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Certificate of Participation

This is to certify that

Zarazma Minerals Studies Company

has participated in the April 2017
Geostats Survey of International Laboratories

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Operations Manager

P.J. Hayes
Managing Director

Geostats Laboratory Survey
April 2017

Prepared for
Zarazma Minerals Studies Company

Confidential

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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.

Kind regards,

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Geostats Pty Ltd, O'Connor, Western Australia
Listing of Participating Laboratories for Round Robin - April 2017

Western Australia	
ALSM KAL	ALS Minerals - Kalgoorlie
ALSM METALLURGY	Ammtec Laboratory
ALSM PERTH	ALS Minerals - Perth
BV KAL	Amdel Laboratory - Kalgoorlie
BV ULTRA TRACE	Ultra Trace Pty Ltd
DARLOT MINE	Darlot Gold Mine Assay Lab
GEKKO VICTORIA	Gekko Assay Laboratory
GOLDEN GROVE	MMG Golden Grove
GRANNYS	Granny Smith Gold Mine Laboratory
INT GEN PER	Genalysis Laboratory Services Pty Ltd
KAL PER	Kalassay Group (Perth Assay Laboratory)
LABWEST	LabWest
MINANALYTICAL	MinAnalytical
NEWCREST TELFER	Newcrest Mining Limited - Telfer Gold Mine Lab
NIFTY CU OP	Nifty Minesite Laboratory
SAR LAB	Standard & Reference Laboratories
SGS JUNDEE	SGS Jundee
SGS KALG	SGS Kalgoorlie
SIMULUS	Simulus Laboratories
New South Wales	
ALSM ORANGE	ALS Minerals - Orange
NEWCREST ORANGE	Newcrest Laboratory Services Orange
SGS WYALONG	SGS Wyalong
Northern Territory	
GRANITES	Granites Gold Mine
INT DARWIN	Northern Territory Environmental Laboratories
Queensland	
ALSM BRIS	ALS Minerals - Brisbane
ALSM MT ISA	ALS Minerals - Mt Isa
ALSM TVL	ALS Minerals - Townsville
CHEM LAB MIM	Mount Isa Mines Analytical Laboratory
FREEPORT IND	Freeport Indonesia
GEN TOWNSVILLE	Genalysis Testing Services, Townsville
PORGERA	Porgera Gold Mine Laboratory
SGS TOWNSVILLE	SGS Townsville
South Australia	
BHP OLYMPIC	BHP Billiton
BV ADL	Bureau Veritas Minerals - Thebarton
INT GEN ADEL	Genalysis Laboratory Services - Adelaide
Tasmania	
ALSM BURNIE	Burnie Research Laboratory
Argentina	
ASA MENDOZA	Alex Stewart Assayers Argentina SA - Mendoza
ASA PERITO MORENO	Alex Stewart Assayers Argentina SA - Perito Moreno
VELADERO MINE	Veladero Project Assay Lab
Brazil	
PARACATU MINE	Kinross Brasil Mineração SA
SGS LF BELO HOR	SGS Geosol Laboratórios Ltda
Bulgaria	
CHELOPECH MINE	Chelopech Mine Laboratory
Burkina Faso	
ALSM OUAGADOUGOU	ALS Burkina SARL
IAMGOLD BF	IAMGOLD Essakane SA
SEMAFO	Semafo Burkina Faso
SGS OUAGADOUGOU	SGS Burkina SA
Canada	
ACME VAN	Bureau Veritas Commodities Canada Ltd - Vancouver
ACTLABS CAN	Activation Laboratories Ltd (Canada)
ACTLABS TB	Activation Laboratories Ltd - Thunder Bay
AGAT ONTARIO	AGAT Laboratories
ALSM QUEBEC	ALS Minerals (Val d'Or)
ALSM VAN	ALS Minerals - Vancouver
AUTEC VAN	AuTec Innovative Extractive Solutions Ltd
BVCC TIMM	Bureau Veritas Commodities Canada Ltd - Timmins
FLIN FLON MINE	Flin Flon Mine Laboratory
HEMLO MINE	Williams Operating Corporation
MAXXAM ONTARIO	Maxxam Analytics International Corporation
MET-SOLVE	Met-Solve Analytical Services
SGS COCHRANE	SGS Cochrane
SGS LAKEFIELD	SGS Lakefield (Ontario)
SGS VANCOUVER	SGS Vancouver
TSL SASKATCHEWAN	TSL Laboratories
YOUNG-DAVIDSON	AuRico Gold - Young-Davidson
Chile	
ACTLABS CHILE	Activation Laboratories Ltd (Chile)
BV ACME CHILE	Acme Analytical Laboratories Chile SA
BV ANTOFAGASTA	Bureau Veritas Mineral Chemical Analysis - Geoanalitica
BV CALAMA	Bureau Veritas S.G. Calama
BV COQUIMBO	BV Mineral Chemical Analysis - Geoanalitica Coquimbo
BV IQUIQUE	Bureau Veritas Iquique
BV SALVADOR	Bureau Veritas Salvador
BV SANTIAGO	Bureau Veritas Mining & Chemical Division - Cesmec
BV SIERRA GORDA	Bureau Veritas Sierra Gorda
BV VENTANAS	Bureau Veritas Ventanas
ITS CHILE	Intertek Minerals Chile
MARICUNGA MINE	Maricunga Mine
ZALDIVAR MINE	Zaldivar Mine Assay Lab
China	
ALSM CHINA	ALS Minerals - Guangzhou (China)
ZIJIN CHINA	Fujian Zijin Mining and Metallurgy Testing Technology Co., Ltd
Colombia	
SGS COLOMBIA	SGS Colombia
Cote d'Ivoire	
BV COTE	Bureau Veritas Mineral Laboratories Cote d'Ivoire
NEWCREST BONIKRO	Newcrest Bonikro Mine
Democratic Republic of Congo	
FRONTIER DRC	Frontier Mine
SGS KIBALI	SGS Kibali
SGS KINSEVERE	AMCK Mining SPRL
SGS KIPOI	SGS Laboratory - Kipoi
SGS LUBUMBASHI	SGS Lubumbashi
Dominican Republic	
PUEBLO VIEJO	Pueblo Viejo Laboratorio
England	
WHEAL JANE ENGLAND	Wheal Jane Laboratory
Eritrea	
SGS BISHA	SGS Bisha
Finland	
LABTIUM FIN	Labtium Laboratories
Ghana	
ALSM GHANA	ALS Minerals - Ghana
GOLD FIELDS GHANA	Gold Fields Ghana Ltd
ITS GHANA	Intertek Minerals Ltd (Ghana)
NEW AHAFO GHANA	Ahafo Mine Site Laboratory
SGS TARKWA	SGS Laboratories (Tarkwa)
Greece	
HELLAS GREECE	Hellas Gold
Guinea	
SGS SIGUIRI	SGS Mineral Services (Guinee) SARL
India	
SHIVA INDIA	Shiva Analyticals (India) Ltd
Indonesia	
GEOSERVICES IND	PT Geoservices Ltd
ITS BAKAN	Intertek Testing Services - Bakan Project
ITS GOSOWONG	Gosowong Gold Project Lab
ITS INDO	Intertek Testing Services, Jakarta
ITS UTAMA	Intertek Utama Services Manado
MIRAH KBK INDO	KBK Mirah Site Laboratory
SUCOFINDO TIMIKA	Sucofindo Timika Laboratory
TEMBANG	PT Geoservices Ltd - Tembang
WAY LINGGO	PT Geoservices Ltd - Way Linggo
WETAR	PT Geoservices Ltd - Wetar
Iran	
NOVIN SHIMYAR	Khadamate Shimyayee Novin Shimyar Co.
ZARAZMA TEHRAN	Zarazma Minerals Studies Company
Ireland	
ALSM IRELAND	Omac Laboratories - Ireland
BOLIDEN TARA	Boliden Tara Mines
Kyrgyz Republic	
ALSM KYRGYZSTAN	Stewart Assay and Environmental Laboratories LLC
Lao PDR	
ALSM LAOS	ALS Minerals Vientiane (Laos)
PHONESACK LAO	Phonesack Group Co., Ltd
PHU BIA BH	Ban Houayxai Laboratory
PHU BIA LAOS	Phu Bia Mining Limited
SEPON LAOS	Lane Xang Minerals
Malaysia	
ITS PENJOM	Intertek Service - Penjom
SGMM	SGMM Assay Laboratory
Mali	
ALSM TABAKOTO	ALS Tabakoto
SADIOLA MALI	Sadiola Mine Site Laboratory
SGS BAMAKO	SGS Minerals Services (Bamako)
SGS LOULO	SGS Loulo
SGS SYAMA	SGS Minerals Syama Laboratory
Mauritania	
ALSM TASIAST	ALS Minerals - Tasiast
MCM SA	Mauritania Copper Mines SA
OMRG	Office Mauritanien des Recherches Géologiques
Mexico	
ACTLABS MEXICO	Actlabs Mexico SA de CV
BV MINERALS MEX	Inspectorate de México S.A. de C.V.
CUZCATLAN MEXICO	Compañía Minera Cuzcatlán S. A. de C. V.
MCEWEN MEXICO	McEwen Mining Mexico
MULATOS SONORA	Alamos Gold - Mulatos Mine
SANTA RITA	AuRico Gold - Minera Santa Rita
SGM CHIHUAHUA	Centro Experimental Chihuahua
SGM OAXACA	Centro Experimental Oaxaca
Mongolia	
ALSM MONGOLIA	ALS Group LLC
SGS ULAAN	SGS Mongolia LLC
Namibia	
DUNDEE PMT	Dundee Precious Metals Tsumeb
New Zealand	
SGS NZ MACRAES	SGS New Zealand, Macraes Laboratory
SGS NZ WAIHI	SGS New Zealand, Minerals Laboratory
Papua New Guinea	
INTERTEK HV	Intertek Hidden Valley
ITS K92 PNG	ITS (PNG) Limited K92 Laboratory
ITS MOROBE	ITS (PNG) Limited
LIHIR	Lihir Gold - Minesite Laboratory
OK TEDI	Ok Tedi
Peru	
ACT SKYLINE PERU	Actlabs Skyline Peru SAC
ALSM LIMA	ALS Peru SA
CERTIMIN	Certimin S.A.
CERTIMIN LA ARENA	Certimin S.A. - La Arena
CMH PERU	Consorcio Minero Horizonte S.A.
INSPECTORATE PERU	Inspectorate Services Peru SAC
LAGUNAS MINE	Minera Barrick Misquichilca - Unidad Lagunas Norte
NEW PERU	Minera Yanacocha SRL - Newmont Lab (Peru)
PIERINA MINE	Minera Barrick Misquichilca - Unidad Pierina
SGS LIMA	SGS del Peru SAC
Philippines	
ITS McPHAR	Intertek Testing Services Philippines
OSTREA MANILA	Ostrea Mineral Laboratories
Romania	
ALSM ROMANIA	ALS Romania
Russia	
ALSM CHITA	ALS Minerals - Chita
ALSM MOSCOW	Stewart Geochemical and Assay Ltd
IRGIREDMET RUSSIA	IRGIREDMET JSC
KUPOL MINE	Kupol Mine
SGS CHITA	SGS Chita
TOMS RUSSIA	TOMS-Irkutsk
VSEGEI RUSSIA	VSEGEI All-Russia Geological research Institute
Saudi Arabia	
ALSM JEDDAH	ALS Minerals - Arabia
MAADEN SAUDI	Maaden Gold and Base Metals Co
MBCC JABAL SAYID	MBCC Jabal Sayid Mine
Senegal	
SGS SABODALA	SGS Sabodala
Serbia	
SGS BOR	SGS Bor
South Africa	
AA TS	Anglo Research, Crown Mines - BMP
ALSM JOBURG	ALS Minerals - Johannesburg
MINTEK SA	Mintek Analytical Services Division
RAPPA RESEARCH	Rappa Research Laboratory
SCI SER	Scientific Services Pty Ltd
SGS BARBERTON	Performance Laboratories Barberton
SGS PLW	Performance Laboratories (PLW)
SGS RANDFONTEIN	Performance Laboratories (PLR)
SIBANYE BEATRIX	Sibanyegold Beatrix Division
SIBANYE CHARL	Sibanyegold Analytical Laboratory Driefontein
Suriname	
FILAB SURINAME	Filab Suriname
Tanzania	
BULYANHULU TANZ	Bulyanhulu Mine Assay Lab
BUZWAGI	Pangea Minerals Ltd
GEITA TANZ	Geita Gold Mine Laboratory
NORTH MARA	North Mara Minesite Laboratory
SGS MWANZA	African Assay Laboratories (Tanzania) Ltd
Turkey	
ACME TURKEY	Acme Analytical Laboratories Ltd - Turkey
ALSM TURKEY	ALS Minerals - Turkey
ANAGOLD TURK	Anagold Madencilik San Ve Tic.A.S.
CAYELI BAKIR TURKEY	Cayeli Bakir Isletmeleri A.S.
DEMIR ANKARA	Demir Export Ankara
DEMIR SIVAS	Demir Export Sivas
GUMUSTAS TURKEY	Gumustas Mining and Trading Inc
KOZAGOLD KAYMAZ	Koza Gold Mine Kaymaz Laboratory
KOZAGOLD TURKEY	Koza Gold Mine Laboratory
MNG ORKO TURKEY	MNG Orko Madencilik
SGS TURKEY	SGS Turkey
United States of America	
AALLABS	American Assay Laboratories
ACZ COLORADO	ACZ Laboratories Inc
ALSM RENO	ALS Minerals - Reno
BALD MOUNT	Bald Mountain Mine Assay Lab
CORTEZ MINE	Cortez JV Mine Assay Lab
FLORIN RENO	Florin Analytical Services
FLSMIDTH USA	FLSmidth Analytical Lab
FORT KNOX	Fort Knox Assay Lab
GOLD SUNLIGHT MINE	Golden Sunlight Mine Assay Lab
GOLDSTRIKE	Barrick Analytical Laboratory
INSPECTORATE NEV	Inspectorate America Corporation - Sparks
INTER-MOUNTAIN USA	Inter-Mountain Laboratories
KML KERSHAW	Kershaw Mineral Lab
MCCLELLAND NEV	McClelland Laboratories, Inc.
NEW GC	Newmont Mining Corporation - Carlin Assay Lab
NEW LONE	Newmont - Lone Tree Mine
NEW MET SER	Newmont Metallurgical Services
NEW TWIN CM	Newmont - Twin Creek Mine
ROUND MOUNT MINE	Round Mountain Gold Assay Lab
RTKC UTAH	Rio Tinto Kennecott Copper
SKYLINE ARIZONA	Skyline Assayers & Laboratories - Arizona
TURQ RIDGE MINE	Turquoise Ridge JV Mine Assay Lab
Uruguay	
OMI URUGUAY	Loryser S.A.
Zambia	
AHK KITWE	Alfred H Knight Zambia Ltd
ALSM KANSANSHI	ALS Minerals - Kansanshi
KANSANSHI ZAMBIA	Kansanshi Mining PLC
LUMWANA MINE	Lumwana Mine Site Lab
SGS KALULUSHI	SGS Inspection Services Zambia
Zimbabwe	
ANTECH	Antech Laboratories
FREDA ZIM	Freda Rebecca Gold Mine
SGS ZIMBABWE	Performance Laboratories Zimbabwe

