
K015263		2.50	0.002	0.002	0.010	0.3			
K015264		2.50	0.002	0.003	0.011	1.0			
K015265		2.56	0.001	0.002	0.011	<0.2			
K015266		2.50	0.001	0.001	0.010	<0.2			
K015267		2.56	0.001	0.001	0.012	<0.2			
K015268		2.72	0.001	0.003	0.009	2.0			
K015269		2.63	0.001	0.003	0.044	1.9			
K015270		2.63	0.002	0.003	0.009	1.7			
K015271		2.62	0.007	0.004	0.025	1.6			
K015272		2.56	0.001	0.003	0.019	0.5			
K015273		2.29	0.001	0.006	0.032	4.1			
K015274		3.15	0.008	0.040	2.96	14.1		2.90	0.070
K015275		0.02	0.171	0.007	5.04	2.6		4.93	0.038
K015276		3.03	0.023	0.027	0.578	12.2			
K015277		1.86	0.039	0.016	0.271	9.6			
K015278		3.76	0.009	0.011	0.049	3.1			
K015279		3.87	0.006	0.012	0.208	2.2			
K015280		1.71	0.004	0.011	0.146	1.9			
K015281		1.81	0.004	0.011	0.109	1.7			
K015282		3.44	0.003	0.007	0.056	1.1			
K015283		3.54	0.002	0.004	0.026	1.0			
K015284		3.76	0.008	0.004	0.028	2.1			

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 16- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12024581

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015285		3.69	0.003	0.002	0.027	0.6			
K015286		3.38	0.005	0.002	0.043	1.0			
K015287		2.66	0.010	0.004	0.099	1.2			
K015288		3.60	0.008	0.004	0.088	1.9			
K015289		3.73	0.003	0.001	0.034	0.4			
K015290		2.64	0.005	<0.001	0.011	<0.2			
K015291		3.73	0.005	<0.001	0.017	0.5			
K015292		3.46	0.001	<0.001	0.009	0.2			
K015293		3.58	<0.001	0.001	0.012	<0.2			
K015294		3.61	<0.001	<0.001	0.012	<0.2			
K015295		3.56	<0.001	<0.001	0.005	<0.2			
K015296		3.75	0.002	0.001	0.006	0.2			
K015297		3.52	0.001	<0.001	0.008	<0.2			
K015298		3.33	0.001	<0.001	0.013	<0.2			
K015299		3.82	0.002	<0.001	0.076	0.3			
K015300		0.02	0.175	0.007	4.69	3.2		4.99	0.060
K015301		3.47	0.001	0.001	0.058	<0.2			
K015302		3.56	0.014	0.001	0.122	0.9			
K015303		3.28	0.007	<0.001	0.174	0.5			
K015304		3.10	0.001	0.001	0.016	<0.2			
K015305		1.44	0.008	0.002	0.240	2.0			
K015306		1.39	0.006	0.001	0.099	1.6			
K015307		2.94	0.002	0.001	0.015	<0.2			
K015308		3.45	0.002	<0.001	0.016	<0.2			
K015309		3.32	0.002	0.002	0.015	0.2			
K015310		3.08	0.002	0.002	0.008	0.3			
K015311		2.22	0.003	<0.001	0.010	<0.2			
K015312		2.23	0.002	0.001	0.012	0.4			
K015313		2.24	0.004	0.002	0.012	0.2			
K015314		3.54	0.005	0.004	0.033	0.9			
K015315		2.39	0.007	<0.001	0.013	<0.2			
K015316		3.30	0.002	0.006	0.022	0.9			
K015317		3.62	0.003	0.003	0.021	0.4			
K015318		3.47	0.002	0.001	0.045	0.3			
K015319		3.71	0.001	0.001	0.029	0.4			
K015320		3.73	<0.001	<0.001	0.022	<0.2			
K015321		3.61	0.002	0.002	0.030	0.3			
K015322		3.38	0.003	0.002	0.027	1.0			
K015323		3.61	0.006	0.002	0.024	0.9			
K015324		3.75	0.002	0.001	0.074	1.0			

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SAINT- LAURENT QC H4S 1Z6

Finalized Date: 16- FEB- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12024581

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg 0.02	Cu- AA46 Cu % 0.001	Pb- AA46 Pb % 0.001	Zn- AA46 Zn % 0.001	Ag- AA45 Ag ppm 0.2	Cu- OG62 Cu % 0.001	Zn- OG62 Zn % 0.001	Au- AA23 Au ppm 0.005
K015325		<0.02	1.405	0.144	20.8	34.9	1.450	19.55	0.478
K015326		3.56	0.007	0.003	0.327	1.3			
K015327		3.63	0.008	0.086	0.216	17.4			
K015328		3.66	0.009	0.259	0.275	35.9			

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Finalized Date: 5- MAR- 2012
Account: XSZNEX

CERTIFICATE TB12027386

Project: STURGEON LAKE

P.O. No.:

This report is for 23 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 9- FEB- 2012.

