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## *Certificate of Participation*

This is to certify that

*Zarazma Minerals Studies Company*

has participated in the April 2009  
Geostats Survey of International Laboratories

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Statistical / Mathematical Consultant

*P.J. Hayes*  
Managing Director

Geostats Laboratory Survey  
April 2009

Prepared for  
Zarazma Minerals Studies Company

Confidential



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HOUSES AND CLIENT ANALYTICAL COMPANIES.  
THIS DOCUMENT SHOULD NOT BE CIRCULATED OUTSIDE THE COMPANY WHOSE  
NAME APPEARS ON THE COVER.**

To the reader,

This survey of laboratories undertaken by Geostats is performed as a service to both the Mining Industry and the Analytical Industry. It is envisaged that it can be used as a tool for the maintenance of high standards in both industries.

The report to the Mining Houses identifies most commercial laboratories and should be treated as confidential information. Some commercial facilities prefer to pay for the inclusion of their sites and these are not identified to the Mining Houses. This report should not be circulated outside of the Client Company or reproduced for the benefit of other mining groups.

It is not the intent of this survey to provide marketing tools for the analytical industry. A laboratory report is available which identifies only the laboratory or group requesting the report. This allows the laboratory to assess their performance in relation to the rest of the analytical industry. All the laboratories identified have taken advantage of this report and included it as part of their ongoing quality control procedures. Participation in these surveys is an indication of the laboratory's interest in quality and should be regarded as a positive sign regardless of the outcome.

Many thanks to both the laboratories and the Mining Houses for their ongoing support of this survey.

Peter Hayes  
Managing Director  
Geostats Pty Ltd  
11th May 2009

# Geostats Pty Ltd, O'Connor, Western Australia.

## Listing of Participating Laboratories for Round Robin - April 2009

### Western Australia

ACTLABS PER Actlabs Pacific Pty Ltd  
 ALSC KAL ALS Chemex - Kalgoorlie (Met)  
 ALSC PERTH ALS Chemex - Perth  
 AMD ADL Amdel Laboratory - Adelaide  
 AMD KAL Amdel Laboratory - Kalgoorlie  
 AMMTEC Ammtec Laboratory  
 GEN PER Genalysis Laboratory Services Pty Ltd  
 KALGOORLIE AL Kalassay Group (Kalgoorlie Assay Laboratory)  
 LABWEST LabWest  
 LEONORA AL Kalassay Group (Leonora/Laverton Assay Laboratory)  
 KAL PER Kalassay Group (Perth Assay Laboratory)  
 SGS KALG SGS Kalgoorlie  
 SGS NEWBURN SGS Newburn  
 SGS ORETEST SGS Orestest  
 SAR LAB Standard & Reference Laboratories  
 ULTRA Ultra Trace Pty Ltd

### New South Wales

ALSC ORANGE ALS Chemex - Orange  
 SGS WYALONG SGS Wyalong

### Queensland

ALSC BRIS ALS Chemex - Brisbane  
 ALSC TVL ALS Chemex - Townsville  
 SGS TOWNSVILLE SGS Townsville

### Argentina

ALEX MENDOZA Alex Stewart Assayers Argentina SA

### Brazil

SGS LF BELO HOR SGS Lakefield Geosol Laboratory

### Burkina Faso

ALSC OUAGADOUGOU Abilab Burkina SARM  
 SGS OUAGADOUGOU SGS Laboratory

### Canada

ACME VAN Acme Analytical Laboratories Ltd  
 ACTLABS CAN Activation Laboratories Ltd (Canada)  
 ALSC QUEBEC ALS - Chemex (Val d'Or)  
 ALSC VAN ALS Chemex - Vancouver  
 BECQUEREL-NAA Bequerel Laboratories Inc  
 BOURLAMAQUE Bourlamaque Assay Laboratories Ltd  
 SGS LAKEFIELD SGS Lakefield (Ontario)  
 SGS TORONTO SGS Laboratories (Toronto)  
 TSL SASKATCHEWAN TSL Laboratories

### Chile

ACME CHILE Acme Analytical Laboratories Chile SA  
 ACTLABS CHILE Actlabs Chile SA  
 ALSC LASERENA ALS Chemex - Chile  
 VIGALAB CHILE Vigalab S.A.

### China

ALSC CHINA ALSC Guangzhou (China)  
 ITS BEIJING Intertek Testing Services, Ltd, Shanghai - Beijing Branch

### Finland

LABTIUM FIN Labtium Laboratories

### France

FILAB CHENOVE Laboratories Filab

### India

SHIVA INDIA Shiva Analyticals (India) Ltd

### Indonesia

GEOSERVICES IND PT. Geoservices Ltd  
 ITS GOSOWONG Gosowong Gold Project Lab  
 ITS INDO Intertek Testing Services, Jakarta  
 SGS KALTIM SGS Indo Assay Laboratories  
 SUCOFINDO INDO Sucofindo Timika Laboratory

### Ireland

OMAC Omac Laboratories - Ireland

### Kyrgyz Republic

ALEX KYRGYZ Alex Stewart Assay and Environmental Laboratories Ltd

### Laos

ALSC LAOS ALSC Vientiane (Laos)

### Mali

ALSC MALI Groupe de Laboratoire ALS Mali SARM  
 SGS KAYES SGS Laboratory

### Mongolia

ACTLABS MONGOLIA Actlabs Asia LLC  
 SGS ULAAN SGS Ulaanbaatar

### New Zealand

AMD NZ MACRAES Amdel Macraes Laboratory - New Zealand  
 AMD NZ REEFTON Amdel Reefton Laboratory - New Zealand  
 SGS NZ SGS New Zealand, Minerals Laboratory

### Papua New Guinea

ITS MOROBE ITS (PNG) Limited

### Peru

ACTLABS LIMA Actlabs - Skyline Peru SAC  
 ALSC LIMA ALS Peru S.A.  
 CIMM PERU CIMM Peru SA  
 INSPECTORATE PERU Inspectorate Services Peru SAC  
 SGS LIMA SGS del Peru S.A.C.

### Phillipines

McPHAR McPhar Geoservices Inc

### Romania

ALSC ROSIA MONT Romanalize SRL

### Russia

ALEX MOSCOW Alex Stewart Geochemical Ltd

### Saudi Arabia

ALAMRI JEDDAH Al Amri Laboratory

### South Africa

AARL JOBURG Anglo Research, Crown Mines - AS  
 ALSC JOBURG ALS-Chemex - Johannesburg  
 MINTEK SA Mintek  
 PERF PLR Performance Laboratories (PLR)  
 PERF PLW Performance Laboratories (PLW)  
 SCI SER Scientific Services Pty Ltd  
 SET POINT SA Set Point Laboratories  
 SGS JOBURG SGS South Africa Booysens

### Spain

FUND ITMA SPAIN Fundacion Itma

### Tanzania

HUMAC Humac Laboratories (Tanzania)

### United States of America

ALASKA AL Alaska Assay Laboratories  
 ALSC RENO ALS Chemex - Reno  
 AMERICAN American Assay Laboratories  
 FLORIN RENO Florin Analytical Services  
 INSPECTORATE NEV Gen. Mgr. Analytical Services

### Zimbabwe

ANTECH Antech Laboratory

### Mine Laboratories

AFRICAN COPPER African Copper Mining - Mowana Mine  
 ALUMBRERA ARG Minera Alumbrera Limitada  
 APEX WILUNA Apex Gold  
 AVOCET IND PT. Avocet Bolaang Mongondow  
 BALD MOUNT Bald Mountain Mine Assay Lab  
 BARRICK VAN Barrick Technology Centre  
 BONG MIEU Bong Mieu Gold Mine Laboratory (Vietnam)  
 BULYANHULU TANZ Bulyanhulu Mine Assay Lab  
 BUZWAGI Pangea Minerals Ltd  
 CAMPBELL Goldcorp Inc.  
 CHATREE THAI Laboratory - Chatree Gold Mine  
 CHEM LAB XSTR Xstrata Chemical Laboratory  
 CORTEZ MINE Cortez JV Mine Assay Lab  
 COSMOS NI Cosmos Mine Laboratory  
 DARLOT MINE Darlot Gold Mine Assay Lab  
 EH MINE XSTR Ernest Henry Mine Laboratory  
 EZANA ETHIOPIA Ezana Mining Development PLC  
 FLIN FLON MINE Flin Flon Mine Laboratory  
 GC GUATEMALA Marlin Mine  
 GOLD FIELDS GHANA Gold Fields Ghana Ltd  
 GOLD SUNLIGHT MINE Golden Sunlight Mine Assay Lab  
 GOLDEN GROVE Oz Minerals Golden Grove  
 GOLDSTRIKE Barrick Analytical Laboratory  
 GRANITES Granites Gold Mine  
 GRANNYS Granny Smith Gold Mine Laboratory  
 HEMLO MINE Williams Operating Corporation  
 ITS MATARAM ITS Lab / PT Newmont Nusa Tenggara  
 KOZAGOLD TURKEY Koza Gold Mine Laboratory  
 KUMTOR KYRGYZ Chief Assayer  
 LAGUNAS MINE Minera Barrick Misquichila S.A.  
 LIHIR Lihir Gold - Minesite Laboratory  
 MARIKOLD MINES Marikold Mining Company - Assay Lab  
 MUPANE BOTS Mupane Gold Project Lab  
 MUSSELWHITE Musselwhite Mine Laboratory  
 NEW BOLIVIA Empresa Minera Inti Raymi S.A.  
 NEW GC Newmont Mining Corporation (GC) - Carlin Laboratory  
 NEW LONE Newmont - Lone Tree Mine  
 NEW PERU Minera Yanacocha SRL - Newmont Lab (Peru)  
 NEW TWIN CM Newmont - Twin Creek Mine  
 NG STAWELL Stawell Gold Mine Laboratory  
 NORTH MARA North Mara Minesite Laboratory  
 ONHYM MOROCCO ONHYM  
 OSBORNE MINE Osborne Mine Assay lab  
 PENJOM MALAYSIA Penjom Gold Mine  
 PHU BIA LAOS Phu Bia Mining Limited  
 PORGERA Porgera Gold Mine Laboratory  
 QINGHAI CHINA Qinghai Dachaidan Mining Limited  
 ROUND MOUNT MINE Round Mountain Gold Assay Lab  
 SEPON LAOS Main Warehouse, Lane Xang Minerals  
 SGS JUNDEE SGS Jundee  
 SGS MALI GCEX Analabs West Africa  
 SGS SIGUIRI SGS Mineral Services (Guinee) SARM  
 TULAWAKA TANZ Tulawaka Mine Assay Lab  
 TUPRAG TURK Tuprag Kisladag Gold Mine  
 TURQ RIDGE MINE Turquoise Ridge JV Mine Assay Lab  
 UME URUGUAY Triselco S.A Laboratory  
 VELADERO MINE Veladero Project Assay Lab  
 ZARAZMA Zarazma Minerals Studies Company

## REPORT ON LABORATORY SURVEY – April 2009

A round robin to measure the accuracy of gold, silver, sulphur and base metal analyses from 144 laboratories was conducted during April 2009. The results of this survey are a measure of the ability of a laboratory to accurately analyse a pre-prepared pulp.

The ability of a laboratory to crush, split and prepare the sample without contamination is not measured by this survey. Knowledge of sampling machinery and the ability to design efficient flow systems with in-built homogeneity checks is required in order to develop confidence in the sample preparation.

The reference samples submitted to the laboratories consisted of:

- 10 gold standards
- 5 low level gold standards
- 4 gold and silver on carbon standards
- 10 geochemical base metal standards
- 6 ore-grade base metal standards
- 10 sulphur standards

Companies operating more than one laboratory have received extra filler samples, which are not used in the calculations. The Geostats numbering system makes it extremely difficult for any cross collation of results from one laboratory to the next. This provides a level playing field for all laboratories, whether they are sole operators or members of a large laboratory group.

We use a double entry system to build an accurate database. Two individuals enter all the data and when complete these two files are cross-checked and the source data is consulted to rectify any errors. The mean values used for calculations in this study are checked visually by preparing histograms. Outliers are removed and the remaining population distributions are tested for normality. All outliers are checked back to the original assay report for a third and final time.

### **GOLD SAMPLES**

Three lots of gold samples were submitted to the laboratories, one lot for fire assay, one for aqua regia digest (or similar) and one for low-level (<200 ppb) gold. Becquerel Canada performed Neutron Activation Analysis on all samples, reporting a gold + 33 element analysis which has been included at the end of this report. Becquerel Canada can be contacted through Steven Simpson at [ssimpson@becquerellabs.com](mailto:ssimpson@becquerellabs.com)

### **GOLD AND SILVER ON CARBON SAMPLES**

Four gold and silver on carbon standards were included in this survey, both loaded and barren. The method of analysis for these samples was left up to the individual laboratories.

### **GEOCHEM BASE METAL SAMPLES**

The base metal samples were analysed for copper, lead, zinc, nickel, arsenic, silver and cobalt. The method of analysis for base metal samples was left to the discretion of the laboratory manager. Becquerel Canada performed Neutron Activation Analysis and some mine laboratories performed XRF analyses. Digest levels were read on ICP or AAS. Methods are listed in the results page for the respective analyte.

## **ORE GRADE BASE METAL SAMPLES**

Six ore-grade and concentrate samples are included in the survey. These are assayed primarily for copper, lead, silver and sulphur. Other elements are reported but not in sufficient numbers for inclusion in the report. These high-grade materials are analysed at the chemist's discretion but almost always using ore-grade techniques. Some use classical analyses while others use XRF or other methods. However, some of these products have, for example, high lead but low copper and the method for copper analysis may be inappropriate for low levels. Owing to this characteristic, only higher grade analyses are plotted in the related charts.

## **SULPHUR SAMPLES**

Ten sulphur standards were prepared for the survey. These ten new standards are a good mix of values with sulphur values up to 30%.

All the standards used in this survey are available for purchase.

## **RESULTS**

The results of the analyses are presented in three forms:

1. A table showing values as reported from the laboratories. These are presented in columns according to their respective sample identifiers, with each result's standardised Z value also displayed. Outliers are highlighted and assigned a Z value of 3.00 or -3.00. General statistics are listed at the top of each table.
2. Bar chart for each element showing the sum of absolute standardised values divided by the count of absolute standardised values.
3. Bar chart for the mean of standardised values.

## **EXAMINATION OF RESULTS - METHODOLOGY**

1. Double entry of all data and validation by cross-checking. Confirm any anomalous values.
2. Produce basic statistics on results, including:
  - a. count
  - b. mean
  - c. median
  - d. standard deviation
  - e. minimum
  - f. maximum
  - g. error (95% Confidence Interval)
  - h. percentage error of mean (error as a percentage of the calculated mean).
3. Produce summary statistics and assay sheet.
4. Run outlier macro to find obvious outlier values.
5. Generate 'Z' intervals for remaining data (from calculated mean).
6. Check that median and mean are similar to verify a normal distribution.
7. Standardise remaining values i.e. subtract the mean and divide by the standard deviation.

8. Add results from each laboratory in 'standardised values' calculations (positive and negative) and divide by count.
9. Produce 'Mean of Standardised Values' Bar Charts.
10. Add absolute values from each laboratory in 'standardised values' calculations.
11. Divide result by count of results to calculate average absolute standard value for laboratory performance on each element.
12. Produce 'Mean of Absolute Standardised Values' Bar Charts.

## **CHARTS**

The 'Mean of Standardised Values' charts (blue in reports) indicate any bias shown by laboratories on a particular element, but do not show any general error which might be plus and minus the mean. The 'Mean of Absolute Standardised Values' charts (pink in reports) indicate the general error but no bias.

# **INTERPRETATION OF RESULTS**

## **SUMMARY STATISTICS AND ASSAY TABLES**

These tables are self-explanatory. The row titled 'error' refers to the margin of error expected at 95% confidence. That is, the standard normal probability or 'Z' statistic representing 95% (1.96) is multiplied by the standard deviation and the result is divided by the square root of the population. We can be 95% confident that the true mean lies between mean minus error and mean plus error. The row titled '% error in mean' is simply this margin of error expressed as a percentage of the calculated mean. Outliers are highlighted and not used for calculations at the top of the tables.

## **STANDARDISED VALUES**

These numbers are generated using the following formula. Reported value minus the mean, result of this divided by the standard deviation. This creates a new distribution with mean '0' and standard deviation '1'. Positive and negative numbers result from this calculation depending on whether the reported value is above or below the mean. Laboratories reporting outliers are manually assigned 3.00 or -3.00 as these results have been removed from automatic calculation. The higher the absolute number reported, the further the reported assay is from the calculated mean.

## **MEAN OF ABSOLUTE STANDARDISED VALUES (RED CHARTS)**

The bar representing each laboratory is the mean of the sum of the absolute standardised values reported on all assays of the element in question. That is, the absolute sum of the rows in the Standardised Values Table divided by the number of assays. These charts give a visual representation to the general error shown by the particular laboratories. These charts do not show bias.

## **MEAN OF STANDARDISED VALUES (BLUE CHARTS)**

These charts show the mean of standardised values with negative values included. A direction of error or bias can be interpreted from laboratories showing high values, negative or positive.