Commercial Laboratory	Laboratory that reported some results after the database was closed.
Minesite Laboratory	
Government Laboratory	

REPORT ON LABORATORY SURVEY – April 2017

A round robin to measure the accuracy of gold, silver, sulphur and base metal analyses from 213 laboratories was conducted during April 2017. 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 samples submitted to the laboratories consisted of:

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

April 2017 has seen the introduction of a new sample numbering system. All laboratories received a quantity of new products for analysis along with a random set of pre-selected current Certified Reference Materials. For example, Fire Assay included five new products that all laboratories received. Each laboratory was assigned a group from "A" to "E". Each group contained a set of five existing products. This change was introduced to further reduce the prospect of assay comparisons between laboratories within the same corporate 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 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. Maxxam Ontario can be contacted through Salima Haniff at SHaniff@maxxam.ca

GOLD AND SILVER ON CARBON SAMPLES

Six gold and silver on carbon samples 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. However, the report groups them into Total (typically 4 acid digest or fusion) and Partial (all others, mainly aqua regia) methods. Becquerel Canada performed Neutron Activation Analysis and these have been included in the Total digest group. Methods are listed in the results page for the respective analyte.

ORE GRADE BASE METAL SAMPLES

Six ore-grade and/or concentrate samples are included in the survey. These are assayed primarily for copper, lead, zinc, nickel, 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 and carbon samples were prepared for the survey. These ten new samples are a good mix of values with sulphur values up to 24.4% and carbon values up to 8.5%.

All of the certified reference materials 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. Existing products are standardised using the certified values.

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 (red 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 (red charts).

Bias is indicated in negative/positive column charts (blue 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

1A	1 Acid Digest
2A	2 Acid Digest
3A	3 Acid Digest
4A	4 Acid Digest
AD	Acid Digest
AR	Aqua Regia
CSA	Carbon and Sulphur Analyser
FA	Fire Assay
FUS	Fusion
GF	Graphite Furnace
GRAV	Gravimetric
IH	In House Method
LW	Leach well
MAD	Multi-Acid Digest
MICR	Microwave
NAA	Neutron Activation Analysis
PP	Pressed Powder
PR	Pre-Roast
TITR	Titration
VOL	Volumetic

READINGS

AAS	Atomic Absorption Spectroscopy
DIBK	DIBK Extraction
ES	ICP - Emission Spectroscopy
GRAV	Gravimetric
ICP	Inductively Coupled Plasma - Unspecified
IR	Infrared
MS	ICP - Mass Spectroscopy
TITR	Titration
XRF	X-Ray Fluorescence

CONTENTS

RESULTS OF ANALYSES PRESENTED AS TABLES AND PLOTS

Fire Assay Gold Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	G317-1	G317-2	G317-3	G317-4	G317-5
MEAN (ppm)	11.03	12.97	16.81	23.97	4.23
STDEV (ppm)	0.37	0.41	0.59	0.83	0.16
95% CI (ppm)	0.06	0.06	0.09	0.13	0.02
95% CI (%)	0.52%	0.49%	0.54%	0.54%	0.59%
MIN (ppm)	10.11	11.83	15.42	21.75	3.81
MEDIAN (ppm)	11.01	13.00	16.83	23.92	4.23
MAX (ppm)	12.10	13.89	18.40	26.25	4.67
IQR (ppm)	0.47	0.50	0.78	1.02	0.19
COUNT	160	157	162	162	158