The following have access to data associated with this certificate:

LUCY POTTER

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
PUL- 32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS
TOT- ICP06	Total Calculation for ICP06	ICP- AES

To: XSTRATA ZINC CANADA
ATTN: LUCY POTTER
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 5- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027386

Sample Description	Method	WEI- 21	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	Recvd Wt.	Ag	Ba	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Hf	Ho
	Units	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.02	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05	0.2	0.01
E460758		1.33	<1	360	97.8	2.7	10	0.41	11	9.57	5.62	1.45	19.9	10.25	10.0	1.98
E460759		1.43	<1	336	80.6	3.8	10	0.38	6	7.76	4.90	1.67	19.4	7.47	8.8	1.70
E460760		1.68	<1	211	32.0	26.4	60	0.70	20	3.35	2.08	1.06	17.3	3.52	3.0	0.73
E460761		1.58	<1	241	36.6	24.8	70	0.93	342	3.31	1.92	1.12	18.2	3.89	3.3	0.70
E460762		1.63	<1	85.6	96.8	0.9	<10	0.43	6	9.87	5.58	1.60	19.9	10.30	9.0	2.02
E460763		1.57	<1	66.5	34.3	22.1	50	0.33	32	3.70	2.22	1.17	18.5	4.06	3.6	0.79
E460764		1.71	<1	77.7	35.2	31.5	70	0.46	38	3.59	2.21	1.11	20.1	3.82	3.4	0.76
E460765		1.75	<1	226	32.7	28.7	50	0.82	<5	3.24	1.94	1.09	16.6	3.70	3.0	0.73
E460766		1.47	<1	102.0	37.9	24.5	50	0.89	58	3.94	2.26	1.22	18.7	4.21	3.2	0.84
E460767		1.37	<1	197.0	29.4	26.2	40	0.96	196	3.40	2.03	1.02	17.2	3.72	3.0	0.73
E460768		1.37	<1	141.0	32.6	18.0	50	0.83	<5	3.43	2.02	1.10	17.9	3.82	3.3	0.73
E460769		1.54	<1	143.5	32.5	24.9	50	0.96	<5	3.58	2.12	1.12	17.8	3.85	3.1	0.77
E460770		1.67	<1	227	33.5	15.9	50	1.21	<5	3.62	2.13	1.16	18.1	3.89	3.4	0.79
E460771		1.23	<1	211	36.3	21.5	60	1.16	26	3.43	2.19	1.14	18.5	3.64	3.9	0.75
E460772		1.68	<1	20.6	94.6	1.5	<10	0.46	34	9.17	5.55	2.17	20.6	9.61	10.0	1.95
E460773		1.58	1	498	108.5	1.2	<10	0.65	16	8.76	5.58	1.46	18.2	8.84	10.4	1.92
E460774		1.44	<1	214	97.4	<0.5	<10	0.52	8	8.34	5.46	1.44	18.8	8.59	10.2	1.83
E460775		1.54	<1	199.5	102.5	1.3	<10	0.52	<5	9.64	5.97	1.46	16.0	9.24	9.5	2.11
E460776		1.58	1	266	112.5	1.1	<10	0.80	24	9.57	6.03	1.83	19.0	10.10	10.4	2.08
E460777		1.54	1	73.2	51.6	2.4	10	0.43	7	5.54	3.59	1.08	11.3	5.24	6.6	1.24
E460778		1.57	<1	314	70.5	4.0	10	0.76	10	5.50	3.43	1.45	16.3	5.96	7.6	1.19
E460779		1.87	<1	231	68.2	2.3	10	0.83	<5	4.87	2.91	1.32	17.0	5.55	8.5	1.03
E460780		1.47	1	216	129.0	1.9	<10	1.23	7	9.31	5.32	5.18	29.1	10.70	13.6	1.90

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: XSTRATA ZINC CANADA
8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 5- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027386

