



**Report
Independent Channel
Sampling on the
Zeus Property in
Témiscamingue for
Matamec Exploration Inc.**

Respectfully submitted to:
Matamec Exploration Inc.

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Table of Contents

Table of Contents	ii
List of Tables	iii
List of Figures.....	iv
1- Introduction	1
2- Independent Channel Sampling.....	3
2.1- Results	5
2.2- Comparison with 1990 results	7
2.3- Note on 1988 and 1990 bulk samples	9
2.4- Note on Uranium and Thorium Concentrations.....	9
3- Conclusion and recommendations	10
Appendix A New and Historic Maps of Sampling Sites.....	21
Appendix B Analysis methods.....	30
Appendix C Certificates of Analysis	31

List of Tables

Table 1: Summary of Channel Samples.....	4
Table 2: Summary of results for Y, Zr, LREE, HREE, TREE, U and Th.....	5
Table 3: Summary of results (%), averaged by trench	6
Table 4: Historic bulk samples (%)	9
Table 5: GPS coordinates of the samples 501 to 608 (NAD83, UTM zone 17).....	15
Table 6: Rare earth analysis - samples 501 to 608.....	17
Table 7: Whole rock analysis - samples 501 to 608	19

List of Figures

Figure 1: Location of the Zeus property	1
Figure 2. Location of Matamec claims and showings.....	2
Figure 3: Paired comparison of 1990 Unocal and 2008 SGS Geostat Y results	7
Figure 4: Paired comparison of 1990 Unocal and 2008 SGS Geostat Zr results.....	8
Figure 5: Pictures of Sample Bags along the Channels	11
Figure 6: Pictures of Sample Bags along the Channels with Geologist and Technician	12
Figure 7: Breakage of the Rock Already Cut	13
Figure 8: Technicians Putting Rock Samples in Appropriate Bags	13
Figure 9: Rice Bags Containing Individual Sample Bags.....	14
Figure 10: Pit Excavated by Collectors.....	14
Figure 11: Map and assay values of sampling in trench T-1 - 2008.....	22
Figure 12: Map of sampling in trench T-1 - 1990	23
Figure 13: Map and assay values of sampling in trench T-3 - 2008.....	24
Figure 14: Map of sampling in trench T-3 - 1990	25
Figure 15: Map and assay values of sampling in trench T-8 - 2008.....	26
Figure 16: Map of sampling in trench T-8 - 1990	27
Figure 17: Map and assay values of sampling in trench T-11 - 2008	28
Figure 18: Map of sampling in trench T-11 – 1990	29

1- Introduction

On October 27th 2008 M. André Gauthier from Matamec Explorations Inc mandated SGS Geostat to supervise channel sampling on the Zeus property. SGS Geostat is independent from Matamec Explorations.

The Zeus property is situated approximately 160 km south-east of Rouyn-Noranda, at the junction of NTS map sheets 31L/15 and 31L/16 (Figure 1). The property is 100% owned by Matamec Explorations and is composed of 260 designated claim cells comprising more than 15,303 hectares (Figure 2). It includes seven rare earth and yttrium showings as well as a deposit with historical resources in yttrium and zirconium (Sheffield Deposit: 2.27 Mt @ 0.15 % Y₂O₃ and 1.05 % ZrO₂). In addition to historic diamond drill holes, thirteen 100-meter trenches have been dug and channel sampled on the Sheffield deposit. Matamec plans to have NI 43-101 compliant resources in the next year and this independent re-sampling of four of the thirteen trenches is the first step in this process. This report is not a Technical Report NI 43-101.



Figure 1: Location of the Zeus property
Modified from Google Maps (2008)

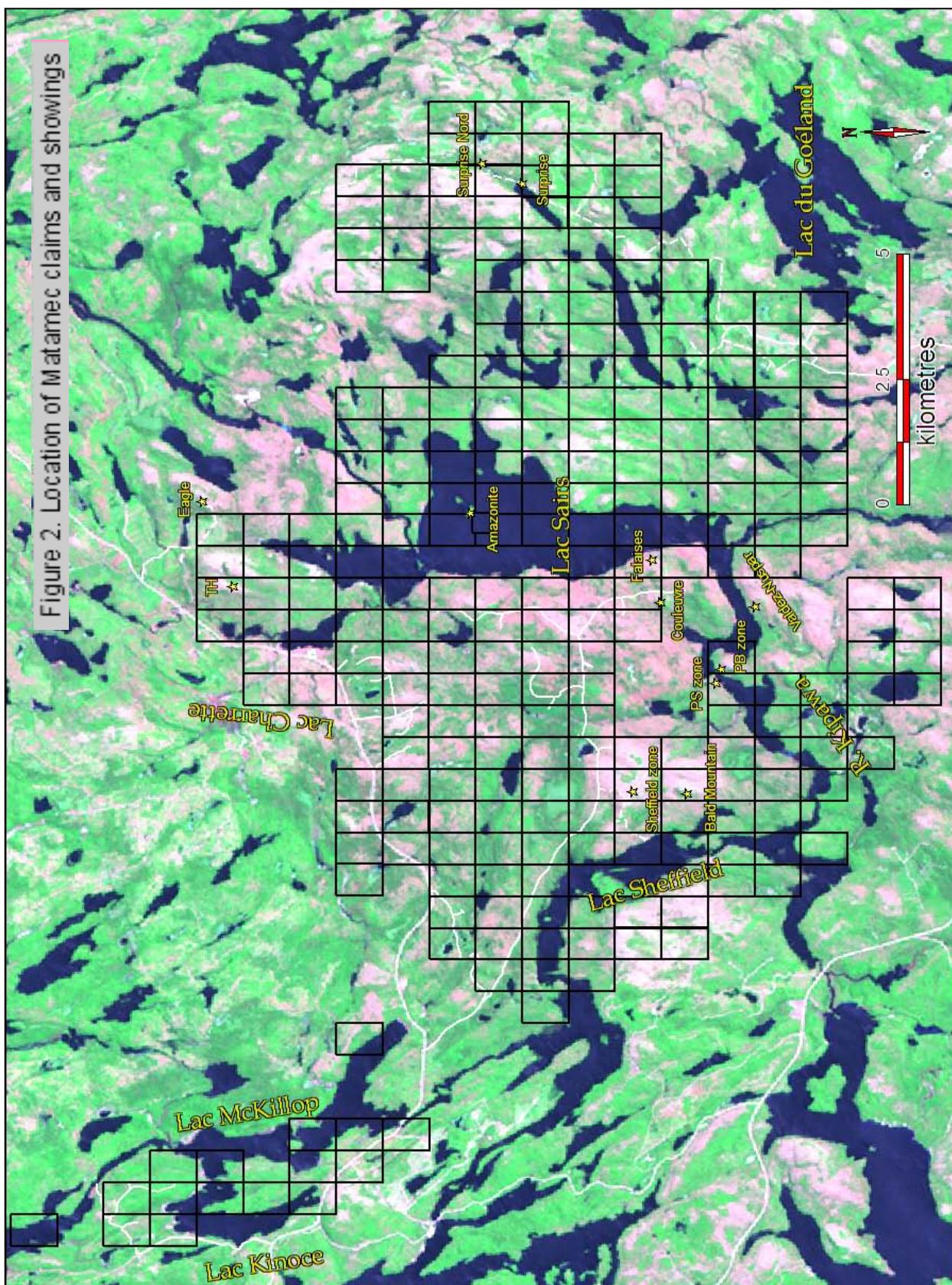


Figure 2. Location of Matamec claims and showings

2- Independent Channel Sampling

Historical 1990 trenching is described in the March 1991 report by J.F. Allan Mineral Consultants Ltd. "Report on the 1990 Exploration Program on the Kipawa Yttrium-Zirconium Property" (GM50480). At the time, a total of 13 trenches were opened and 666.5m of channels were cut with a rock saw. Samples were tested for Yttrium (Y) and Zirconium (Zr). A total of six 300 to 800 lbs bulk samples and four 50 lbs bulk samples were also blasted from the trenches at that time. Four of these were analyzed for Y and Zr and three were analysed for Y, Zr and the lanthanide series of rare earths.

In the sampling described here, four trenches with four channels were reproduced by Matamec in order to verify previous historic results and to test rare earth element distribution over their entire length. Two trenches tested the width of the Western Sheffield Zone (trenches T-1 and T-3), one tested the Eastern Sheffield Zone (T-8) and the last tested the zone between the two (trench T-11). The middle zone has no calculated historic resources.

Over two days, Yann Camus ing. from SGS-Geostat (Independent qualified person by NI 43-101 standards) took charge of the sampling with help from geologist Frédéric Fleury and technicians employed by Matamec.

The author arrived on site on the morning of November 11th. The author and Matamec's crew of four walked the 500m from the dirt logging road to the first sampling site at trench T-1. Almost all the saw cuts were ready for the sampling phase on each trench. The author and M. Fleury identified the start and finish of each sample with spray paint and crosscutting saw cuts to make sure that exact sample location could be found again. The author and M. Fleury then labelled plastic bags with tag numbers, inserted the reinforced paper tags in the bags and put the bags along the channel at the location of the corresponding sample (see Figures 5 and 6). Each sample was described in the label booklet and in the author's field notebook. M. Fleury also noted the relative position of each channel segment and took GPS points at the beginning and end of each of these segments with a handheld Garmin 60Cx (10m precision 95% of the time).

Geology technicians then broke the rock using chisel and hammer and put it in the corresponding bags (see Figures 7 and 8). Bags were tied shut using electric tape and each 3 to 5 bags were put in bigger rice bags that were tied shut using tie-wrap. The rice bags were identified in a sequence from #1 to #28. These bags were taken on an all-terrain vehicle to the author's pickup truck (see Figure 9).

On trench T-1 (Figures 11 and 12), 5 historic sample locations (8m) were covered by blocks and impossible to sample. The blocks came from a small blast pit opened by mineral collectors immediately to the side of the trench (see Figure 10). 36 samples were taken on this trench corresponding to 36 samples from 1990.

On trench T-3 (Figures 12 and 13), 27 samples correspond to 27 samples from 1990.

On trench T-11 (Figures 17 and 18), 18m of historic sample locations were either covered in debris from the drill trail or were collection sites of 1991 bulk samples, the irregular blast surface

making re-channelling difficult without some re-trenching. 29 samples were taken and correspond to 27 of the 38 samples channelled in 1990. Correspondences are not obvious simply looking at the maps. A professional survey of all the work presently visible from 1990 and 2008 would help to make sure the correct samples are compared.

On trench T-8 (Figures 15 and 16), another bulk sample site prevented the gathering of some samples. 16 samples were taken and correspond to 13 of the 22 channel samples from 1990.

The table below summarizes the sampling and table 5 lists all sample locations.

Table 1: Summary of Channel Samples

Date of sampling	Trench	Number of samples	Length Sampled (m)	Samples
2008-11-11	T-1	36	68.0	501 ... 536
2008-11-11	T-3	27	53.4	537 ... 563
2008-11-11	T-11	29	56.2	564 ... 592
2008-11-12	T-8	16	30.8	593 ... 608
TOTAL		108	208.4	

On November 12th 2008 the 28 rice bags containing the samples were taken directly to SGS Geostat office under the author's supervision.

The memorandum about Lanthanide Standards written by Alex W. Knox for Unocal 76 dated March 5 1990 shows samples assayed using different method. This data was used for the selection of the most appropriate analysis method. After negotiation of the best laboratory package for the samples, the rice bags were shipped from SGS Geostat office to SGS Lakefield in Ontario for analysis. X-ray diffraction (XRF, method XRF6Z) was used to analyse for the rare earths lanthanides (Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Th, Tm, U, Y and Yb), while inductively coupled plasma-mass spectrometry (ICP-MS with method IMS95R) was used for major and some trace elements (Al_2O_3 , BaO , CaO , Ce_2O_3 , Cr_2O_3 , Fe_2O_3 , K_2O , MgO , MnO , Na_2O , P_2O_5 , SiO_2 , SrO , TiO_2 , ThO_2 , U_3O_8 , V_2O_5 , Y_2O_3 , ZrO_2). Exact methods used are described in Appendix B.

2.1- Results

Results for significant economic elements are summarized on Table 2 while Table 3 summarizes results for those same elements grouped by trench. All analysis are fully listed in tables 6 and 7 with the certificates of analysis located in Appendix C. The following stoichiometric values were used in all calculations $Y = 0.7874 \times Y_2O_3$, $Ce = 0.8538 \times Ce_2O_3$, $Th = 0.8788 \times ThO_2$, $Zr = 0.7403 \times ZrO_2$.

Internal validation of 2009 results was made by SGS. Lab duplicates proved to repeat results adequately in all cases. Because cerium, thorium, yttrium and uranium were available by XRF as well as by IMS, SGS verified that results were consistent between the two methods.

Table 2: Summary of results for Y, Zr, LREE, HREE, TREE, U and Th

Element	Min	Max	Avg	Mode	Distribution (Frequency histograms)**
Y	0.002	0.76	0.10	0.02	
Zr	<0.07	2.77	0.79	0.42	
LREE*	0.007	2.71	0.39	0.01	
HREE*	0.002	0.26	0.06	0.03	
Total REE	0.009	2.85	0.45	0.01	
U	0.000	0.03	0.004	0.002	
Th	0.001	0.36	0.04	0.018	

* = Light rare earths(LREE) = La to Gd, Heavy rare earths(HREE) = Tb to Lu.

** = Isolated extreme values ("outliers") have been eliminated to give a better idea of the shape of the distributions.

Best intervals are : 0.21% Y, 0.53 % Zr, 0.85 % LREE and 0.11 % LREE over 33 m in trench T-1.

0.15 % Y, 0.77 % Zr, 0.37 % LREE and 0.08 % HREE over 24.2 m in trench T-3, including 4 meters at 0.28 % Y, 0.64 % Zr, 0.61 % LREE and 0.15 % HREE.

0.17 % Y, 0.31 % Zr, 0.75 % LREE and 0.08 % HREE over 8 m, as well as 0.05 % Y, 1.08 % Zr, 0.25 % LREE and 0.03 % HREE over 18 m in trench T-11.

0.17 % Y, 0.63 % Zr, 0.62 % LREE and 0.09 % HREE over 28.8 m in trench T-8, including 18 meters at 0.24 % Y, 0.74 % Zr, 0.78 % LREE and 0.12 % HREE.

Table 3: Summary of results (%), averaged by trench

Trench	T-1	T-3	T-11	T-8
Zone	West	West	Central	East
Sample length	68.0	53.4	56.2	30.8
Y	0.13	0.09	0.06	0.17
Zr	0.61	0.87	1.00	0.65
LREE*	0.50	0.29	0.24	0.58
HREE*	0.07	0.05	0.03	0.09
Total REE	0.57	0.34	0.27	0.67
U	0.004	0.004	0.003	0.007
Th	0.04	0.03	0.03	0.06

* = Light rare earths(LREE) = La to Gd, Heavy rare earths(HREE) = Tb to Lu.

2.2- Comparison with 1990 results

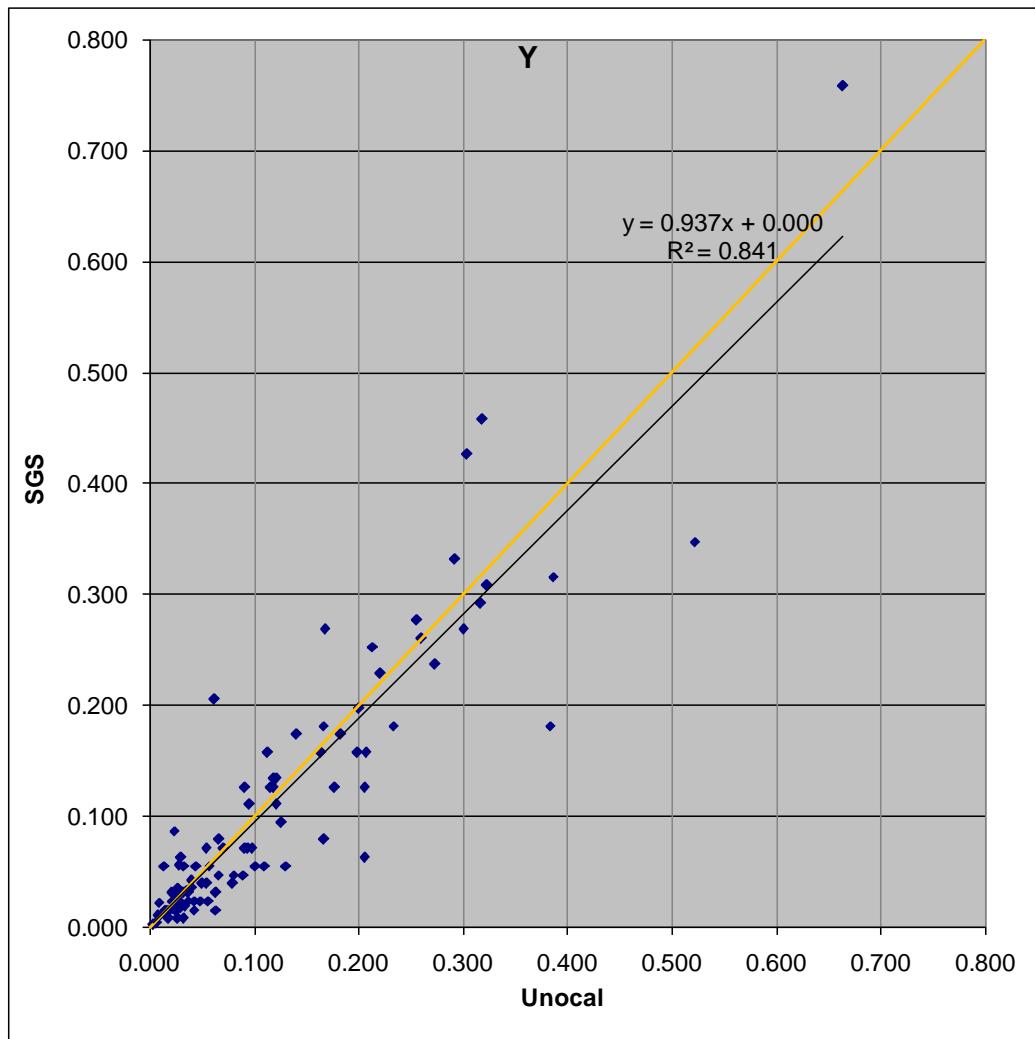


Figure 3: Paired comparison of 1990 Unocal and 2008 SGS Geostat Y results

For yttrium (Y), we find an acceptable correlation coefficient (0.917) between 1990 data by Unocal and 2008 data by SGS with a good coefficient of determination (R^2) of 0.841 (Figure 3). Also, out of 101 samples compared between 1990 and 2008, we find 41 samples superior in 2008, 59 samples lower in 2008 and 1 sample exactly equal. A sign test reveals that we cannot affirm that 1990 results are different from 2008 results. We have to accept that results are confirmed.