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	11.05	0.04	12.57	-0.98	16.25	-0.95	23.58	-0.46	4.22	-0.09
COMLAB	11.10	0.18	13.15	0.45	16.95	0.24	24.20	0.28	4.37	0.85
COMLAB	10.65	-1.03	12.75	-0.53	17.00	0.33	24.00	0.04	4.20	-0.22
COMLAB	11.20	0.45	13.35	0.95	16.95	0.24	24.20	0.28	4.22	-0.09
COMLAB	11.50	1.25	13.40	1.07	16.85	0.07	23.20	-0.92	4.10	-0.84
COMLAB	11.00	-0.09	13.00	0.08	16.90	0.16	23.90	-0.08	4.11	-0.78
COMLAB	11.30	0.72	13.30	0.82	16.80	-0.01	23.00	-1.16	4.38	0.93
COMLAB	9.57	-3.00	14.90	3.00	15.70	-1.88	23.00	-1.16	4.27	0.22
COMLAB	11.10	0.18	13.54	1.41	17.37	0.96	24.02	0.07	4.44	1.29
COMLAB	11.24	0.55	13.63	1.64	17.35	0.92	24.74	0.93	4.41	1.10
COMLAB	11.65	1.66	13.55	1.44	17.25	0.75	24.70	0.88	5.04	3.00
COMLAB	11.38	0.93	12.95	-0.04	17.14	0.57	40.48	3.00	4.14	-0.59
COMLAB	11.39	0.96	12.96	-0.02	16.96	0.26	23.87	-0.11	4.10	-0.86
COMLAB	11.60	1.52	13.60	1.56	16.80	-0.01	25.60	1.96	4.41	1.10
COMLAB	11.10	0.18	12.98	0.03	16.61	-0.34	24.50	0.64	4.31	0.47
COMLAB	11.40	0.99	13.40	1.07	16.90	0.16	23.40	-0.68	4.18	-0.34
COMLAB	10.56	-1.28	12.15	-2.01	15.52	-2.19	21.88	-2.50	4.38	0.91
COMLAB	11.99	2.57	13.97	2.47	16.67	-0.23	23.59	-0.45	3.97	-1.66
COMLAB	10.80	-0.63	12.70	-0.66	15.90	-1.54	23.80	-0.20	4.10	-0.84
COMLAB	10.91	-0.34	11.92	-2.57	16.75	-0.10	24.25	0.35	4.11	-0.80
MINELAB	10.98	-0.15	13.31	0.85	17.47	1.13	24.39	0.51	4.05	-1.16
MINELAB	10.51	-1.41	12.75	-0.53	16.64	-0.28	23.23	-0.88	4.14	-0.59
MINELAB	10.66	-1.01	12.82	-0.36	15.50	-2.22	23.25	-0.86	6.41	3.00
MINELAB	11.86	2.22	15.02	3.00	17.86	1.79	25.64	2.01	4.12	-0.72
MINELAB	11.19	0.42	12.80	-0.41	16.73	-0.13	23.90	-0.08	4.26	0.16
MINELAB	12.45	3.00	14.90	3.00	21.95	3.00	30.15	3.00	4.53	1.85
MINELAB	12.59	3.00	15.79	3.00	17.95	1.95	26.22	2.70	4.57	2.08
MINELAB	10.15	-2.38	11.48	-3.00	15.26	-2.63	21.45	-3.00	3.90	-2.10
MINELAB	11.01	-0.06	13.00	0.08	16.95	0.24	24.49	0.63	4.26	0.16
MINELAB	10.52	-1.38	12.19	-1.92	17.04	0.40	24.40	0.52	4.15	-0.53
MINELAB	10.41	-1.68	12.47	-1.23	16.57	-0.40	24.03	0.08	4.41	1.10
MINELAB	11.08	0.12	12.72	-0.61	16.70	-0.18	24.28	0.38	4.46	1.41
MINELAB	10.92	-0.31	11.06	-3.00	14.64	-3.00	20.96	-3.00	3.91	-2.03

Existing Products

	G315-4		G908-4		G914-6		G316-8		G315-8			
Target	0.32		0.96		3.21		6.11		9.93			
Std Dev	0.02		0.05		0.12		0.21		0.32			
	G315-4		G908-4		G914-6		G316-8		G315-8			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	0.31	-0.31	0.95	-0.22	3.31	0.82	6.13	0.10	9.80	-0.40	FA	AAS
	0.29	-1.28	1.02	1.30	3.13	-0.70	6.20	0.44	10.20	0.84	FA	AAS
	0.30	-0.79	0.96	0.00	3.24	0.23	5.98	-0.62	9.81	-0.37	FA	AAS,GRAV
	0.29	-1.28	0.96	0.00	3.19	-0.20	6.10	-0.04	9.96	0.10	FA	GRAV
	0.30	-0.79	0.94	-0.43	2.99	-1.89	6.21	0.49	9.73	-0.61	FA	AAS
	0.31	-0.31	0.98	0.43	3.16	-0.45	6.08	-0.14	9.90	-0.09	FA	AAS
	0.30	-0.74	0.92	-0.89	3.25	0.27	5.81	-1.42	9.31	-1.93	FA	AAS,GRAV
	0.31	-0.31	0.97	0.11	3.19	-0.21	6.06	-0.23	9.71	-0.68	FA	AAS,GRAV
	0.34	1.15	0.98	0.43	3.40	1.58	6.12	0.06	9.30	-1.94	FA	AAS,GRAV
	0.30	-0.74	0.96	0.02	3.38	1.39	6.48	1.80	10.16	0.71	FA	AAS,GRAV
	0.53	3.00	1.53	3.00	4.41	3.00	7.18	3.00	10.63	2.17	FA	GRAV
	0.34	1.15	0.97	0.22	3.20	-0.11	6.28	0.83	10.44	1.58	FA	AAS
	0.32	0.23	0.92	-0.80	3.11	-0.88	nr	nr	10.02	0.28	FA	AAS,GRAV
	0.30	-0.79	0.98	0.43	3.33	0.99	6.43	1.55	10.60	2.07	FA	AAS
	0.32	0.18	0.99	0.65	3.26	0.40	6.37	1.26	10.18	0.78	FA	AAS
	0.33	0.67	0.94	-0.43	3.10	-0.96	6.21	0.49	9.35	-1.79	FA	AAS
	0.34	1.15	1.04	1.73	3.26	0.40	5.49	-2.98	9.68	-0.77	FA	AAS
	0.33	0.67	1.06	2.16	3.10	-0.96	6.40	1.41	10.51	1.80	FA	AAS
	0.35	1.64	1.34	3.00	3.60	3.00	6.00	-0.52	9.60	-1.02	FA	GRAV
	0.32	0.18	0.99	0.63	3.26	0.38	6.15	0.21	9.81	-0.36	FA	AAS,GRAV
	0.36	2.13	1.00	0.86	3.19	-0.20	6.10	-0.04	10.13	0.62	FA	AAS,GRAV
	0.32	0.18	0.90	-1.30	3.18	-0.28	5.98	-0.62	9.73	-0.61	FA	
	<0.17	bld	1.30	3.00	2.71	-3.00	5.76	-1.68	9.74	-0.58	FA	AAS
	0.32	0.18	0.95	-0.22	3.17	-0.37	6.15	0.20	10.66	2.26	FA	GRAV
	0.31	-0.31	0.97	0.22	3.36	1.24	6.20	0.44	9.83	-0.30	FA	AAS
	0.36	2.13	1.06	2.16	3.36	1.24	6.79	3.00	11.65	3.00	FA	AAS
	0.32	-0.04	0.98	0.52	3.55	2.87	5.63	-2.33	11.64	3.00	FA	AAS
	0.31	-0.31	9.04	3.00	2.92	-2.48	5.13	-3.00	8.92	-3.00	FA	ICP
	0.32	0.18	0.95	-0.22	3.09	-1.04	6.09	-0.09	10.09	0.50	FA	AAS
	0.30	-0.79	0.92	-0.87	2.86	-2.99	5.54	-2.74	9.13	-2.47	FA	AAS
	0.34	1.15	0.96	0.00	3.20	-0.11	6.18	0.34	9.46	-1.45	FA	AAS
	0.32	0.18	0.96	0.00	3.26	0.40	5.94	-0.81	9.65	-0.86	FA	AAS
	1.02	3.00	0.90	-1.30	3.17	-0.37	5.94	-0.81	9.64	-0.89	FA	GRAV

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	11.30	0.72	13.30	0.82	16.90	0.16	24.20	0.28	3.96	-1.72
COMLAB	10.91	-0.33	13.00	0.08	16.37	-0.74	24.30	0.40	4.01	-1.43
COMLAB	11.50	1.25	13.05	0.21	16.75	-0.10	24.00	0.04	4.23	-0.03
COMLAB	10.80	-0.63	13.00	0.08	16.55	-0.44	22.90	-1.28	4.10	-0.84
COMLAB	11.00	-0.09	13.05	0.21	16.95	0.24	23.60	-0.44	4.26	0.16
COMLAB	11.50	1.25	12.80	-0.41	17.20	0.67	24.20	0.28	4.31	0.47
COMLAB	10.95	-0.23	13.00	0.08	16.85	0.07	23.70	-0.32	4.13	-0.66
COMLAB	10.93	-0.28	13.30	0.82	17.37	0.96	24.10	0.16	4.24	0.03
COMLAB	10.40	-1.71	12.50	-1.15	15.90	-1.54	23.40	-0.68	4.39	0.97
COMLAB	11.00	-0.09	13.10	0.33	16.30	-0.86	23.60	-0.44	4.30	0.41
COMLAB	11.10	0.18	12.80	-0.41	16.90	0.16	23.80	-0.20	4.10	-0.84
COMLAB	11.10	0.18	13.12	0.38	17.01	0.34	24.04	0.09	4.26	0.16
COMLAB	10.30	-1.98	12.50	-1.15	15.90	-1.54	22.60	-1.64	4.10	-0.84
COMLAB	10.76	-0.74	8.30	-3.00	16.64	-0.28	23.16	-0.97	4.60	2.29
COMLAB	12.45	3.00	14.74	3.00	18.75	3.00	24.86	1.07	4.67	2.73
COMLAB	11.10	0.18	13.20	0.58	16.87	0.11	24.00	0.04	4.24	0.03
MINELAB	11.59	1.50	13.72	1.86	17.46	1.11	25.48	1.82	4.38	0.91
MINELAB	11.30	0.72	12.65	-0.78	16.75	-0.10	23.10	-1.04	4.13	-0.66
MINELAB	11.00	-0.09	12.80	-0.41	16.70	-0.18	24.00	0.04	4.28	0.29
MINELAB	10.90	-0.36	12.82	-0.36	15.77	-1.76	21.94	-2.43	4.25	0.10
MINELAB	11.19	0.42	13.12	0.38	16.61	-0.34	23.80	-0.20	4.29	0.35
MINELAB	10.17	-2.33	12.00	-2.38	14.85	-3.00	20.20	-3.00	2.86	-3.00
MINELAB	11.51	1.28	13.31	0.85	17.36	0.94	23.85	-0.14	4.39	0.98
MINELAB	11.30	0.72	13.40	1.07	17.50	1.18	24.90	1.12	4.18	-0.34
MINELAB	10.96	-0.20	13.03	0.16	16.54	-0.45	23.56	-0.49	4.29	0.35
MINELAB	11.18	0.39	13.24	0.67	16.94	0.23	23.74	-0.27	4.17	-0.40
MINELAB	11.00	-0.09	13.00	0.08	16.80	-0.01	23.20	-0.92	4.15	-0.53
MINELAB	10.80	-0.63	12.53	-1.08	15.81	-1.70	22.68	-1.54	4.13	-0.66
MINELAB	10.90	-0.36	12.80	-0.41	16.40	-0.69	23.00	-1.16	3.71	-3.00