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
	Analyte	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOR	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05
E460758		44.3	0.84	3	21.8	47.4	<5	7	12.35	37.0	10.50	3	46.2	1.6	1.55	8.19
E460759		36.2	0.79	2	18.3	37.4	7	5	10.10	31.9	7.42	3	44.8	1.4	1.20	7.20
E460760		14.8	0.31	<2	5.7	15.5	60	12	3.94	40.0	3.50	1	106.5	0.5	0.56	2.58
E460761		17.4	0.31	<2	6.2	17.8	53	20	4.54	53.2	3.93	1	126.0	0.5	0.55	2.74
E460762		44.9	0.82	2	20.1	44.9	<5	12	11.95	16.8	9.95	4	55.4	1.6	1.69	9.03
E460763		16.1	0.34	<2	6.7	16.1	86	8	4.20	13.4	3.65	1	79.9	0.6	0.61	3.01
E460764		16.1	0.33	<2	6.7	17.3	66	9	4.44	17.8	3.72	2	58.6	0.5	0.61	3.06
E460765		15.4	0.31	<2	5.7	15.4	59	7	4.08	34.2	3.40	1	114.0	0.5	0.55	2.59
E460766		17.6	0.35	<2	6.3	18.5	55	7	4.66	33.6	4.16	1	85.2	0.5	0.64	2.76
E460767		13.4	0.32	<2	5.9	14.7	59	8	3.73	35.2	3.27	1	136.0	0.5	0.56	2.61
E460768		14.8	0.32	<2	6.3	15.8	52	8	4.04	33.5	3.45	1	94.5	0.5	0.58	2.82
E460769		14.9	0.32	<2	6.2	15.9	60	10	4.10	37.9	3.67	1	149.0	0.5	0.58	2.71
E460770		15.2	0.33	<2	6.5	16.9	44	16	4.31	54.7	3.84	1	173.0	0.5	0.60	2.84
E460771		17.4	0.32	<2	7.3	18.7	49	28	4.70	52.1	3.95	1	135.0	0.6	0.56	3.21
E460772		45.1	0.81	2	21.3	47.5	<5	15	12.20	3.1	10.40	3	28.5	1.5	1.50	7.67
E460773		51.6	0.85	2	22.6	49.6	<5	52	13.20	50.7	9.91	4	38.3	1.7	1.43	9.27
E460774		45.3	0.85	2	22.1	48.6	<5	20	12.35	30.7	10.10	3	33.1	1.6	1.31	9.17
E460775		48.8	0.83	2	20.5	46.5	<5	43	12.45	38.9	9.35	2	33.8	1.5	1.56	8.37
E460776		52.5	0.89	<2	23.1	54.1	<5	167	14.00	71.4	11.65	3	50.3	1.7	1.58	9.21
E460777		24.2	0.55	<2	14.5	25.3	<5	109	6.57	17.6	5.58	2	55.7	1.0	0.88	5.27
E460778		35.1	0.54	3	16.0	34.1	5	43	8.95	66.9	7.01	4	64.9	1.1	0.92	6.26
E460779		32.9	0.48	<2	16.3	33.3	<5	28	8.71	68.1	7.05	2	67.4	1.1	0.83	6.61
E460780		60.4	0.77	3	31.7	61.7	<5	330	16.10	52.5	12.90	4	203	2.2	1.58	11.20

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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8801 TRANS CANADA HWY
SUITE 400
SAINT- LAURENT QC H4S 1Z6