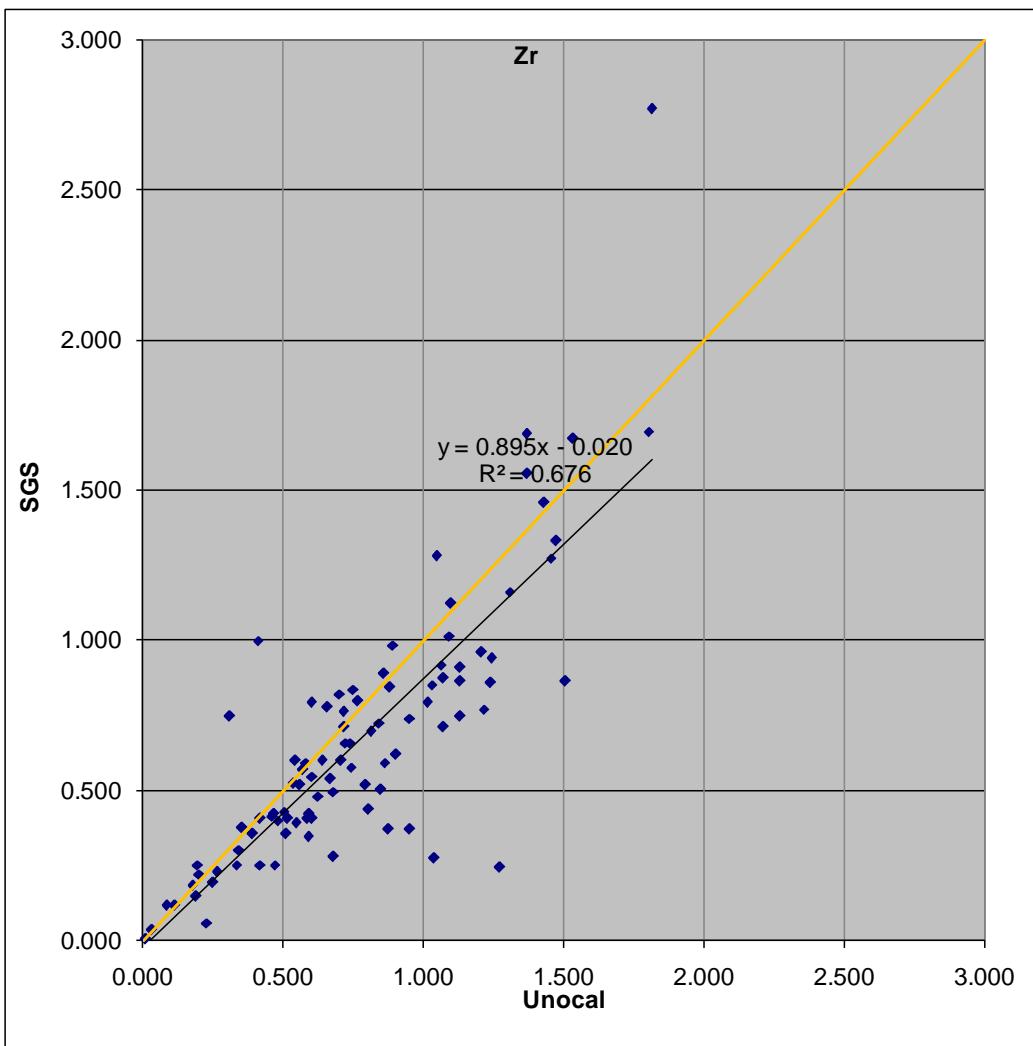


Figure 4: Paired comparison of 1990 Unocal and 2008 SGS Geostat Zr results

For zirconium (Zr), we find an unacceptable correlation coefficient of 0.823 between 1990 data by Unocal and 2008 data by SGS with low coefficient of determination (R^2) of 0.676 (Figure 4). This means that dispersion of pairs (1990 values vs 2008 values) is important. Also, out of 101 samples compared between 1990 and 2008, we find 26 samples superior in 2008, 67 samples lower in 2008 and no sample exactly equal. A paired T test also concludes that the average of samples from 2008 is significantly lower than the average of samples from 1990. We can affirm that 2008 results are lower than those from 1990. It is called a bias and is evaluated at 15%.

About this bias: the 1990 channel and the 2008 channel are at the same location (they share one of the saw cuts). We expect the grades not to have changed between 1990 and 2008. We therefore have to blame laboratory procedures for the bias. Since the 2 internal duplicates (579 and 599) show little variation, we need to blame one or a combination of the following for a bias in Zr:

- 1- The lab preparation of the 1990 samples
- 2- The lab preparation of the 2008 samples
- 3- The type of analysis or calibration for the 1990 samples
- 4- The type of analysis or calibration for the 2008 samples

The dispersion of Zr values in each pair is important. The variations are either due to geology or to laboratory procedures. We have to ask ourselves what part is natural and what part is due to laboratory procedures. Since lab duplicates on samples 579 and 599 give very consistent results, we know that the very last step (after the pulverization) of the lab analysis does not explain the whole variation. We therefore need to blame one or a combination of the following for variable results of Zr:

- 1- The geological variation at minimal distance (nugget effect)
- 2- The lab preparation of the 1990 samples
- 3- The lab preparation of the 2008 samples

2.3- Note on 1988 and 1990 bulk samples

As previously noted, historic blast sites (used to collect historic bulk samples) could not be re-sampled due to highly-irregular trench floors. Attempts to evaluate the potential of trenches T-8 and T-11 must take these missing lengths into account, especially as bulk results along the missing sections are significantly higher than the average value of their respective trench (see Table 4).

Table 4: Historic bulk samples (%)

Bulk	KBS-2	KBS-3	KBS-5
Trench	T-8	T-11	T-11
Y	0.54	0.26	0.43
Zr	0.38	0.30	0.71
LREE			
HREE			
TREE			
U			
Th	0.07	0.03	0.03

Source = *Sulfuric Acid Leaching of Kipawa Yttrium*, Mountain States R&D International, 1991

2.4- Note on Uranium and Thorium Concentrations

Because of dangers related to radioactivity, low radioactive content can reduce treatment cost, diminishes environmental concerns and simplifies waste storage.

Maximum uranium concentration found is 0.04 % U₃O₈ with an average value of 0.005 % U₃O₈. The minimum concentration for exploitation is about 0.05 % U₃O₈. Values found are well below economical grade.

Maximum thorium concentration found is 0.41 % ThO₂ with an average value of 0.045 % ThO₂. In the Steenkampskaal thorium mine, thorium is 2.5% and is only considered a by-product.

For both uranium and thorium, the dangers at these concentrations are when ingested. If mining was contemplated, some measures could easily be implemented to protect worker from dangerous exposition. SIMDUT limits for aerial particles in regular working environment is about 0.02 mg/m³ Th or U. Simple precautions are to protect from contact, use eye protection, have good ventilation or use respiratory protective devices and wear protective clothing. Efforts should be done to watch any presence of pulverized rock when working, to wash any rock dust from hands and protect food before eating, etc.

3- Conclusion and recommendations

The 108 samples confirmed the high mineralization in rare earth especially for Ce (cerium), Dy (dysprosium), Er (erbium), Gd (gadolinium), La (lanthanum), Nd (neodymium), Pr (praseodymium), Sm (samarium), Y (yttrium) and Zr (zirconium).

These samples should be entered in a database containing spatial and dimensioning information to eventually be used in resource estimation.

Especially for a deposit of this type, principal components analysis would reveal what mineral are associated and which are independents. This would help understanding the deposit. In order to respect the association of rare earth minerals during a resource estimate for example, the estimation can be done through principal components.

A professional survey is recommended by SGS Geostat during the summer of 2009. This survey will establish exact locations for all channel samples taken in 2008 and allow accurate resource calculations.

This report has been prepared by Yann Camus, Eng. on June 16th, 2009

A handwritten signature of "Yann Camus" in black ink. To the left of the signature is a circular blue official seal or stamp. The seal contains the text "INGÉNIEUR ENG. 123443 QUÉBEC" around the perimeter, with "Yann CAMUS" in the center.

Yann Camus, Eng.



Figure 5: Pictures of Sample Bags along the Channels



Figure 6: Pictures of Sample Bags along the Channels with Geologist and Technician



Figure 7: Breakage of the Rock Already Cut



Figure 8: Technicians Putting Rock Samples in Appropriate Bags



Figure 9: Rice Bags Containing Individual Sample Bags



Figure 10: Pit Excavated by Collectors

Table 5: GPS coordinates of the samples 501 to 608 (NAD83, UTM zone 17)

Project	Matamec	Zeus	Coordinates			
Sample ID	Trench	Part	FROM (m)	TO (m)	Coordinates FROM East (m)	Coordinates TO North (m)
501	T01	A	0	2	690383.0	5186781.4
502	T01	A	2	4	690384.2	5186783.0
503	T01	A	4	6	690385.4	5186784.6
504	T01	A	6	8	690386.6	5186786.3
505	T01	A	8	10	690387.8	5186787.9
506	T01	A	10	12	690389.0	5186789.5
507	T01	A	12	14	690390.3	5186791.1
508	T01	A	14	16	690391.5	5186792.7
509	T01	B	0	2	690391.5	5186795.8
510	T01	B	2	4	690392.8	5186797.3
511	T01	B	4	6	690394.1	5186798.8
512	T01	C	0	2	690397.3	5186799.2
513	T01	C	2	4	690398.6	5186800.7
514	T01	D	0	2	690398.5	5186803.1
515	T01	D	2	4	690399.9	5186804.5
516	T01	D	4	6	690401.2	5186806.0
517	T01	D	6	8	690402.6	5186807.5
518	T01	E	0	1	690404.8	5186809.7
519	T01	E	1	3	690405.7	5186810.1
520	T01	E	3	5	690407.5	5186811.0
521	T01	E	5	7	690409.3	5186812.0
522	T01	E	7	9	690411.1	5186812.9
523	T01	E	9	11	690412.9	5186813.8
524	T01	E	11	13	690414.7	5186814.7
525	T01	E	13	15	690416.5	5186815.6
526	T01	E	15	16	690418.3	5186816.5
527	T01	F	0	2	690418.2	5186818.1
528	T01	F	2	3	690419.9	5186819.0
529	T01	G	0	2	690421.4	5186821.1
530	T01	G	2	4	690422.8	5186823.2
531	T01	G	4	6	690423.6	5186824.5
532	T01	G	6	8	690424.7	5186826.2
533	T01	G	8	10	690425.8	5186827.9
534	T01	H	0	2	690429.9	5186834.7
535	T01	H	2	4	690431.0	5186836.4
536	T01	H	4	5	690432.1	5186838.1
537	T03	A	0	2	690636.2	5186745.6
538	T03	A	2	4	690637.4	5186747.2
539	T03	A	4	6	690638.6	5186748.9
540	T03	A	6	8	690639.7	5186750.5
541	T03	A	8	10.2	690640.9	5186752.1
542	T03	B	0	2	690640.9	5186754.9
543	T03	B	2	4	690642.2	5186756.5
544	T03	B	4	6	690643.4	5186758.1
545	T03	B	6	8	690644.7	5186759.6
546	T03	B	8	10	690646.0	5186761.2
547	T03	B	10	12	690647.3	5186762.7
548	T03	B	12	14	690648.6	5186764.3
549	T03	B	14	16	690649.9	5186765.9
550	T03	B	16	17	690651.1	5186767.4
551	T03	C	0	2	690653.6	5186770.5
552	T03	C	2	4	690654.8	5186772.0
553	T03	C	4	6	690656.1	5186773.6
554	T03	C	6	8	690657.4	5186775.1
555	T03	C	8	10	690658.6	5186776.7

Project	Matamec	Zeus								
Sample ID	Trench	Part	FROM (m)	TO (m)	Coordinates FROM		Coordinates TO			
					East (m)	North (m)	East (m)	North (m)		
556	T03	C	10	12	690659.9	5186778.3	690661.2	5186779.8		
557	T03	C	12	14	690661.2	5186779.8	690662.4	5186781.4		
558	T03	C	14	16	690662.4	5186781.4	690663.7	5186783.0		
559	T03	C	16	18	690663.7	5186783.0	690665.0	5186784.5		
560	T03	C	18	20	690665.0	5186784.5	690666.3	5186786.1		
561	T03	C	20	22	690666.3	5186786.1	690667.5	5186787.6		
562	T03	C	22	24	690667.5	5186787.6	690668.8	5186789.2		
563	T03	C	24	26.2	690668.8	5186789.2	690670.2	5186790.9		
564	T11	A	0	2	691165.2	5186460.2	691163.7	5186458.9		
565	T11	A	2	4	691163.7	5186458.9	691162.2	5186457.5		
566	T11	A	4	6	691162.2	5186457.5	691160.8	5186456.1		
567	T11	A	6	8	691160.8	5186456.1	691159.3	5186454.7		
568	T11	A	8	10	691159.3	5186454.7	691157.9	5186453.3		
569	T11	A	10	12	691157.9	5186453.3	691156.4	5186452.0		
570	T11	A	12	14	691156.4	5186452.0	691154.9	5186450.6		
571	T11	A	14	16	691154.9	5186450.6	691153.4	5186449.2		
572	T11	A	16	18	691153.4	5186449.2	691152.0	5186447.8		
573	T11	A	18	20	691152.0	5186447.8	691150.5	5186446.4		
574	T11	A	20	22.2	691150.5	5186446.4	691148.9	5186444.9		
575	T11	B	0	2	691148.0	5186445.5	691146.7	5186444.1		
576	T11	B	2	4	691146.7	5186444.1	691145.3	5186442.6		
577	T11	B	4	6	691145.3	5186442.6	691143.9	5186441.1		
578	T11	B	6	7.8	691143.9	5186441.1	691142.7	5186439.7		
579	T11	C	0	2	691141.3	5186437.5	691139.9	5186436.0		
580	T11	C	2	4	691139.9	5186436.0	691138.5	5186434.5		
581	T11	D	0	2	691139.6	5186433.5	691138.3	5186431.9		
582	T11	D	2	4	691138.3	5186431.9	691137.1	5186430.3		
583	T11	D	4	6.2	691137.1	5186430.3	691135.7	5186428.6		
584	T11	E	0	2	691136.6	5186428.1	691135.4	5186426.5		
585	T11	E	2	4	691135.4	5186426.5	691134.1	5186424.9		
586	T11	E	4	6	691134.1	5186424.9	691132.9	5186423.3		
587	T11	E	6	8	691132.9	5186423.3	691131.6	5186421.8		
588	T11	E	8	10	691131.6	5186421.8	691130.4	5186420.2		
589	T11	E	10	11	691130.4	5186420.2	691129.7	5186419.4		
590	T11	F	0	1	691130.5	5186418.8	691129.9	5186418.1		
591	T11	F	1	3	691129.9	5186418.1	691128.6	5186416.6		
592	T11	F	3	5	691128.6	5186416.6	691127.3	5186415.0		
593	T08	A	0	2	691443.9	5186181.2	691442.6	5186179.7		
594	T08	A	2	4	691442.6	5186179.7	691441.3	5186178.2		
595	T08	A	4	6	691441.3	5186178.2	691440.0	5186176.6		
596	T08	A	6	8	691440.0	5186176.6	691438.7	5186175.1		
597	T08	A	8	10	691438.7	5186175.1	691437.5	5186173.5		
598	T08	A	10	12	691437.5	5186173.5	691436.1	5186172.0		
599	T08	A	12	14	691436.1	5186172.0	691434.9	5186170.4		
600	T08	B	0	2	691436.1	5186169.6	691435.0	5186167.9		
601	T08	B	2	4	691435.0	5186167.9	691433.9	5186166.2		
602	T08	B	4	6	691433.9	5186166.2	691432.8	5186164.5		
603	T08	B	6	8	691432.8	5186164.5	691431.7	5186162.9		
604	T08	B	8	9	691431.7	5186162.9	691431.1	5186162.0		
605	T08	C	0	1	691430.3	5186162.0	691429.3	5186161.9		
606	T08	D	0	2	691428.0	5186161.5	691426.8	5186159.9		
607	T08	D	2	4.5	691426.8	5186159.9	691425.3	5186158.0		
608	T08	E	0	2.3	691424.7	5186157.1	691423.3	5186155.3		