	G315-7		G316-2		G916-10		G316-7		G915-3			
Target	0.30		1.04		2.81		5.85		9.39			
Std Dev	0.02		0.04		0.14		0.19		0.49			
	G315-7		G316-2		G916-10		G316-7		G915-3			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	0.29	-0.47	0.97	-1.97	2.65	-1.11	5.86	0.08	10.50	2.27	FA	AAS
	0.29	-0.63	0.99	-1.41	2.68	-0.92	5.63	-1.13	8.99	-0.82	FA	AAS,GRAV
	0.33	1.66	1.06	0.43	2.66	-1.04	6.18	1.79	9.89	1.02	FA	AAS
	0.28	-1.00	1.02	-0.63	2.63	-1.25	5.73	-0.62	8.87	-1.06	FA	AAS
	0.34	2.19	1.02	-0.63	2.69	-0.83	5.98	0.72	9.81	0.86	FA	AAS
	0.29	-0.47	1.08	0.96	2.91	0.73	5.83	-0.08	9.74	0.72	FA	AAS
	0.30	0.07	1.04	-0.10	2.98	1.22	5.80	-0.24	9.16	-0.47	FA	AAS
	0.29	-0.36	0.98	-1.59	2.83	0.16	6.02	0.94	9.07	-0.65	FA	AAS
	0.30	-0.04	1.13	2.37	3.01	1.46	6.08	1.26	8.70	-1.41	FA	AAS,GRAV
	0.30	0.07	1.05	0.16	2.87	0.45	5.84	-0.03	11.10	3.00	FA	AAS
	0.26	-2.06	0.81	-3.00	2.99	1.29	5.94	0.51	9.12	-0.55	FA	ES
	0.30	0.07	1.03	-0.37	3.20	2.77	6.32	2.54	29.45	3.00	FA	AAS
	0.30	0.12	1.01	-0.90	2.85	0.30	5.67	-0.94	8.81	-1.18	FA	GRAV
	0.40	3.00	1.04	-0.10	2.80	-0.05	5.84	-0.03	9.84	0.92	FA	GRAV
	0.30	0.07	1.03	-0.37	3.17	2.56	6.43	3.00	10.61	2.49	FA	AAS
	0.29	-0.47	1.00	-1.17	2.86	0.37	5.77	-0.40	8.15	-2.53	IH	AAS
	0.31	0.60	1.06	0.43	2.75	-0.40	6.04	1.04	9.77	0.78	FA	GRAV
	0.33	1.66	0.99	-1.43	3.14	2.35	5.63	-1.15	9.12	-0.55	FA	AAS
	0.29	-0.47	1.03	-0.37	2.94	0.94	5.98	0.72	9.10	-0.59	FA	AAS
	0.41	3.00	1.17	3.00	2.95	1.01	6.03	0.99	9.46	0.14	FA	AAS
	0.32	1.13	1.05	0.16	2.97	1.15	6.00	0.83	8.91	-0.98	FA	AAS,GRAV
	0.42	3.00	1.07	0.70	2.79	-0.12	5.56	-1.53	9.10	-0.59	FA	ES
	0.34	2.19	1.02	-0.63	2.84	0.23	6.06	1.15	8.58	-1.65	FA	AAS
	0.28	-1.00	1.06	0.43	2.97	1.15	6.01	0.88	8.56	-1.69	FA	GRAV
	0.29	-0.47	1.02	-0.63	2.84	0.23	5.80	-0.24	8.72	-1.37	FA	AAS
	0.29	-0.47	1.03	-0.37	2.89	0.59	5.81	-0.19	8.91	-0.98	FA	AAS
	0.28	-1.00	1.02	-0.63	2.75	-0.40	5.94	0.51	9.22	-0.35	FA	AAS
	0.25	-2.59	0.98	-1.70	2.65	-1.11	5.73	-0.62	8.63	-1.55	FA	AAS
	0.29	-0.47	0.98	-1.70	3.00	1.36	5.78	-0.35	8.80	-1.20	FA	AAS

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	11.49	1.23	13.72	1.86	17.42	1.04	23.93	-0.04	4.32	0.54
COMLAB	12.37	3.00	13.24	0.67	16.84	0.06	25.67	2.04	4.67	2.73
COMLAB	10.60	-1.17	12.55	-1.03	17.30	0.84	25.10	1.36	4.17	-0.40
COMLAB	10.88	-0.42	13.04	0.18	16.49	-0.54	23.32	-0.77	4.30	0.41
COMLAB	11.00	-0.09	13.35	0.95	17.30	0.84	24.20	0.28	4.30	0.41
COMLAB	10.77	-0.71	12.68	-0.71	16.14	-1.14	23.57	-0.47	4.17	-0.40
COMLAB	11.35	0.85	13.20	0.58	16.95	0.24	24.00	0.04	4.33	0.60
COMLAB	11.40	0.99	13.50	1.32	17.60	1.35	24.40	0.52	4.33	0.60
COMLAB	11.25	0.58	12.69	-0.68	16.82	0.02	23.16	-0.97	4.07	-1.03
COMLAB	22.30	3.00	23.50	3.00	17.00	0.33	24.30	0.40	4.28	0.29
COMLAB	11.10	0.18	12.80	-0.41	17.00	0.33	23.60	-0.44	4.27	0.22
COMLAB	11.20	0.45	13.20	0.58	16.40	-0.69	23.50	-0.56	4.29	0.34
COMLAB	10.89	-0.39	13.63	1.64	17.40	1.01	25.00	1.24	3.96	-1.72
COMLAB	10.77	-0.71	12.60	-0.90	15.50	-2.22	22.43	-1.84	4.20	-0.22
COMLAB	11.03	-0.01	12.87	-0.24	15.42	-2.36	23.28	-0.82	3.81	-2.66
COMLAB	11.10	0.18	13.06	0.23	16.94	0.23	23.98	0.02	4.34	0.66
COMLAB	11.97	2.52	13.08	0.28	17.62	1.38	25.57	1.92	4.62	2.42
COMLAB	11.70	1.79	13.40	1.07	17.60	1.35	25.00	1.24	4.21	-0.15
COMLAB	11.09	0.15	12.83	-0.33	16.40	-0.69	24.64	0.81	4.40	1.03
COMLAB	11.00	-0.09	12.30	-1.64	15.80	-1.71	23.70	-0.32	4.33	0.60
COMLAB	10.60	-1.17	12.60	-0.90	16.10	-1.20	23.30	-0.80	4.31	0.47
COMLAB	10.60	-1.17	12.60	-0.90	16.00	-1.37	22.80	-1.40	4.06	-1.09
COMLAB	10.62	-1.12	12.51	-1.13	16.68	-0.22	24.69	0.87	4.18	-0.34
MINELAB	10.35	-1.84	12.32	-1.59	16.64	-0.28	23.93	-0.04	4.13	-0.66
MINELAB	11.16	0.34	13.15	0.45	17.09	0.48	24.01	0.05	4.32	0.54
MINELAB	10.68	-0.95	12.93	-0.09	16.27	-0.91	23.70	-0.32	4.05	-1.16
MINELAB	11.70	1.79	13.49	1.29	17.28	0.80	24.78	0.98	3.93	-1.91
MINELAB	11.00	-0.09	13.12	0.38	15.92	-1.51	23.49	-0.57	4.30	0.41
MINELAB	10.60	-1.17	12.49	-1.18	16.40	-0.69	22.30	-2.00	3.92	-1.97
MINELAB	10.46	-1.55	12.03	-2.31	16.75	-0.10	22.84	-1.35	4.14	-0.59
MINELAB	11.68	1.74	13.54	1.41	18.34	2.61	25.17	1.44	4.56	2.04
MINELAB	10.79	-0.66	13.09	0.30	16.29	-0.88	24.49	0.63	4.22	-0.09
MINELAB	10.82	-0.58	12.28	-1.69	16.76	-0.08	25.80	2.20	3.92	-1.97
MINELAB	11.63	1.61	13.53	1.39	17.37	0.96	24.80	1.00	4.37	0.85

	G903-10		G908-4		G912-3		G915-4		G915-9			
Target	0.21		0.96		2.09		9.16		9.82			
Std Dev	0.02		0.05		0.08		0.35		0.32			
	G903-10		G908-4		G912-3		G915-4		G915-9			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	0.22	0.31	0.99	0.65	2.04	-0.60	8.95	-0.60	9.62	-0.61	FA	AAS
	0.21	-0.26	0.99	0.65	2.24	1.76	9.82	1.86	10.57	2.34	FA	AAS
	0.19	-1.39	0.92	-0.87	1.93	-1.90	9.01	-0.43	9.66	-0.48	FA	AAS
	0.21	-0.26	0.98	0.43	2.17	0.93	9.31	0.42	9.78	-0.11	FA	AAS
	0.21	-0.26	0.95	-0.22	2.13	0.46	9.06	-0.29	10.15	1.04	FA	AAS
	0.21	-0.26	0.95	-0.22	2.12	0.34	8.87	-0.82	9.65	-0.51	FA	AAS
	0.20	-0.82	0.96	0.00	2.06	-0.36	9.13	-0.09	9.89	0.23	FA	AAS
	0.20	-0.82	0.96	0.00	2.13	0.46	9.38	0.62	10.10	0.88	FA	ICP
	0.20	-0.82	0.95	-0.22	2.06	-0.36	9.31	0.42	9.56	-0.79	FA	AAS
	0.21	-0.43	0.98	0.43	2.15	0.69	9.30	0.38	>10.00	ald	FA	AAS
	0.19	-1.67	0.92	-0.84	2.01	-0.95	8.99	-0.48	9.84	0.08	FA	ES
	0.22	0.20	0.98	0.39	2.13	0.46	8.76	-1.13	9.95	0.42	FA	AAS,GRAV
	0.23	0.87	0.95	-0.22	2.06	-0.36	9.69	1.49	10.71	2.78	FA	AAS
	0.27	3.00	0.93	-0.65	1.93	-1.90	9.26	0.28	9.63	-0.58	AR	AAS
	0.27	3.00	1.15	3.00	2.77	3.00	8.58	-1.64	9.70	-0.36	FA	AAS
	0.21	-0.26	0.91	-1.08	2.15	0.70	9.18	0.05	9.87	0.17	FA	AAS,GRAV
	0.22	0.31	1.04	1.73	2.41	3.00	9.26	0.28	10.52	2.19	FA	
	0.20	-0.82	0.94	-0.43	2.04	-0.60	9.71	1.55	10.30	1.50	FA	AAS
	0.23	0.87	1.10	3.00	2.45	3.00	nr	nr	10.00	0.58	FA	AAS
	0.30	3.00	0.93	-0.65	2.97	3.00	6.05	-3.00	9.41	-1.26	FA	GRAV
	0.22	0.31	0.98	0.43	2.11	0.23	8.78	-1.08	9.80	-0.05	FA	GRAV
	0.28	3.00	1.02	1.30	2.11	0.23	8.68	-1.36	9.46	-1.10	FA	AAS
	0.20	-0.82	0.96	0.00	2.07	-0.25	8.94	-0.62	9.36	-1.42	FA	AAS
	0.27	3.00	0.98	0.43	2.13	0.46	9.13	-0.09	9.79	-0.08	FA	AAS
	0.27	3.00	0.99	0.65	2.19	1.17	9.28	0.33	9.83	0.04	FA	GRAV
	0.18	-1.78	0.90	-1.30	2.04	-0.60	8.73	-1.22	9.66	-0.48	FA	AAS
	0.29	3.00	1.04	1.73	2.29	2.35	9.55	1.09	10.34	1.63	FA	AAS
	0.23	0.87	0.91	-1.08	2.14	0.58	9.15	-0.03	9.70	-0.36	FA	
	0.25	2.00	1.50	3.00	2.05	-0.48	8.52	-1.81	9.52	-0.92	FA	AAS
	0.20	-0.82	1.01	1.08	2.14	0.58	8.69	-1.33	9.46	-1.10	FA	
	0.30	3.00	0.99	0.65	2.10	0.11	9.02	-0.40	9.45	-1.14	FA	AAS
	0.22	0.31	0.97	0.22	2.08	-0.13	9.13	-0.09	9.89	0.23	FA	AAS
	0.24	1.44	0.96	0.00	2.06	-0.36	8.10	-2.99	9.80	-0.05	FA	AAS
	0.19	-1.39	1.00	0.86	2.14	0.58	9.16	0.00	10.33	1.60	FA	AAS