## BRIEFLY

General error is indicated in absolute column charts.

Bias is indicated in negative/positive column charts.

The column charts show indications of error or direction of error - check the real data in the tables before coming to any decision as to the significance of this error. Also pay attention to the grade of the standard materials with regard to the laboratory level of detection. Some laboratories may report outliers due to the limitations of their methodology.

## LEGEND FOR METHODS & READINGS

### METHODS

### READINGS

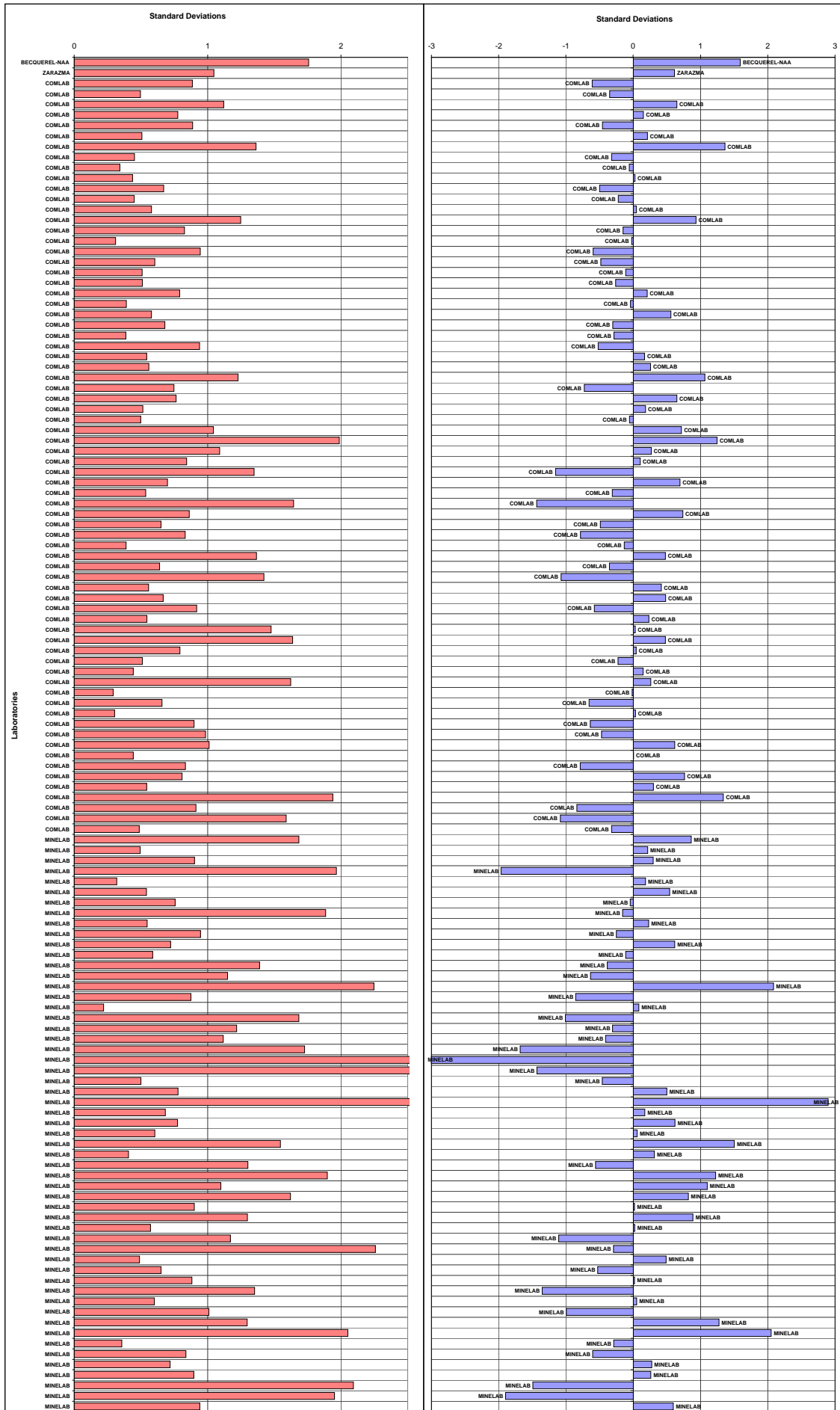
2AD	2 Acid Digest	AAS	Atomic Absorption Spectroscopy
3AD	3 Acid Digest	ICP	Inductively Coupled Plasma - Unspecified
4AD	4 Acid Digest	ICP-ES	ICP - Emission Spectroscopy
AR	Aqua Regia	ICP-MS	ICP - Mass Spectroscopy
Ash	Ashing	Grav	Gravimetric
BaCl <sub>2</sub>	Barium Chloride	NAA	Neutron Activation Analysis
BaSO <sub>4</sub>	Barium Sulphate	XRF	X-Ray Fluorescence
BO <sub>3</sub> fusion	Borate Fusion	IR	Infrared
CSA	Carbon and Sulphur Analyser		
FA	Fire Assay		
Fusion	Fusion		
Grav	Gravimetric		
HF	Hydrofluoric Acid		
Leachwell	Leachwell		
Li Fusion	Lithium Fusion		
MAD	Multi Acid Digest		
Na <sub>2</sub> O <sub>2</sub>	Sodium Peroxide		
NAA	Neutron Activation Analysis		
Pb Fusion	Lead Fusion		
Perc	Perchloric Acid		
PP	Pressed Powder		
Titra	Titration		
GF	Graphite Furnace		
SE	Solvent Extraction		
GTA	Graphite Tube		
Red Pb	Red Lead		
Vol	Volumetric		
XRF	X-Ray Fluorescence		

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ZINC ANALYSIS (Geochem)	17	Summary statistics, Assays, Standardised Values
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	28	Mean of Positive Standardised Values (General Error) Mean of Standardised Values (General Bias)
ZINC ANALYSIS (Ore Grade)	29	Summary statistics, Assays, Standardised Values
	30	Mean of Positive Standardised Values (General Error) Mean of Standardised Values (General Bias)
SILVER ANALYSIS (Ore Grade)	31	Summary statistics, Assays, Standardised Values
	32	Mean of Positive Standardised Values (General Error) Mean of Standardised Values (General Bias)
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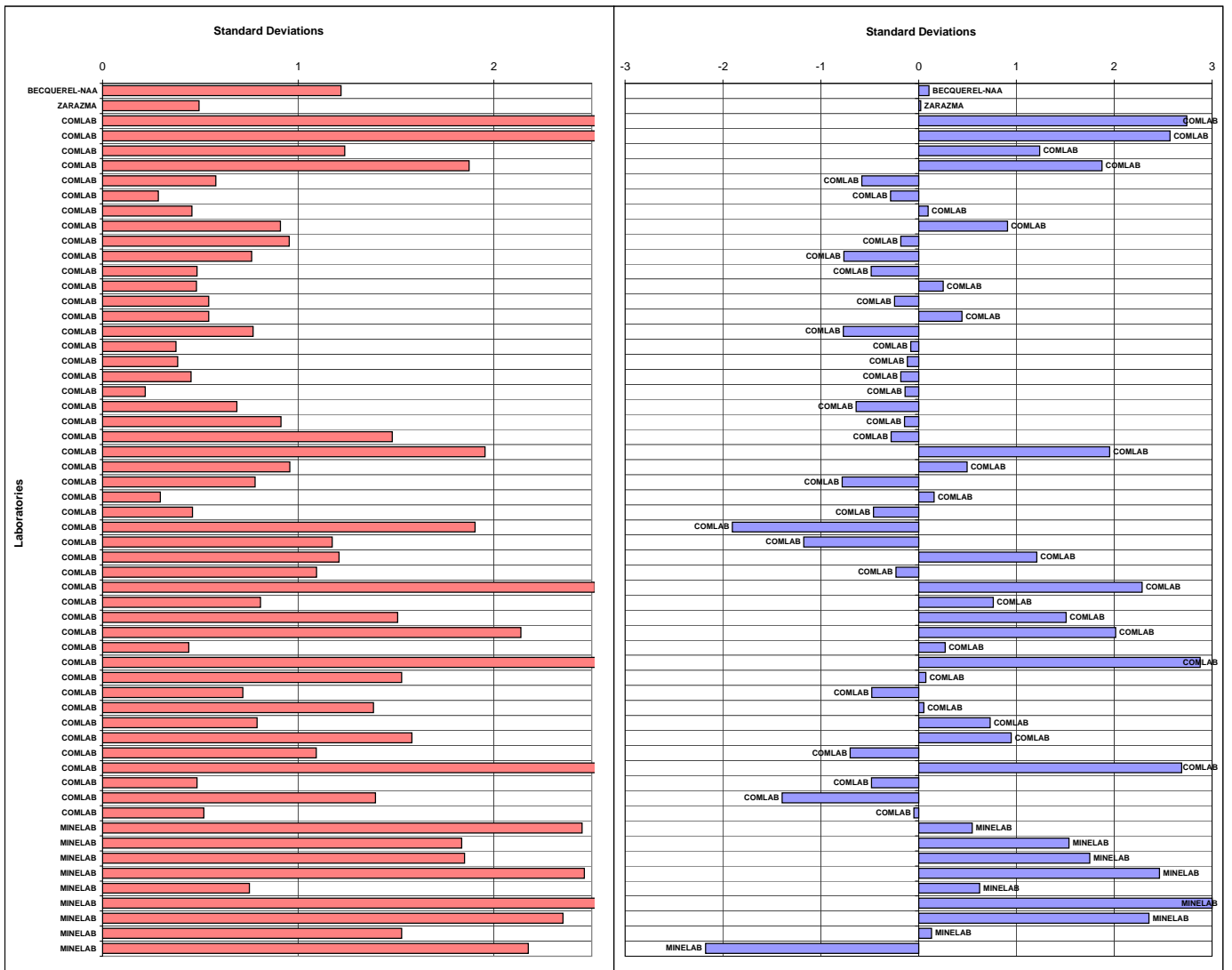


## Low Grade Gold Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009

Standard Reference	GLG309-1	GLG309-2	GLG309-3	GLG309-4	GLG309-5
MEAN (ppb)	165	54	35	2	2
STDEV (ppb)	18	5	2	1	1
95% CI (ppb)	5	1	1	0	0
95% CI (%)	2.98%	2.51%	2.00%	13.96%	15.37%
MIN (ppb)	120	47	31	1	1
MEDIAN (ppb)	163	52	34	2	2
MAX (ppb)	208	66	40	4	5
IQR (ppb)	24	5	3	1	1
COUNT	54	48	42	27	32

Standard Reference	GLG309-1		GLG309-2		GLG309-3		GLG309-4		GLG309-5		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
BECQUEREL-NAA	170	0.30	61	1.60	38	1.42	1	-1.45	1	-1.33	NAA	
ZARAZMA	188	1.29	52	-0.32	34	-0.34	2	-0.15	2	-0.37	FA	AAS
COMLAB	205	2.22	70	3.00	51	3.00	<1	blid	<1	blid	FA	AAS
COMLAB	180	0.85	84	3.00	46	3.00	23	3.00	22	3.00	FA	AAS
COMLAB	185	1.12	59	1.17	38	1.42	<5	blid	<5	blid	FA	AAS
COMLAB	208	2.38	64	2.24	45	3.00	3	1.15	3	0.59	FA	AAS
COMLAB	150	-0.80	51	-0.55	32	-1.05	2	-0.41	2	-0.08	FA	AAS
COMLAB	164	-0.03	51	-0.53	34	-0.34	2	-0.15	2	-0.37	FA	AAS
COMLAB	167	0.13	51	-0.53	35	0.10	3	1.15	2	-0.37	FA	AAS
COMLAB	166	0.08	54	0.11	40	2.30	3	1.15	<3	blid	AR	AAS
COMLAB	168	0.19	48	-1.17	31	-1.67	3	1.15	3	0.59	AR	ACP-MS
COMLAB	150	-0.80	50	-0.75	33	-0.78	2	-0.15	1	-1.33	FA	ICP-ES
COMLAB	152	-0.69	50	-0.75	34	-0.34	2	-0.15	<1	blid	FA	ICP-ES
COMLAB	171	0.35	57	0.75	34	-0.34	<1	blid	<1	blid	FA	ICP-ES
COMLAB	156	-0.47	52	-0.32	33	-0.78	<2	blid	3	0.59	FA	ICP-ES
COMLAB	161	-0.20	55	0.32	35	0.10	5	blid	4	1.55	FA	ICP-ES
COMLAB	155	-0.53	49	-0.96	32	-1.22	<1	blid	2	-0.37	FA	ICP-AES
COMLAB	164	-0.03	51	-0.53	34	-0.34	<2	blid	3	0.59	FA	AAS
COMLAB	159	-0.31	52	-0.32	36	0.54	<1	blid	2	-0.37	FA	AAS
COMLAB	154	-0.58	52	-0.32	36	0.54	<2	blid	2	-0.37	FA	DIBK
COMLAB	165	0.02	51	-0.53	35	0.10	nr	nr	nr	nr	FA	AAS
COMLAB	165	0.02	51	-0.53	35	0.10	1	-1.45	1	-1.33	FA	ICP
COMLAB	179	0.79	57	0.75	33	-0.78	<1	blid	1	-1.33	FA	
COMLAB	160	-0.25	38	-3.00	33	-0.78	8	3.00	2	-0.37		
COMLAB	176	0.63	64	2.24	45	3.00	<5	blid	<5	blid	AR	AAS
COMLAB	152	-0.69	55	0.32	39	1.86	<5	blid	<5	blid	FA	AAS
COMLAB	146	-1.02	51	-0.53	33	-0.78	<5	blid	<5	blid	FA	AAS
COMLAB	163	-0.09	53	-0.11	36	0.54	2	-0.15	3	0.59	FA	AAS
COMLAB	160	-0.25	50	-0.75	33	-0.78	2	-0.15	2	-0.37	AR	AAS
COMLAB	86	-3.00	25	-3.00	22	-3.00	2	-0.15	2	-0.37	FA	ICP-MS
COMLAB	136	-1.57	48	-1.17	34	-0.34	1	-1.45	1	-1.33	FA	
COMLAB	220	3.00	55	0.32	37	0.98	3	1.15	3	0.59	FA	AAS/GTA
COMLAB	178	0.74	51	-0.53	38	1.42	1	-1.45	1	-1.33	AR	AAS
COMLAB	154	-0.58	74	3.00	54	3.00	27	3.00	31	3.00	AR	ICP-MS
COMLAB	177	0.68	53	-0.11	36	0.54	3	1.15	4	1.55	FA	AAS
COMLAB	184	1.04	66	2.68	35	0.05	3	0.76	9	3.00	FA	ICP
COMLAB	159	-0.31	60	1.38	51	3.00	13	3.00	10	3.00	AR	
COMLAB	160	-0.25	56	0.53	36	0.54	<5	blid	<5	blid	FA	ICP-ES
COMLAB	208	2.38	82	3.00	48	3.00	14	3.00	15	3.00	FA	
COMLAB	146	-1.02	47	-1.39	32	-1.22	4	2.45	4	1.55	FA	AAS
COMLAB	141	-1.30	52	-0.32	32	-1.22	2	-0.15	3	0.59	FA	AAS
COMLAB	132	-1.79	47	-1.39	70	3.00	2	-0.15	3	0.59	AR	
COMLAB	178	0.74	56	0.53	37	0.98	2	-0.15	4	1.55	FA	AAS
COMLAB	142	-1.24	55	0.32	34	-0.34	5	3.00	7	3.00	AR	AAS
COMLAB	155	-0.53	48	-1.17	37	0.98	1	-1.45	1	-1.33		AAS
COMLAB	191	1.45	78	3.00	94	3.00	33	3.00	360	3.00	FA	AAS
COMLAB	158	-0.36	50	-0.75	33	-0.78	2	-0.15	2	-0.37	FA	ICP-MS
COMLAB	144	-1.13	47	-1.39	31	-1.67	nr	nr	nr	nr		
COMLAB	186	1.18	52	-0.32	34	-0.34	2	-0.67	2	-0.08		
MINELAB	150	-0.80	30	-3.00	50	3.00	20	3.00	<20	blid		
MINELAB	167	0.13	50	-0.75	40	2.30	9	3.00	10	3.00	FA	GF/AAS
MINELAB	162	-0.14	53	-0.11	54	3.00	20	3.00	20	3.00	AR	ICP-MS
MINELAB	240	3.00	60	1.38	45	3.00	blid	blid	blid	blid	FA	AAS
MINELAB	185	1.12	54	0.13	34	-0.17	2	-0.15	5	2.19	FA	ICP-ES
MINELAB	580	3.00	120	3.00	140	3.00	330	3.00	70	3.00	FA	AAS
MINELAB	182	0.96	62	1.81	45	3.00	17	3.00	14	3.00	FA	AAS
MINELAB	120	-2.45	55	0.32	34	-0.34	blid	blid	10	3.00	FA	ICP-MS
MINELAB	155	-0.53	30	-3.00	10	-3.00	<5	blid	<5	blid	FA	AAS

Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values



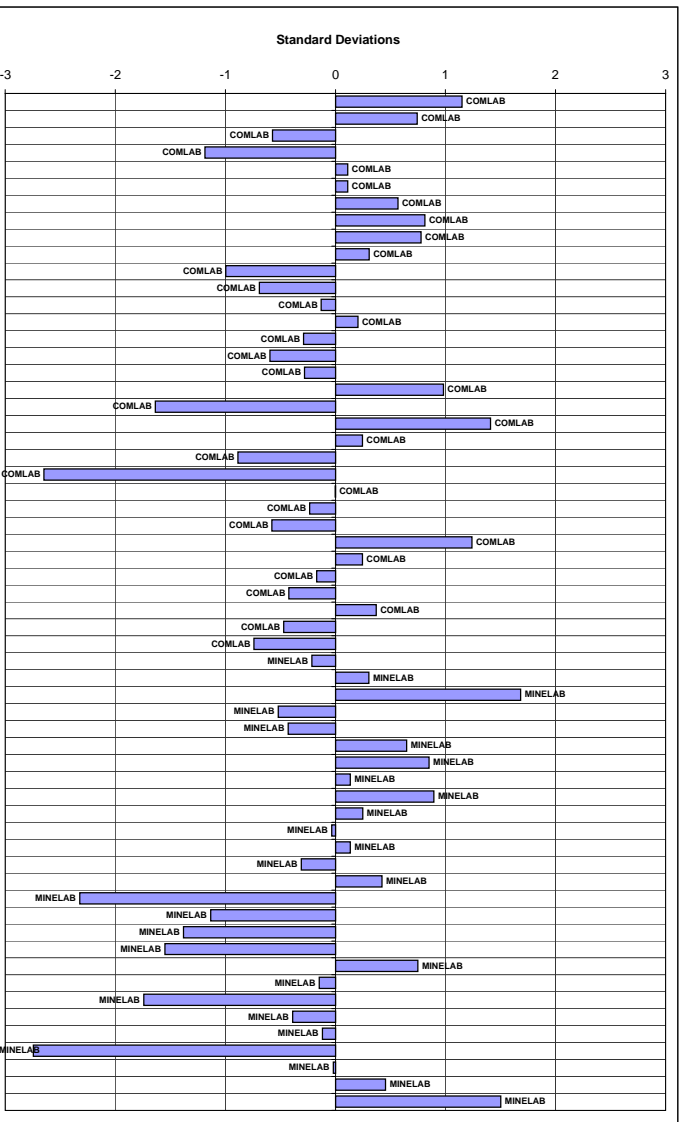


**Gold on Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009**

Standard Reference	GBC309-1	GBC309-2	GLC309-1	GLC309-2
MEAN (ppm)	246	260	3947	2949
STDEV (ppm)	18	16	305	150
95% CI (ppm)	5	4	79	39
95% CI (%)	1.95%	1.60%	2.01%	1.32%
MIN (ppm)	210	219	3210	2571
MEDIAN (ppm)	244	262	3968	2961
MAX (ppm)	283	297	4441	3295
IQR (ppm)	23	17	418	197
COUNT	56	57	58	58

Standard Reference	GBC309-1		GBC309-2		GLC309-1		GLC309-2		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB	267	1.18	281	1.30	4370	1.39	3060	0.74	FA	Grav
COMLAB	277	1.73	243	-1.10	4245	0.98	3154	1.36	FA	Grav
COMLAB	224	-1.20	261	0.04	3800	-0.48	2851	-0.65	FA	AAS
COMLAB	232	-0.76	236	-1.53	3566	-1.25	2767	-1.21	FA	Grav
COMLAB	248	0.13	263	0.17	3910	-0.12	2990	0.27		AAS
COMLAB	244	-0.09	267	0.42	3880	-0.22	3000	0.34		AAS
COMLAB	258	0.68	273	0.80	4330	1.26	2880	-0.46	FA	Grav
COMLAB	272	1.45	266	0.36	4200	0.83	3040	0.60		AAS
COMLAB	267	1.15	271	0.68	4136	0.62	3048	0.65	FA	Grav
COMLAB	240	-0.31	275	0.92	3810	-0.45	3110	1.07	Met4G	AAS
COMLAB	238	-0.43	259	-0.08	3210	-2.42	2790	-1.06	Ash/AR	AAS
COMLAB	226	-1.09	259	-0.08	3640	-1.01	2860	-0.59		AAS/Grav
COMLAB	254	0.46	263	0.17	3811	-0.44	2843	-0.71	Ash/FA	Grav
COMLAB	240	-0.31	265	0.30	4084	0.45	3007	0.38	FA	Grav
COMLAB	233	-0.69	262	0.12	3759	-0.62	2955	0.04	FA	Grav
COMLAB	233	-0.70	248	-0.77	3893	-0.18	2840	-0.73	FA	Grav
COMLAB	213	-1.81	262	0.11	4100	0.50	2961	0.08	FA	Grav
COMLAB	271	1.40	270	0.60	4278	1.09	3076	0.85	FA	Grav
COMLAB	219	-1.47	243	-1.09	3498	-1.47	2571	-2.52	AR	AAS
COMLAB	254	0.46	284	1.49	4400	1.49	3280	2.20		AAS
COMLAB	243	-0.15	269	0.55	4069	0.40	2977	0.19	FA	Grav
COMLAB	236	-0.54	256	-0.27	3573	-1.22	2722	-1.51		Red Pb
COMLAB	<b>162</b>	<b>-3.00</b>	235	-1.59	<b>2772</b>	<b>-3.00</b>	<b>1876</b>	<b>-3.00</b>	Red Pb	Grav
COMLAB	242	-0.20	275	0.92	4047	0.33	2791	-1.05	FA	AAS
COMLAB	246	0.02	235	-1.59	4100	0.50	2970	0.14	FA	AAS/Grav
COMLAB	244	-0.09	227	-2.09	3832	-0.38	2988	0.26		
COMLAB	278	1.77	276	0.97	4317	1.21	3102	1.02	Pb fusion	AAS
COMLAB	249	0.18	273	0.80	4150	0.67	2850	-0.66	FA	Grav
COMLAB	260	0.79	260	-0.02	3805	-0.46	2800	-0.99	AR	
COMLAB	232	-0.76	242	-1.15	4010	0.21	2950	0.01	FA	Grav
COMLAB	253	0.40	275	0.92	3830	-0.38	3030	0.54	AR	
COMLAB	250	0.24	247	-0.84	3849	-0.32	2805	-0.96	Fusion	AAS/Grav
COMLAB	232	-0.76	232	-1.78	3867	-0.26	2924	-0.17	Ash/AR	AAS
MINELAB	237	-0.48	264	0.23	3740	-0.68	2960	0.07	FA	AAS
MINELAB	240	-0.31	260	-0.02	4205	0.85	3055	0.70	AR	
MINELAB	269	1.29	297	2.31	4385	1.44	3205	1.70		
MINELAB	246	0.02	270	0.61	3628	-1.04	2700	-1.66	Ash/AR	AAS
MINELAB	<b>178</b>	<b>-3.00</b>	219	-2.60	4428	1.58	3295	2.30		
MINELAB	271	1.37	268	0.51	4219	0.89	2921	-0.19	AR	AAS
MINELAB	238	-0.43	262	0.11	4441	1.62	3264	2.09	FA	AAS
MINELAB	276	1.67	232	-1.78	4049	0.34	2995	0.30	FA	Grav
MINELAB	273	1.48	267	0.41	4199	0.83	3079	0.86	FA	Grav
MINELAB	242	-0.18	274	0.84	3953	0.02	2996	0.31		AAS
MINELAB	234	-0.65	267	0.42	4102	0.51	2887	-0.41	FA	
MINELAB	248	0.13	261	0.04	3983	0.12	2986	0.24	Ash/AR	AAS
MINELAB	257	0.62	264	0.23	3530	-1.37	2840	-0.73	Ash/AR	AAS
MINELAB	252	0.35	270	0.61	4099	0.50	2984	0.23	AR	AAS
MINELAB	<b>120</b>	<b>-3.00</b>	<b>195</b>	<b>-3.00</b>	3323	-2.04	2762	-1.24	FA	Grav
MINELAB	217	-1.58	253	-0.46	3504	-1.45	2794	-1.03	FA	Grav
MINELAB	211	-1.92	238	-1.40	3606	-1.12	2786	-1.09		
MINELAB	216	-1.64	252	-0.52	3227	-2.36	2698	-1.67	FA	GRAV
MINELAB	258	0.68	254	-0.40	4381	1.42	3143	1.29		
MINELAB	232	-0.76	256	-0.27	4060	0.37	2960	0.07	AR	AAS
MINELAB	<b>57</b>	<b>-3.00</b>	<b>62</b>	<b>-3.00</b>	3946	0.00	2805	-0.96	Ash/AR	AAS
MINELAB	236	-0.54	255	-0.33	3741	-0.67	2947	-0.01	AR	AAS
MINELAB	240	-0.31	260	-0.02	3800	-0.48	3000	0.34	FA	AAS
MINELAB	210	-1.97	<b>190</b>	<b>-3.00</b>	<b>2900</b>	<b>-3.00</b>	<b>2400</b>	<b>-3.00</b>	FA	AAS
MINELAB	256	0.57	270	0.61	3690	-0.84	2887	-0.41	Ash/AR	AAS
MINELAB	243	-0.15	285	1.55	4020	0.24	2976	0.18		AAS
MINELAB	283	2.07	286	1.64	4269	1.06	3136	1.24	FA	AAS

Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values

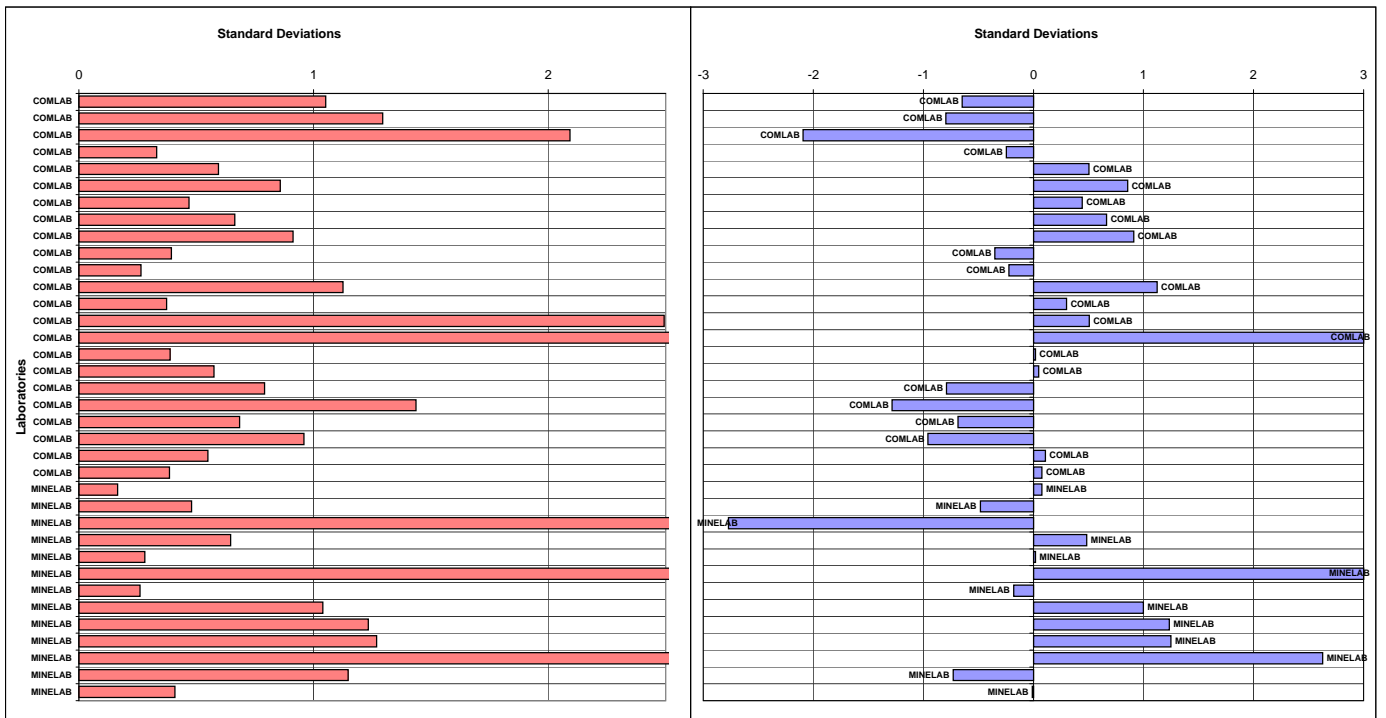


## Silver on Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009

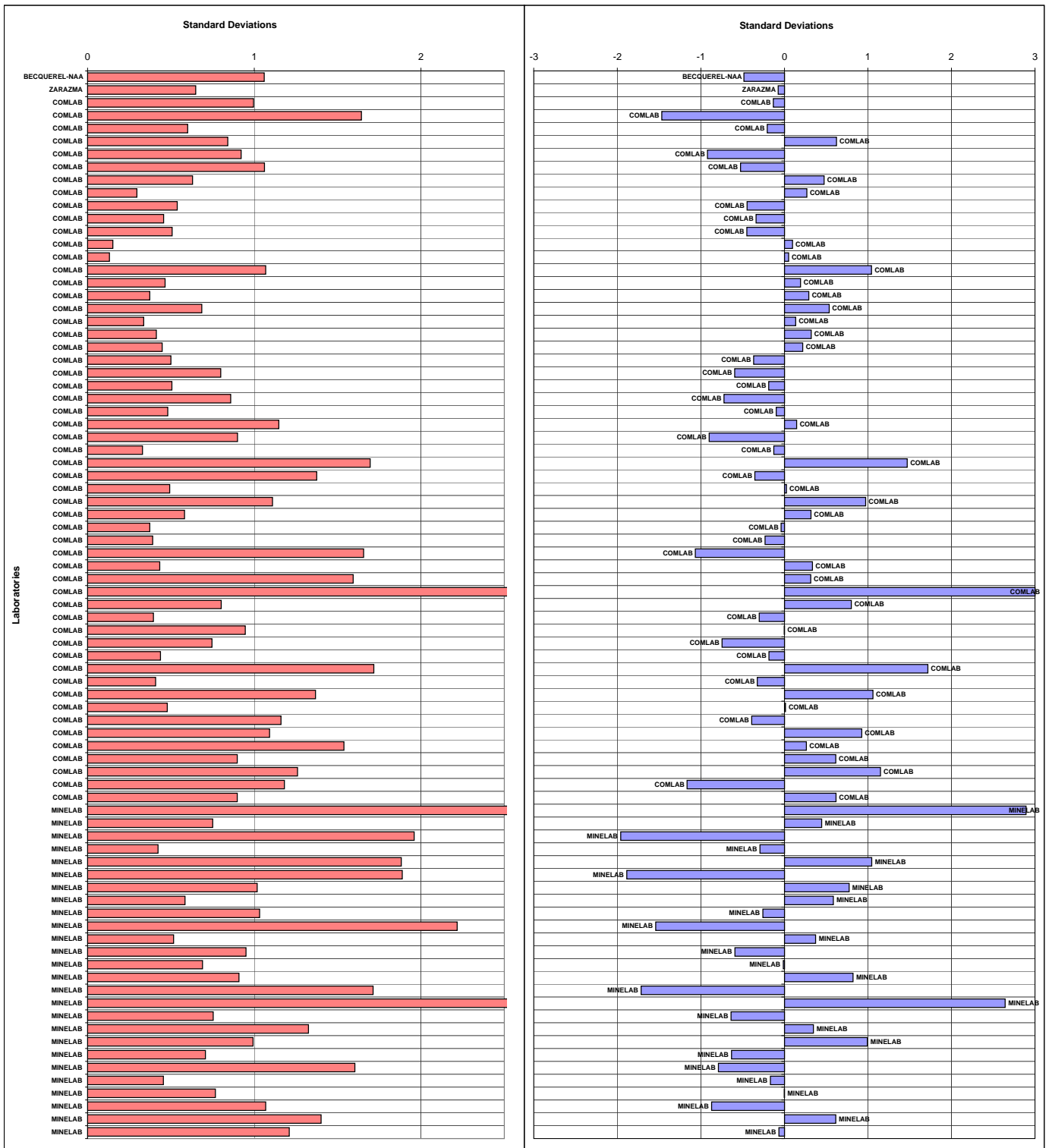
Standard Reference	GBC309-1	GBC309-2	GLC309-1	GLC309-2
MEAN (ppm)	101	76	366	257
STDEV (ppm)	24	15	45	40
95% CI (ppm)	8	5	17	14
95% CI (%)	8.11%	7.02%	4.60%	5.51%
MIN (ppm)	45	41	283	183
MEDIAN (ppm)	105	78	358	249
MAX (ppm)	156	110	455	360
IQR (ppm)	19	15	47	47
COUNT	33	31	29	32