Table 6: Rare earth analysis - samples 501 to 608

Project	Matamec	Zeus	BEST	BEST	BEST	XRF	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R	IMS95R
METHOD	BEST	BEST	BEST	BEST	0.01	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.1	0.05	0.1	0.05	0.05	0.05	0.1
DETECTION	CHOICE	CHOICE	CHOICE	CHOICE															
ANALYTE	Sample ID	Ce2O3	ThO2	Y2O3	U3O8	ZrO2	Dy	Er	Eu	Gd	Ho	La	Lu	Nd	Pr	Sm	Tb	Tm	Yb
UNITS	cerium	thorium	yttrium	uranium	zirconium	dysprosium	erbium	europeum	gadolinium	holmium	lanthanum	lutetium	neodymium	praseodymium	samarium	terbium	thulium	ytterbium	
Interesting Value	*	*	*	0.06	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Maximum value	2.190	0.410	0.960	0.040	3.74	839	991	155	982	315	6260	99.6	8210	831	902	204	147	855	
SMP	501	0.020	0.001	0.029	0.000	0.34	36.6	29.9	3.07	31.3	8.59	133	7.4	107	28.1	26.1	5.82	5.41	44.4
SMP	502	0.210	0.020	0.020	0.010	0.3	135	64	18.7	150	25.5	712	6.03	729	189	159	24.2	8.14	46.4
SMP	503	0.290	0.020	0.040	0.020	0.16	160	71.2	24.5	191	29.4	1130	3.99	1040	280	210	30	8.19	38.6
SMP	504	0.390	0.050	0.320	0.030	0.37	562	327	56.9	500	116	1560	24.7	1810	457	445	88.7	43.6	232
SMP	505	0.360	0.060	0.370	0.010	0.81	601	369	58.5	505	129	1440	30	1830	454	453	93.1	49.8	269
SMP	506	0.260	0.040	0.350	0.010	0.71	556	349	47	418	119	1040	28.3	1330	326	361	82	47.8	259
SMP	507	0.280	0.010	0.230	0.010	0.8	407	248	37.6	336	86.1	777	21.3	1110	266	302	62.4	33.9	190
SMP	508	0.230	0.030	0.340	0.010	1.13	470	302	41.2	366	103	709	27.2	1100	259	305	70.7	42.4	236
SMP	509	0.170	0.010	0.070	0.003	1.33	199	117	19.8	169	40.7	462	12.8	618	151	159	31.2	17	99.5
SMP	510	0.170	0.080	0.300	0.010	0.7	425	280	35.1	320	92.8	616	28.4	890	212	257	62.4	39.3	227
SMP	511	0.510	0.100	0.250	0.010	0.81	437	277	44.4	386	93.2	2370	29.8	1730	480	371	69.4	39.9	237
SMP	512	1.370	0.250	0.540	0.030	1.07	839	447	104	875	163	6260	33.5	4550	>1000	902	145	57.3	307
SMP	513	0.030	0.110	0.030	0.020	0.54	47.7	37.5	5.01	42.1	11	211	9.47	173	45.1	38.2	7.44	7.13	57.4
SMP	514	0.070	0.070	0.100	0.003	0.5	131	101	11.1	101	31	402	16	351	91.9	87	19.4	16	109
SMP	515	0.480	0.080	0.390	0.010	0.53	639	386	65.3	556	135	2150	32.1	2160	542	509	101	52.2	280
SMP	516	2.190	0.300	0.580	0.040	0.16	>1000	573	155	>1000	220	>10000	35.8	8210	>1000	>1000	204	70.7	351
SMP	517	0.530	0.040	0.330	0.006	0.57	500	304	54.3	478	106	2650	28.6	2070	564	458	81.3	41.8	241
SMP	518	0.610	0.040	0.140	0.010	1.73	395	208	54.6	424	76.1	3240	17.9	2340	658	473	71	26.3	146
SMP	519	0.280	0.020	0.090	0.020	0.96	167	90	21.9	174	33.3	1210	8.64	893	252	185	28.9	11.6	65.8
SMP	520	0.150	0.030	0.090	0.010	1.16	158	103	17	143	34	677	12.6	601	161	136	25.3	15.3	94.4
SMP	521	0.140	0.070	0.030	0.002	0.84	103	69.5	10.5	89.4	22.1	322	10.8	352	89.9	82.6	16.2	10.9	73.6
SMP	522	0.110	0.030	0.100	0.002	0.34	115	83.2	11.3	92.8	26.2	562	9.43	408	115	89.4	17.4	12.8	76.2
SMP	523	0.030	0.010	0.040	0.010	0.25	77.6	58.4	6.74	56.4	18.1	246	7.19	211	57.4	52.5	11.5	9.17	57.7
SMP	524	0.120	0.030	0.070	0.002	0.31	98.9	63.9	10.2	87.7	21.8	422	8.27	383	102	85.8	15.8	9.64	62.2
SMP	525	0.050	0.040	0.071	0.010	0.33	104	69.9	10.4	88.5	22.6	346	11.7	345	88.9	82.4	16.1	10.8	76.9
SMP	526	0.120	0.010	0.052	0.003	1.83	91.3	61	9.94	81.3	20	356	11.8	360	93.3	82.8	14.6	10.1	75.5
SMP	527	0.080	0.020	0.020	0.010	0.67	86.7	53.6	10.1	80.6	17.8	298	7.88	352	88.2	81.8	14	8.33	55.7
SMP	528	0.050	0.020	0.014	0.010	0.56	23.5	14	3.01	24.6	4.66	127	3.07	124	32.4	25.2	4	2.26	18
SMP	529	0.050	0.010	0.046	0.002	2.9	82.2	59.1	7.69	61.6	18.2	158	10.7	200	49.4	53.9	12	9.95	72.4
SMP	530	0.080	0.020	0.029	0.001	1.24	62.9	42.6	7.91	57.9	13.3	280	10.8	283	75.1	61.9	10.3	7.65	63.3
SMP	531	0.040	0.010	0.070	0.002	0.78	114	97.7	10.2	81.3	27.9	411	18.6	341	92.8	80	16.2	17.2	123
SMP	532	0.090	0.003	0.034	0.001	0.89	70.2	46.8	8.7	66.2	14.8	283	10.6	295	77.5	69.4	11.5	8.16	65.6
SMP	533	0.060	0.020	0.090	0.010	0.55	127	81.7	13.3	109	27.3	377	10.4	430	108	106	20.2	12.1	77.4
SMP	534	0.120	0.010	0.200	0.002	1.08	286	224	21.7	187	67.4	443	29.6	558	140	158	38.5	36	226
SMP	535	0.150	0.020	0.160	0.003	1.72	270	208	22.2	191	63.8	443	25.8	583	141	162	38.6	32.1	202
SMP	536	0.040	0.020	0.054	0.010	1.8	81.5	65.1	6.59	52.9	19.2	147	12.6	196	48.4	50.9	11.2	11.6	84.6
SMP	537	0.120	0.080	0.170	0.020	1.23	211	161	19.4	166	48.8	519	23.7	657	167	154	30.3	26.4	172
SMP	538	0.060	0.090	0.050	0.020	1.15	77.9	57.7	7.96	64.1	17.5	271	12.6	274	71.9	62.4	11.9	9.75	74.7
SMP	539	0.410	0.100	0.400	0.020	1.04	500	365	50.8	426	113	1370	43.9	1800	464	414	77.4	56.3	345
SMP	540	0.240	0.030	0.220	0.020	0.74	353	237	37.5	308	76.4	801	23.7	1270	319	300	54	33.6	196
SMP	541	0.060	0.010	0.080	0.010	1.52	52.5	37.6	5.46	45.8	11.8	156	7.37	198	49.8	45.1	8.23	6.18	45.4
SMP	542	0.070	0.020	0.140	0.010	1.3	219	147	19.4	164	48.2	307	15.8	549	128	150	31.4	21.2	126
SMP	543	0.160	0.040	0.170	0.009	1.37	240	176	21.3	182	55.2	392	21.7	623	151	164	35.4	26.8	168
SMP	544	0.270	0.020	0.440	0.010	1.17	593	419	52.8	445	132	962	46	1520	376	395	85.4	64.2	376
SMP	545	0.320	0.020	0.290	0.010	0.58	482	312	45.4	381	103	906	30.4	1480	363	353	69.3	45.4	262
SMP	546	0.150	0.010	0.200	0.004	0.89	383	243	35.5	298	81.8	531	22.6	987	225	267	56.7	34.5	192
SMP	547	0.150	0.030	0.160	0.010	1.11	160	106	18	149	34.7	473	14.3	694	175	150	25.3	16.2	106
SMP	548	0.190	0.050	0.060	0.010	0.38	105	72.1	12.3	102	23	771	10.3	590	176	108	17.3	11.2	73.5
SMP	549	0.130	0.020	0.050	0.003	1.01	74.9	58.7	7.15	60.1	17.5	248	10.8	263	71.1	58.8	11.4	9.56	69.7
SMP	550	0.110	0.010	0.060	0.010	1.92	115	79.5	11.6	92.7	25.2	285	14	403	105	93.4	17.4	13.1	93.1
SMP	551	0.050	0.090	0.110	0.003	1.57	43.5	39.3	3.73	31.4	10.4	65.8	15.6	104	24.8	28	6.2	8.29	81.8
SMP	552	0.020	0.040	0.023	0.010	3.18	27.8	34.8	2.31	18.6	7.62	38.2	17.6	66.6	15.5	17.9	3.7	8.74	91.3
SMP	553	0.040	0.020	0.030	0.002	2.6	33.2	30.6	3.69	28.1	7.77	46.9	15.4	119	26.9	30.5	5.18	7.3	78.9
SMP	554	0.040	0.010	0.020	0.010	0.94	39.9	30.3	3.77	30.9	9.15	87.3	8.84	119	29	29.8	5.89	5.66	49.8

* No value available. An economic value is dependant from the extractability and marketability of the product.

Table 7: Whole rock analysis - samples 501 to 608

Project	Matamec	Zeus	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF	XRF	Sample weight
METHOD																			
DETECTION																			
ANALYTE	Sample ID	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	P ₂ O ₅	MnO	Cr ₂ O ₃	V ₂ O ₅	LOI	Sum	SrO	BaO		
UNITS		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	g
Interesting Value		95	50	50	50	50	50	50	4	4	40	5	0.2	100	999	*	*		
Maximum value		71.8	16.6	18.4	24.4	27.9	9.63	5.6	2.76	2.14	1.27	0.08	0.03	21.5	100.1	0.09	0.24	15804	
SMP	501	58	7.9	9.25	6.7	3.17	6.86	4.41	0.41	0.04	0.84	< 0.01	< 0.01	1.55	99.2	< 0.01	< 0.05	4719	
SMP	502	56.3	11.8	7.71	2.6	4.48	6.37	4.56	1.69	1.28	0.41	< 0.01	0.01	1.61	98.9	< 0.01	0.08	5112	
SMP	503	49.7	12.5	11	3.84	5.64	5.78	3.67	2.76	2.14	0.33	< 0.01	0.01	1.59	99	< 0.01	0.13	6373	
SMP	504	50	9.31	11.8	6.1	6.59	6.06	2.98	2.09	1.33	0.51	< 0.01	< 0.01	1.99	98.7	0.05	0.11	5002	
SMP	505	55.4	8.56	10.8	3.9	5.45	6.39	3.49	1.28	0.24	0.49	0.01	0.01	1.73	97.7	< 0.01	0.13	4678	
SMP	506	55.5	8.77	10.4	4.49	6.07	6.06	3.72	0.97	0.08	0.42	< 0.01	< 0.01	1.8	98.3	0.06	0.13	3951	
SMP	507	55.7	9.53	11.6	2.87	5.15	6.58	3.7	1.17	0.28	0.39	< 0.01	0.01	1.39	98.3	< 0.01	0.11	3700	
SMP	508	55.1	8.58	11.9	4.05	5.69	6.38	3.3	1.12	0.19	0.57	< 0.01	0.02	1.63	98.6	< 0.01	0.1	3754	
SMP	509	56.7	9.94	12.1	1.61	4.5	7.64	3.05	0.97	0.42	0.38	< 0.01	< 0.01	0.81	98.1	0.01	< 0.05	4098	
SMP	510	54.7	6.12	12.7	6.49	6.13	6.41	2.84	0.67	0.07	0.9	< 0.01	0.02	1.37	98.5	0.02	< 0.05	5078	
SMP	511	53.3	5.79	9.85	7.97	6.95	6.48	2.54	0.48	0.27	0.81	< 0.01	< 0.01	1.86	96.2	0.03	< 0.05	3708	
SMP	512	51	5.15	5.81	10.3	8.41	6.19	1.92	0.32	0.43	0.75	< 0.01	< 0.01	2.87	93.1	0.09	< 0.05	3107	
SMP	513	58	9.14	14.8	0.85	2.98	7.31	4.38	0.84	0.02	0.54	< 0.01	< 0.01	0.52	99.4	0.02	< 0.05	3730	
SMP	514	57.3	6.33	11.2	6.79	3.14	7.4	3.48	0.54	0.05	1.14	0.02	< 0.01	0.93	98.4	0.04	< 0.05	3678	
SMP	515	55.8	6.6	8.22	7.46	5.03	6.62	3.56	0.58	0.75	0.92	0.02	< 0.01	1.61	97.2	< 0.01	< 0.05	3590	
SMP	516	47.6	6.33	4.04	10.7	4.5	4.86	3.25	0.35	0.56	0.59	0.08	< 0.01	2.5	85.3	< 0.01	< 0.05	4768	
SMP	517	56.1	6.68	8.33	6.74	5.87	6.07	3.85	0.54	0.43	0.8	0.04	0.02	1.81	97.3	0.06	< 0.05	3049	
SMP	518	57.2	10.8	11.2	0.64	2.53	8.13	3.7	0.95	0.41	0.4	0.02	0.02	0.78	96.9	0.07	0.11	1538	
SMP	519	59	13	9.65	0.42	1.98	8.28	3.53	0.6	0.37	0.3	0.02	< 0.01	0.63	97.8	0.02	0.24	4150	
SMP	520	59.6	10.9	9.88	1.26	2.68	8.47	3.21	0.66	0.38	0.43	< 0.01	< 0.01	0.92	98.4	0.02	0.08	6337	
SMP	521	60.4	11.5	8.16	1.81	3.34	7.42	3.95	0.54	0.28	0.47	< 0.01	< 0.01	0.88	98.7	0.01	< 0.05	4946	
SMP	522	56.6	9.03	3.22	8.58	8.54	5.89	3.36	0.19	0.13	0.32	0.02	< 0.01	1.43	97.3	0.04	0.07	7748	
SMP	523	64.5	16.6	2.42	0.64	1.68	6.8	5.6	0.14	0.04	0.15	0.01	< 0.01	0.51	99	< 0.01	0.05	5201	
SMP	524	60.8	11.8	5.88	4.16	3.98	6.98	4.05	0.3	0.22	0.34	0.03	< 0.01	0.87	99.4	0.04	< 0.05	2197	
SMP	525	57.9	7.63	10.2	6.27	3.13	7.35	3.66	0.38	0.11	0.9	0.02	< 0.01	1.07	98.6	< 0.01	< 0.05	4969	
SMP	526	58.5	10.6	11.1	1.06	2.54	8.55	3.1	0.93	0.35	0.44	< 0.01	< 0.01	0.64	97.8	0.03	< 0.05	2473	
SMP	527	57.4	11.4	9.37	2.12	4.04	7.09	4.16	1.6	0.38	0.35	0.01	0.02	0.97	98.9	< 0.01	0.1	3189	
SMP	528	59.3	12.9	11.4	0.49	2.13	8.51	3.31	0.84	0.19	0.2	0.02	< 0.01	0.44	99.7	0.05	0.23	1323	
SMP	529	59.5	10.7	11.4	0.36	1.98	8.72	3.11	0.91	0.11	0.34	< 0.01	< 0.01	0.35	97.5	0.03	< 0.05	4341	
SMP	530	57.4	8.27	18.4	0.2	1.85	9.63	2.74	1.01	0.15	0.27	< 0.01	< 0.01	0.19	100.1	0.06	< 0.05	6344	
SMP	531	58.9	12	11.9	0.43	2	8.48	3.59	0.84	0.23	0.3	0.01	< 0.01	0.33	99	< 0.01	0.16	5745	
SMP	532	59.4	11.3	12.5	0.5	2.33	8.99	3.04	0.91	0.28	0.38	0.01	< 0.01	0.27	99.9	0.01	0.06	4651	
SMP	533	57.6	10.4	10	2.44	4.52	7.4	3.84	0.77	0.32	0.36	0.02	< 0.01	1.25	98.9	0.06	0.06	5549	
SMP	534	58.8	10.2	9.99	1.88	5.15	7.27	3.44	0.59	0.04	0.53	< 0.01	< 0.01	1.2	99.1	< 0.01	< 0.05	3725	
SMP	535	59.1	10.9	9.77	1.05	3.93	7.51	3.84	0.57	0.03	0.47	0.02	< 0.01	1.15	98.3	< 0.01	< 0.05	5048	
SMP	536	60.3	12.1	10.5	0.27	1.64	8.63	3.22	0.5	0.05	0.38	0.01	< 0.01	0.82	98.4	< 0.01	< 0.05	3248	
SMP	537	57.1	7.36	9.22	5.25	6.65	7.02	2.82	0.58	0.18	0.41	0.02	< 0.01	1.85	98.5	0.02	< 0.05	6760	
SMP	538	58.2	8.69	11.6	2.36	5.91	7.68	2.66	0.75	0.28	0.38	0.01	< 0.01	0.95	99.5	0.05	< 0.05	10189	
SMP	539	56.4	7.94	6.62	5.98	7.57	5.89	3.85	0.83	0.33	0.42	< 0.01	< 0.01	2.17	97.9	0.03	< 0.05	10142	
SMP	540	56.3	8.32	6.38	7.19	6.26	6.17	3.7	0.59	0.5	0.42	< 0.01	< 0.01	2.29	98.1	0.03	< 0.05	6801	
SMP	541	59.6	11.4	10.6	0.84	2.77	8.06	3.57	0.87	0.12	0.31	< 0.01	0.01	0.68	98.9	< 0.01	< 0.05	13130	
SMP	542	59	11.1	9.19	1.59	4.45	7.98	2.94	0.82	0.13	0.32	< 0.01	< 0.01	1.1	98.6	0.04	< 0.05	11951	
SMP	543	58.8	10.7	9.72	1.99	3.55	7.84	3.62	0.86	0.16	0.36	< 0.01	0.01	0.86	98.4	0.04	0.08	11539	
SMP	544	57.4	9.98	6.59	3.95	5.33	6.36	4.28	0.83	0.07	0.38	0.02	< 0.01	1.55	96.7	0.08	0.08	5592	
SMP	545	58.7	11.7	7.61	1.89	4.78	7.6	3.41	0.87	0.64	0.35	0.02	< 0.01	1.1	98.7	0.02	< 0.05	12441	
SMP	546	59.7	11.8	7.57	1.6	4.23	7.92	2.83	0.75	0.16	0.37	< 0.01	< 0.01	0.92	97.9	< 0.01	< 0.05	13413	
SMP	547	58.1	9.7	9.62	3.65	4.82	7.49	3.05	0.77	0.26	0.36	< 0.01	< 0.01	1.04	98.9	0.03	0.07	14256	
SMP	548	55.7	7.23	4.43	11.1	11.2	4.43	2.94	0.28	0.3	0.33	0.02	< 0.01	1.5	99.5	0.03	0.11	11768	
SMP	549	55.1	6.03	5.6	11.2	12.7	4.32	2.02	0.3	0.09	0.42	< 0.01	< 0.01	1.23	99	0.01	0.06	12338	
SMP	550	56.4	7.66	13.3	3.22	5.3	7.49	2.65	0.94	0.02	0.39	0.01	< 0.01	0.61	98	0.05	< 0.05	4077	
SMP	551	56.3	4.84	6.86	10.4	10.9	4.87	2.18	0.57	0.08	0.25	< 0.01	< 0.01	0.92	98.2	0.05	< 0.05	13102	
SMP	552	56.2	5.57	6.61	8.6	10.2	4.62	2.79	0.62	0.07	0.27	0.02	< 0.01	0.68	96.2	0.02	< 0.05	8782	
SMP	553	57.3	6.96	8.42	6.42	8.61	5.77	2.53	1.31	0.02	0.31	< 0.01	< 0.01	0.61	98.2	0.05	< 0.05	11010	
SMP	554	53.5	5.43	5.1	15.6	8.47	4.77	2.66	0.45	0.16	0.19	0.01	< 0.01	1.58	97.9	0.03	< 0.05	9620	
SMP	555	43.1	6.18	5.19	15.8	14.8	3.07	1.97	0.52	0.19	0.13	< 0.01	< 0.01	0.03	7.85	98.8	0.03	0.08	6652