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	10.88	-0.42	13.19	0.55	17.26	0.77	24.25	0.34	4.26	0.16
COMLAB	11.30	0.72	13.40	1.07	16.60	-0.35	23.40	-0.68	4.09	-0.91
COMLAB	11.30	0.72	13.25	0.70	17.00	0.33	23.90	-0.08	4.25	0.10
COMLAB	11.55	1.39	12.80	-0.41	17.35	0.92	23.80	-0.20	4.28	0.29
COMLAB	10.70	-0.90	12.60	-0.90	16.80	-0.01	23.60	-0.44	4.14	-0.59
COMLAB	11.50	1.25	13.60	1.56	16.90	0.16	24.40	0.52	4.47	1.48
COMLAB	11.01	-0.06	12.90	-0.16	16.63	-0.30	23.74	-0.27	4.23	-0.03
COMLAB	10.80	-0.63	12.10	-2.14	16.28	-0.90	12.62	-3.00	22.39	3.00
COMLAB	10.70	-0.90	12.50	-1.15	16.50	-0.52	24.60	0.76	4.05	-1.16
COMLAB	10.11	-2.48	12.50	-1.15	16.76	-0.09	24.64	0.81	4.01	-1.41
COMLAB	11.17	0.37	13.58	1.51	17.90	1.86	25.87	2.28	4.46	1.41
COMLAB	11.24	0.55	13.04	0.18	17.20	0.67	23.80	-0.20	4.27	0.22
COMLAB	11.14	0.29	12.66	-0.76	17.47	1.13	24.04	0.09	4.04	-1.22
COMLAB	11.34	0.82	13.29	0.79	16.68	-0.21	24.03	0.08	4.30	0.43
COMLAB	11.36	0.88	13.31	0.85	17.22	0.70	24.61	0.77	4.36	0.79
COMLAB	11.32	0.77	13.41	1.09	17.70	1.52	24.52	0.66	4.19	-0.28
COMLAB	10.97	-0.17	12.97	0.01	16.75	-0.10	24.52	0.66	4.36	0.79
COMLAB	10.87	-0.44	12.89	-0.19	16.63	-0.30	23.70	-0.32	4.25	0.10
COMLAB	10.78	-0.68	13.06	0.23	16.70	-0.18	23.17	-0.95	4.12	-0.72
COMLAB	11.10	0.18	12.80	-0.41	16.40	-0.69	23.60	-0.44	3.93	-1.91
COMLAB	10.57	-1.24	12.53	-1.07	15.72	-1.84	23.11	-1.03	3.99	-1.55
COMLAB	10.90	-0.36	13.00	0.08	16.00	-1.37	23.90	-0.08	4.52	1.79
COMLAB	11.00	-0.09	12.90	-0.16	16.40	-0.69	23.70	-0.32	4.22	-0.09
COMLAB	10.99	-0.12	12.98	0.03	16.86	0.09	23.89	-0.09	4.41	1.10
COMLAB	10.48	-1.49	13.37	0.99	16.85	0.07	23.90	-0.08	4.15	-0.53
MINELAB	10.99	-0.12	12.89	-0.19	16.93	0.21	23.84	-0.15	4.37	0.85
MINELAB	11.20	0.45	12.95	-0.04	16.90	0.16	24.00	0.04	4.08	-0.97
MINELAB	10.86	-0.47	12.97	0.01	16.57	-0.40	23.36	-0.73	4.21	-0.15
MINELAB	11.55	1.39	12.44	-1.30	16.55	-0.44	22.92	-1.25	4.36	0.79
MINELAB	11.26	0.61	13.05	0.21	16.85	0.07	24.06	0.11	4.18	-0.34
MINELAB	11.44	1.09	13.66	1.71	17.91	1.88	25.53	1.88	4.21	-0.15
MINELAB	10.95	-0.23	12.98	0.03	16.59	-0.37	23.70	-0.32	4.21	-0.15
MINELAB	11.07	0.10	13.02	0.13	16.90	0.16	23.59	-0.45	4.16	-0.47
MINELAB	10.70	-0.90	12.35	-1.52	16.30	-0.86	22.15	-2.18	4.13	-0.66
MINELAB	10.95	-0.23	13.05	0.21	16.11	-1.19	23.39	-0.69	4.34	0.66
MINELAB	10.43	-1.63	12.56	-1.00	15.74	-1.82	22.65	-1.58	3.91	-2.03
MINELAB	11.00	-0.09	12.76	-0.51	16.88	0.12	23.88	-0.10	4.28	0.29
MINELAB	9.72	-3.00	10.16	-3.00	13.80	-3.00	21.40	-3.00	3.74	-3.00
MINELAB	11.37	0.89	13.46	1.21	17.53	1.23	23.23	-0.89	3.47	-3.00
MINELAB	11.02	-0.04	13.18	0.53	16.77	-0.06	24.53	0.68	4.34	0.66
MINELAB	11.18	0.39	12.74	-0.56	15.91	-1.53	23.00	-1.16	4.00	-1.47
MINELAB	11.48	1.19	13.34	0.93	17.67	1.47	24.48	0.61	4.29	0.32
MINELAB	11.44	1.09	13.89	2.28	18.11	2.22	25.54	1.89	4.32	0.54
MINELAB	10.49	-1.47	11.46	-3.00	15.37	-2.44	18.85	-3.00	3.79	-2.79
MINELAB	11.20	0.45	13.32	0.87	17.33	0.89	24.92	1.14	4.21	-0.15
MINELAB	10.62	-1.12	12.54	-1.05	16.59	-0.37	24.24	0.33	3.91	-2.03
MINELAB	11.20	0.45	13.40	1.07	17.20	0.67	24.92	1.14	4.35	0.72
MINELAB	10.40	-1.71	12.50	-1.15	16.30	-0.86	24.90	1.12	3.54	-3.00
MINELAB	11.49	1.23	12.64	-0.81	16.50	-0.52	22.64	-1.59	3.12	-3.00
MINELAB	10.40	-1.71	13.03	0.15	16.23	-0.99	23.42	-0.66	4.18	-0.37