Standard Reference	GBC309-1		GBC309-2		GLC309-1		GLC309-2		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB	120	0.81	51	-1.66	288	-1.72	256	-0.02	FA	Grav
COMLAB	124	1.00	49	-1.80	338	-0.63	186	-1.75	FA	Grav
COMLAB	45	-2.37	41	-2.33	283	-1.83	183	-1.84	2AD	AAS
COMLAB	105	0.17	72	-0.24	345	-0.46	239	-0.44	Ash/AR	AAS
COMLAB	102	0.05	92	1.11	358	-0.18	299	1.05		AAS
COMLAB	120	0.81	100	1.64	390	0.53	275	0.45		
COMLAB	100	-0.04	84	0.57	nr	nr	289	0.80		
COMLAB	125	1.00	87	0.75	398	0.71	264	0.19	FA	Grav
COMLAB	106	0.21	88	0.84	441	1.65	295	0.95		AAS/Grav
COMLAB	103	0.09	71	-0.31	353	-0.29	221	-0.89	3AD	AAS
COMLAB	96	-0.21	77	0.08	341	-0.54	248	-0.22	FA	Grav
COMLAB	133	1.36	88	0.84	429	1.38	294	0.92	FA	
COMLAB	115	0.60	80	0.30	387	0.46	251	-0.15	2AD	AAS
COMLAB	78	-0.97	135	3.00	197	-3.00	382	3.00	Red Pb	
COMLAB	461	3.00	453	3.00	1168	3.00	1071	3.00	Red Pb	Grav
COMLAB	114	0.55	69	-0.44	378	0.26	245	-0.29	AR	AAS
COMLAB	106	0.21	60	-1.06	411	0.98	259	0.06	Pb fusion	AAS
COMLAB	66	-1.48	52	-1.59	362	-0.09	257	0.00	Ash/4AD	AAS
COMLAB	65	-1.52	15	-3.00	380	0.31	220	-0.92	AR	
COMLAB	97	-0.17	67	-0.58	324	-0.93	214	-1.07	FA	AAS
COMLAB	72	-1.23	63	-0.85	296	-1.54	248	-0.22	AR	
COMLAB	123	0.93	81	0.38	343	-0.51	242	-0.37	Fusion	AAS/Grav
COMLAB	105	0.17	79	0.23	390	0.53	232	-0.62	Ash/AR	AAS
MINELAB	109	0.34	73	-0.18	369	0.06	260	0.08	FA	AAS
MINELAB	99	-0.08	69	-0.44	350	-0.35	215	-1.04	AR	
MINELAB	52	-2.08	12	-3.00	223	-3.00	107	-3.00	AR	AAS
MINELAB	118	0.72	74	-0.11	436	1.54	248	-0.22	4AD	AAS
MINELAB	105	0.17	82	0.43	358	-0.18	243	-0.34		AAS
MINELAB	346	3.00	307	3.00	627	3.00	517	3.00	FA	
MINELAB	89	-0.51	78	0.16	358	-0.18	249	-0.20		
MINELAB	99	-0.08	80	0.30	455	1.96	330	1.82		
MINELAB	156	2.33	81	0.36	410	0.97	308	1.27	AR	AAS
MINELAB	106	0.21	75	-0.04	544	3.00	330	1.82	Ash/AR	AAS
MINELAB	<100	bid	110	2.32	540	3.00	360	2.57	FA	AAS
MINELAB	70	-1.31	88	0.84	290	-1.67	226	-0.77	Ash/AR	AAS
MINELAB	108	0.30	83	0.50	356	-0.22	232	-0.62		Grav

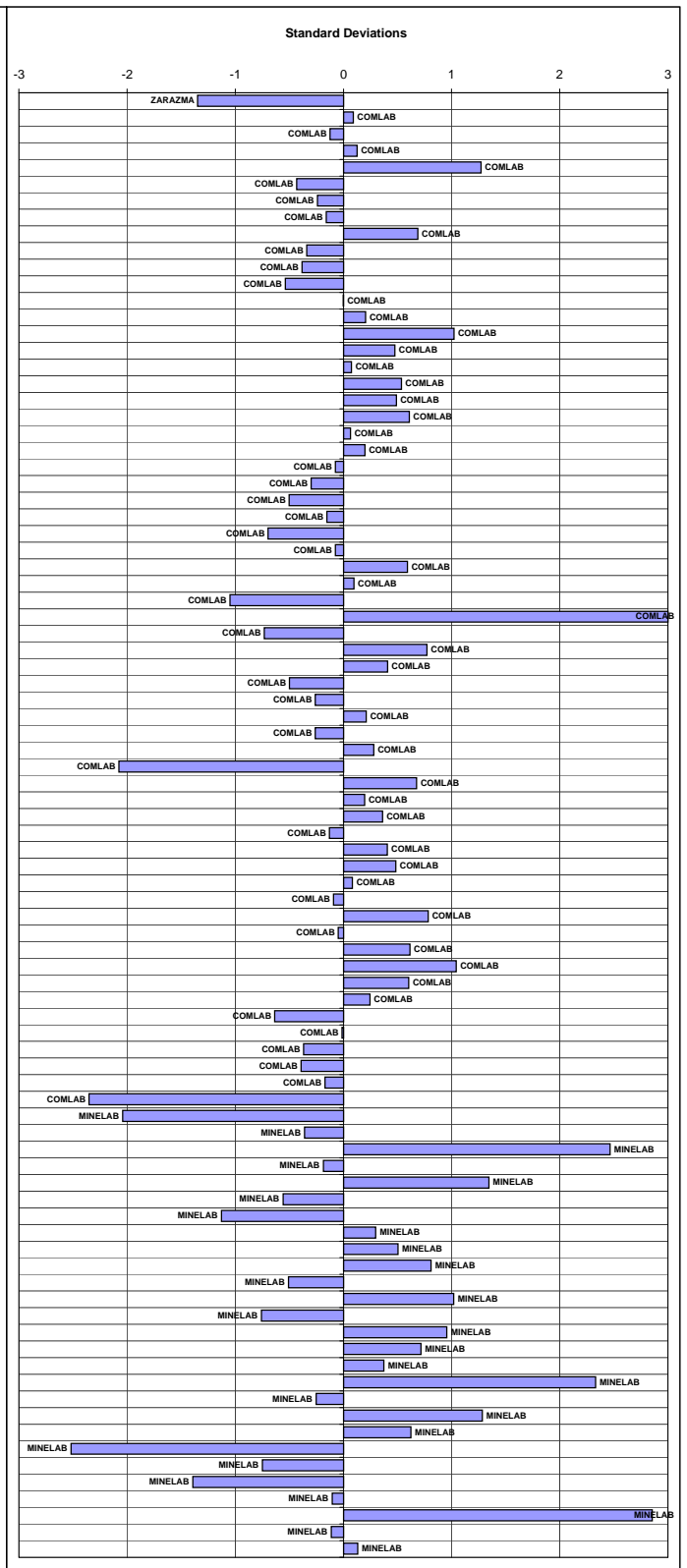
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values





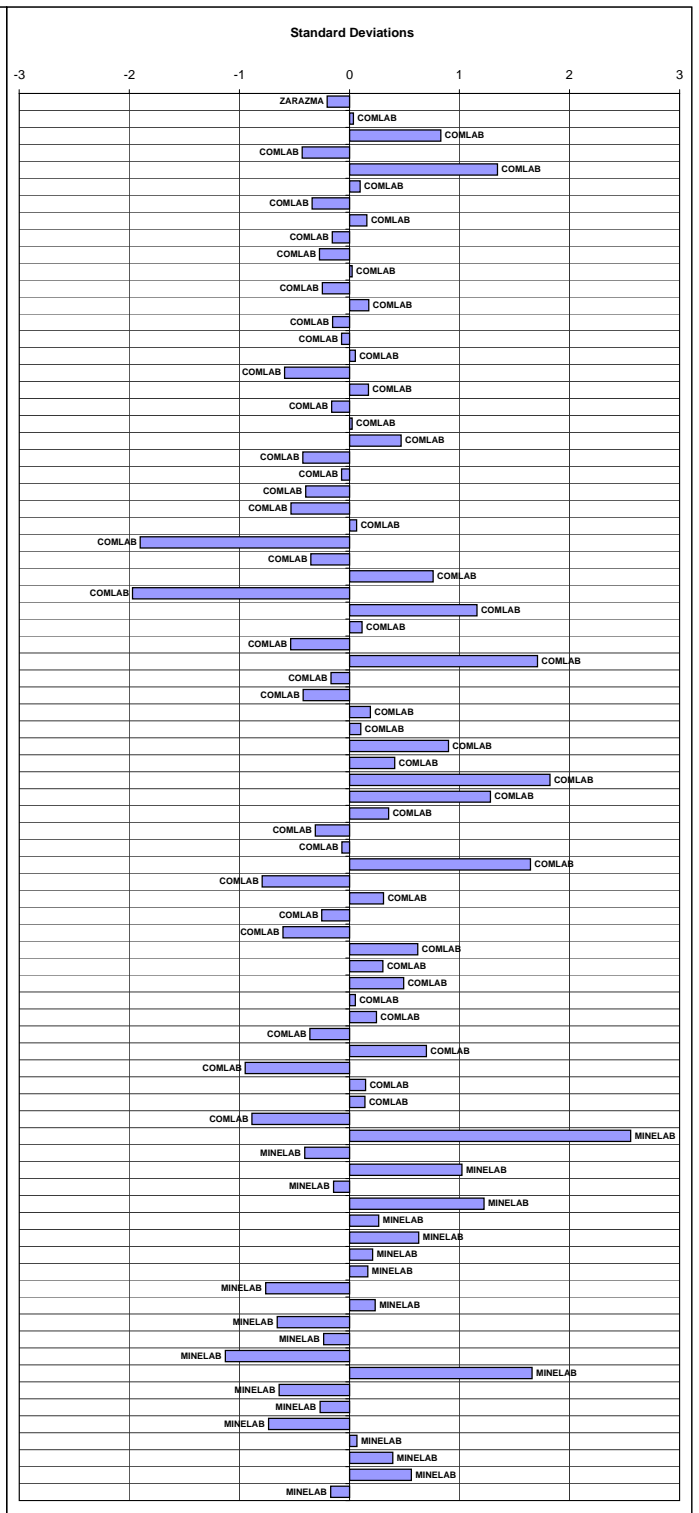




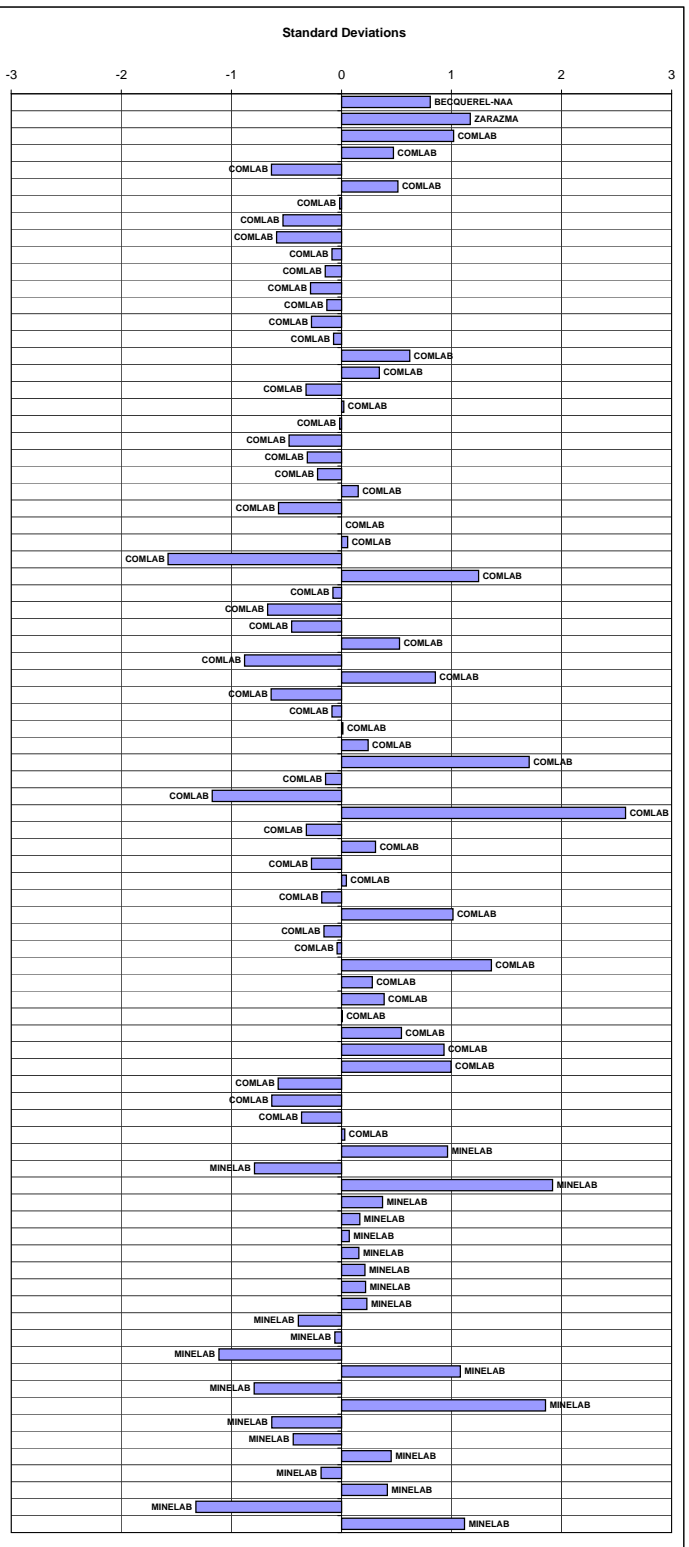
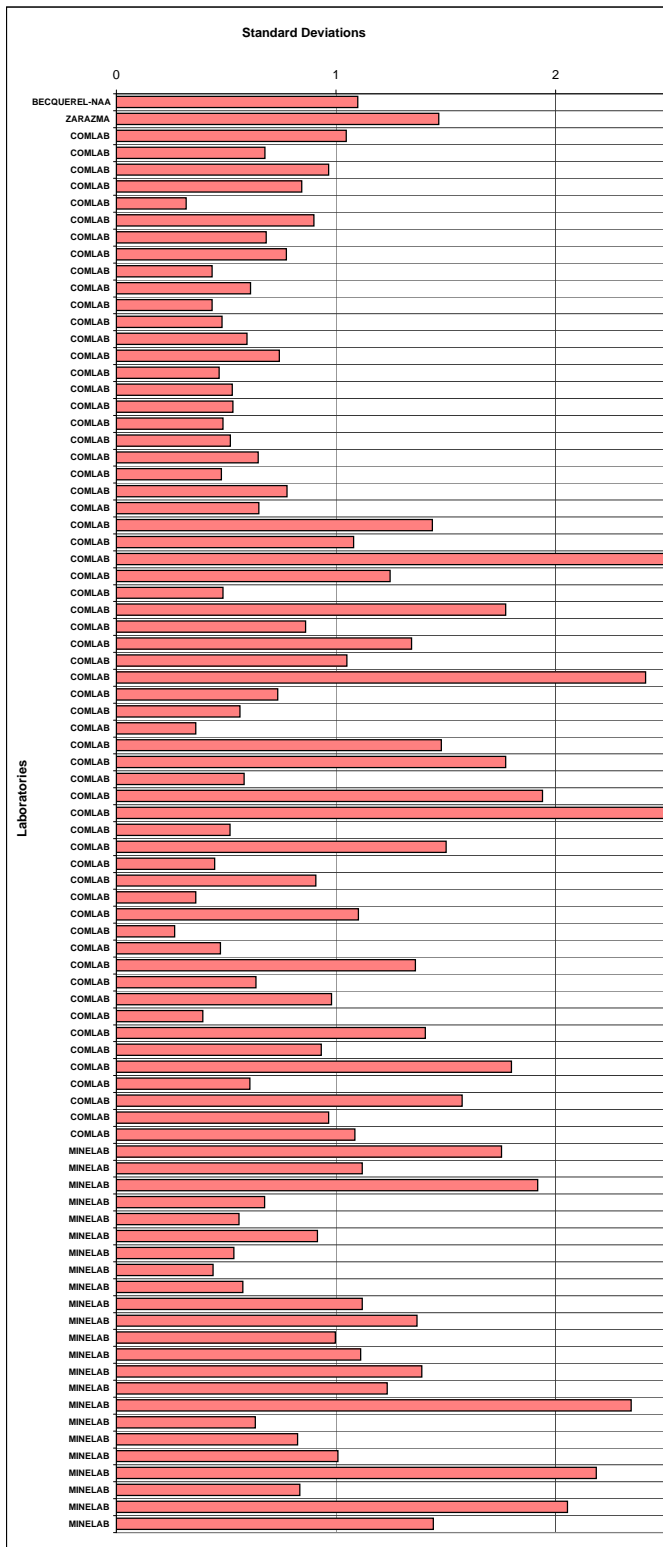