Project	Matamec	Zeus																
METHOD		XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF76Z	XRF	XRF	XRF	Sample
DETECTION		SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	V2O5	LOI	Sum	SrO	BaO	weight
ANALYTE	Sample ID	Silica	Aluminum	Iron	magnesi	calcium	sodium	potassium	titanium	phospho	mangan	chromium	vanadium			strontium	barium	
UNITS		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	g
Interesting Value		95	50	50	50	50	50	50	4	4	40	5	0.2	100	999	*	*	
Maximum value		71.8	16.6	18.4	24.4	27.9	9.63	5.6	2.76	2.14	1.27	0.08	0.03	21.5	100.1	0.09	0.24	15804
SMP	556	40.4	2.59	3.94	14.9	22.7	2.39	0.8	0.28	0.14	0.1	0.02	< 0.01	11.1	99.2	0.04	< 0.05	4478
SMP	557	64.7	9.39	9.98	0.89	1.53	7.46	3.04	0.74	0.11	0.16	< 0.01	< 0.01	0.39	98.4	0.04	< 0.05	7358
SMP	558	53.6	8.24	6.57	8.66	8.81	5.11	2.82	0.52	0.19	0.2	0.03	< 0.01	2.28	97	< 0.01	0.08	8715
SMP	559	54	5.41	4.77	12	16.9	3.7	0.64	0.38	0.5	0.32	< 0.01	< 0.01	0.6	99.3	< 0.01	< 0.05	12649
SMP	560	59.2	12	5.19	3.82	6.74	5.21	4.7	1.05	0.23	0.21	0.02	< 0.01	0.36	98.8	0.06	< 0.05	10365
SMP	561	57	8.6	9.62	4.87	6.61	6.06	3.65	0.78	0.39	0.26	< 0.01	< 0.01	0.71	98.6	< 0.01	< 0.05	---
SMP	562	58.7	9.93	7.51	5.83	3.92	7.41	3.06	0.55	0.32	0.28	< 0.01	< 0.01	1.01	98.5	< 0.01	< 0.05	10407
SMP	563	52.9	4.42	6.41	11.6	14	4.31	0.93	0.47	0.21	0.48	< 0.01	< 0.01	2.15	97.9	0.03	< 0.05	10324
SMP	564	63.6	8.34	8.55	2.69	3.2	6.04	3.58	0.67	0.19	0.21	0.02	0.02	0.95	98.1	0.02	< 0.05	8731
SMP	565	69.7	10.8	6.81	0.06	0.36	5.99	4.05	0.32	0.01	0.08	0.03	< 0.01	0.4	98.6	0.02	< 0.05	8401
SMP	566	67.1	12	6.82	0.49	1.03	6.64	4.19	0.3	0.04	0.14	0.03	< 0.01	0.59	99.3	0.02	< 0.05	6520
SMP	567	59.4	12.3	7.48	3.91	2.62	7.08	4.07	0.6	0.27	0.18	0.03	< 0.01	1.05	99	0.02	0.06	8741
SMP	568	53.2	6.37	5.4	12	10.8	4.19	2.38	0.45	0.22	0.31	< 0.01	0.02	1.45	96.8	0.02	0.06	8025
SMP	569	37.7	6.14	2.74	21.5	15.4	1.3	3.57	0.19	0.08	0.2	< 0.01	< 0.01	9.03	97.9	0.01	0.22	5983
SMP	570	42.4	6.52	4.76	14.6	14.7	3.93	0.97	0.24	0.11	0.18	0.02	0.01	8.24	96.6	0.02	0.16	8265
SMP	571	50.8	3.01	4.37	17.2	12.6	4.16	1.26	0.21	0.19	0.28	0.01	< 0.01	2.62	96.7	0.03	< 0.05	8970
SMP	572	48.9	11.4	8.35	8.59	11.5	5.57	2.31	0.68	0.2	0.17	0.06	0.02	1.27	99	0.04	0.06	7819
SMP	573	46	5.05	5.04	15.2	18.2	2.2	1.83	0.32	0.2	0.17	0.03	0.02	4.5	98.9	0.04	0.05	6573
SMP	574	29.6	1.75	1.95	19.6	25.2	1.42	0.94	0.21	0.06	0.08	0.02	< 0.01	17.1	97.9	< 0.01	0.06	4067
SMP	575	21.9	0.99	0.44	24.4	27.9	0.24	0.54	0.03	0.04	0.03	< 0.01	< 0.01	21.5	98	< 0.01	0.1	7400
SMP	576	52	3.44	4.88	15.3	14.2	4.05	1.01	0.46	0.18	0.31	< 0.01	0.01	2.29	98.1	0.01	< 0.05	5988
SMP	577	54.1	6.89	10.7	5	8.34	5.42	2.89	1.61	0.01	0.2	< 0.01	< 0.01	1	96.1	0.03	< 0.05	6444
SMP	578	57.1	8.35	12.6	2.77	5.08	7.54	2.36	1.16	0.01	0.3	< 0.01	< 0.01	0.41	97.7	< 0.01	< 0.05	8283
SMP	579	59.3	7.16	7.34	6.38	5.11	5.46	3.25	0.72	0.02	0.31	0.01	0.01	0.91	95.9	0.01	< 0.05	6371
SMP	580	55.7	4.98	9.08	9.61	7.05	5.51	2.79	0.56	0.06	0.41	0.02	< 0.01	0.78	96.5	< 0.01	< 0.05	10042
SMP	581	56	6.16	8.37	7.42	8.42	5.26	2.58	0.66	0.24	0.26	0.01	< 0.01	1.33	96.7	< 0.01	< 0.05	5695
SMP	582	62.6	6.96	12.3	1.35	2.2	6.27	2.72	0.81	0.42	0.18	0.02	< 0.01	0.9	96.8	0.02	< 0.05	14589
SMP	583	65.3	6.94	10.8	0.55	1.65	5.76	2.65	0.92	0.84	0.1	0.02	< 0.01	0.61	96.2	0.02	< 0.05	10249
SMP	584	65	8.07	8.29	1.83	1.87	5	2.87	0.84	0.17	0.15	0.03	< 0.01	1.66	95.8	< 0.01	< 0.05	15804
SMP	585	62.9	12.9	7.65	0.55	1.69	7.17	4.12	0.54	0.25	0.19	< 0.01	< 0.01	0.45	98.4	0.01	< 0.05	8027
SMP	586	60.7	12.9	8.91	0.79	2.18	8.14	3.4	0.52	0.12	0.25	0.02	< 0.01	0.29	98.2	< 0.01	0.06	6046
SMP	587	56	8.89	8.64	5.2	5.68	6.44	3.16	0.92	0.29	0.4	0.02	< 0.01	1.31	97	< 0.01	< 0.05	6847
SMP	588	54.5	9.68	8.84	5.2	8.03	6.14	2.27	0.98	0.62	0.28	< 0.01	0.02	1.31	97.9	0.03	0.08	6167
SMP	589	57.9	12	8.74	1.91	3.98	7.26	3.37	1.01	0.3	0.29	0.03	< 0.01	0.87	97.6	< 0.01	0.15	5820
SMP	590	56.2	8.07	7.97	8.44	5.17	6.61	3.07	0.6	0.27	0.44	0.01	< 0.01	1.09	97.9	0.02	0.1	4538
SMP	591	57.7	9.33	8.14	5.63	5.03	6.69	3.23	0.6	0.2	0.36	< 0.01	< 0.01	1.13	98.1	< 0.01	0.09	3634
SMP	592	56.3	11.1	9.01	4.39	4.79	6.58	3.42	0.64	0.35	0.29	< 0.01	< 0.01	1.24	98.1	0.01	0.17	7663
SMP	593	71.8	9.26	5.46	0.41	1.31	5.85	2.53	0.41	0.01	0.15	0.02	< 0.01	0.49	97.6	< 0.01	< 0.05	6586
SMP	594	57.2	5.07	5.68	12.6	4.95	6.09	3.3	0.26	0.16	0.8	0.02	< 0.01	1.4	97.5	0.01	< 0.05	6726
SMP	595	53.8	4.9	6.94	11	9.52	5.28	2.15	0.76	0.52	0.68	0.02	< 0.01	1.47	97	< 0.01	< 0.05	6512
SMP	596	54.6	8.37	8.07	5.39	8.91	5.7	2.95	0.53	0.5	0.76	0.02	< 0.01	2.15	97.9	0.04	0.07	6584
SMP	597	60.6	11.6	6.73	2.3	4.5	7.21	3.84	0.4	0.14	0.61	< 0.01	< 0.01	0.77	98.7	0.04	< 0.05	5607
SMP	598	59	12.6	10.7	0.5	2.51	7.67	4.31	0.64	0.36	0.42	< 0.01	< 0.01	0.52	99.2	0.03	0.12	7457
SMP	599	57.1	11.2	10.3	0.83	4.39	7.24	3.98	0.66	0.59	0.59	< 0.01	< 0.01	0.86	97.7	0.02	0.13	6050
SMP	600	50.2	3.47	13	4.3	11	6.84	1.37	0.58	1.53	1.27	< 0.01	< 0.01	1.92	95.4	0.07	< 0.05	6120
SMP	601	53.5	4.52	6.68	8.23	8.13	6.77	2.3	1.06	0.17	1.11	< 0.01	< 0.01	1.97	94.5	0.02	< 0.05	6536
SMP	602	59.7	12.1	7.9	1.72	3.99	6.82	4.45	0.5	0.22	0.38	< 0.01	< 0.01	0.34	98.1	< 0.01	< 0.05	8032
SMP	603	55.3	4.8	5.73	11.4	11.2	5.12	1.61	0.36	0.23	0.56	< 0.01	< 0.01	0.81	97.1	< 0.01	< 0.05	5495
SMP	604	54.8	3.35	4.17	13.4	17	2.96	1.26	0.23	0.14	0.33	0.01	< 0.01	0.96	98.6	0.03	< 0.05	3251
SMP	605	54.7	2.39	4.65	16.8	6.7	5.82	2.11	0.21	0.31	1.02	0.01	< 0.01	1.31	96.1	0.01	< 0.05	1867
SMP	606	56.1	6.87	7.54	9.03	5.04	6.89	2.6	0.47	0.42	0.67	0.01	< 0.01	1.23	96.9	0.01	0.05	3652
SMP	607	54.1	12.6	7.83	4.14	6.05	6.15	3.59	0.81	0.22	0.31	< 0.01	0.02	1.45	97.2	0.04	0.14	3904
SMP	608	53.6	4.6	6.23	11	10.5	5.24	1.76	0.32	0.3	0.96	< 0.01	< 0.01	1.09	95.7	0.03	< 0.05	6619

* No value available. An economic value is dependant from the extractability and marketability of the product.