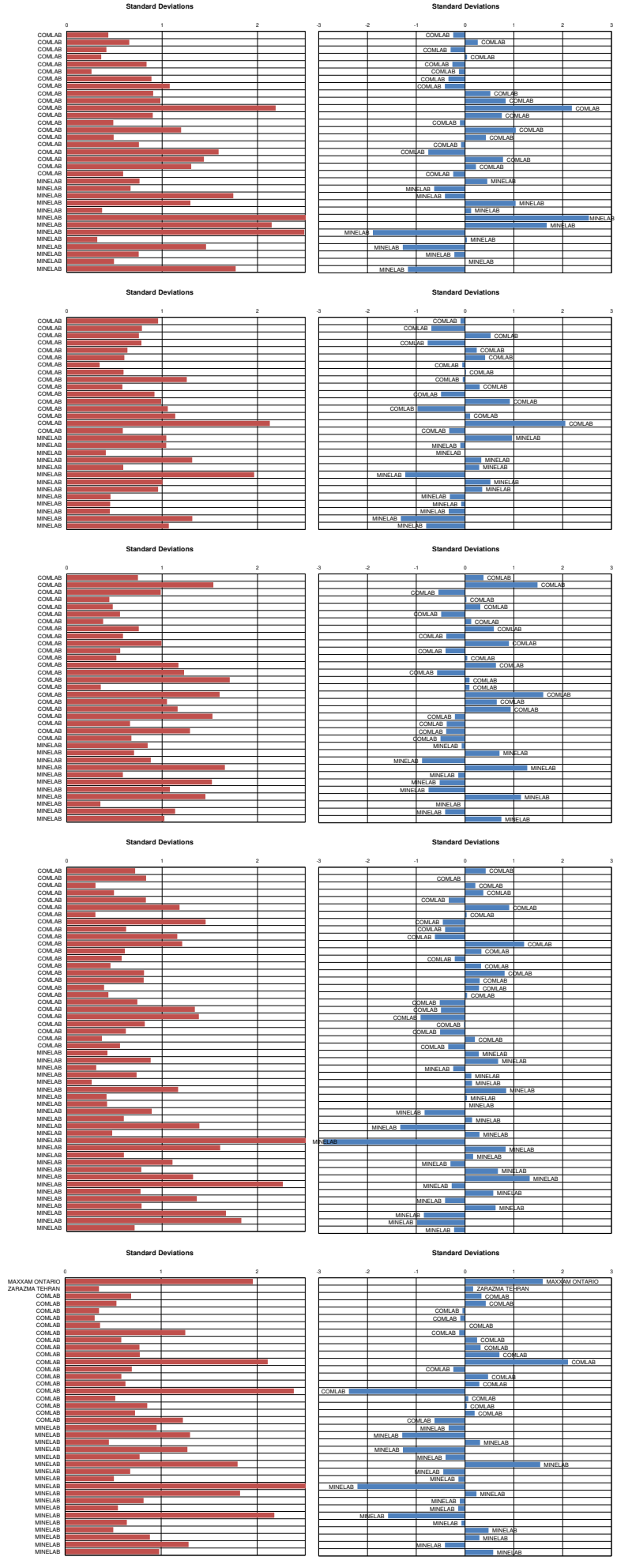
	G903-10		G316-9		G316-7		G316-8		G915-9			
Target	0.21		1.75		5.85		6.11		9.82			
Std Dev	0.02		0.12		0.19		0.21		0.32			
	G903-10		G316-9		G316-7		G316-8		G915-9			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	0.20	-0.82	2.14	3.00	5.90	0.29	6.23	0.59	9.74	-0.24	FA	AAS
	0.19	-1.33	1.71	-0.35	6.11	1.42	5.98	-0.62	10.10	0.88	FA	AAS
	0.21	-0.14	1.76	0.03	5.88	0.18	6.06	-0.23	9.98	0.51	FA	AAS
	0.22	0.31	1.83	0.65	5.94	0.51	6.12	0.06	9.89	0.23	FA	ICP
	0.25	2.23	nr	nr	5.84	-0.03	6.08	-0.14	9.10	-2.22	FA	AAS
	0.19	-1.39	1.77	0.15	6.29	2.38	6.34	1.12	10.40	1.82	FA	ES
	0.22	0.31	1.69	-0.51	5.91	0.35	6.27	0.78	9.89	0.23	FA	AAS
	0.25	2.00	1.65	-0.85	5.72	-0.67	6.02	-0.43	9.51	-0.95	FA	AAS
	0.22	0.31	1.71	-0.35	5.76	-0.46	6.04	-0.33	9.72	-0.30	FA	AAS
	0.22	0.20	1.62	-1.14	5.63	-1.18	6.46	1.70	9.35	-1.45	FA	AAS
	0.24	1.44	1.79	0.32	5.96	0.61	6.39	1.36	10.12	0.95	FA	AAS
	0.20	-0.82	1.96	1.73	6.10	1.36	6.04	-0.33	9.81	-0.02	FA	AAS
	0.20	-0.82	1.69	-0.51	5.80	-0.24	6.03	-0.38	9.92	0.32	FA	AAS
	0.21	-0.43	1.81	0.47	5.94	0.49	6.29	0.86	9.81	-0.02	FA	ES
	0.22	0.31	1.87	0.98	6.00	0.83	6.32	1.02	10.13	0.98	FA	AAS
	0.19	-1.39	1.67	-0.68	5.81	-0.19	6.24	0.63	10.09	0.85	FA	AAS,GRAV
	0.21	-0.26	1.81	0.49	6.07	1.20	6.13	0.10	9.86	0.14	FA	AAS
	0.22	0.31	1.95	1.65	5.72	-0.67	6.18	0.34	9.80	-0.05	FA	AAS,GRAV
	0.23	0.87	1.71	-0.35	5.77	-0.40	6.01	-0.47	9.00	-2.53	FA	AAS
	0.40	3.00	1.53	-1.84	5.03	-3.00	6.33	1.07	9.53	-0.89	FA	GRAV
	0.25	2.23	1.77	0.14	5.49	-1.93	5.89	-1.06	9.25	-1.77	FA	AAS
	0.23	0.87	1.90	1.23	5.76	-0.46	5.93	-0.86	9.47	-1.07	FA	ES
	0.16	-3.00	1.65	-0.85	5.76	-0.46	6.14	0.15	9.94	0.39	FA	AAS,GRAV
	0.23	0.87	1.68	-0.60	5.84	-0.03	6.14	0.15	10.01	0.60	FA	AAS,GRAV
	0.20	-0.82	1.66	-0.76	5.80	-0.24	6.08	-0.14	9.67	-0.45		ES
	0.21	-0.26	1.75	-0.01	6.09	1.31	6.29	0.88	9.91	0.29	FA	AAS
	0.30	3.00	1.79	0.32	6.05	1.10	6.62	2.47	9.90	0.26	FA	AAS
	0.21	-0.26	1.79	0.32	5.75	-0.51	6.10	-0.04	9.75	-0.20	FA	GRAV
	0.22	0.31	1.81	0.49	5.84	-0.03	6.37	1.26	9.84	0.08	FA	AAS,GRAV
	0.21	-0.26	1.76	0.07	5.94	0.51	6.18	0.34	9.85	0.11	FA	AAS
	0.19	-1.39	1.77	0.15	5.83	-0.08	6.42	1.50	10.41	1.85	FA	AAS
	0.25	2.00	1.68	-0.60	5.83	-0.08	6.16	0.25	9.77	-0.14	FA	GRAV
	0.24	1.44	1.79	0.32	5.73	-0.62	6.01	-0.47	9.79	-0.08	FA	GRAV
	0.22	0.31	1.71	-0.35	5.72	-0.67	6.02	-0.43	9.48	-1.04	FA	AAS
	0.22	0.31	1.86	0.90	6.06	1.15	6.21	0.49	9.76	-0.17	FA	AAS
	0.22	0.31	1.74	-0.10	5.44	-2.17	5.66	-2.16	9.46	-1.10	FA	GRAV
	0.32	3.00	1.80	0.40	5.84	-0.03	6.12	0.06	9.76	-0.17	FA	GRAV
	0.12	-3.00	1.42	-2.76	4.76	-3.00	5.64	-2.26	8.62	-3.00	FA	AAS
	0.25	1.95	1.79	0.29	6.48	3.00	6.24	0.62	10.86	3.00	FA	AAS,GRAV
	0.19	-1.39	1.67	-0.68	5.98	0.72	6.26	0.73	9.98	0.51	FA	
	0.20	-0.82	1.84	0.73	6.02	0.94	6.52	1.98	9.33	-1.51	FA	AAS
	0.21	-0.54	1.86	0.88	5.90	0.28	6.24	0.62	10.13	0.98	FA	AAS
	0.23	0.87	1.80	0.40	6.01	0.88	6.28	0.83	10.54	2.25	FA	GRAV
	6.21	3.00	1.81	0.49	6.20	1.90	6.88	3.00	10.32	1.57	FA	AAS
	0.20	-0.82	2.02	2.23	5.93	0.45	6.16	0.25	9.97	0.48	FA	AAS
	0.24	1.44	2.26	3.00	5.66	-0.99	5.82	-1.39	9.20	-1.91	FA	AAS
	0.21	-0.26	190.00	3.00	5.78	-0.35	6.08	-0.14	9.80	-0.05	FA	AAS
	0.30	3.00	1.68	-0.60	4.50	-3.00	5.91	-0.96	9.40	-1.29	FA	AAS
	0.29	3.00	1.01	-3.00	4.29	-3.00	6.07	-0.19	9.18	-1.97	FA	AAS
	0.25	1.95	1.73	-0.22	5.72	-0.67	6.10	-0.07	9.93	0.34	FA	GRAV

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	11.80	2.06	13.80	2.05	18.10	2.20	25.60	1.96	4.55	1.98
ZARAZMA TEHRAN	10.97	-0.17	13.09	0.30	16.76	-0.08	23.95	-0.02	4.23	-0.03
COMLAB	11.15	0.31	13.40	1.07	17.80	1.69	22.90	-1.28	4.19	-0.28
COMLAB	11.15	0.31	13.60	1.56	16.80	-0.01	23.60	-0.44	4.31	0.47
COMLAB	10.95	-0.23	12.90	-0.16	16.85	0.07	23.90	-0.08	4.10	-0.84
COMLAB	10.95	-0.23	12.95	-0.04	16.65	-0.27	24.10	0.16	4.34	0.66
COMLAB	11.00	-0.09	12.95	-0.04	16.85	0.07	24.10	0.16	4.17	-0.40
COMLAB	10.66	-1.01	13.18	0.53	17.24	0.74	24.09	0.15	4.06	-1.09
COMLAB	11.00	-0.09	13.00	0.08	16.40	-0.69	23.60	-0.44	4.42	1.14
COMLAB	11.42	1.04	13.55	1.44	17.40	1.01	24.26	0.35	4.10	-0.84
COMLAB	11.32	0.77	13.15	0.45	17.30	0.84	25.58	1.93	4.31	0.49
COMLAB	12.50	3.00	14.69	3.00	18.24	2.44	25.24	1.53	4.63	2.48
COMLAB	11.25	0.58	13.13	0.40	17.21	0.68	24.47	0.60	4.20	-0.22
COMLAB	11.13	0.24	13.00	0.08	16.98	0.29	24.54	0.69	4.24	0.04
COMLAB	11.00	-0.09	13.00	0.08	17.50	1.18	23.60	-0.44	4.19	-0.28
COMLAB	10.11	-2.50	10.45	-3.00	14.64	-3.00	20.65	-3.00	3.75	-3.00
COMLAB	11.19	0.42	13.08	0.28	16.56	-0.42	23.66	-0.37	4.20	-0.22
COMLAB	11.01	-0.06	12.51	-1.13	16.30	-0.86	24.98	1.22	nr	nr
COMLAB	11.00	-0.09	13.10	0.33	16.27	-0.91	23.40	-0.68	4.73	3.00
COMLAB	4.09	-3.00	12.50	-1.15	16.50	-0.52	23.40	-0.68	10.50	3.00
MINELAB	10.37	-1.79	13.16	0.48	14.63	-3.00	24.29	0.39	4.23	-0.03
MINELAB	10.57	-1.25	12.52	-1.10	16.08	-1.24	23.04	-1.11	3.93	-1.91
MINELAB	11.35	0.85	12.85	-0.29	16.95	0.24	24.00	0.04	4.25	0.10
MINELAB	10.65	-1.03	12.42	-1.35	16.13	-1.15	22.86	-1.32	4.02	-1.34
MINELAB	11.06	0.07	12.15	-2.01	16.71	-0.17	22.62	-1.61	4.08	-0.97
MINELAB	11.25	0.58	13.06	0.23	18.40	2.71	26.25	2.74	4.44	1.29
MINELAB	10.77	-0.71	12.81	-0.39	16.95	0.24	24.54	0.69	4.20	-0.22
MINELAB	10.92	-0.31	13.02	0.13	16.36	-0.76	25.22	1.50	4.22	-0.09
MINELAB	8.94	-3.00	11.83	-2.80	14.20	-3.00	20.50	-3.00	3.19	-3.00
MINELAB	11.44	1.09	10.40	-3.00	17.71	1.54	25.34	1.65	4.14	-0.59
MINELAB	10.38	-1.76	13.18	0.53	15.81	-1.70	24.42	0.55	4.29	0.35
MINELAB	11.05	0.04	12.82	-0.36	16.39	-0.71	22.93	-1.24	4.26	0.16
MINELAB	10.30	-1.97	11.54	-3.00	15.52	-2.18	21.75	-2.66	3.92	-2.00
MINELAB	11.13	0.26	12.81	-0.39	16.66	-0.25	23.67	-0.35	4.27	0.22
MINELAB	11.24	0.55	13.29	0.80	17.15	0.58	24.30	0.40	4.32	0.54
MINELAB	10.74	-0.79	13.09	0.30	16.32	-0.83	23.17	-0.95	4.29	0.35
MINELAB	11.48	1.20	12.02	-2.33	16.30	-0.86	23.90	-0.08	4.26	0.16
MINELAB	12.10	2.87	13.20	0.58	16.90	0.16	23.50	-0.56	4.16	-0.47