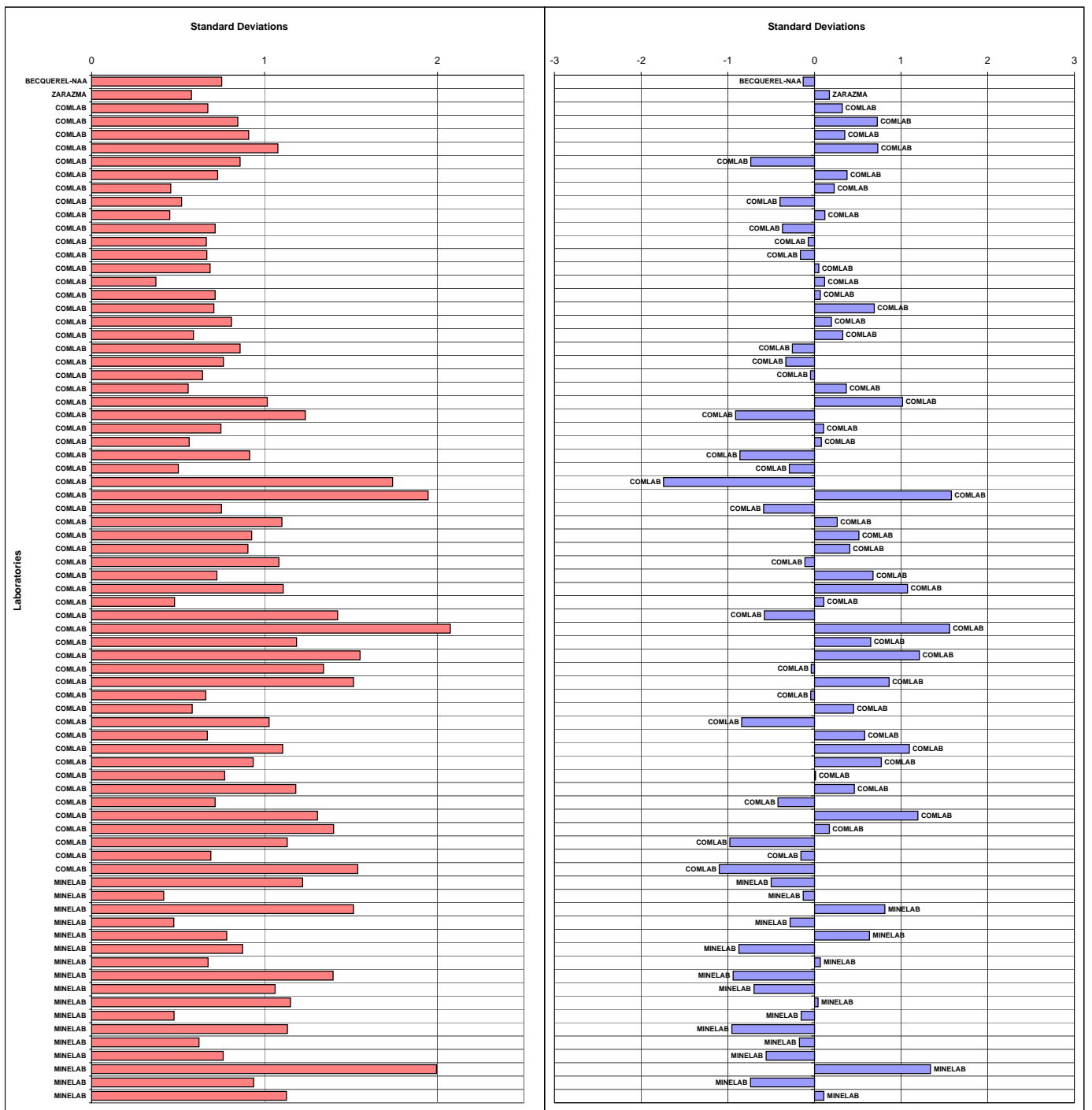






Laboratories



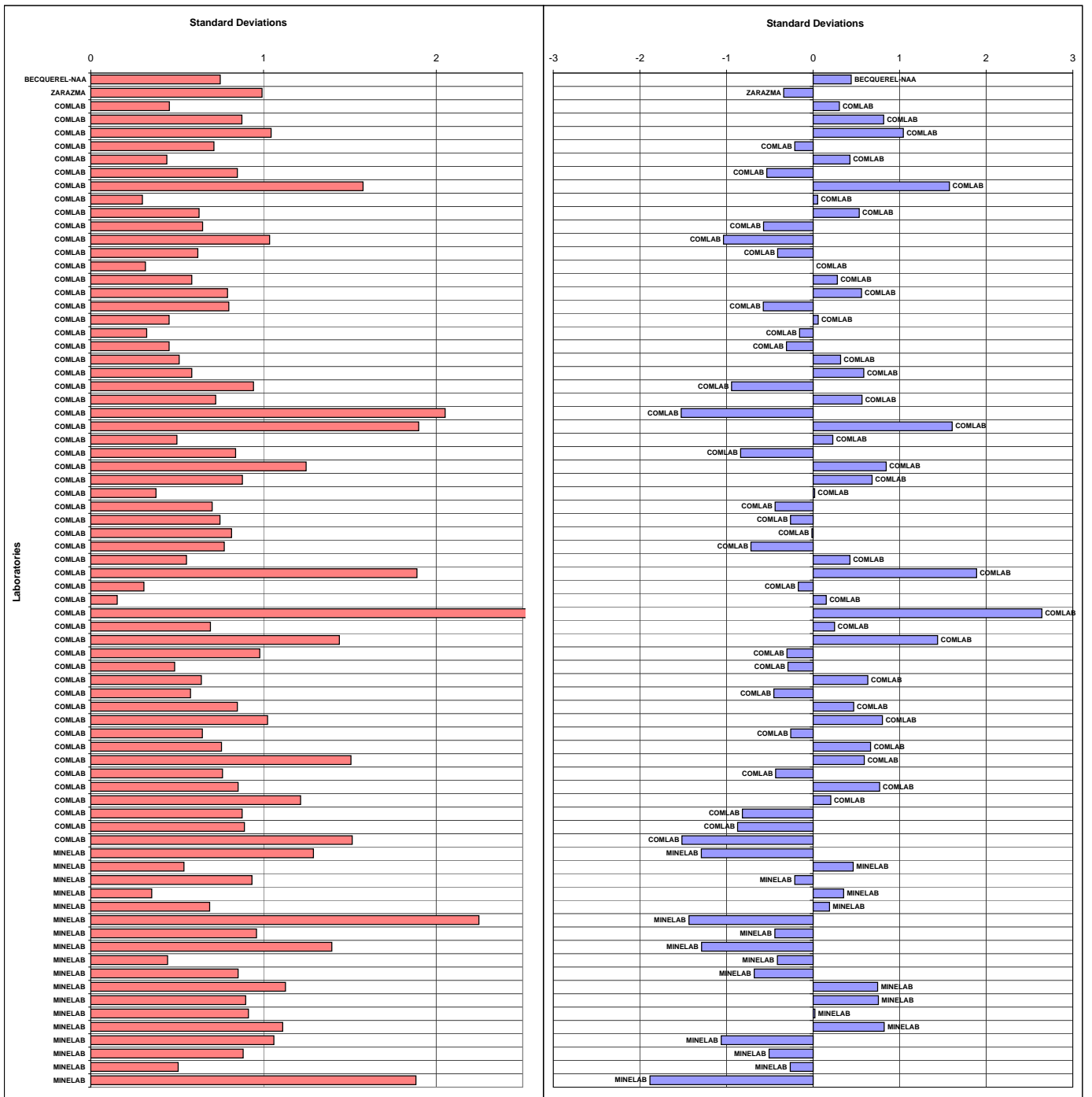




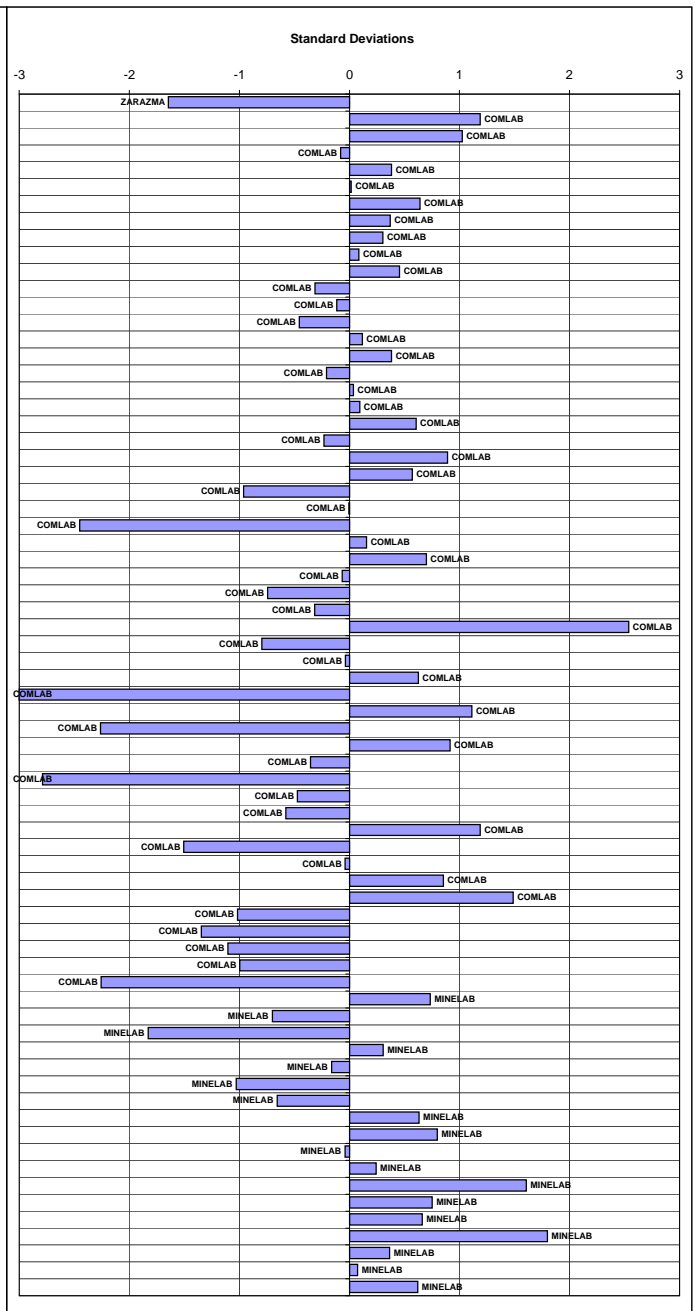




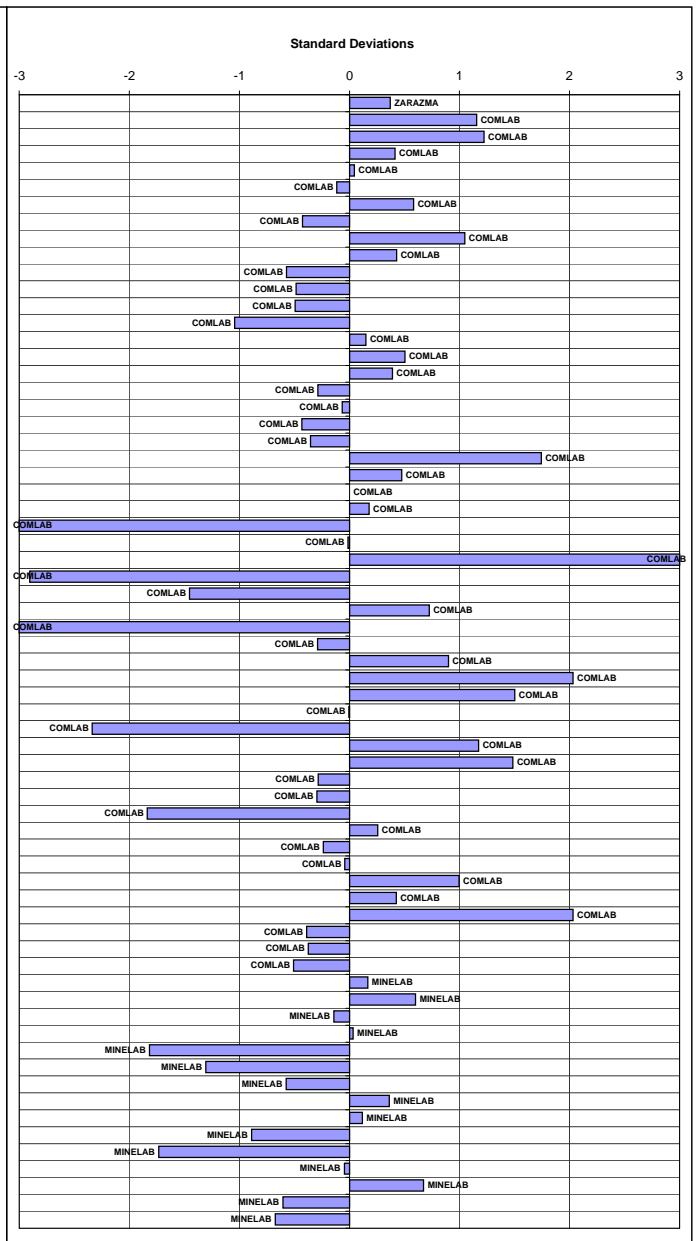




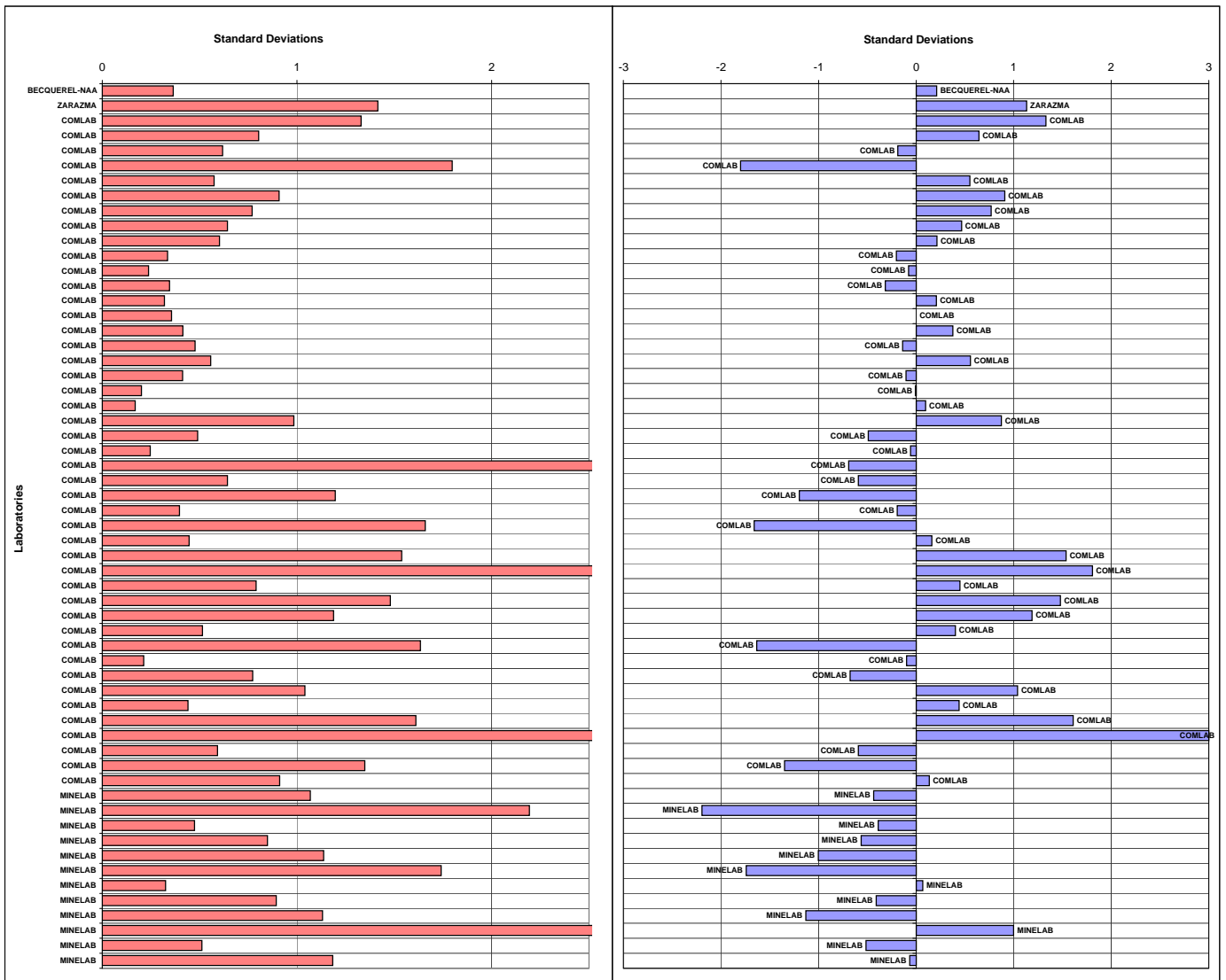












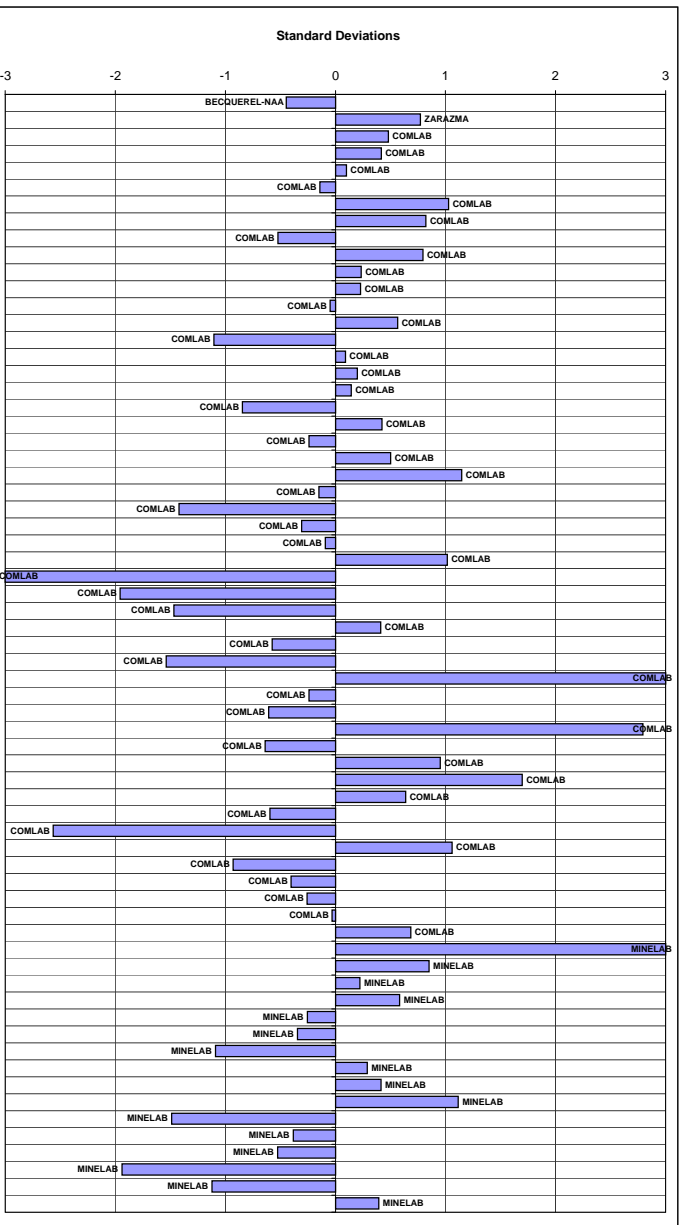


## Ore Grade Silver Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009

Standard Reference	GBM309-11	GBM309-12	GBM309-13	GBM309-14	GBM309-15	GBM309-16
MEAN (ppm)	300	11.9	22.3	156	163	228
STDEV (ppm)	14	2.0	1.5	7	6	11
95% CI (ppm)	5	0.7	0.5	2	2	3
95% CI (%)	1.71%	5.75%	2.22%	1.20%	1.02%	1.27%
MIN (ppm)	269	8.3	18.7	136	149	205
MEDIAN (ppm)	302	11.6	22.6	156	163	228
MAX (ppm)	323	16.8	25.0	172	178	254
IQR (ppm)	19	1.2	2.0	8	8	12
COUNT	29	33	35	61	57	56

Standard Reference	GBM309-11		GBM309-12		GBM309-13		GBM309-14		GBM309-15		GBM309-16		Method	Reading
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
Lab Reference														
BECQUEREL-NAA	283	-1.24	11.0	-0.44	21.0	-0.86	152	-0.50	166	0.40	223	-0.44	NAA	
ZARAZMA	nr	nr	nr	nr	nr	nr	166	1.40	183	3.00	205	-2.08	AR	ICP-ES
COMLAB	298	-0.16	12.0	0.07	23.0	0.50	158	0.31	170	1.03	236	0.74	AR	ICP-ES
COMLAB	295	-0.37	10.0	-0.94	21.0	-0.86	161	0.72	166	0.40	238	0.92	MAD	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	157	0.18	163	-0.07	230	0.20	MAD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	148	-1.04	165	0.24	232	0.38	2AD	AAS
COMLAB	302	0.13	12.0	0.07	23.6	0.90	167	1.53	172	1.34	240	1.11	HF	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	164	1.13	169	0.87	233	0.47	AR	ICP-ES
COMLAB	284	-1.17	10.0	-0.94	21.0	-0.86	153	-0.36	161	-0.39	226	-0.17	AD	ICP-ES
COMLAB	309	0.65	8.3	-1.81	22.5	0.16	160	0.61	170	1.03	238	0.89	Fusion	ICP
COMLAB	nr	nr	nr	nr	nr	nr	156	0.04	167	0.56	229	0.10	4AD	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	161	0.72	162	-0.23	230	0.20	4AD	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	148	-1.04	165	0.24	235	0.65	4AD	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	162	0.86	167	0.56	231	0.29	4AD	IR
COMLAB	285	-1.10	5	-3.00	21.0	-0.86	149	-0.91	155	-1.33	216	-1.08	4AD	AAS
COMLAB	289	-0.81	9.0	-1.45	21.0	-0.86	159	0.45	168	0.71	228	0.01	AR	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	158	0.31	164	0.09	nr	nr	4AD	ICP-ES
COMLAB	nr	nr	nr	nr	nr	nr	159	0.45	165	0.24	225	-0.26	AAS	
COMLAB	nr	nr	nr	nr	nr	nr	149	-0.91	153	-1.64	228	0.01	AR	AAS
COMLAB	323	1.65	10.8	-0.54	22.5	0.16	155	-0.09	163	-0.15	231	0.29	4AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	154	-0.23	162	-0.23	225	-0.26		
COMLAB	300	-0.01	11.0	-0.44	21.5	-0.52	160	0.59	169	0.87	234	0.56	4AD	ICP-MS
COMLAB	312	0.86	12.0	0.07	23.0	0.50	162	0.86	173	1.50	243	1.38		
COMLAB	nr	nr	10.0	-0.94	22.0	-0.18	154	-0.23	163	-0.07	nr	nr	MAD	ICP/AAS
COMLAB	nr	nr	11.0	-0.44	21.0	-0.86	148	-1.04	152	-1.80	nr	nr	AR	AAS
COMLAB	nr	nr	nr	nr	nr	nr	155	-0.09	161	-0.39	223	-0.44	MAD	AAS
COMLAB	nr	nr	14.2	1.19	24.9	1.79	156	0.04	162	-0.23	nr	nr	4AD	AAS
COMLAB	312	0.86	10.0	-0.94	23.0	0.50	167	1.53	170	1.03	235	0.65	4AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	2	-3.00	2	-3.00	3	-3.00	AR	AAS
COMLAB	nr	nr	nr	nr	nr	nr	140	-2.13	150	-2.12	210	-1.63	MAD	ICP/AAS