Appendix A
New and Historic Maps of Sampling Sites

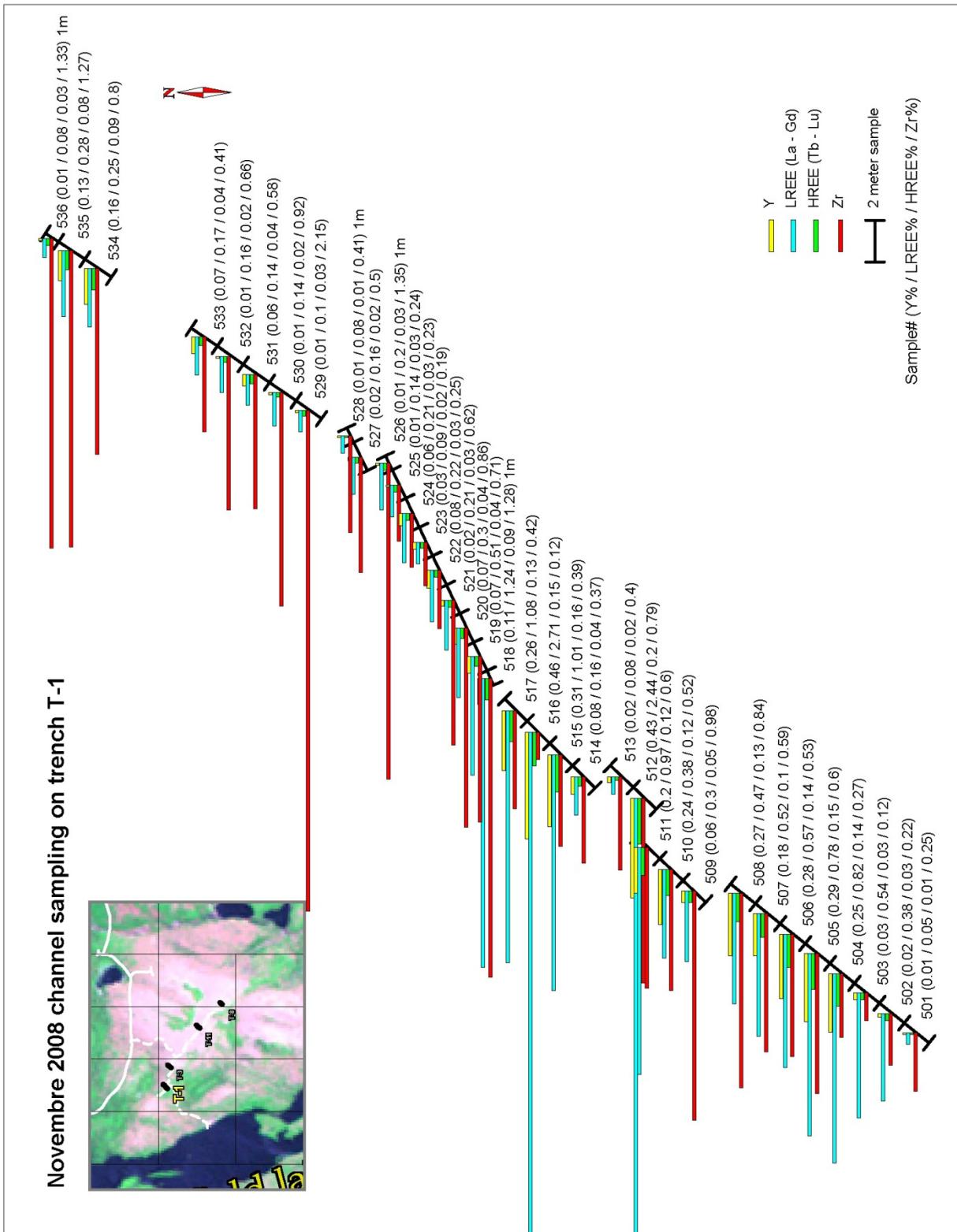


Figure 11: Map and assay values of sampling in trench T-1 - 2008

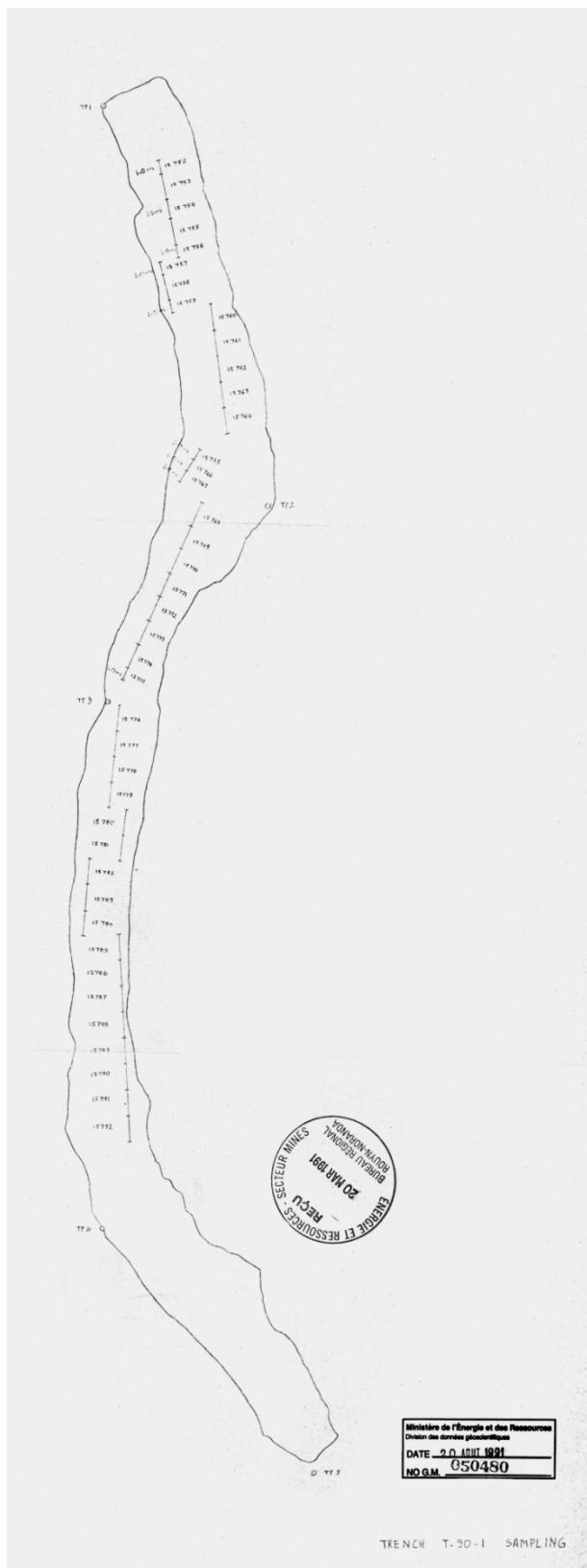


Figure 12: Map of sampling in trench T-1 - 1990

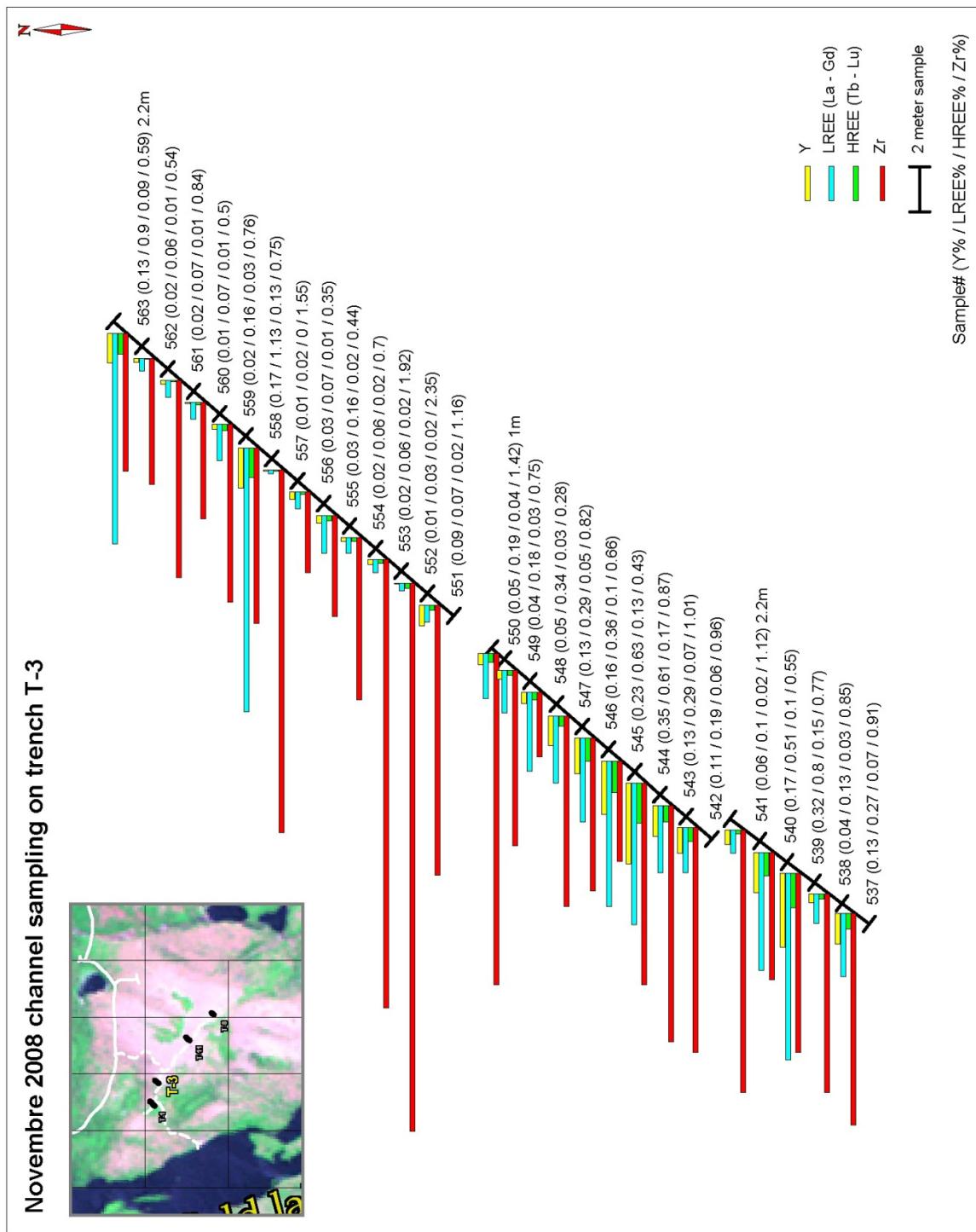


Figure 13: Map and assay values of sampling in trench T-3 - 2008

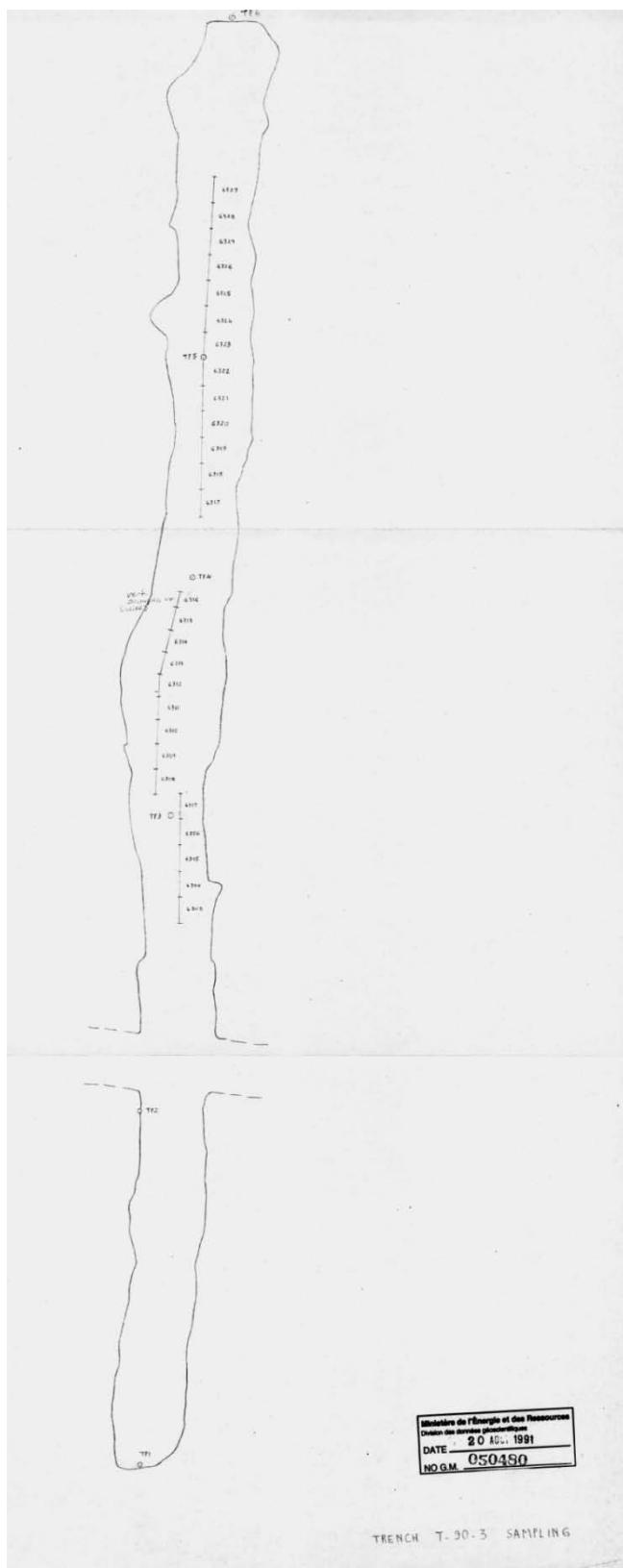


Figure 14: Map of sampling in trench T-3 - 1990

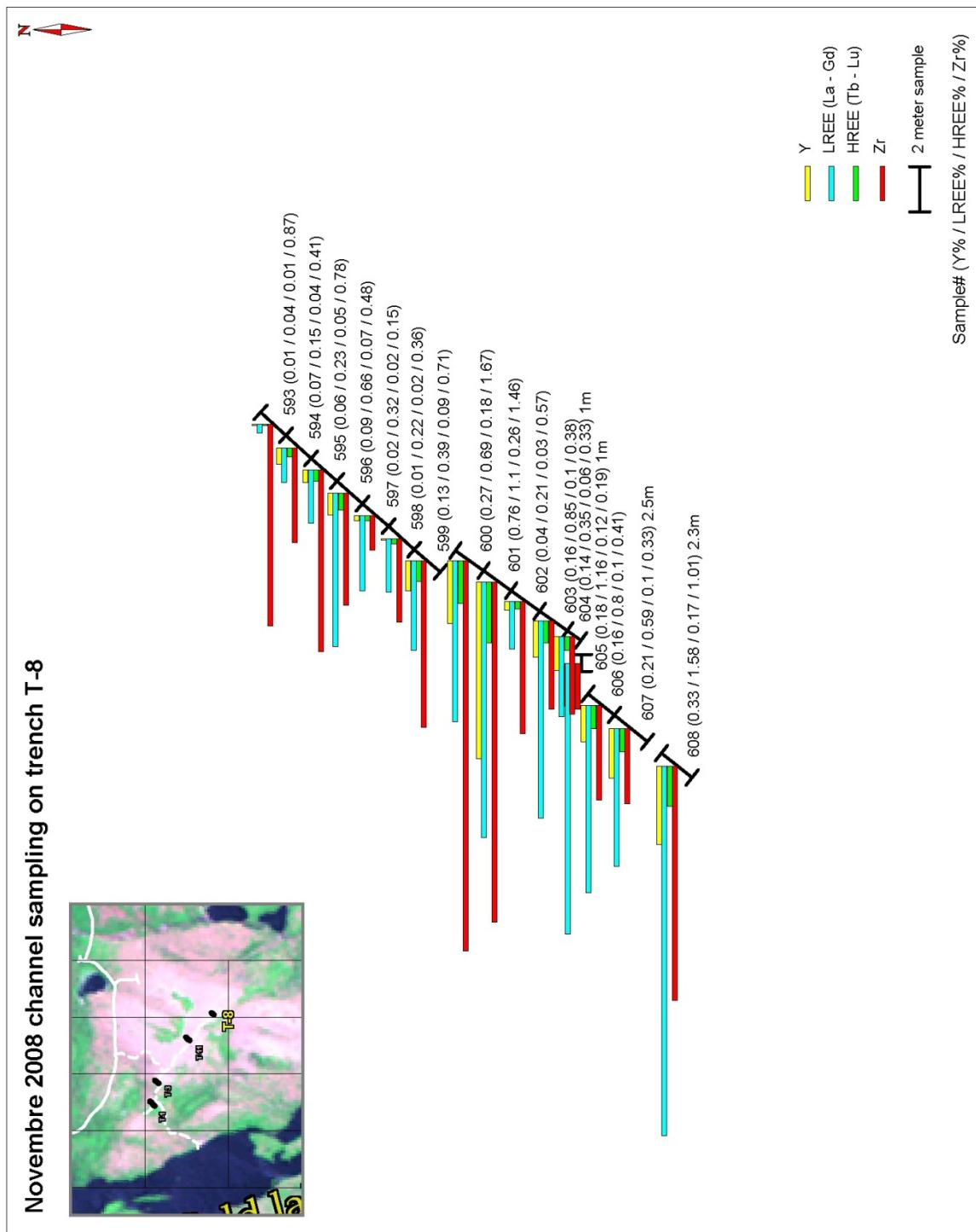


Figure 15: Map and assay values of sampling in trench T-8 - 2008

Figure 16: Map of sampling in trench T-8 - 1990

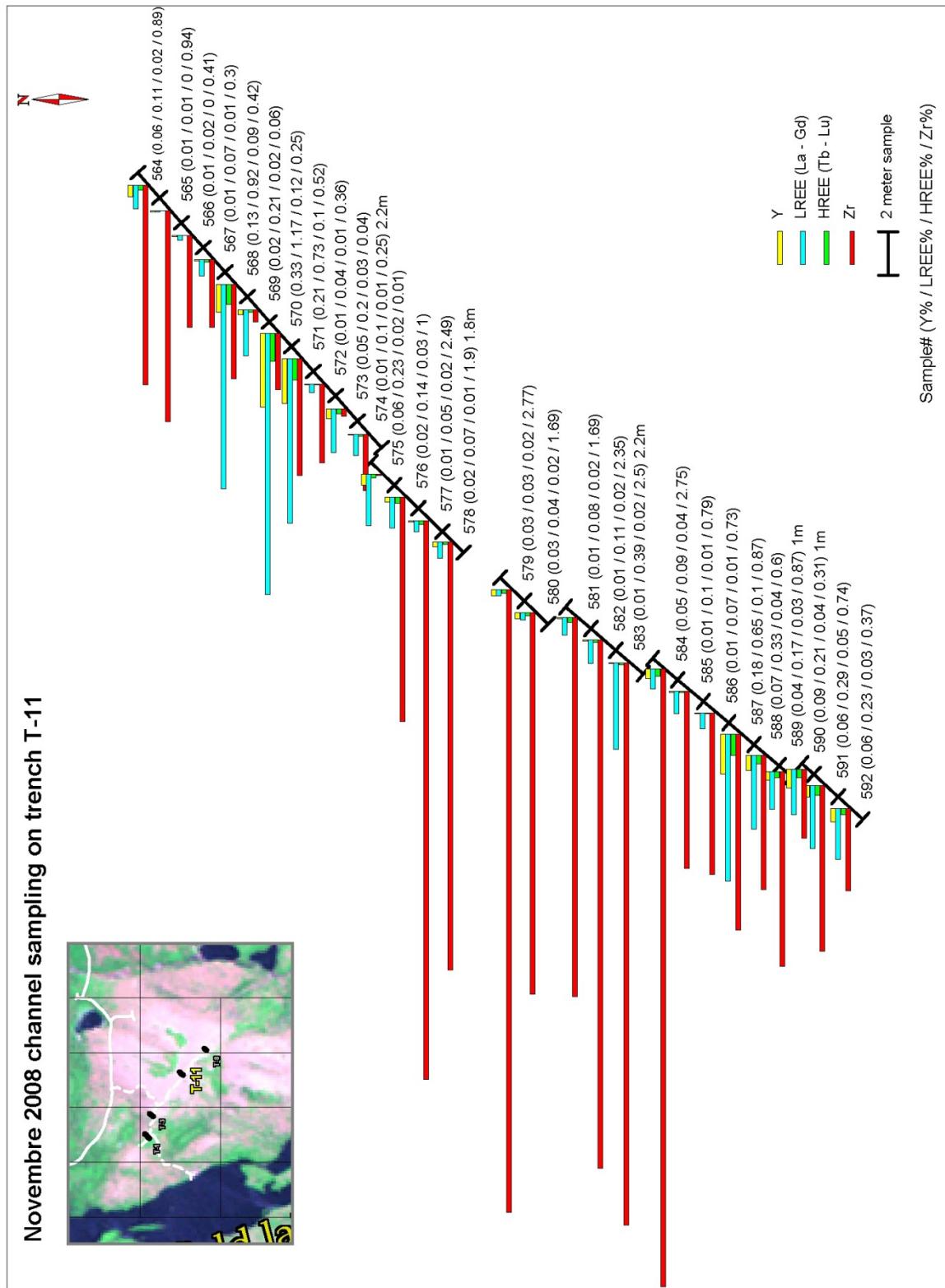


Figure 17: Map and assay values of sampling in trench T-11 - 2008

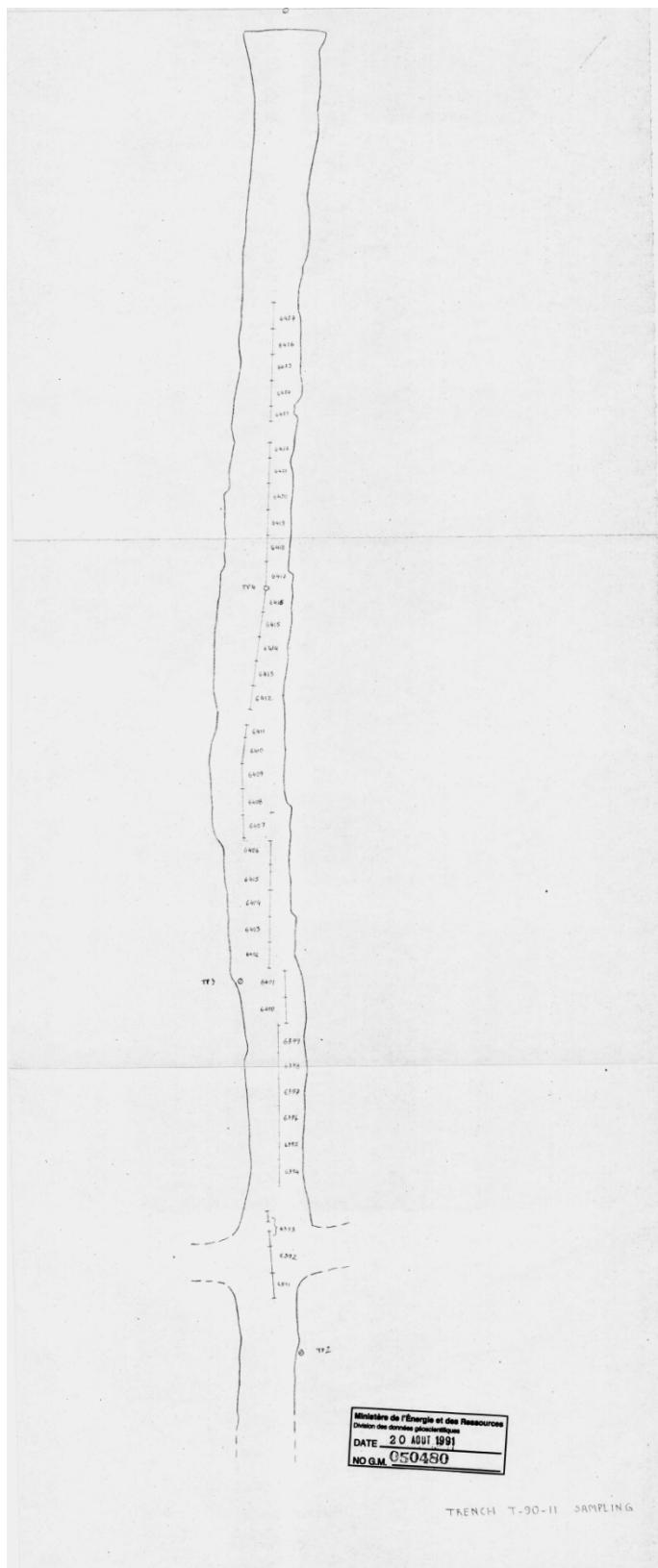


Figure 18: Map of sampling in trench T-11 – 1990

Appendix B Analysis methods

IMS95R : The Determination of 17 Rare Elements by Lithium Metaborate fusion and ICP-MS.**1. Parameter(s) measured, unit(s):**

Cerium (Ce); Dysprosium (Dy); Erbium (Er); Europium (Eu); Gadolinium (Gd); Holmium (Ho); Lanthanum (La); Lutetium (Lu); Neodymium (Nd); Praseodymium (Pr); Samarium (Sm); Terbium (Tb); Thorium (Th); Thulium (Tm); Uranium (U); Yttrium (Y); Ytterbium (Yb) : ppm

2. Typical sample size:

0.10 g

3. Type of sample applicable (media):

Crushed and Pulverized rocks, soils and sediments

4. Sample preparation technique used:

Crushed and pulverized rock, soil and /or sediment samples are fused by Lithium metaborate and dissolved using dilute HNO₃.

5. Method of analysis used:

The fused solution sample is aspirated into the inductively coupled plasma Mass Spectrometer (ICP-MS) where the ions are measured and quantified according to their unique mass.