Finalized Date: 5- MAR- 2012
Account: XSZNEX

Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027386

Sample Description	Method	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06
	Analyte	Tl	Tm	U	V	W	Y	Yb	Zn	Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%
	LOR	0.5	0.01	0.05	5	1	0.5	0.03	5	2	0.01	0.01	0.01	0.01	0.01	0.01
E460758		<0.5	0.82	2.01	<5	1	52.7	5.46	343	382	72.2	11.20	5.71	0.73	3.52	0.19
E460759		<0.5	0.75	1.76	<5	1	45.2	5.15	194	346	74.7	9.52	4.99	1.09	3.93	0.14
E460760		<0.5	0.30	0.58	156	<1	19.0	2.04	77	118	49.5	14.30	8.60	7.29	3.24	1.11
E460761		0.7	0.30	0.60	184	<1	18.7	1.91	121	133	53.7	15.35	8.81	4.89	3.26	1.11
E460762		0.6	0.80	1.28	<5	1	53.8	5.36	65	306	80.3	11.65	1.97	1.31	0.82	0.34
E460763		<0.5	0.34	0.54	164	1	21.5	2.18	153	140	45.6	14.85	9.61	5.19	4.18	0.55
E460764		<0.5	0.31	0.75	178	<1	20.7	2.15	95	130	55.9	15.95	9.38	3.72	3.46	0.80
E460765		<0.5	0.29	0.60	161	1	19.0	1.99	137	117	50.1	13.80	8.65	5.33	5.60	1.37
E460766		<0.5	0.34	0.64	173	<1	22.4	2.22	93	125	52.1	14.75	8.52	4.44	3.43	1.33
E460767		<0.5	0.30	0.57	164	1	19.4	2.00	66	118	50.9	13.60	8.00	6.55	3.64	1.41
E460768		<0.5	0.29	0.55	165	<1	19.0	1.96	40	128	51.8	14.50	7.69	7.08	3.35	1.29
E460769		<0.5	0.30	0.59	161	1	20.2	2.07	61	121	51.8	14.15	8.34	5.86	3.28	1.67
E460770		<0.5	0.32	0.46	151	<1	20.5	2.14	45	133	51.8	14.55	7.34	6.82	2.85	1.80
E460771		<0.5	0.33	0.68	162	1	19.8	2.08	96	144	57.5	16.20	6.78	3.67	1.98	1.59
E460772		<0.5	0.84	1.90	<5	1	51.9	5.35	123	397	70.2	12.75	5.02	2.81	2.53	0.26
E460773		1.2	0.87	2.23	<5	1	50.3	5.62	161	387	80.0	11.30	2.86	0.24	0.96	0.29
E460774		0.7	0.86	2.14	<5	1	49.1	5.44	77	384	80.1	11.45	2.80	0.93	1.38	0.23
E460775		0.9	0.90	2.00	<5	1	55.2	5.58	103	353	78.6	10.60	2.64	0.14	3.45	0.20
E460776		2.6	0.92	2.19	<5	1	55.6	5.76	159	393	77.2	11.70	3.82	0.29	1.78	0.28
E460777		4.0	0.56	1.53	<5	1	34.3	3.53	114	279	87.7	7.42	2.12	0.92	0.52	0.26
E460778		12.2	0.54	2.95	11	1	32.9	3.48	271	293	73.5	11.20	3.98	2.45	1.35	0.17
E460779		3.4	0.44	1.15	13	1	26.4	3.02	56	343	75.2	11.60	4.04	1.58	1.13	0.25
E460780		4.8	0.79	2.91	<5	2	47.0	5.02	126	438	64.2	19.05	6.84	1.16	1.14	1.36

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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Finalized Date: 5- MAR- 2012
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Project: STURGEON LAKE

CERTIFICATE OF ANALYSIS TB12027386

Sample Description	Method	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	OA- GRA05	TOT- ICP06
	Analyte	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	Units	%	%	%	%	%	%	%	%	%
	LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E460758		1.55	<0.01	0.21	0.06	0.06	0.01	0.05	3.80	99.29
E460759		1.27	<0.01	0.18	0.07	0.02	0.01	0.04	4.36	100.32
E460760		1.40	0.01	0.80	0.14	0.15	0.01	0.02	12.70	99.27
E460761		1.85	0.01	0.86	0.12	0.17	0.01	0.03	9.69	99.86
E460762		0.60	<0.01	0.23	0.02	0.06	0.01	0.01	1.77	99.09
E460763		0.48	0.01	0.87	0.16	0.15	0.01	0.01	11.15	92.82
E460764		0.60	0.01	0.89	0.10	0.18	0.01	0.01	7.99	99.00
E460765		1.05	0.01	0.80	0.10	0.15	0.01	0.03	11.20	98.20
E460766		1.04	0.01	0.87	0.11	0.16	0.01	0.01	9.72	96.50
E460767		1.04	0.01	0.75	0.11	0.14	0.02	0.02	12.50	98.69
E460768		1.01	0.01	0.81	0.11	0.16	0.01	0.02	12.20	100.04
E460769		1.13	0.01	0.82	0.10	0.15	0.02	0.02	11.10	98.45
E460770		1.59	0.01	0.84	0.13	0.18	0.02	0.02	11.80	99.75
E460771		1.63	0.01	0.89	0.09	0.17	0.02	0.02	7.88	98.43
E460772		0.10	<0.01	0.29	0.13	0.02	<0.01	<0.01	4.79	98.90
E460773		1.85	<0.01	0.22	0.03	0.02	<0.01	0.05	2.49	100.31
E460774		1.06	<0.01	0.21	0.04	0.02	<0.01	0.02	2.14	100.38
E460775		1.48	<0.01	0.20	0.07	0.01	<0.01	0.02	2.97	100.38
E460776		2.46	<0.01	0.22	0.09	0.03	0.01	0.03	3.56	101.47
E460777		0.59	<0.01	0.17	0.01	0.03	0.01	0.01	1.97	101.73
E460778		2.37	<0.01	0.35	0.13	0.05	0.01	0.03	5.03	100.62
E460779		2.48	<0.01	0.34	0.07	0.06	0.01	0.03	4.31	101.10
E460780		1.58	<0.01	0.44	0.02	0.04	0.02	0.02	5.41	101.28