COMLAB	nr	nr	nr	nr	nr	nr	145	-1.45	155	-1.33	210	-1.63		
COMLAB	316	1.14	12.0	0.07	23.0	0.50	159	0.45	166	0.40	224	-0.35		
COMLAB	nr	nr	nr	nr	nr	nr	153	-0.31	158	-0.84	222	-0.57	4AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	143	-1.75	153	-1.60	214	-1.26	AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	430	3.00	516	3.00	836	3.00	4AD	ICP
COMLAB	nr	nr	nr	nr	nr	nr	156	0.04	162	-0.23	222	-0.53	3AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	147	-1.18	157	-1.02	232	0.38	AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	185	3.00	191	3.00	254	2.38		
COMLAB	nr	nr	nr	nr	nr	nr	152	-0.55	160	-0.61	220	-0.75	AAS	
COMLAB	313	0.93	12.0	0.07	23.0	0.50	163	0.99	169	0.87	239	1.02	4AD	AAS
COMLAB	314	1.00	16.8	2.51	27	3.00	170	1.94	178	2.29	245	1.56	4AD	ICP-ES
COMLAB	304	0.28	19	3.00	19.0	-2.22	151	-0.63	172	1.34	245	1.56	4AD	AAS
COMLAB	nr	nr	11.0	-0.44	23.0	0.50	153	-0.36	159	-0.70	220	-0.72	4AD	AAR
COMLAB	nr	nr	14.0	1.09	22.0	-0.18	140	-2.13	5	-3.00	nr	nr	AD	AAS
COMLAB	314	1.00	10.0	-0.94	24.0	1.18	164	1.13	171	1.19	238	0.92	4AD	ICP-ES
COMLAB	206	-3.00	4	-3.00	16	-3.00	163	0.96	160	-0.58	216	-1.11	3AD	AAS
COMLAB	nr	nr	nr	nr	nr	nr	152	-0.50	162	-0.24	223	-0.46		
COMLAB	293	-0.52	12.0	0.07	23.0	0.50	158	0.31	161	-0.39	223	-0.44		
COMLAB	295	-0.37	11.0	-0.44	23.0	0.50	158	0.31	163	-0.07	228	0.01		
COMLAB	nr	nr	nr	nr	nr	nr	160	0.59	173	1.50	228	-0.03	4AD	AAS
MINELAB	nr	nr	nr	nr	nr	nr	194	3.00	191	3.00	268	3.00	MAD	AAS
MINELAB	nr	nr	nr	nr	nr	nr	156	0.10	164	0.13	253	2.32		
MINELAB	303	0.20	11.0	-0.44	23.0	0.50	155	-0.09	166	0.40	232	0.38	MAD	AAS
MINELAB	315	1.10	11.3	-0.28	23.3	0.71	160	0.55	166	0.45	230	0.23		
MINELAB	300	0.02	10.5	-0.69	22.0	-0.18	153	-0.39	160	-0.61	228	-0.03	4AD	AAS
MINELAB	nr	nr	nr	nr	nr	nr	153	-0.36	162	-0.23	223	-0.44		
MINELAB	278	-1.63	3	-3.00	19.8	-1.68	136	-2.72	206	3.00	147	-3.00	ICP-OES	
MINELAB	nr	nr	12.0	0.07	24.5	1.52	157	0.18	166	0.40	nr	nr	AAS	
MINELAB	298	-0.16	11.7	-0.08	21.5	-0.52	161	0.72	168	0.71	232	0.38	AR	ICP-ES
MINELAB	307	0.49	13.0	0.58	23.0	0.50	163	0.99	173	1.50	244	1.47	AR	AAS
MINELAB	303	0.23	11.6	-0.13	22.6	0.23	130	-3.00	138	-3.00	226	-0.18	AR	AAS
MINELAB	315	1.07	15.1	1.65	18.7	-2.44	152	-0.50	163	-0.07	206	-2.03	AD	ICP-ES
MINELAB	nr	nr	14.0	1.09	21.0	-0.86	153	-0.36	158	-0.86	224	-0.35	3AD	AAS
MINELAB	nr	nr	nr	nr	nr	nr	142	-1.83	149	-2.34	210	-1.66	AR	ICP-ES
MINELAB	269	-2.25	16.0	2.10	23.0	0.50	159	0.45	151	-1.96	220	-0.72	2AD	AAS
MINELAB	275	-1.82	15.0	1.60	25.0	1.86	172	2.21	186	3.00	208	-1.81		

Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values



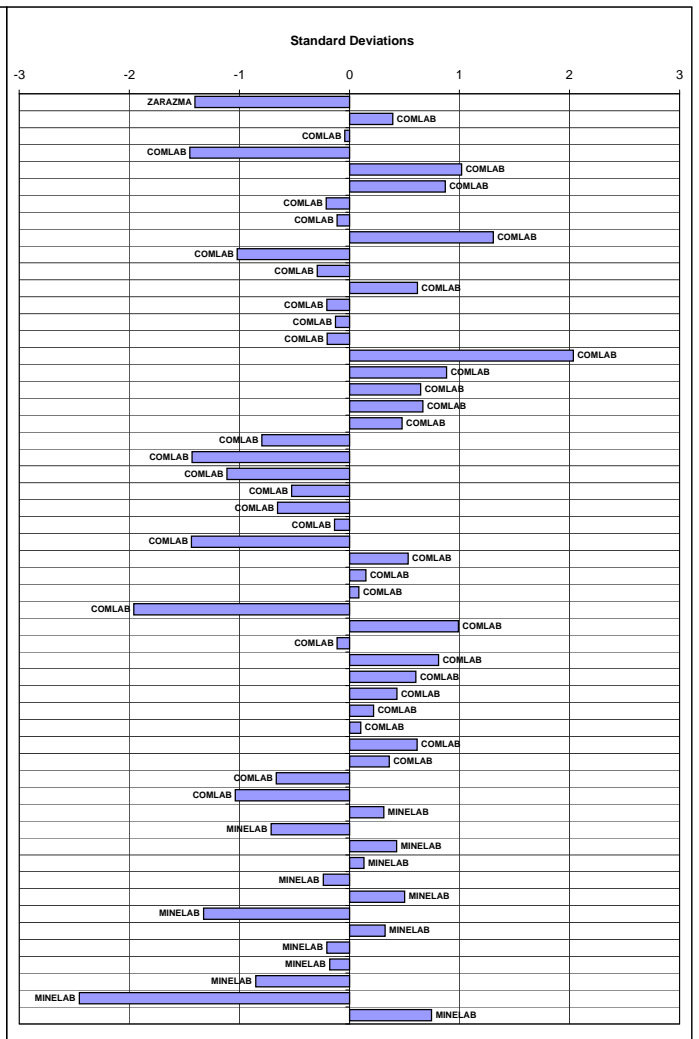
Laboratories

Sulphur in Ore Grade Samples Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009

Standard Reference	GBM309-11	GBM309-12	GBM309-13	GBM309-14	GBM309-15	GBM309-16
MEAN (%)	10.61	29.68	7.75	33.42	28.84	28.14
STDEV (%)	0.41	0.71	0.25	1.39	0.96	0.71
95% CI (%)	0.11	0.19	0.07	0.38	0.26	0.20
95% CI (rel %)	1.04%	0.65%	0.87%	1.13%	0.91%	0.72%
MIN (%)	9.59	28.13	7.22	29.80	26.40	26.40
MEDIAN (%)	10.60	29.60	7.80	33.67	28.81	28.26
MAX (%)	11.70	31.20	8.30	36.00	31.00	29.59
IQR (%)	0.52	0.84	0.31	1.50	1.23	1.04
COUNT	53	52	53	53	52	48