6. Data reduction by:

The results are exported via computer, on line, data fed to the Laboratory Information Management System (LIMS CCLAS EL) with secure audit trail.

7. Figures of Merit:

Element	Limit of Quantification (LOQ) ppm	Element	(LOQ) ppm
Ce	0.263	Pr	0.077
Dy	0.087	Sm	0.107
Er	0.067	Tb	0.013
Eu	0.033	Th	0.037
Gd	0.137	Tm	0.020
Ho	0.020	U	0.027
La	0.503	Y	0.233
Lu	0.037	Yb	0.057
Nd	0.147		

8. Quality control:

The ICP-MS is calibrated with each work order. An instrument blank and calibration check is analyzed with each run. One preparation blank and reference material is analyzed every 46 samples, one duplicate every 12 samples.

All QC samples are verified using LIMS. The acceptance criteria are statistically controlled and control charts are used to monitor accuracy and precision. Data that falls outside the control limits is investigated and repeated as necessary.

9. Accreditation:

SGS Minerals Services

Toronto Laboratory

1885 Leslie Street, Toronto, ON M3B 2M3

www.sgs.com

Member of SGS Group (Société Générale de Surveillance)



Minerals Services METHOD SUMMARY

The Standards Council of Canada has accredited this test in conformance with the requirements of ISO/IEC 17025. See www.scc.ca for scope of accreditation

Method 9-6-1

Determination of Major Element Oxides and Rare Earth Oxides by Borate Fusion-XRF

1. Parameter(s) measured, unit(s):

SiO_2 , Al_2O_3 , Fe_2O_3 , MgO , CaO , Na_2O , K_2O , P_2O_5 , MnO , TiO_2 , Cr_2O_3 , Ni , Co , La_2O_3 , Ce_2O_3 , Nd_2O_3 , Pr_2O_3 , Sm_2O_3 , BaO , SrO , ZrO_2 , HfO_2 , Y_2O_3 , Nb_2O_5 , ThO_2 , U_3O_8 , SnO_2 , WO_3 , Ta_2O_5 , LOI; %

2. Typical sample size:

0.2 to 0.5 g

3. Type of sample applicable (media):

Rocks, oxide ores and concentrates

4. Sample preparation technique used:

Samples are crushed and pulverized to -150 mesh. This method is used to report, in percentage, the whole rock suite (SiO_2 , Al_2O_3 , Fe_2O_3 , MgO , CaO , Na_2O , K_2O , P_2O_5 , MnO , TiO_2 , Cr_2O_3) and Ni, Co as well as the rare earth oxides (La_2O_3 , Ce_2O_3 , Nd_2O_3 , Pr_2O_3 , Sm_2O_3), and other major element oxides (BaO , SrO , ZrO_2 , HfO_2 , Y_2O_3 , Nb_2O_5 , ThO_2 , U_2O_8). Sample preparation entails the formation of a homogenous glass disk by the fusion of 0.2 to 0.5 g of rock pulp with 7g of lithium tetraborate/lithium metaborate (50/50). The LOI at 1000 °C is determined separately gravimetrically. The LOI is included in the matrix-correction calculations, which are performed by the XRF instrument software.

5. Method of analysis used:

The disk specimen is analyzed by WDXRF spectrometry.

6. Data reduction by:

The results are exported via computer, on line, data fed to the Laboratory Information Management System with secure audit trail.

Corrections for dilution and summation with the LOI are made prior to reporting.

7. Figures of Merit:

element	Limit of Quantification (LOQ) %
SiO_2	0.01
Al_2O_3	0.01
MgO	0.01
Na_2O	0.01
K_2O	0.01
CaO	0.01
P_2O_5	0.01

TiO ₂	0.01
Cr ₂ O ₃	0.01
V ₂ O ₅	0.01
Fe ₂ O ₃	0.01
MnO	0.01
Ni	0.01
Co	0.01
Ce ₂ O ₃	0.02
Pr ₂ O ₃	0.02
Sm ₂ O ₃	0.03
BaO	0.02
La ₂ O ₃	0.01
Nd ₂ O ₃	0.02
ZrO ₂	0.01
Y ₂ O ₃	0.02
SrO	0.02
Nb ₂ O ₅	0.01

This method has been fully validated for the range of samples typically analyzed. Method validation includes the use of certified reference materials, replicates and blanks to calculate accuracy, precision, linearity, range, limit of detection, limit of quantification, specificity and measurement uncertainty.

8. Quality control:

One blank, one duplicate and a matrix-suitable certified or in-house reference material per batch of 20 samples.

9. Data approval steps:

Step	Approval Criteria
1. Sum of oxides	Majors 98-101%; Majors + NiO + CoO 98-102%
2. Batch reagent blank	2 x LOQ
3. Inserted weighed reference materials	Statistical Control Limits
4. Weighed Lab Duplicates	Statistical Control Limits by Range

10. Accreditation:

This method is accredited by the Standards Council of Canada (SCC) and found to conform to the requirements of the ISO/IEC 17025 standard. See www.scc.ca for SGS Minerals Services Lakefield's scope of accreditation.

Appendix C Certificates of Analysis



SGS Lakefield Research Limited

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - K0L 2H0

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SGS Geostat

Attn : Yann Camus

10 Boul. de la Seigneurie Est, Suite 203
Blainville, Quebec
J7C 3V5, Canada

Phone: 450-433-1050
Fax: 450-433-1048

Wednesday, January 21, 2009

Date Rec. : 12 December 2008

LR Report : CA02702-DEC08

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
1: 501	58.0	7.90	9.25	6.70	3.17	6.86	4.41	0.41	0.04	0.84	< 0.01
2: 502	56.3	11.8	7.71	2.60	4.48	6.37	4.56	1.69	1.28	0.41	< 0.01
3: 503	49.7	12.5	11.0	3.84	5.64	5.78	3.67	2.76	2.14	0.33	< 0.01
4: 504	50.0	9.31	11.8	6.10	6.59	6.06	2.98	2.09	1.33	0.51	< 0.01
5: 505	55.4	8.56	10.8	3.90	5.45	6.39	3.49	1.28	0.24	0.49	0.01
6: 506	55.5	8.77	10.4	4.49	6.07	6.06	3.72	0.97	0.08	0.42	< 0.01
7: 507	55.7	9.53	11.6	2.87	5.15	6.58	3.70	1.17	0.28	0.39	< 0.01
8: 508	55.1	8.58	11.9	4.05	5.69	6.38	3.30	1.12	0.19	0.57	< 0.01
9: 509	56.7	9.94	12.1	1.61	4.50	7.64	3.05	0.97	0.42	0.38	< 0.01
10: 510	54.7	6.12	12.7	6.49	6.13	6.41	2.84	0.67	0.07	0.90	< 0.01
11: 511	53.3	5.79	9.85	7.97	6.95	6.48	2.54	0.48	0.27	0.81	< 0.01
12: 512	51.0	5.15	5.81	10.3	8.41	6.19	1.92	0.32	0.43	0.75	< 0.01

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
1: 501	< 0.01	1.55	99.2	0.02	0.34	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	4719
2: 502	0.01	1.61	98.9	0.21	0.30	0.02	0.02	0.01	< 0.01	0.08	5112
3: 503	0.01	1.59	99.0	0.29	0.16	0.02	0.04	0.02	< 0.01	0.13	6373
4: 504	< 0.01	1.99	98.7	0.39	0.37	0.05	0.32	0.03	0.05	0.11	5002
5: 505	0.01	1.73	97.7	0.36	0.81	0.06	0.37	0.01	< 0.01	0.13	4678
6: 506	< 0.01	1.80	98.3	0.26	0.71	0.04	0.35	0.01	0.06	0.13	3951
7: 507	0.01	1.39	98.3	0.28	0.80	0.01	0.23	0.01	< 0.01	0.11	3700
8: 508	0.02	1.63	98.6	0.23	1.13	0.03	0.34	0.01	< 0.01	0.10	3754
9: 509	< 0.01	0.81	98.1	0.17	1.33	0.01	0.07	< 0.01	0.01	< 0.05	4098
10: 510	0.02	1.37	98.5	0.17	0.70	0.08	0.30	0.01	0.02	< 0.05	5078
11: 511	< 0.01	1.86	96.2	0.51	0.81	0.10	0.25	< 0.01	0.03	< 0.05	3708
12: 512	< 0.01	2.87	93.1	1.37	1.07	0.25	0.54	0.03	0.09	< 0.05	3107

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
13: 513	58.0	9.14	14.8	0.85	2.98	7.31	4.38	0.84	0.02	0.54	< 0.01
14: 514	57.3	6.33	11.2	6.79	3.14	7.40	3.48	0.54	0.05	1.14	0.02
15: 515	55.8	6.60	8.22	7.46	5.03	6.62	3.56	0.58	0.75	0.92	0.02
16: 516	47.6	6.33	4.04	10.7	4.50	4.86	3.25	0.35	0.56	0.59	0.08
17: 517	56.1	6.68	8.33	6.74	5.87	6.07	3.85	0.54	0.43	0.80	0.04
18: 518	57.2	10.8	11.2	0.64	2.53	8.13	3.70	0.95	0.41	0.40	0.02
19: 519	59.0	13.0	9.65	0.42	1.98	8.28	3.53	0.60	0.37	0.30	0.02
20: 520	59.6	10.9	9.88	1.26	2.68	8.47	3.21	0.66	0.38	0.43	< 0.01
21: 521	60.4	11.5	8.16	1.81	3.34	7.42	3.95	0.54	0.28	0.47	< 0.01
22: 522	56.6	9.03	3.22	8.58	8.54	5.89	3.36	0.19	0.13	0.32	0.02
23: 523	64.5	16.6	2.42	0.64	1.68	6.80	5.60	0.14	0.04	0.15	0.01
24: 524	60.8	11.8	5.88	4.16	3.98	6.98	4.05	0.30	0.22	0.34	0.03
25: 525	57.9	7.63	10.2	6.27	3.13	7.35	3.66	0.38	0.11	0.90	0.02
26: 526	58.5	10.6	11.1	1.06	2.54	8.55	3.10	0.93	0.35	0.44	< 0.01
27: 527	57.4	11.4	9.37	2.12	4.04	7.09	4.16	1.60	0.38	0.35	0.01
28: 528	59.3	12.9	11.4	0.49	2.13	8.51	3.31	0.84	0.19	0.20	0.02
29: 529	59.5	10.7	11.4	0.36	1.98	8.72	3.11	0.91	0.11	0.34	< 0.01
30: 530	57.4	8.27	18.4	0.20	1.85	9.63	2.74	1.01	0.15	0.27	< 0.01
31: 531	58.9	12.0	11.9	0.43	2.00	8.48	3.59	0.84	0.23	0.30	0.01
32: 532	59.4	11.3	12.5	0.50	2.33	8.99	3.04	0.91	0.28	0.38	0.01

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
13: 513	< 0.01	0.52	99.4	0.03	0.54	0.11	0.03	0.02	0.02	< 0.05	3730
14: 514	< 0.01	0.93	98.4	0.07	0.50	0.07	0.10	< 0.01	0.04	< 0.05	3678
15: 515	< 0.01	1.61	97.2	0.48	0.53	0.08	0.39	0.01	< 0.01	< 0.05	3590
16: 516	< 0.01	2.50	85.3	2.19	0.16	0.30	0.58	0.04	< 0.01	< 0.05	4768
17: 517	0.02	1.81	97.3	0.53	0.57	0.04	0.33	< 0.01	0.06	< 0.05	3049
18: 518	0.02	0.78	96.9	0.61	1.73	0.04	0.14	0.01	0.07	0.11	1538
19: 519	< 0.01	0.63	97.8	0.28	0.96	0.02	0.09	0.02	0.02	0.24	4150
20: 520	< 0.01	0.92	98.4	0.15	1.16	0.03	0.09	0.01	0.02	0.08	6337
21: 521	< 0.01	0.88	98.7	0.14	0.84	0.07	0.03	< 0.01	0.01	< 0.05	4946
22: 522	< 0.01	1.43	97.3	0.11	0.34	0.03	0.10	< 0.01	0.04	0.07	7748
23: 523	< 0.01	0.51	99.0	0.03	0.25	0.01	0.04	0.01	< 0.01	0.05	5201
24: 524	< 0.01	0.87	99.4	0.12	0.31	0.03	0.07	< 0.01	0.04	< 0.05	2197
25: 525	< 0.01	1.07	98.6	0.05	0.33	0.04	< 0.01	0.01	< 0.01	< 0.05	4969
26: 526	< 0.01	0.64	97.8	0.12	1.83	0.01	< 0.01	< 0.01	0.03	< 0.05	2473
27: 527	0.02	0.97	98.9	0.08	0.67	0.02	0.02	0.01	< 0.01	0.10	3189
28: 528	< 0.01	0.44	99.7	0.05	0.56	0.02	< 0.01	0.01	0.05	0.23	1323
29: 529	< 0.01	0.35	97.5	0.05	2.90	0.01	< 0.01	< 0.01	0.03	< 0.05	4341
30: 530	< 0.01	0.19	100.1	0.08	1.24	0.02	< 0.01	< 0.01	0.06	< 0.05	6344
31: 531	< 0.01	0.33	99.0	0.04	0.78	0.01	0.07	< 0.01	< 0.01	0.16	5745
32: 532	< 0.01	0.27	99.9	0.09	0.89	< 0.01	< 0.01	< 0.01	0.01	0.06	4651

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
33: 533	57.6	10.4	10.0	2.44	4.52	7.40	3.84	0.77	0.32	0.36	0.02
34: 534	58.8	10.2	9.99	1.88	5.15	7.27	3.44	0.59	0.04	0.53	< 0.01
35: 535	59.1	10.9	9.77	1.05	3.93	7.51	3.84	0.57	0.03	0.47	0.02
36: 536	60.3	12.1	10.5	0.27	1.64	8.63	3.22	0.50	0.05	0.38	0.01
37: 537	57.1	7.36	9.22	5.25	6.65	7.02	2.82	0.58	0.18	0.41	0.02
38: 538	58.2	8.69	11.6	2.36	5.91	7.68	2.66	0.75	0.28	0.38	0.01
39: 539	56.4	7.94	6.62	5.98	7.57	5.89	3.85	0.83	0.33	0.42	< 0.01
40: 540	56.3	8.32	6.38	7.19	6.26	6.17	3.70	0.59	0.50	0.42	< 0.01
41: 541	59.6	11.4	10.6	0.84	2.77	8.06	3.57	0.87	0.12	0.31	< 0.01
42: 542	59.0	11.1	9.19	1.59	4.45	7.98	2.94	0.82	0.13	0.32	< 0.01
43: 543	58.8	10.7	9.72	1.99	3.55	7.84	3.62	0.86	0.16	0.36	< 0.01
44: 544	57.4	9.98	6.59	3.95	5.33	6.36	4.28	0.83	0.07	0.38	0.02
45: 545	58.7	11.7	7.61	1.89	4.78	7.60	3.41	0.87	0.64	0.35	0.02
46: 546	59.7	11.8	7.57	1.60	4.23	7.92	2.83	0.75	0.16	0.37	< 0.01
47: 547	58.1	9.70	9.62	3.65	4.82	7.49	3.05	0.77	0.26	0.36	< 0.01
48: 548	55.7	7.23	4.43	11.1	11.2	4.43	2.94	0.28	0.30	0.33	0.02
49: 549	55.1	6.03	5.60	11.2	12.7	4.32	2.02	0.30	0.09	0.42	< 0.01
50: 550	56.4	7.66	13.3	3.22	5.30	7.49	2.65	0.94	0.02	0.39	0.01
51: 551	56.3	4.84	6.86	10.4	10.9	4.87	2.18	0.57	0.08	0.25	< 0.01
52: 552	56.2	5.57	6.61	8.60	10.2	4.62	2.79	0.62	0.07	0.27	0.02

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
33: 533	< 0.01	1.25	98.9	0.06	0.55	0.02	0.09	0.01	0.06	0.06	5549
34: 534	< 0.01	1.20	99.1	0.12	1.08	0.01	0.20	< 0.01	< 0.01	< 0.05	3725
35: 535	< 0.01	1.15	98.3	0.15	1.72	0.02	0.16	< 0.01	< 0.01	< 0.05	5048
36: 536	< 0.01	0.82	98.4	0.04	1.80	0.02	< 0.01	0.01	< 0.01	< 0.05	3248
37: 537	< 0.01	1.85	98.5	0.12	1.23	0.08	0.17	0.02	0.02	< 0.05	6760
38: 538	< 0.01	0.95	99.5	0.06	1.15	0.09	0.05	0.02	0.05	< 0.05	10189
39: 539	< 0.01	2.17	97.9	0.41	1.04	0.10	0.40	0.02	0.03	< 0.05	10142
40: 540	< 0.01	2.29	98.1	0.24	0.74	0.03	0.22	0.02	0.03	< 0.05	6801
41: 541	0.01	0.68	98.9	0.06	1.52	0.01	0.08	0.01	< 0.01	< 0.05	13130
42: 542	< 0.01	1.10	98.6	0.07	1.30	0.02	0.14	0.01	0.04	< 0.05	11951
43: 543	0.01	0.86	98.4	0.16	1.37	0.04	0.17	< 0.01	0.04	0.08	11539
44: 544	< 0.01	1.55	96.7	0.27	1.17	0.02	0.44	0.01	0.08	0.08	5592
45: 545	< 0.01	1.10	98.7	0.32	0.58	0.02	0.29	0.01	0.02	< 0.05	12441
46: 546	< 0.01	0.92	97.9	0.15	0.89	0.01	0.20	< 0.01	< 0.01	< 0.05	13413
47: 547	< 0.01	1.04	98.9	0.15	1.11	0.03	0.16	0.01	0.03	0.07	14256
48: 548	< 0.01	1.50	99.5	0.19	0.38	0.05	0.06	0.01	0.03	0.11	11768
49: 549	< 0.01	1.23	99.0	0.13	1.01	0.02	0.05	< 0.01	0.01	0.06	12338
50: 550	< 0.01	0.61	98.0	0.11	1.92	< 0.01	0.06	0.01	0.05	< 0.05	4077
51: 551	< 0.01	0.92	98.2	0.05	1.57	0.09	0.11	< 0.01	0.05	< 0.05	13102
52: 552	< 0.01	0.68	96.2	0.02	3.18	0.04	< 0.01	0.01	0.02	< 0.05	8782