	G315-7		G316-2		G912-3		G316-8		G915-3			
Target	0.30		1.04		2.09		6.11		9.39			
Std Dev	0.02		0.04		0.08		0.21		0.49			
	G315-7		G316-2		G912-3		G316-8		G915-3			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	0.32	1.13	1.15	2.83	2.25	1.88	6.45	1.65	8.50	-1.82	NAA	
	0.31	0.60	1.02	-0.63	2.12	0.34	6.15	0.20	9.95	1.14	FA	ES
	0.31	0.60	1.06	0.43	2.14	0.58	6.20	0.44	9.29	-0.20	FA	AAS
	0.31	0.60	1.04	-0.10	2.13	0.46	6.15	0.20	9.97	1.18	FA	AAS
	0.30	0.07	1.06	0.43	2.03	-0.72	6.12	0.06	9.82	0.88	FA	AAS
	0.29	-0.47	1.02	-0.63	2.11	0.23	6.09	-0.09	9.24	-0.31	FA	AAS
	0.30	0.07	1.01	-0.90	2.11	0.23	6.04	-0.33	10.05	1.35	FA	AAS,GRAV
	0.37	3.00	0.99	-1.43	1.96	-1.54	5.74	-1.78	10.00	1.25	FA	AAS
	0.32	1.02	1.03	-0.47	2.16	0.86	6.28	0.84	9.49	0.20	FA	ES,GRAV
	0.30	0.07	0.99	-1.43	2.09	-0.01	6.35	1.16	9.58	0.39	FA	AAS
	0.32	1.07	1.03	-0.37	2.12	0.37	6.31	0.96	9.65	0.52	FA	AAS
	0.33	1.66	1.08	0.96	2.46	3.00	6.30	0.92	10.42	2.10	FA	AAS
	0.29	-0.47	0.98	-1.70	2.03	-0.72	6.04	-0.33	8.78	-1.24	FA	AAS
	0.29	-0.57	1.09	1.15	2.20	1.30	6.29	0.89	9.69	0.61	FA	ES
	0.33	1.66	1.05	0.16	2.22	1.52	6.03	-0.38	9.15	-0.49	FA	AAS
	0.26	-1.90	1.00	-1.27	2.08	-0.14	5.32	-3.00	7.88	-3.00	FA	AAS
	0.33	1.66	1.03	-0.37	2.14	0.58	6.05	-0.28	9.08	-0.63	FA	AAS
	nr	nr	nr	nr	nr	nr	6.41	1.45	9.19	-0.41	FA	GRAV
	0.31	0.60	1.03	-0.37	2.15	0.70	6.08	-0.14	9.16	-0.47	FA	AAS
	0.29	-0.47	0.98	-1.70	2.06	-0.36	5.99	-0.57	8.99	-0.82	FA	AAS
	0.28	-1.00	1.06	0.43	2.18	1.05	6.26	0.73	9.08	-0.63	FA	AAS,GRAV
	0.30	0.07	0.96	-2.23	1.98	-1.31	5.68	-2.07	9.03	-0.73	FA	AAS
	0.31	0.60	1.03	-0.37	2.16	0.82	6.09	-0.09	9.96	1.16	FA	AAS
	0.29	-0.47	0.95	-2.50	2.03	-0.72	5.67	-2.11	9.03	-0.73	FA	GRAV
	0.30	0.07	1.02	-0.63	2.05	-0.48	6.22	0.54	9.98	1.21	FA,AR	AAS,GRAV
	0.35	2.72	1.14	2.56	2.31	2.59	6.37	1.26	8.76	-1.28	FA	AAS,GRAV
	0.29	-0.47	1.02	-0.63	2.11	0.23	5.24	-3.00	9.29	-0.20	FA	AAS
	0.29	-0.47	1.00	-1.17	2.11	0.23	6.10	-0.04	9.20	-0.39	FA	AAS
	0.33	1.66	0.77	-3.00	1.82	-3.00	4.95	-3.00	9.43	0.08	FA	AAS
	0.47	3.00	1.19	3.00	2.07	-0.25	5.88	-1.10	7.71	-3.00	FA	AAS
	0.31	0.60	1.00	-1.17	2.20	1.29	6.15	0.20	9.41	0.04	FA	AAS
	0.32	1.13	1.01	-0.90	2.07	-0.25	6.21	0.49	9.50	0.23	FA	AAS
	0.68	3.00	1.02	-0.77	2.03	-0.76	5.32	-3.00	8.19	-2.44	FA	AAS
	0.31	0.60	1.02	-0.63	2.24	1.76	6.11	0.01	8.43	-1.96	FA	AAS
	0.32	1.13	1.04	-0.10	2.12	0.34	6.21	0.49	9.43	0.08	FA	AAS
	0.36	3.00	1.03	-0.37	2.20	1.29	6.25	0.68	9.52	0.27	FA	AAS,GRAV
	0.28	-1.00	0.99	-1.43	3.09	3.00	5.67	-2.11	9.06	-0.67	FA	AAS
	0.34	2.19	1.11	1.76	2.11	0.23	5.92	-0.91	9.35	-0.08	FA	AAS

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

Fire Assay Gold - Mean of Absolute Standardized Values - April 2017	Fire Assay Gold - Mean of Standardized Values - April 2017



Aqua Regia Gold Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	G317-1	G317-2	G317-3	G317-4	G317-5
MEAN (ppm)	10.97	13.04	16.63	23.67	4.13
STDEV (ppm)	0.70	0.62	0.78	1.34	0.19
95% CI (ppm)	0.17	0.16	0.20	0.34	0.05
95% CI (%)	1.56%	1.21%	1.20%	1.42%	1.13%
MIN (ppm)	9.11	11.57	14.90	20.09	3.66
MEDIAN (ppm)	10.96	13.10	16.64	23.81	4.14
MAX (ppm)	12.55	14.42	18.70	26.60	4.44
IQR (ppm)	0.79	0.71	0.98	1.47	0.24
COUNT	66	60	60	62	63

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	12.40	2.04	**14.90**	**3.00**	18.10	1.87	26.60	2.19	4.29	0.83
COMLAB	10.50	-0.66	13.15	0.17	16.20	-0.55	22.20	-1.10	3.72	-2.20
COMLAB	10.75	-0.31	13.80	1.23	16.40	-0.30	22.90	-0.58	4.36	1.20
COMLAB	12.55	2.25	13.48	0.71	**19.94**	**3.00**	**29.86**	**3.00**	**5.52**	**3.00**
COMLAB	11.61	0.91	13.44	0.64	17.38	0.95	23.94	0.20	4.07	-0.33
COMLAB	>10.00	ald	>10.00	ald	>10.00	ald	>10.00	ald	4.27	0.69
COMLAB	12.10	1.61	13.04	0.00	16.99	0.46	24.25	0.43	4.04	-0.50
COMLAB	11.40	0.62	**10.10**	**-3.00**	**13.30**	**-3.00**	**18.50**	**-3.00**	**3.07**	**-3.00**
COMLAB	11.04	0.11	12.69	-0.57	16.61	-0.03	22.93	-0.56	3.80	-1.78
COMLAB	10.98	0.02	13.00	-0.07	16.74	0.14	23.82	0.11	4.02	-0.61
COMLAB	10.96	-0.01	12.55	-0.80	15.96	-0.86	23.42	-0.19	4.09	-0.24
COMLAB	11.87	1.29	14.16	1.81	17.32	0.88	26.03	1.77	3.66	-2.52
COMLAB	10.15	-1.16	11.91	-1.84	15.33	-1.67	21.37	-1.72	3.86	-1.44
COMLAB	10.49	-0.68	12.70	-0.56	16.41	-0.29	24.45	0.58	3.97	-0.87
COMLAB	9.64	-1.89	**11.00**	**-3.00**	**12.50**	**-3.00**	20.40	-2.45	4.17	0.19
COMLAB	11.51	0.77	13.63	0.95	16.98	0.44	23.93	0.19	4.43	1.57
COMLAB	9.38	-2.25	**10.85**	**-3.00**	**13.88**	**-3.00**	20.09	-2.68	**3.09**	**-3.00**
COMLAB	11.00	0.05	14.00	1.55	18.40	2.26	26.60	2.19	4.16	0.14
MINELAB	12.31	1.91	13.70	1.07	17.31	0.86	24.95	0.96	4.23	0.51
MINELAB	9.89	-1.53	11.88	-1.89	15.57	-1.36	21.93	-1.30	3.80	-1.78
MINELAB	11.12	0.22	13.30	0.42	17.24	0.78	25.09	1.06	4.17	0.19
MINELAB	10.48	-0.69	12.23	-1.32	15.91	-0.92	21.90	-1.33	4.11	-0.13
MINELAB	9.34	-2.31	**10.25**	**-3.00**	**12.11**	**-3.00**	**14.72**	**-3.00**	4.22	0.45
MINELAB	10.91	-0.08	12.52	-0.85	16.14	-0.63	23.51	-0.12	4.34	1.09
MINELAB	10.81	-0.22	12.62	-0.69	17.06	0.55	23.94	0.20	4.40	1.41
MINELAB	11.86	1.27	13.42	0.61	17.46	1.06	24.86	0.89	4.37	1.25
MINELAB	10.77	-0.28	13.23	0.30	16.83	0.25	23.79	0.09	4.44	1.62
MINELAB	**13.28**	**3.00**	**11.02**	**-3.00**	16.68	0.06	23.84	0.13	3.92	-1.14
MINELAB	11.30	0.48	13.80	1.23	17.00	0.47	24.84	0.87	3.88	-1.35
MINELAB	10.32	-0.92	14.42	2.23	15.31	-1.69	22.31	-1.02	3.86	-1.46