Standard Reference	GBM309-11		GBM309-12		GBM309-13		GBM309-14		GBM309-15		GBM309-16		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
ZARAZMA	9.94	-1.63	26.78	-3.00	7.72	-0.13	30.71	-1.95	28.20	-0.67	27.41	-1.04	AR	ICP-ES
COMLAB	10.65	0.10	28.88	-1.13	7.98	0.92	34.04	0.45	30.15	1.37	28.60	0.65	AR	ICP-ES
COMLAB	9.59	-2.50	30.10	0.60	7.58	-0.69	35.10	1.21	29.70	0.90	28.30	0.22	CSA	IR
COMLAB	10.55	-0.14	29.43	-0.35	7.95	0.80	23.16	-3.00	24.36	-3.00	23.33	-3.00	GRAV	
COMLAB	10.90	0.72	30.20	0.74	8.21	1.84	34.70	0.92	29.90	1.11	28.70	0.79	Grav	
COMLAB	10.99	0.94	30.47	1.12	7.95	0.80	34.15	0.52	29.60	0.80	28.88	1.04	CSA	IR
COMLAB	10.46	-0.36	29.46	-0.31	7.65	-0.41	33.67	0.18	28.66	-0.19	28.02	-0.17	AD	ICP-ES
COMLAB	10.50	-0.26	29.56	-0.17	7.61	-0.57	33.78	0.26	28.82	-0.02	28.21	0.09	CSA	IR
COMLAB	10.40	-0.51	31.00	1.87	7.85	0.40	35.00	1.14	30.70	1.94	30.60	-3.00	4AD	ICP-ES
COMLAB	10.80	0.47	29.50	-0.25	7.86	0.44	29.80	-2.60	26.40	-2.55	27.00	-1.62	4AD	ICP-ES
COMLAB	10.30	-0.75	29.20	-0.68	7.70	-0.21	33.10	-0.23	28.60	-0.25	28.40	0.36	4AD	ICP-ES
COMLAB	10.90	0.72	30.10	0.60	7.95	0.80	34.50	0.78	28.60	-0.25	28.90	1.07	CSA	IR
COMLAB	10.45	-0.39	29.50	-0.25	7.67	-0.33	33.40	-0.01	28.80	-0.04	28.00	-0.20	CSA	IR
COMLAB	10.65	0.10	29.20	-0.68	8.06	1.24	32.10	-0.95	28.50	-0.35	nr	nr	4AD	ICP-ES
COMLAB	10.50	-0.26	29.70	0.03	7.86	0.44	32.90	-0.37	28.30	-0.56	27.80	-0.49	3AD	Grav
COMLAB	11.20	1.45	31.20	2.15	8.53	3.00	36.00	1.86	31.00	2.26	29.20	1.50	AR	ICP-ES
COMLAB	11.10	1.21	30.30	0.88	8.12	1.48	34.20	0.56	29.20	0.38	28.70	0.79	4AD	ICP-ES
COMLAB	10.50	-0.26	29.93	0.36	7.90	0.60	33.72	0.22	29.72	0.92	29.59	2.05	CSA	IR
COMLAB	10.90	0.72	30.40	1.02	7.86	0.44	34.50	0.78	29.50	0.69	28.40	0.36		
COMLAB	11.28	1.65	29.63	-0.07	8.01	1.04	33.65	0.16	28.85	0.01	28.19	0.07	Grav	IR
COMLAB	10.64	0.08	29.51	-0.24	7.82	0.28	31.52	-1.37	27.31	-1.60	26.78	-1.93	CSA	IR
COMLAB	10.46	-0.36	28.13	-2.19	7.42	-1.33	30.99	-1.75	27.11	-1.81	27.34	-1.14	4AD	ICP-ES
COMLAB	10.26	-0.86	29.26	-0.59	7.49	-1.04	32.46	-0.69	26.82	-2.11	27.16	-1.39	MAD	ICP/AAS
COMLAB	10.63	0.06	29.42	-0.37	7.80	0.20	31.83	-1.14	28.30	-0.56	27.20	-1.34	4AD	ICP-ES
COMLAB	10.70	0.23	28.50	-1.67	7.61	-0.57	33.10	-0.23	28.10	-0.77	27.50	-0.91		AAS
COMLAB	10.26	-0.86	30.04	0.51	7.53	-0.89	33.09	-0.24	28.67	-0.18	28.74	0.84	4AD	ICP-ES
COMLAB	10.22	-0.95	28.63	-1.48	7.35	-1.60	32.96	-0.33	27.64	-1.25	26.01	-3.00	CSA	IR
COMLAB	11.14	1.31	30.37	0.98	7.89	0.56	33.44	0.01	29.26	0.44	28.08	-0.09	GRAV	
COMLAB	10.34	-0.66	29.56	-0.17	7.63	-0.49	35.44	1.45	29.07	0.24	28.51	0.52	CSA	IR
COMLAB	10.38	-0.56	30.30	0.88	7.55	-0.81	34.26	0.60	29.11	0.28	28.22	0.11	CSA	IR
COMLAB	10.20	-1.00	27.00	-3.00	7.40	-1.41	30.00	-2.46	28.00	-0.88	26.00	-3.00	CSA	IR
COMLAB	11.10	1.21	30.10	0.60	8.13	1.52	35.00	1.14	29.50	0.69	28.70	0.79	CSA	IR
COMLAB	11.00	0.96	28.80	-1.24	8.13	1.52	33.10	-0.23	28.10	-0.77	27.50	-0.91	CSA	IR
COMLAB	11.33	1.77	29.53	-0.21	8.30	2.20	34.04	0.45	28.85	0.01	28.59	0.63	CSA	IR
COMLAB	10.70	0.23	30.25	0.81	7.87	0.48	34.40	0.70	29.50	0.69	28.65	0.72		
COMLAB	10.50	-0.26	30.50	1.16	7.38	-1.49	34.40	0.70	30.60	1.84	28.60	0.65	CSA	IR
COMLAB	10.50	-0.26	30.00	0.45	7.59	-0.65	33.80	0.27	29.80	1.00	28.50	0.50	CSA	IR
COMLAB	10.90	0.72	29.40	-0.39	7.85	0.40	33.70	0.20	28.60	-0.25	28.10	-0.06	CSA	IR
COMLAB	11.70	2.68	>30.0	ald	7.39	-1.45	>30.0	ald	>30.0	ald	>30.0	ald	CSA	
COMLAB	11.00	0.96	29.70	0.03	7.75	0.00	33.30	-0.09	29.30	0.48	28.70	0.79		
COMLAB	10.60	-0.02	29.30	-0.54	7.80	0.20	31.10	-1.67	27.70	-1.19	27.60	-0.77	CSA	IR
COMLAB	9.80	-1.98	28.63	-1.48	8.02	1.08	32.54	-0.63	28.14	-0.73	26.40	-2.47		
MINELAB	10.00	-1.49	31.20	2.15	6.95	-3.00	35.50	1.50	29.60	0.80	29.50	1.92	Fusion	ICP-OES
MINELAB	10.02	-1.44	29.82	0.20	7.22	-2.12	33.76	0.24	28.41	-0.45	27.65	-0.69		
MINELAB	10.60	-0.02	30.00	0.45	7.66	-0.37	34.90	1.06	29.60	0.80	28.60	0.65	CSA	IR
MINELAB	10.96	0.87	29.49	-0.27	7.91	0.64	33.48	0.04	28.73	-0.11	27.88	-0.37		
MINELAB	10.41	-0.48	29.66	-0.03	7.67	-0.33	33.49	0.05	28.61	-0.24	27.86	-0.40	GRAV	
MINELAB	10.40	-0.51	30.70	1.44	7.81	0.24	35.10	1.21	29.10	0.27	28.40	0.36	AD	ICP-ES
MINELAB	10.37	-0.58	28.37	-1.85	7.41	-1.37	32.30	-0.81	27.43	-1.47	26.83	-1.86		AAS
MINELAB	10.70	0.23	29.50	-0.25	7.45	0.00	34.40	0.70	29.30	0.48	28.70	0.79	AD	AAS
MINELAB	10.72	0.28	28.95	-1.03	7.72	-0.12	33.05	-0.27	28.47	-0.39	28.36	0.31	CSA	IR
MINELAB	9.22	-3.00	30.05	0.53	7.85	0.40	34.17	0.54	29.98	1.19	27.63	-0.73	AD	ICP-ES
MINELAB	10.10	-1.25	29.25	-0.61	7.48	-1.09	32.60	-0.59	28.20	-0.67	27.50	-0.91	Fusion	XRF
MINELAB	9.38	-3.00	28.31	-1.94	7.23	-2.09	31.06	-1.70	25.29	-3.00	24.22	-3.00	MAD	ICP-ES
MINELAB	11.00	0.96	30.30	0.88	7.90	0.60	34.00	0.42	29.50	0.69	28.80	0.93		

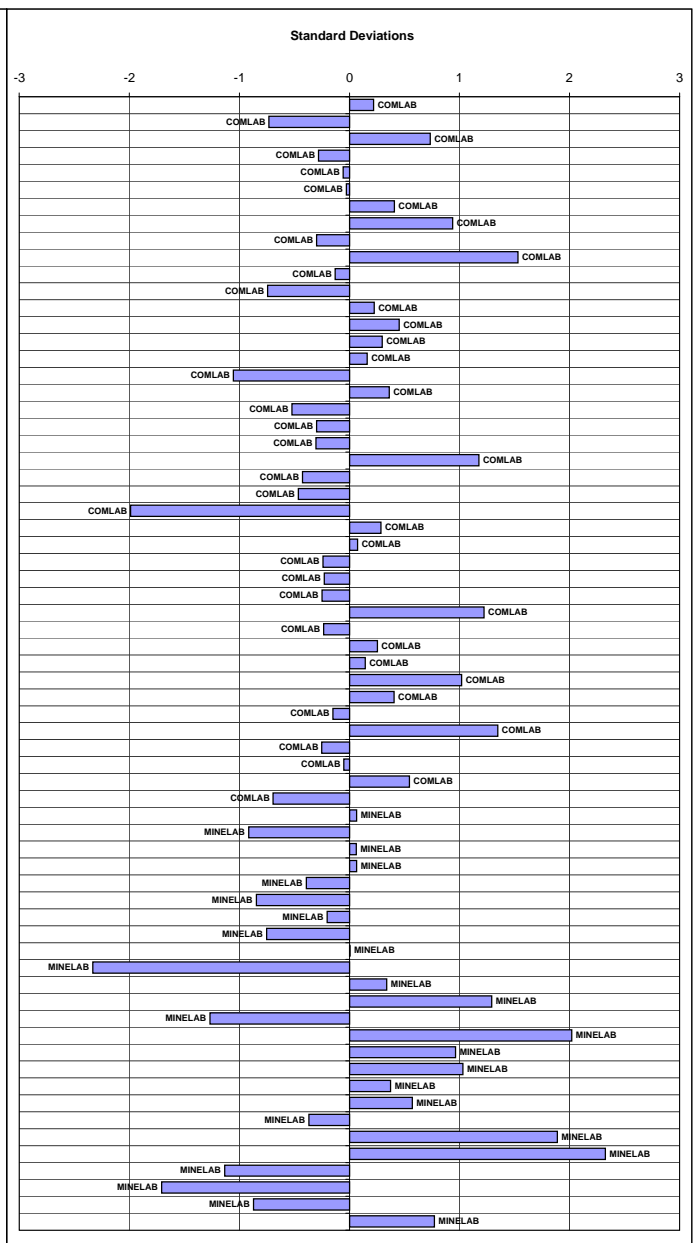
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values



## Sulphur Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2009

Standard Reference	GS309-1	GS309-2	GS309-3	GS309-4	GS309-5	GS309-6	GS309-7	GS309-8	GS309-9	GS309-10
MEAN (%)	0.61	4.78	9.80	34.42	18.16	28.40	29.21	15.78	1.75	0.16
STDEV (%)	0.03	0.26	0.57	1.19	0.64	0.76	0.91	0.63	0.07	0.02
95% CI (%)	0.01	0.07	0.14	0.31	0.16	0.20	0.23	0.16	0.02	0.00
95% CI (rel %)	1.46%	1.37%	1.46%	0.90%	0.90%	0.70%	0.80%	1.01%	1.01%	3.03%
MIN (%)	0.53	4.05	8.49	31.82	16.59	26.33	27.05	14.30	1.58	0.12
MEDIAN (%)	0.60	4.80	9.79	34.24	18.14	28.45	29.20	15.80	1.75	0.16
MAX (%)	0.70	5.36	11.14	37.20	19.50	30.20	31.30	17.41	1.90	0.21
IQR (%)	0.03	0.36	0.58	1.56	0.64	1.10	1.21	0.60	0.07	0.03
COUNT	60	64	63	57	60	57	59	61	62	62

Standard Reference	GS309-1		GS309-2		GS309-3		GS309-4		GS309-5		GS309-6		GS309-7		GS309-8		GS309-9		GS309-10		Method	Reading		
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB	0.61	0.14	4.61	-0.66	9.97	0.30	34.80	0.32	18.40	0.37	29.30	1.17	30.00	0.87	15.90	0.19	1.69	-0.83	0.17	0.31	CSA	IR		
COMLAB	0.61	0.14	4.55	-0.88	9.41	-0.67	34.24	-0.15	17.63	-0.83	28.31	-0.12	28.80	-0.45	14.46	-2.10	1.64	-1.53	0.15	-0.70	CSA	IR		
COMLAB	0.60	-0.15	4.93	0.55	9.57	-0.40	35.80	1.16	18.00	-0.25	29.40	1.30	30.10	0.98	15.50	-0.45	1.86	1.58	0.34	3.00	CSA	IR		
COMLAB	0.69	2.45	5.00	0.82	11.05	2.18	24.67	-3.00	15.80	-3.00	27.73	-0.88	27.15	-2.27	17.41	2.58	1.84	1.30	0.01	-3.00	GRAV			
COMLAB	0.60	-0.15	4.65	-0.50	9.62	-0.31	34.11	-0.26	18.33	0.26	28.13	-0.36	29.16	-0.05	15.96	0.28	1.80	0.73	0.16	-0.20	CSA	IR		
COMLAB	0.63	0.72	4.75	-0.13	9.58	-0.38	34.26	-0.14	17.87	-0.46	28.12	-0.37	29.20	-0.01	15.74	-0.07	1.73	-0.26	0.18	0.81	3AD	ICP		
COMLAB	0.59	-0.44	4.99	0.78	9.63	-0.29	35.73	1.10	18.50	0.53	28.77	0.48	28.47	-0.82	15.68	-0.16	1.86	1.58	0.19	1.32	CSA	IR		
COMLAB	0.63	0.72	4.95	0.63	9.78	-0.03	36.60	1.84	18.10	-0.10	31.00	3.00	31.00	1.98	15.80	0.03	1.82	1.01	0.17	0.31	CSA	IR		
COMLAB	0.62	0.43	4.83	0.18	9.55	-0.43	33.90	-0.44	17.90	-0.41	28.30	-0.14	28.40	-0.89	15.90	0.19	1.73	-0.26	0.14	-1.21	CSA	IR		
COMLAB	0.60	-0.15	5.16	1.42	10.40	1.05	36.60	1.84	19.30	1.78	30.90	3.00	31.30	2.31	16.80	1.61	1.90	2.15	0.17	0.31	CSA	IR		
COMLAB	0.56	-1.31	4.99	0.78	9.55	-0.43	34.50	0.07	18.05	-0.17	29.20	1.04	29.10	-0.12	15.80	0.03	1.68	-0.97	0.16	-0.20	CSA	IR		
COMLAB	0.64	1.01	4.69	-0.35	8.89	-1.58	32.70	-1.45	16.90	-1.97	27.40	-1.31	28.20	-1.11	14.70	-1.72	1.73	-0.26	0.19	1.32	CSA	IR		
COMLAB	0.65	1.30	4.75	-0.13	9.79	-0.01	34.40	-0.02	18.10	-0.10	27.70	-0.92	29.30	0.10	15.90	0.19	1.75	0.02	0.20	1.83	CSA	IR		
COMLAB	0.64	1.01	4.46	-1.22	10.15	0.62	35.25	0.70	18.97	1.27	29.50	1.43	29.80	0.65	15.90	0.19	1.79	0.59	0.15	-0.70	CSA	IR		
COMLAB	0.61	0.14	5.05	1.01	9.95	0.27	34.83	0.34	18.52	0.56	28.87	0.61	29.62	0.45	15.86	0.12	1.76	0.16	0.15	-0.70	CSA	IR		
COMLAB	0.61	0.14	4.82	0.14	9.95	0.27	34.50	0.07	18.50	0.53	28.70	0.39	28.80	-0.45	15.60	-0.29	1.75	0.02	0.18	0.81	4AD	ICP-ES		
COMLAB	0.83	3.00	4.51	-1.03	9.06	-1.28	31.82	-2.19	16.59	-2.46	26.33	-2.71	27.55	-1.83	14.53	-1.99	1.58	-2.38	0.21	2.33	CSA	IR		
COMLAB	0.59	-0.44	5.06	1.05	10.00	0.35	35.10	0.57	18.50	0.53	29.00	0.78	29.20	-0.01	15.80	0.03	1.78	0.45	0.17	0.31	CSA	IR		
COMLAB	0.57	-1.02	4.96	0.67	10.10	0.53	33.42	-0.84	17.86	-0.47	27.97	-0.57	28.64	-0.63	15.57	-0.34	1.69	-0.83	0.13	-1.71	CSA	IR		
COMLAB	0.55	-1.60	4.80	0.06	9.75	-0.08	35.00	0.49	18.80	1.00	28.60	0.26	29.60	0.43	16.20	0.66	1.50	3.00	0.14	-1.21	CSA	IR		
COMLAB	0.61	0.14	4.67	-0.43	10.19	0.69	32.04	-2.01	18.80	1.00	27.44	-1.26	28.39	-0.90	16.19	0.65	1.77	0.31	0.14	-1.21	CSA	IR		
COMLAB	0.73	3.00	5.04	0.96	11.03	2.16	35.78	1.14	18.26	1.16	29.22	1.07	30.93	1.90	16.38	0.94	1.73	-0.26	0.18	0.71	IR			
COMLAB	0.63	0.72	4.76	-0.09	9.53	-0.47	33.40	-0.86	18.10	-0.10	27.80	-0.79	28.30	-1.00	15.30	-0.77	1.77	0.31	0.14	-1.21	GRAV			
COMLAB	0.61	0.17	4.79	0.01	9.73	-0.11	34.19	-0.19	16.70	-2.29	27.42	-1.29	28.64	-0.63	15.24	-0.86	1.81	0.90	0.16	-0.35	4AD	ICP-OES		
COMLAB	0.60	-0.15	4.05	-2.77	8.49	-2.28	29.85	-3.00	14.18	-3.00	25.12	-3.00	26.02	-3.00	12.98	-3.00	1.75	0.02	0.17	0.31	CSA	IR		
COMLAB	0.63	0.72	4.94	0.59	9.98	0.32	34.08	-0.29	17.92	-0.38	28.61	0.27	29.50	0.32	15.91	0.20	1.84	1.30	0.16	-0.20	GRAV			
COMLAB	0.62	0.43	4.66	-0.47	9.79	-0.01	34.16	-0.22	18.11	-0.08	28.07	-0.44	29.34	0.14	15.58	-0.32	1.74	-0.12	0.20	1.83	CSA	IR		
COMLAB	0.24	-3.00	4.61	-0.66	9.99	0.34	33.67	-0.63	17.99	-0.27	27.67	-0.96	28.37	-0.93	16.04	0.41	1.77	0.31	0.24	3.00	CSA	IR		
COMLAB	0.57	-1.02	4.97	0.71	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	1.72	-0.40	0.16	-0.20	CSA	AAS		
COMLAB	0.60	-0.27	4.86	0.27	9.99	0.34	34.07	-0.30	17.93	-0.36	27.79	-0.80	28.88	-0.36	15.87	0.14	1.76	0.16	0.14	-1.31	CSA	IR		
COMLAB	0.73	3.00	5.00	0.82	9.70	-0.17	36.00	1.33	19.50	2.09	29.30	1.17	30.10	0.98	16.60	1.30	1.74	-0.12	0.20	1.83	CSA	IR		
COMLAB	0.62	0.43	4.96	0.67	10.30	0.88	33.20	-1.03	17.70	-0.72	27.20	-1.58	28.10	-1.22	15.40	-0.61	1.75	0.02	0.18	0.81	CSA	IR		
COMLAB	0.60	-0.27	5.27	1.84	10.55	1.31	34.04	-0.32	18.59	0.67	28.61	0.27	28.91	-0.33	16.29	0.80	1.65	-1.39	0.16	-0.05	CSA	IR		
COMLAB	0.63	0.72	4.80	0.06	9.87	0.13	34.20	-0.19	18.40	0.37	28.45	0.06	29.20	-0.01	15.75	-0.05	1.75	0.02	0.17	0.31	CSA	IR		
COMLAB	0.66	1.59	5.18	1.50	10.50	1.23	35.80	1.16	18.30	0.22	29.70	1.70	29.90	0.76	15.60	-0.29	1.87	1.72	0.18	0.61	CSA	IR		
COMLAB	0.58	-0.73	4.66	-0.47	9.78	-0.03	35.20	0.66	18.60	0.69	29.20	1.04	29.40	0.21	16.20	0.66	1.87	1.72	0.17	0.31	CSA	IR		
COMLAB	0.58	-0.64	4.58	-0.77	9.00	-1.39	33.41	-0.85	18.47	-0.48	29.37	1.26	30.40	1.32	15.86	0.12	1.71	-0.49	0.15	-0.54	CSA	IR		
COMLAB	0.65	1.30	4.83	0.18	9.90	0.18	35.10	0.57	18.30	0.22	29.20	1.04	30.10	0.98	17.70	3.00	2.03	3.00	0.23	3.00	CSA	IR		
COMLAB	0.60	-0.15	4.71	-0.28	9.76	-0.06	>30.0	aid	17.30	-1.35	>30.0	aid	>30.0	aid	15.90	0.19	1.79	0.59	0.15	-0.70	CSA	IR		
COMLAB	0.62	0.28	4.86	0.29	9.98	0.32	34.10	-0.27	17.30	-1.35	27.70	-0.92	29.10	-0.12	16.00	0.34	1.73	-0.26	0.19	1.17	CSA	IR		
COMLAB	0.65	1.30	4.85	0.25	10.00	0.35	33.60	-0.69	18.60	0.69	28.40	-0.01	28.70	-0.56	16.30	0.82	2.25	3.00	0.17	0.31	CSA	IR		
COMLAB	0.60	-0.15	4.80	0.06	9.80	0.01	28.10	-3.00	17.90	-0.41	27.90	-0.66	28.40	-0.89	15.40	-0.61	1.60	-2.10	0.18	0.81				
MINELAB	0.62	0.43	4.26	-1.98	9.17	-1.09	35.20	0.66	18.30	0.22	29.50	1.43	30.00	0.87	16.10	0.50	1.77	0.31	0.15	-0.70	CSA	IR		
MINELAB	0.60	-0.25	4.52	-0.99	9.37	-0.74	32.77	-1.40	17.48	-1.02	27.72	-0.89	28.13	-1.19	15.08	-1.11	1.65	-1.37	0.16	-0.14				
MINELAB	0.59	-0.44	4.76	-0.09	9.84	0.08	35.00	0.49	17.90	-0.41	28.90	0.65	29.90	0.76	15.50	-0.45	1.73	-0.26	0.17	0.31	CSA	IR		
MINELAB	0.57	-1.02	5.00	0.82	10.30	0.88	34.70	0.24	18.50	0.53	28.70	0.39	29.30	0.10	16.10	0.50	1.60	-2.10	0.17	0.31	CSA	IR		
MINELAB	0.57	-1.02	4.54	-0.92	9.25	-0.95	34.20	2.34	17.80	-0.56	28.40	-0.01	29.00	-0.23	14.95	-1.32	1.69	-0.83	0.16	-0.40	CSA	IR		
MINELAB	0.60	-0.15	4.19	-2.24	8.68	-1.95	34.61	0.16	14.70	-3.00	28.05	-0.46	30.71	1.66	13.27	-3.00</								