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
53: 553	57.3	6.96	8.42	6.42	8.61	5.77	2.53	1.31	0.02	0.31	< 0.01
54: 554	53.5	5.43	5.10	15.6	8.47	4.77	2.66	0.45	0.16	0.19	0.01
55: 555	43.1	6.18	5.19	15.8	14.8	3.07	1.97	0.52	0.19	0.13	< 0.01
56: 556	40.4	2.59	3.94	14.9	22.7	2.39	0.80	0.28	0.14	0.10	0.02
57: 557	64.7	9.39	9.98	0.89	1.53	7.46	3.04	0.74	0.11	0.16	< 0.01
58: 558	53.6	8.24	6.57	8.66	8.81	5.11	2.82	0.52	0.19	0.20	0.03
59: 559	54.0	5.41	4.77	12.0	16.9	3.70	0.64	0.38	0.50	0.32	< 0.01
60: 560	59.2	12.0	5.19	3.82	6.74	5.21	4.70	1.05	0.23	0.21	0.02
61-DUP: 520	59.2	10.9	9.87	1.25	2.68	8.50	3.21	0.67	0.39	0.44	< 0.01
62-DUP: 540	56.3	8.28	6.35	7.18	6.29	6.22	3.74	0.57	0.49	0.42	< 0.01

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
53: 553	< 0.01	0.61	98.2	0.04	2.60	0.02	0.03	< 0.01	0.05	< 0.05	11010
54: 554	< 0.01	1.58	97.9	0.04	0.94	0.01	0.02	0.01	0.03	< 0.05	9620
55: 555	0.03	7.85	98.8	0.11	0.59	0.03	0.04	< 0.01	0.03	0.08	6652
56: 556	< 0.01	11.1	99.2	0.04	0.47	0.03	0.04	< 0.01	0.04	< 0.05	4478
57: 557	< 0.01	0.39	98.4	< 0.02	2.10	0.03	< 0.01	< 0.01	0.04	< 0.05	7358
58: 558	< 0.01	2.28	97.0	0.50	1.01	0.08	0.22	0.01	< 0.01	0.08	8715
59: 559	< 0.01	0.60	99.3	0.09	1.03	0.04	0.03	0.02	< 0.01	< 0.05	12649
60: 560	< 0.01	0.36	98.8	0.04	0.68	0.02	< 0.01	0.01	0.06	< 0.05	10365
61-DUP: 520	< 0.01	0.94	98.1	0.15	1.11	0.03	0.09	0.01	0.06	0.08	---
62-DUP: 540	< 0.01	2.27	98.2	0.24	0.70	0.03	0.26	0.01	0.02	< 0.05	---

Control quality assays

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Thursday, January 22, 2009

Date Rec. : 12 December 2008

LR Report : CA02703-DEC08

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
1: 561	57.0	8.60	9.62	4.87	6.61	6.06	3.65	0.78	0.39	0.26	< 0.01
2: 562	58.7	9.93	7.51	5.83	3.92	7.41	3.06	0.55	0.32	0.28	< 0.01
3: 563	52.9	4.42	6.41	11.6	14.0	4.31	0.93	0.47	0.21	0.48	< 0.01
4: 564	63.6	8.34	8.55	2.69	3.20	6.04	3.58	0.67	0.19	0.21	0.02
5: 565	69.7	10.8	6.81	0.06	0.36	5.99	4.05	0.32	0.01	0.08	0.03
6: 566	67.1	12.0	6.82	0.49	1.03	6.64	4.19	0.30	0.04	0.14	0.03
7: 567	59.4	12.3	7.48	3.91	2.62	7.08	4.07	0.60	0.27	0.18	0.03
8: 568	53.2	6.37	5.40	12.0	10.8	4.19	2.38	0.45	0.22	0.31	< 0.01
9: 569	37.7	6.14	2.74	21.5	15.4	1.30	3.57	0.19	0.08	0.20	< 0.01
10: 570	42.4	6.52	4.76	14.6	14.7	3.93	0.97	0.24	0.11	0.18	0.02
11: 571	50.8	3.01	4.37	17.2	12.6	4.16	1.26	0.21	0.19	0.28	0.01
12: 572	48.9	11.4	8.35	8.59	11.5	5.57	2.31	0.68	0.20	0.17	0.06
13: 573	46.0	5.05	5.04	15.2	18.2	2.20	1.83	0.32	0.20	0.17	0.03

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
1: 561	< 0.01	0.71	98.6	0.05	1.14	0.01	0.02	< 0.01	< 0.01	< 0.05	---
2: 562	< 0.01	1.01	98.5	0.03	0.73	< 0.01	0.02	< 0.01	< 0.01	< 0.05	10407
3: 563	< 0.01	2.15	97.9	0.50	0.80	0.08	0.16	0.01	0.03	< 0.05	10324
4: 564	0.02	0.95	98.1	0.06	1.20	0.05	0.07	< 0.01	0.02	< 0.05	8731
5: 565	< 0.01	0.40	98.6	< 0.02	1.27	< 0.01	< 0.01	< 0.01	0.02	< 0.05	8401
6: 566	< 0.01	0.59	99.3	< 0.02	0.55	< 0.01	< 0.01	< 0.01	0.02	< 0.05	6520
7: 567	< 0.01	1.05	99.0	0.03	0.41	0.03	< 0.01	< 0.01	0.02	0.06	8741
8: 568	0.02	1.45	96.8	0.52	0.57	0.16	0.16	0.01	0.02	0.06	8025
9: 569	< 0.01	9.03	97.9	0.11	0.08	0.02	0.03	< 0.01	0.01	0.22	5983
10: 570	0.01	8.24	96.6	0.64	0.34	0.01	0.42	< 0.01	0.02	0.16	8265
11: 571	< 0.01	2.62	96.7	0.42	0.70	0.15	0.26	< 0.01	0.03	< 0.05	8970
12: 572	0.02	1.27	99.0	< 0.02	0.48	< 0.01	< 0.01	0.01	0.04	0.06	7819
13: 573	0.02	4.50	98.9	0.10	0.05	< 0.01	0.06	< 0.01	0.04	0.05	6573



SGS Lakefield Research Limited

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - K0L 2H0

Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA02703-DEC08

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
14: 574	29.6	1.75	1.95	19.6	25.2	1.42	0.94	0.21	0.06	0.08	0.02
15: 575	21.9	0.99	0.44	24.4	27.9	0.24	0.54	0.03	0.04	0.03	< 0.01
16: 576	52.0	3.44	4.88	15.3	14.2	4.05	1.01	0.46	0.18	0.31	< 0.01
17: 577	54.1	6.89	10.7	5.00	8.34	5.42	2.89	1.61	0.01	0.20	< 0.01
18: 578	57.1	8.35	12.6	2.77	5.08	7.54	2.36	1.16	0.01	0.30	< 0.01
19: 579	59.3	7.16	7.34	6.38	5.11	5.46	3.25	0.72	0.02	0.31	0.01
20: 580	55.7	4.98	9.08	9.61	7.05	5.51	2.79	0.56	0.06	0.41	0.02
21: 581	56.0	6.16	8.37	7.42	8.42	5.26	2.58	0.66	0.24	0.26	0.01
22: 582	62.6	6.96	12.3	1.35	2.20	6.27	2.72	0.81	0.42	0.18	0.02
23: 583	65.3	6.94	10.8	0.55	1.65	5.76	2.65	0.92	0.84	0.10	0.02
24: 584	65.0	8.07	8.29	1.83	1.87	5.00	2.87	0.84	0.17	0.15	0.03
25: 585	62.9	12.9	7.65	0.55	1.69	7.17	4.12	0.54	0.25	0.19	< 0.01
26: 586	60.7	12.9	8.91	0.79	2.18	8.14	3.40	0.52	0.12	0.25	0.02
27: 587	56.0	8.89	8.64	5.20	5.68	6.44	3.16	0.92	0.29	0.40	0.02
28: 588	54.5	9.68	8.84	5.20	8.03	6.14	2.27	0.98	0.62	0.28	< 0.01
29: 589	57.9	12.0	8.74	1.91	3.98	7.26	3.37	1.01	0.30	0.29	0.03
30: 590	56.2	8.07	7.97	8.44	5.17	6.61	3.07	0.60	0.27	0.44	0.01
31: 591	57.7	9.33	8.14	5.63	5.03	6.69	3.23	0.60	0.20	0.36	< 0.01
32: 592	56.3	11.1	9.01	4.39	4.79	6.58	3.42	0.64	0.35	0.29	< 0.01
33: 593	71.8	9.26	5.46	0.41	1.31	5.85	2.53	0.41	0.01	0.15	0.02

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
14: 574	< 0.01	17.1	97.9	0.06	0.34	0.01	0.01	< 0.01	< 0.01	0.06	4067
15: 575	< 0.01	21.5	98.0	0.15	< 0.01	0.01	0.07	< 0.01	< 0.01	0.10	7400
16: 576	0.01	2.29	98.1	0.07	1.35	0.02	0.03	0.02	0.01	< 0.05	5988
17: 577	< 0.01	1.00	96.1	0.03	3.36	0.18	0.01	< 0.01	0.03	< 0.05	6444
18: 578	< 0.01	0.41	97.7	0.07	2.57	0.03	0.03	< 0.01	< 0.01	< 0.05	8283
19: 579	0.01	0.91	95.9	0.02	3.74	0.03	0.04	0.01	0.01	< 0.05	6371
20: 580	< 0.01	0.78	96.5	0.02	2.29	0.01	0.04	< 0.01	< 0.01	< 0.05	10042
21: 581	< 0.01	1.33	96.7	0.04	2.28	0.03	< 0.01	< 0.01	< 0.01	< 0.05	5695
22: 582	< 0.01	0.90	96.8	0.05	3.18	0.03	< 0.01	0.01	0.02	< 0.05	14589
23: 583	< 0.01	0.61	96.2	0.20	3.38	0.03	< 0.01	< 0.01	0.02	< 0.05	10249
24: 584	< 0.01	1.66	95.8	0.04	3.71	0.06	0.06	0.01	< 0.01	< 0.05	15804
25: 585	< 0.01	0.45	98.4	0.06	1.07	< 0.01	< 0.01	< 0.01	0.01	< 0.05	8027
26: 586	< 0.01	0.29	98.2	0.05	0.98	< 0.01	0.01	< 0.01	< 0.01	0.06	6046
27: 587	< 0.01	1.31	97.0	0.30	1.18	0.02	0.23	< 0.01	< 0.01	< 0.05	6847
28: 588	0.02	1.31	97.9	0.19	0.81	0.03	0.09	< 0.01	0.03	0.08	6167
29: 589	< 0.01	0.87	97.6	0.09	1.17	0.01	0.05	0.01	< 0.01	0.15	5820
30: 590	< 0.01	1.09	97.9	0.09	0.42	0.02	0.11	< 0.01	0.02	0.10	4538
31: 591	< 0.01	1.13	98.1	0.16	1.00	0.02	0.07	0.01	< 0.01	0.09	3634
32: 592	< 0.01	1.24	98.1	0.13	0.50	0.05	0.08	< 0.01	0.01	0.17	7663
33: 593	< 0.01	0.49	97.6	< 0.02	1.17	0.02	< 0.01	< 0.01	< 0.01	< 0.05	6586

Sample ID	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	P ₂ O ₅ %	MnO %	Cr ₂ O ₃ %
34: 594	57.2	5.07	5.68	12.6	4.95	6.09	3.30	0.26	0.16	0.80	0.02
35: 595	53.8	4.90	6.94	11.0	9.52	5.28	2.15	0.76	0.52	0.68	0.02
36: 596	54.6	8.37	8.07	5.39	8.91	5.70	2.95	0.53	0.50	0.76	0.02
37: 597	60.6	11.6	6.73	2.30	4.50	7.21	3.84	0.40	0.14	0.61	< 0.01
38: 598	59.0	12.6	10.7	0.50	2.51	7.67	4.31	0.64	0.36	0.42	< 0.01
39: 599	57.1	11.2	10.3	0.83	4.39	7.24	3.98	0.66	0.59	0.59	< 0.01
40: 600	50.2	3.47	13.0	4.30	11.0	6.84	1.37	0.58	1.53	1.27	< 0.01
41: 601	53.5	4.52	6.68	8.23	8.13	6.77	2.30	1.06	0.17	1.11	< 0.01
42: 602	59.7	12.1	7.90	1.72	3.99	6.82	4.45	0.50	0.22	0.38	< 0.01
43: 603	55.3	4.80	5.73	11.4	11.2	5.12	1.61	0.36	0.23	0.56	< 0.01
44: 604	54.8	3.35	4.17	13.4	17.0	2.96	1.26	0.23	0.14	0.33	0.01
45: 605	54.7	2.39	4.65	16.8	6.70	5.82	2.11	0.21	0.31	1.02	0.01
46: 606	56.1	6.87	7.54	9.03	5.04	6.89	2.60	0.47	0.42	0.67	0.01
47: 607	54.1	12.6	7.83	4.14	6.05	6.15	3.59	0.81	0.22	0.31	< 0.01
48: 608	53.6	4.60	6.23	11.0	10.5	5.24	1.76	0.32	0.30	0.96	< 0.01
49-DUP: 579	58.9	7.14	7.38	6.39	5.08	5.47	3.30	0.72	0.03	0.30	0.01
50-DUP: 599	57.1	11.2	10.4	0.80	4.43	7.21	4.04	0.67	0.59	0.58	< 0.01

Sample ID	V ₂ O ₅ %	LOI %	Sum %	Ce ₂ O ₃ %	ZrO ₂ %	ThO ₂ %	Y ₂ O ₃ %	U ₃ O ₈ %	SrO %	BaO %	weight g
34: 594	< 0.01	1.40	97.5	0.07	0.55	0.03	0.09	0.01	0.01	< 0.05	6726
35: 595	< 0.01	1.47	97.0	0.12	1.05	0.02	0.07	0.01	< 0.01	< 0.05	6512
36: 596	< 0.01	2.15	97.9	0.33	0.65	0.05	0.12	0.01	0.04	0.07	6584
37: 597	< 0.01	0.77	98.7	0.17	0.20	< 0.01	0.03	< 0.01	0.04	< 0.05	5607
38: 598	< 0.01	0.52	99.2	0.11	0.48	0.03	< 0.01	0.01	0.03	0.12	7457
39: 599	< 0.01	0.86	97.7	0.22	0.96	0.12	0.16	0.01	0.02	0.13	6050
40: 600	< 0.01	1.92	95.4	0.34	2.26	0.41	0.34	0.02	0.07	< 0.05	6120
41: 601	< 0.01	1.97	94.5	0.49	1.97	0.04	0.96	0.02	0.02	< 0.05	6536
42: 602	< 0.01	0.34	98.1	0.10	0.77	0.02	0.05	< 0.01	< 0.01	< 0.05	8032
43: 603	< 0.01	0.81	97.1	0.41	0.51	0.04	0.20	0.01	< 0.01	< 0.05	5495
44: 604	< 0.01	0.96	98.6	0.19	0.45	0.02	0.18	< 0.01	0.03	< 0.05	3251
45: 605	< 0.01	1.31	96.1	0.63	0.26	0.10	0.23	0.01	0.01	< 0.05	1867
46: 606	< 0.01	1.23	96.9	0.43	0.55	0.05	0.20	< 0.01	0.01	0.05	3652
47: 607	0.02	1.45	97.2	0.29	0.44	0.03	0.27	< 0.01	0.04	0.14	3904
48: 608	< 0.01	1.09	95.7	0.83	1.36	0.07	0.42	< 0.01	0.03	< 0.05	6619
49-DUP: 579	< 0.01	0.85	95.6	< 0.02	3.77	0.03	0.04	< 0.01	0.02	< 0.05	---
50-DUP: 599	< 0.01	0.92	97.9	0.20	0.93	0.12	0.12	< 0.01	0.03	0.14	---



SGS Lakefield Research Limited

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - K0L 2H0

Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA02703-DEC08

Control quality assays

Nicole Mozola, B.Sc. (Eng)

Project Coordinator

Mineral Services, Analytical



Certificate of Analysis

Work Order: TO105188

To: **SGS Lakefield Research Limited**
Attn: Nicole Mozola
185 Concession Street
P.O. Box 4300
LAKEFIELD
ONTARIO K0L 2H0

Date: Feb 27, 2009

P.O. No. : CA02702-DEC08
Project No. : DEFAULT
No. Of Samples 60
Date Submitted Jan 16, 2009
Report Comprises Pages 1 to 5
(Inclusive of Cover Sheet)

Distribution of unused material:

Discard after 90 days: 60 Pulps

Certified By :

Gavin McGill
Operations Manager

SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>

Report Footer:	L.N.R. = Listed not received n.a. = Not applicable	I.S. = Insufficient Sample -- = No result
*INF = Composition of this sample makes detection impossible by this method		
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion		
Methods marked with an asterisk (e.g. *NAA08V) were subcontracted		
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests		