**BECQUEREL CANADA - NEUTRON ACTIVATION ANALYSIS REPORT**

**NAA Results - Gold and Base Metals**

		G309-1	G309-2	G309-3	G309-4	G309-5	G309-6	G309-7	G309-8	G309-9	G309-10	GLG309-1	GLG309-2	GLG309-3	GLG309-4	GLG309-5	GBM309-1	GBM309-2	GBM309-3	GBM309-4	GBM309-5	GBM309-6	GBM309-7	GBM309-8	GBM309-9	GBM309-10	GBM309-11	GBM309-12	GBM309-13	GBM309-14	GBM309-15	GBM309-16	
<b>Sb</b>	<b>ppm</b>	-0.1	-0.1	1	4.2	1.6	-0.1	244	0.6	0.8	0.8	0.6	0.8	0.7	-0.1	-0.1	1.4	20.1	348	15.5	0.2	1.2	0.3	0.4	1.1	572	259	2.5	22.1	124	122	136	
<b>As</b>	<b>ppm</b>	-0.5	-0.5	1	294	34	23	841	18	0.6	0.9	18	0.6	-0.5	-0.5	-0.5	101	51.6	75	87.9	6.4	19	5.9	114	68.4	83.7	239	112	60.9	313	305	325	
<b>Ba</b>	<b>ppm</b>	680	420	52	120	2600	1100	230	140	370	80	150	410	430	2600	110	370	110	-50	330	-50	93	2400	-50	85	-50	150	-50	530	-50	90	-50	
<b>Br</b>	<b>ppm</b>	-1	-1	-1	3	-1	-1	4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2	-1	-1	18	-1	2	-1	6	-1	1	-1	-2	-1	2	
<b>Cd</b>	<b>ppm</b>	-2	-2	-2	-2	2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	14	44	391	-5	-4	9	-2	-5	-2	739	130	72	65	449	269	219	
<b>Ce</b>	<b>ppm</b>	84	42	9	35	9	100	39	23	43	14	22	41	42	220	22	39	21	17	38	12	12	240	120	14	20	17	7	40	-3	4	4	
<b>Cs</b>	<b>ppm</b>	1.1	2.7	31	30	21	1.3	6.4	1.7	2.3	58.6	1.7	2.8	2.9	1.4	0.5	2	-0.5	2.1	2.5	20	0.7	1.8	-0.5	27	1.1	-0.5	-0.5	1.9	-1	-0.5	-0.5	
<b>Cr</b>	<b>ppm</b>	100	100	70	1320	130	72	480	190	78	86	190	120	63	43	170	140	170	88	120	140	10300	35	30	100	86	130	19	25	32	54	56	
<b>Co</b>	<b>ppm</b>	36	27	17	76	15	48	67	39	31	20	38	43	24	10	40	28	57	69	98	56	990	10	110	56	72	130	325	42	140	130	130	
<b>Eu</b>	<b>ppm</b>	1.8	1.2	-0.5	0.6	-0.5	1.8	1.2	1.5	1.3	-0.5	1.5	1	0.9	1.6	1.4	1.2	1.6	-0.5	1.2	0.8	1.4	1.8	0.9	0.8	-2	1.1	-0.5	1.5	-0.5	-0.5	-0.5	
<b>Au</b>	<b>ppb</b>	290	220	330	4800	1800	14500	2650	160	10900	840	170	61	38	1	1	57	158	162	3610	933	30	92	1940	9	720	5570	165	135	715	807	679	
<b>Hf</b>	<b>ppm</b>	6	4	1	1	2	7	-1	5	5	1	5	4	4	10	4	8	3	-1	5	4	-1	10	2	1	-1	2	-1	4	-1	-1	-1	
<b>Ir</b>	<b>ppb</b>	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20
<b>Fe</b>	<b>%</b>	8.9	5.8	3.6	5.4	5.1	6.9	12.1	8.6	7.7	4.2	8	5.9	5.7	3.3	8.2	6	11.8	3.5	7.3	4.2	17.3	3.4	3.3	4.8	3.5	13.5	24.1	13.9	24.7	25.4	25.2	
<b>La</b>	<b>ppm</b>	40	23	4	15	3	62	23	10	24	6	10	23	23	115	10	20	9	7	20	5	22	123	73	6	7	9	5	20	3	4	4	
<b>Lu</b>	<b>ppm</b>	0.6	0.4	0.1	0.3	0.1	0.6	0.4	0.4	0.6	0.2	0.4	0.4	0.4	0.6	0.4	0.4	0.4	-0.1	0.4	0.3	0.4	0.2	0.7	0.2	0.2	0.3	-0.1	0.5	-0.1	-0.1	-0.1	
<b>Mo</b>	<b>ppm</b>	-0.5	1.7	1.6	-0.5	13	38	8.4	28	22	7.7	29	11	2	1.4	-0.5	-1.8	-1.8	-3.4	67.5	-1.5	-3.5	57.2	-1.9	1	6.5	-3.3	-2.8	-2.6	-5.8	-4.4	-4.2	
<b>Ni</b>	<b>ppm</b>	37	26	19	508	23	36	866	42	32	18	39	64	26	21	41	25	39	50	55	38000	15700	400	60	1670	79	-62	634	-54	-240	-96	-150	
<b>Rb</b>	<b>ppm</b>	56	110	891	807	686	76	85	57	110	1690	57	120	120	120	10	93	12	37	96	729	12	120	17	698	29	10	-5	55	16	18	18	
<b>Sm</b>	<b>ppm</b>	8	4.5	2.2	3	1.2	10	3.6	5.1	5	2.5	5.1	4.5	4.5	15	5.6	4.6	4.7	1.4	4.3	2.5	4.7	14.2	8.4	2.8	1.5	3.3	0.9	5.4	0.5	1.3	1.3	
<b>Sc</b>	<b>ppm</b>	31.4	22.8	12.3	26.1	8.2	22.3	23.6	31.7	26.8	15.4	29.2	22	19.8	7.4	31.3	22.7	30.5	11.5	20.3	16.2	18	7.9	20.2	16.6	5.8	21.6	2.4	25.1	1.3	7.1	7.6	
<b>Se</b>	<b>ppm</b>	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	13	-1	8	-1	-1	-2	-1	-1	-5	17	557	3	84	80	93	
<b>Ag</b>	<b>ppm</b>	2	-1	1	14	2	11	-1	-1	10	3	-1	-1	-1	-1	-1	4.8	28	28	40	5.1	0.5	57	2.2	0.5	46	283	11	21	152	166	223	
<b>Na</b>	<b>%</b>	2.5	2.6	1.5	1.2	1.1	2.2	1.3	2.1	2.5	2	1.9	2.5	2.3	2.4	1.9	2.5	2	0.1	2.2	1.8	0.33	2.7	1.3	1.6	0.16	1.4	0.05	1.7	-0.05	0.42	0.43	
<b>Ta</b>	<b>ppm</b>	1	1.4	0.8	0.5	0.2	1.2	0.5	0.5	1.8	0.5	0.5	1.5	1.6	1.6	0.5	5.1	0.6	-0.2	2.6	0.3	0.3	1.4	0.3	0.9	0.6	0.4	-0.2	0.7	-0.2	-0.2	0.3	
<b>Te</b>	<b>ppm</b>	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	20	86	-10	-10	-10	-10	
<b>Tb</b>	<b>ppm</b>	1.5	1	-0.5	-0.5	1.5	-0.5	1.2	1.1	0.5	1.2	1.2	1	0.9	1.8	1.3	0.6	0.8	-0.5	0.8	0.6	1	1.3	1.5	-0.5	-0.5	-0.5	-0.5	-0.5	1	-0.5	0.9	-0.5
<b>Th</b>	<b>ppm</b>	12.1	14.8	0.6	2	0.5	19.9	4.8	1.4	12.2	0.8	1.4	14.7	15.2	43.6	1.4	13	1.1	1.2	12	0.7	1.6	40.5	6	0.7	2.4	1.4	0.8	5.8	-0.4	0.8	0.8	
<b>Sn</b>	<b>ppm</b>	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-150	-200	-240	-100	-50	-150	-50	-50	-50	-180	-170	-110	-120	950	1100	1400	
<b>W</b>	<b>ppm</b>	-1	-1	-1	5	-1	10	35	1	2	-1	1	-1	-1	2	-1	10	5	8	7	2	3	4	160	-1	9	-10	-6	8	-17	-13	-13	
<b>U</b>	<b>ppm</b>	2.6	6.9	0.2	1.3	0.3	3.6	1.5	0.3	6.1	0.3	0.3	7	7.5	5.8	0.2	5.6	-0.4	-0.8	6.2	-0.3	2.7	5.3	1.4	-0.1	1.1	-1.3	0.4	3.2	-1.3	-1	-0.9	
<b>Yb</b>	<b>ppm</b>	3.9	2.7	1	1.5	0.7	3.6	1.7	2.9	3	1.5	2.7	2.6	2.7	3.4	2.9	2.7	2.9	0.8	2.5	1.6	2.8	3.3	4.3	1.5	-1.2	2.1	-0.5	3.3	-0.5	0.7	0.8	
<b>Zn</b>	<b>ppm</b>	110	86	-50	260	690	87	340	640	89	59	600	120	67	92	140	5300	20000	105000	1000	140	1300	270	40	100	183000	43700	23100	25600	236000	124000	107000	
<b>Zr</b>	<b>ppm</b>	230	160	120	-100	-100	300	-230	130	-100	-100	160	120	110	360	110	170	-100	-100	-100	-100	-100	390	-100	-100	-330	-100	-100	-100	-100	-100	-100	

**SUMMARY REPORT OF INDIVIDUAL LABORATORY PERFORMANCE**  
**Zarazma Minerals Studies Company**

**GOLD SAMPLES**

10 samples were sent to the laboratory for Fire Assay analysis. The laboratory reported their Fire Assay results, and these contained no outliers.  
 The laboratory were not sent any samples for Aqua Regia analysis.

5 samples were sent to the laboratory for Low Level Gold analysis. The laboratory reported their Low Level Gold results, and these contained no outliers.

**CARBON SAMPLES**

The laboratory were not sent any samples for Carbon analysis.

**BASE METAL SAMPLES**

11 Base Metal samples were sent to the laboratory for analysis.  
 The laboratory reported for Silver content, and these contained no outliers.  
 The laboratory reported for Copper content, and these contained 1 outlier.  
 The laboratory reported for Lead content, and these contained no outliers.  
 The laboratory reported for Zinc content, and these contained 2 outliers.  
 The laboratory reported for Nickel content, and these contained no outliers.  
 The laboratory reported for Arsenic content, and these contained no outliers.  
 The laboratory reported for Cobalt content, and these contained 1 outlier.

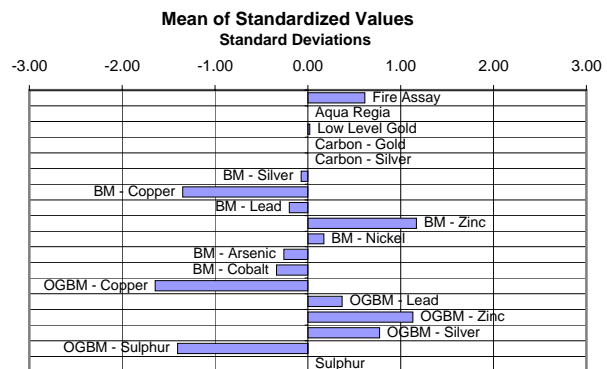
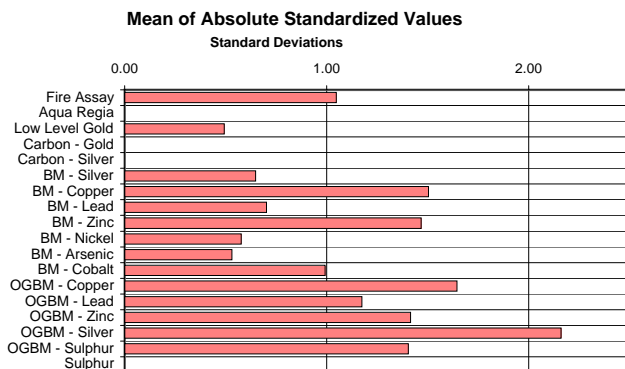
**ORE GRADE BASE METAL SAMPLES**

6 Ore Grade Base Metal samples were sent to the laboratory for analysis.  
 The laboratory reported for Copper content, and these contained no outliers.  
 The laboratory reported for Lead content, and these contained 1 outlier.  
 The laboratory reported for Zinc content, and these contained 1 outlier.  
 The laboratory reported for Silver content, and these contained 1 outlier.  
 The laboratory reported for Sulphur content, and these contained 1 outlier.

**SULPHUR SAMPLES**

The laboratory were not sent any samples for Sulphur analysis.

**ERROR GRAPHS**



**FURTHER INFORMATION**

The samples analysed in this survey are available for purchase. Please contact us or visit [www.geostats.com.au](http://www.geostats.com.au) for a complete listing of available materials.

To discuss this report, please contact us on +618 9314 2566, or [srr@geostats.com.au](mailto:srr@geostats.com.au)