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Element Method Det.Lim. Units	Y @IMS95R 0.5 ppm	Ce @IMS95R 0.1 ppm	Dy @IMS95R 0.05 ppm	Er @IMS95R 0.05 ppm	Eu @IMS95R 0.05 ppm	Gd @IMS95R 0.05 ppm	Ho @IMS95R 0.05 ppm	La @IMS95R 0.1 ppm	Lu @IMS95R 0.05 ppm	Nd @IMS95R 0.1 ppm
501	227	216	36.6	29.9	3.07	31.3	8.59	133	7.40	107
*Rep 501	232	213	38.1	33.0	3.36	30.8	8.94	133	7.77	107
502	539	1580	135	64.0	18.7	150	25.5	712	6.03	729
503	639	2400	160	71.2	24.5	191	29.4	1130	3.99	1040
504	>1000	3460	562	327	56.9	500	116	1560	24.7	1810
505	>1000	3440	601	369	58.5	505	129	1440	30.0	1830
506	>1000	2470	556	349	47.0	418	119	1040	28.3	1330
507	>1000	1940	407	248	37.6	336	86.1	777	21.3	1110
508	>1000	1760	470	302	41.2	366	103	709	27.2	1100
509	926	1120	199	117	19.8	169	40.7	462	12.8	618
510	>1000	1490	425	280	35.1	320	92.8	616	28.4	890
511	>1000	4340	437	277	44.4	386	93.2	2370	29.8	1730
512	>1000	>10000	839	447	104	875	163	6260	33.5	4550
513	255	195	47.7	37.5	5.01	42.1	11.0	211	9.47	173
*Rep 513	265	187	47.4	36.8	4.98	41.2	10.6	207	9.38	169
514	729	575	131	101	11.1	101	31.0	402	16.0	351
515	>1000	4280	639	386	65.3	556	135	2150	32.1	2160
516	>1000	>10000	>1000	573	155	>1000	220	>10000	35.8	8210
517	>1000	5180	500	304	54.3	478	106	2650	28.6	2070
518	>1000	6260	395	208	54.6	424	76.1	3240	17.9	2340
519	647	2350	167	90.0	21.9	174	33.3	1210	8.64	893
520	791	1420	158	103	17.0	143	34.0	677	12.6	601
521	512	739	103	69.5	10.5	89.4	22.1	322	10.8	352
522	699	1080	115	83.2	11.3	92.8	26.2	562	9.43	408
523	443	510	77.6	58.4	6.74	56.4	18.1	246	7.19	211
524	510	879	98.9	63.9	10.2	87.7	21.8	422	8.27	383
525	558	733	104	69.9	10.4	88.5	22.6	346	11.7	345
*Rep 525	547	747	106	71.2	10.8	89.2	22.9	351	11.7	351
526	411	792	91.3	61.0	9.94	81.3	20.0	356	11.8	360
527	397	682	86.7	53.6	10.1	80.6	17.8	298	7.88	352
528	107	260	23.5	14.0	3.01	24.6	4.66	127	3.07	124
529	361	380	82.2	59.1	7.69	61.6	18.2	158	10.7	200
530	225	620	62.9	42.6	7.91	57.9	13.3	280	10.8	283
531	544	810	114	97.7	10.2	81.3	27.9	411	18.6	341
532	269	624	70.2	46.8	8.70	66.2	14.8	283	10.6	295
533	651	865	127	81.7	13.3	109	27.3	377	10.4	430
534	>1000	1070	286	224	21.7	187	67.4	443	29.6	558
535	>1000	1080	270	208	22.2	191	63.8	443	25.8	583
536	424	397	81.5	65.1	6.59	52.9	19.2	147	12.6	196
537	>1000	1340	211	161	19.4	166	48.8	519	23.7	657
*Rep 537	>1000	1340	217	163	19.7	170	49.7	511	23.7	658
538	459	564	77.9	57.7	7.96	64.1	17.5	271	12.6	274
539	>1000	3600	500	365	50.8	426	113	1370	43.9	1800

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Element Method Det.Lim. Units	Y @IMS95R 0.5 ppm	Ce @IMS95R 0.1 ppm	Dy @IMS95R 0.05 ppm	Er @IMS95R 0.05 ppm	Eu @IMS95R 0.05 ppm	Gd @IMS95R 0.05 ppm	Ho @IMS95R 0.05 ppm	La @IMS95R 0.1 ppm	Lu @IMS95R 0.05 ppm	Nd @IMS95R 0.1 ppm
540	>1000	2480	353	237	37.5	308	76.4	801	23.7	1270
541	294	384	52.5	37.6	5.46	45.8	11.8	156	7.37	198
542	>1000	892	219	147	19.4	164	48.2	307	15.8	549
543	>1000	1050	240	176	21.3	182	55.2	392	21.7	623
544	>1000	2850	593	419	52.8	445	132	962	46.0	1520
545	>1000	2730	482	312	45.4	381	103	906	30.4	1480
546	>1000	1610	383	243	35.5	298	81.8	531	22.6	987
547	916	1340	160	106	18.0	149	34.7	473	14.3	694
548	634	1650	105	72.1	12.3	102	23.0	771	10.3	590
549	486	594	74.9	58.7	7.15	60.1	17.5	248	10.8	263
*Rep 549	477	591	76.9	58.4	7.11	60.4	17.4	246	10.7	262
550	659	788	115	79.5	11.6	92.7	25.2	285	14.0	403
551	229	178	43.5	39.3	3.73	31.4	10.4	65.8	15.6	104
552	178	105	27.8	34.8	2.31	18.6	7.62	38.2	17.6	66.6
553	164	169	33.2	30.6	3.69	28.1	7.77	46.9	15.4	119
554	188	222	39.9	30.3	3.77	30.9	9.15	87.3	8.84	119
555	358	612	66.1	48.1	6.23	52.0	14.8	238	7.28	240
556	180	341	27.8	22.8	2.58	23.7	6.50	159	5.71	123
557	42.0	67.2	7.30	7.06	0.77	7.03	1.82	29.3	3.95	35.0
558	>1000	6510	454	320	50.4	430	101	2960	28.8	2460
559	409	700	76.5	58.7	7.54	64.2	17.5	279	14.0	312
560	152	274	31.6	22.4	3.57	28.5	6.78	107	7.01	151

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Element Method Det.Lim. Units	Pr @IMS95R	Sm @IMS95R	Tb @IMS95R	Th @IMS95R	Tm @IMS95R	U @IMS95R	Yb @IMS95R
501	28.1	26.1	5.82	5.6	5.41	2.28	44.4
*Rep 501	27.8	25.1	5.75	5.4	5.92	2.31	46.3
502	189	159	24.2	25.7	8.14	4.86	46.4
503	280	210	30.0	49.6	8.19	8.14	38.6
504	457	445	88.7	330	43.6	100	232
505	454	453	93.1	471	49.8	77.2	269
506	326	361	82.0	159	47.8	58.3	259
507	266	302	62.4	102	33.9	41.5	190
508	259	305	70.7	145	42.4	46.5	236
509	151	159	31.2	73.3	17.0	24.2	99.5
510	212	257	62.4	790	39.3	54.1	227
511	480	371	69.4	>1000	39.9	83.5	237
512	>1000	902	145	>1000	57.3	207	307
513	45.1	38.2	7.44	929	7.13	30.0	57.4
*Rep 513	44.6	37.0	7.39	945	7.00	30.6	58.2
514	91.9	87.0	19.4	527	16.0	22.4	109
515	542	509	101	632	52.2	61.0	280
516	>1000	>1000	204	>1000	70.7	291	351
517	564	458	81.3	493	41.8	52.1	241
518	658	473	71.0	375	26.3	74.8	146
519	252	185	28.9	119	11.6	24.7	65.8
520	161	136	25.3	256	15.3	18.6	94.4
521	89.9	82.6	16.2	517	10.9	16.5	73.6
522	115	89.4	17.4	159	12.8	20.3	76.2
523	57.4	52.5	11.5	57.0	9.17	6.72	57.7
524	102	85.8	15.8	123	9.64	15.5	62.2
525	88.9	82.4	16.1	243	10.8	12.9	76.9
*Rep 525	89.6	84.0	16.6	244	11.4	13.2	77.5
526	93.3	82.8	14.6	187	10.1	21.2	75.5
527	88.2	81.8	14.0	49.0	8.33	8.05	55.7
528	32.4	25.2	4.00	12.2	2.26	35.3	18.0
529	49.4	53.9	12.0	18.7	9.95	17.7	72.4
530	75.1	61.9	10.3	19.6	7.65	5.15	63.3
531	92.8	80.0	16.2	26.1	17.2	15.5	123
532	77.5	69.4	11.5	27.2	8.16	6.24	65.6
533	108	106	20.2	50.1	12.1	11.6	77.4
534	140	158	38.5	58.0	36.0	19.3	226
535	141	162	38.6	58.6	32.1	24.3	202
536	48.4	50.9	11.2	102	11.6	12.1	84.6
537	167	154	30.3	827	26.4	56.1	172
*Rep 537	167	156	31.9	848	26.5	57.2	173
538	71.9	62.4	11.9	>1000	9.75	41.5	74.7
539	464	414	77.4	860	56.3	98.9	345

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Element Method Det.Lim. Units	Pr @IMS95R	Sm @IMS95R	Tb @IMS95R	Th @IMS95R	Tm @IMS95R	U @IMS95R	Yb @IMS95R
540	319	300	54.0	199	33.6	61.3	196
541	49.8	45.1	8.23	30.3	6.18	12.9	45.4
542	128	150	31.4	52.8	21.2	32.6	126
543	151	164	35.4	421	26.8	75.2	168
544	376	395	85.4	178	64.2	54.1	376
545	363	353	69.3	116	45.4	46.3	262
546	225	267	56.7	63.4	34.5	29.7	192
547	175	150	25.3	203	16.2	23.2	106
548	176	108	17.3	257	11.2	28.6	73.5
549	71.1	58.8	11.4	94.7	9.56	26.4	69.7
*Rep 549	71.2	58.1	11.4	93.5	9.82	26.6	70.3
550	105	93.4	17.4	85.1	13.1	28.7	93.1
551	24.8	28.0	6.20	872	8.29	28.4	81.8
552	15.5	17.9	3.70	359	8.74	40.7	91.3
553	26.9	30.5	5.18	125	7.30	18.6	78.9
554	29.0	29.8	5.89	73.1	5.66	73.8	49.8
555	66.0	54.3	10.1	137	7.75	25.5	52.2
556	35.0	23.5	4.27	314	4.15	11.5	33.3
557	9.01	6.9	1.11	70.4	1.69	16.4	19.4
558	703	459	73.7	>1000	46.6	44.7	260
559	83.0	64.4	11.8	193	10.1	64.7	81.7
560	38.2	31.0	5.03	30.4	4.12	8.94	37.1

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Certificate of Analysis

Work Order: TO105189

To: SGS Lakefield Research Limited
Attn: Nicole Mozola
185 Concession Street
P.O. Box 4300
LAKEFIELD
ONTARIO K0L 2H0

Date: Feb 19, 2009

P.O. No. : CA02703-DEC08
Project No. : DEFAULT
No. Of Samples 48
Date Submitted Jan 16, 2009
Report Comprises Pages 1 to 5
(Inclusive of Cover Sheet)

Distribution of unused material:

Discard after 90 days: 48 Pulps

Certified By :

Gavin McGill
Operations Manager

SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable

I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Y @IMS95R 0.5 ppm	Ce @IMS95R 0.1 ppm	Dy @IMS95R 0.05 ppm	Er @IMS95R 0.05 ppm	Eu @IMS95R 0.05 ppm	Gd @IMS95R 0.05 ppm	Ho @IMS95R 0.05 ppm	La @IMS95R 0.1 ppm	Lu @IMS95R 0.05 ppm	Nd @IMS95R 0.1 ppm
561	109	259	21.4	16.5	2.59	17.3	4.75	118	8.25	126
*Rep 561	108	258	21.3	16.5	2.68	17.7	4.67	117	8.03	123
562	91.6	258	17.9	13.4	2.31	15.8	3.98	130	5.54	115
563	>1000	4220	309	204	36.0	309	67.1	1930	29.6	1710
564	353	450	81.1	49.3	8.03	57.5	16.8	152	8.92	259
565	22.7	33.0	3.18	3.03	0.36	2.31	0.79	16.4	1.55	14.1
566	32.2	116	4.70	3.57	0.66	4.20	1.05	52.0	1.09	37.2
567	147	381	29.2	21.3	3.78	23.6	6.44	193	5.53	172
568	>1000	4410	324	208	35.7	308	67.7	1920	23.8	1660
569	355	1100	55.1	38.2	6.73	44.9	12.1	590	4.74	358
570	>1000	5760	371	315	32.3	305	91.4	3390	36.9	1660
571	>1000	3110	367	227	40.6	347	76.6	1110	21.9	1510
572	116	182	19.1	15.2	2.15	13.0	4.40	93.4	3.47	74.6
573	597	980	86.0	65.3	8.94	60.2	20.1	481	6.26	376
*Rep 573	588	969	84.2	63.6	8.55	59.3	19.4	472	6.21	365
574	241	419	40.5	28.6	4.28	28.8	9.03	202	3.98	173
575	382	896	74.8	45.6	8.72	61.3	16.0	402	3.52	381
576	402	790	86.7	61.2	8.66	59.3	18.9	290	14.3	329
577	262	211	46.0	41.3	4.31	27.8	11.0	67.3	15.8	124
578	130	106	18.8	23.6	1.77	10.7	5.24	41.6	15.7	51.8
579	274	142	43.4	44.6	3.13	20.7	11.5	42.6	14.4	71.7
580	263	197	45.3	42.9	3.37	23.0	11.2	63.4	16.4	80.3
581	324	320	58.6	48.2	5.33	38.2	13.8	141	17.2	173
582	188	529	38.0	31.3	4.03	29.0	8.82	321	9.61	204
583	229	1910	51.3	35.0	6.75	52.8	11.1	1260	8.50	581
584	687	441	94.3	83.8	6.36	47.1	23.9	196	17.1	217
585	148	478	25.2	17.8	3.92	25.3	5.42	209	5.10	196
*Rep 585	144	478	24.7	17.3	3.93	25.5	5.29	215	5.11	198
586	109	295	18.1	14.2	2.56	16.1	4.03	128	5.21	120
587	>1000	3280	364	232	40.8	340	77.5	1230	24.8	1610
588	732	1510	141	91.2	16.3	107	30.1	610	11.4	656
589	500	732	112	73.5	12.2	77.7	24.0	261	9.31	385
590	813	1060	142	98.8	15.1	99.5	32.0	412	12.9	528
591	922	1210	163	114	17.2	114	35.9	483	15.4	592
592	587	1080	108	71.9	12.1	77.3	23.4	423	9.69	462
593	168	156	27.0	21.2	2.23	17.1	6.37	68.8	5.49	78.5
594	636	679	124	87.9	11.1	79.5	28.0	290	15.3	345
595	814	939	157	108	14.9	105	34.3	450	21.8	477
596	>1000	3200	276	172	31.2	265	58.0	1680	18.3	1220
597	490	1520	93.2	53.5	12.2	84.2	18.8	826	6.60	570
*Rep 597	482	1540	92.8	54.1	12.5	84.0	19.1	828	6.53	560
598	351	1050	83.3	49.1	11.5	71.9	16.6	560	8.01	452
599	>1000	1600	250	202	20.6	183	59.7	764	31.3	698

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Element Method Det.Lim. Units	Y @IMS95R 0.5 ppm	Ce @IMS95R 0.1 ppm	Dy @IMS95R 0.05 ppm	Er @IMS95R 0.05 ppm	Eu @IMS95R 0.05 ppm	Gd @IMS95R 0.05 ppm	Ho @IMS95R 0.05 ppm	La @IMS95R 0.1 ppm	Lu @IMS95R 0.05 ppm	Nd @IMS95R 0.1 ppm
600	>1000	3160	483	443	36.7	334	121	1690	76.2	1320
601	>1000	4420	>1000	991	108	982	315	1650	99.6	2650
602	578	928	119	67.4	13.7	110	24.0	423	9.22	453
603	>1000	4290	369	214	44.2	369	75.3	1940	21.8	1790
604	>1000	1450	220	141	21.2	181	47.2	605	14.9	701
605	>1000	5240	471	265	57.5	473	95.3	2290	24.4	2280
606	>1000	3630	387	234	42.6	358	80.4	1640	23.7	1550
607	>1000	2750	372	237	39.3	329	79.2	1030	20.7	1350
608	>1000	7560	662	392	74.9	644	135	3530	37.3	3030

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Element Method Det.Lim. Units	Pr @IMS95R	Sm @IMS95R	Tb @IMS95R	Th @IMS95R	Tm @IMS95R	U @IMS95R	Yb @IMS95R
561	32.5	23.3	3.49	34.3	3.60	5.74	38.2
*Rep 561	32.8	23.5	3.58	32.8	3.57	5.83	38.1
562	31.3	20.6	3.10	42.9	2.74	32.8	26.4
563	465	319	51.5	804	30.8	63.9	208
564	61.6	66.8	12.9	410	7.79	25.7	57.2
565	3.81	2.7	0.48	7.2	0.63	9.56	7.5
566	11.3	5.9	0.76	25.2	0.61	4.99	5.9
567	48.2	31.1	4.78	316	3.97	16.9	33.3
568	479	315	52.1	>1000	32.1	96.8	195
569	112	58.9	9.10	135	6.00	11.2	37.9
570	526	276	53.7	65.6	52.9	8.52	324
571	380	341	60.0	>1000	31.8	89.9	186
572	20.8	15.2	2.88	22.0	2.72	30.8	21.4
573	109	73.3	13.3	62.3	9.99	8.63	56.8
*Rep 573	106	71.7	12.9	61.4	9.65	8.58	55.5
574	48.1	35.4	6.25	32.6	4.56	14.4	29.7
575	104	76.2	12.6	44.5	6.40	4.56	33.7
576	89.1	73.4	13.5	82.3	10.5	164	85.4
577	28.9	32.6	6.57	>1000	8.83	36.3	85.2
578	13.3	12.0	2.58	209	6.49	23.6	74.2
579	17.0	21.5	5.72	279	9.48	28.7	85.0
580	19.5	23.1	6.04	60.1	9.14	21.9	88.2
581	42.2	42.8	8.82	354	9.56	19.2	89.7
582	58.1	35.4	6.09	434	5.94	37.1	53.3
583	186	68.2	9.43	224	5.99	27.3	50.0
584	55.4	49.2	12.4	544	14.5	46.4	109
585	54.2	34.7	4.59	32.8	3.36	7.56	29.6
*Rep 585	54.7	34.3	4.45	31.1	3.35	7.45	29.6
586	33.0	21.6	3.09	28.8	2.94	8.15	27.3
587	416	340	58.6	213	34.2	47.5	209
588	180	136	22.5	214	14.0	30.3	89.2
589	96.1	92.3	17.5	59.3	11.0	45.4	69.4
590	136	119	22.1	119	15.4	21.5	97.8
591	154	134	25.2	271	18.0	39.1	114
592	123	95.9	17.0	319	11.3	22.5	71.7
593	19.3	18.7	4.02	132	3.98	24.5	32.4
594	84.7	85.8	18.5	161	14.1	82.8	99.8
595	120	118	24.1	244	18.2	120	135
596	332	262	45.4	418	24.5	41.4	147
597	163	107	16.1	81.6	7.78	11.7	48.5
*Rep 597	163	106	16.4	83.2	7.73	11.6	48.2
598	123	91.6	14.2	188	7.53	49.3	51.9
599	182	162	35.5	>1000	35.1	89.2	240

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Element Method Det.Lim. Units	Pr @IMS95R	Sm @IMS95R	Tb @IMS95R	Th @IMS95R	Tm @IMS95R	U @IMS95R	Yb @IMS95R
600	0.05 ppm	0.1 ppm	0.05 ppm	0.1 ppm	0.05 ppm	0.05 ppm	0.1 ppm
601	350	293	66.6	>1000	78.1	214	548
602	607	788	197	361	147	130	855
603	115	106	19.4	149	9.95	20.7	64.8
604	487	369	62.0	384	30.0	60.6	179
605	179	167	33.5	109	21.0	29.4	128
606	602	480	81.3	>1000	36.9	81.4	211
607	411	345	62.9	542	33.8	55.2	200
608	343	307	59.4	304	33.8	43.3	190
	831	631	109	838	55.9	90.6	320

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