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	11.25	0.40	13.15	0.17	16.15	-0.62	22.40	-0.95	4.09	-0.24
COMLAB	10.85	-0.16	13.40	0.58	16.45	-0.23	24.50	0.62	4.32	0.99
COMLAB	11.10	0.19	12.90	-0.23	16.70	0.09	24.20	0.40	4.15	0.08
COMLAB	11.10	0.19	13.20	0.25	16.50	-0.17	23.50	-0.13	4.07	-0.34
COMLAB	11.60	0.90	13.70	1.07	17.50	1.11	24.80	0.84	4.42	1.52
COMLAB	10.90	-0.09	12.00	-1.69	16.80	0.21	23.40	-0.20	4.13	-0.02
COMLAB	12.10	1.61	13.80	1.23	14.90	-2.21	22.80	-0.65	4.16	0.14
COMLAB	11.20	0.33	13.40	0.58	16.90	0.34	24.00	0.25	4.22	0.43
COMLAB	10.86	-0.15	12.86	-0.30	16.55	-0.11	23.92	0.19	4.14	0.03
COMLAB	10.10	-1.23	12.80	-0.39	16.50	-0.17	23.30	-0.28	4.33	1.04
COMLAB	10.31	-0.93	13.21	0.27	16.06	-0.73	23.28	-0.29	4.34	1.09
COMLAB	11.53	0.80	13.18	0.22	17.26	0.80	24.37	0.52	4.03	-0.55
MINELAB	11.57	0.86	13.31	0.43	17.48	1.08	25.45	1.33	4.44	1.62
MINELAB	11.56	0.85	13.47	0.69	17.46	1.06	25.22	1.16	4.37	1.25
MINELAB	10.83	-0.19	12.68	-0.59	15.93	-0.90	23.42	-0.19	4.08	-0.29
MINELAB	10.93	-0.05	**10.93**	**-3.00**	15.80	-1.06	**18.00**	**-3.00**	**4.77**	**3.00**
MINELAB	11.00	0.05	12.90	-0.23	16.60	-0.04	22.70	-0.73	4.04	-0.50
MINELAB	10.10	-1.23	12.60	-0.72	15.63	-1.28	23.15	-0.39	4.05	-0.45
MINELAB	11.53	0.80	13.99	1.54	17.53	1.15	24.38	0.53	3.86	-1.46
MINELAB	10.93	-0.05	12.70	-0.56	16.67	0.05	22.84	-0.62	4.01	-0.66
MINELAB	10.90	-0.09	12.90	-0.23	16.50	-0.17	23.90	0.17	4.13	-0.02
MINELAB	10.93	-0.05	12.82	-0.36	16.45	-0.23	23.90	0.17	4.18	0.24
MINELAB	10.34	-0.89	12.87	-0.28	15.69	-1.21	23.99	0.24	3.93	-1.09

Standard Reference	G317-1		G317-2		G317-3		G317-4		G317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	11.80	1.19	14.30	2.04	18.70	2.64	25.80	1.59	**4.70**	**3.00**
COMLAB	>5.00	ald	>5.00	ald	>5.00	ald	>5.00	ald	4.04	-0.50
COMLAB	10.55	-0.59	12.80	-0.39	16.90	0.34	23.20	-0.35	4.22	0.45
COMLAB	11.15	0.26	13.35	0.50	nr	nr	nr	nr	4.34	1.09
COMLAB	11.20	0.33	13.10	0.09	17.00	0.47	24.20	0.40	4.20	0.35
COMLAB	11.19	0.32	13.16	0.19	16.60	-0.04	23.72	0.04	4.39	1.36
COMLAB	11.15	0.26	12.73	-0.51	16.35	-0.36	23.61	-0.05	4.07	-0.34
COMLAB	10.60	-0.52	12.81	-0.37	16.07	-0.71	23.04	-0.47	4.08	-0.28
COMLAB	11.40	0.62	12.20	-1.37	16.50	-0.17	24.20	0.40	4.10	-0.18
COMLAB	11.30	0.48	13.10	0.09	16.70	0.09	23.70	0.02	4.19	0.30
COMLAB	10.43	-0.76	12.30	-1.21	16.37	-0.34	24.64	0.73	4.08	-0.29
MINELAB	**8.82**	**-3.00**	**10.57**	**-3.00**	**20.51**	**3.00**	**31.57**	**3.00**	**3.51**	**-3.00**
MINELAB	9.11	-2.64	11.92	-1.82	14.91	-2.20	21.02	-1.99	**3.36**	**-3.00**
MINELAB	10.95	-0.02	13.39	0.56	16.98	0.44	25.11	1.08	4.17	0.19
MINELAB	10.72	-0.35	13.09	0.08	17.54	1.16	24.91	0.93	4.10	-0.18
MINELAB	10.85	-0.16	12.57	-0.77	17.10	0.60	23.73	0.04	4.34	1.09
MINELAB	11.78	1.16	11.57	-2.39	**13.27**	**-3.00**	22.47	-0.90	4.27	0.72
MINELAB	10.15	-1.17	11.96	-1.75	15.20	-1.84	21.25	-1.82	3.85	-1.49
MINELAB	11.37	0.57	13.55	0.82	17.22	0.75	23.86	0.14	4.42	1.52

Existing Products

	G315-7	G316-9	G916-10	G915-4	G315-8
Target	0.29	1.71	2.73	9.00	9.83
Std Dev	0.02	0.12	0.16	0.36	0.44

G315-7		G316-9		G916-10		G915-4		G315-8			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
0.34	2.20	2.07	2.90	3.00	1.67	9.64	1.77	10.90	2.44	NAA	
0.30	0.26	1.37	-2.79	2.55	-1.12	8.18	-2.26	10.50	1.53	PR,AR	MS
0.27	-1.20	1.79	0.62	2.94	1.30	8.79	-0.58	9.85	0.05	AR	AAS
0.37	**3.00**	**2.62**	**3.00**	**3.63**	**3.00**	9.22	0.61	9.62	-0.47	AR	AAS
0.28	-0.92	1.62	-0.73	2.56	-1.07	9.39	1.09	10.30	1.07	PR,AR	MS
0.39	**3.00**	1.76	0.36	2.95	1.37	8.25	-2.08	>10.00	ald	AR	AAS
0.43	**3.00**	2.00	2.33	2.99	1.61	9.56	1.55	10.00	0.39	AR	AAS
0.40	**3.00**	**1.25**	**-3.00**	**1.87**	**-3.00**	**6.22**	**-3.00**	8.60	-2.78	AR	AAS
0.29	-0.23	1.73	0.14	2.57	-1.00	9.11	0.31	9.87	0.10	AR	AAS
0.30	0.26	1.88	1.36	2.98	1.55	9.08	0.22	9.54	-0.65	AR	AAS
0.29	-0.23	1.67	-0.35	2.65	-0.50	8.75	-0.69	9.59	-0.53	AR	MS
0.19	**-3.00**	**0.93**	**-3.00**	**1.50**	**-3.00**	**4.40**	**-3.00**	10.45	1.42	AR	AAS
0.15	**-3.00**	**1.24**	**-3.00**	2.65	-0.52	8.52	-1.33	9.30	-1.20	AR	MS
0.27	-1.20	1.51	-1.65	2.51	-1.37	**7.88**	**-3.00**	10.15	0.73	AR	AAS
0.39	**3.00**	1.69	-0.19	2.88	0.93	8.53	-1.29	8.96	-1.96	AR	DIBK,AAS
0.34	2.20	1.67	-0.35	3.04	1.92	9.03	0.09	10.60	1.76	AR	AAS
0.60	**3.00**	**0.12**	**-3.00**	**1.21**	**-3.00**	**4.13**	**-3.00**	**8.01**	**-3.00**	AR	
0.27	-1.20	2.02	2.49	2.68	-0.31	**10.20**	**3.00**	10.80	2.21	PR,AR	MS
0.28	-0.71	1.66	-0.43	3.01	1.73	9.28	0.77	9.92	0.21	AR	AAS
0.21	**-3.00**	1.62	-0.76	2.55	-1.12	**7.68**	**-3.00**	9.67	-0.35	AR	AAS
0.31	0.74	**2.29**	**3.00**	2.62	-0.69	9.24	0.66	10.34	1.17	AR	AAS
0.26	-1.68	1.60	-0.92	2.49	-1.49	9.15	0.42	9.49	-0.76	PR,AR	DIBK
0.34	2.20	1.94	1.84	2.99	1.61	**7.77**	**-3.00**	8.52	-2.96	FA	AAS
0.30	0.26	1.96	2.01	2.62	-0.69	9.06	0.17	9.82	-0.01	AR	DIBK,AAS
0.31	0.74	1.72	0.06	2.63	-0.62	8.99	-0.02	9.82	-0.01	AR	AAS
0.31	0.74	1.84	1.03	2.80	0.43	9.16	0.44	10.26	0.98	AR	AAS
0.40	**3.00**	1.78	0.54	2.78	0.31	8.40	-1.65	10.29	1.05	AR	
0.28	-0.71	1.46	-2.06	2.54	-1.18	7.92	-2.98	10.09	0.60	AR	AAS
0.27	-1.20	1.54	-1.41	2.54	-1.18	8.21	-2.18	9.35	-1.08	AR	DIBK
0.48	**3.00**	1.51	-1.65	nr	nr	**7.90**	**-3.00**	8.56	-2.87	FA	ES

	G315-4	G316-2	G912-3	G316-8	G915-9
Target	0.31	1.03	2.10	6.06	9.83
Std Dev	0.02	0.05	0.12	0.25	0.37

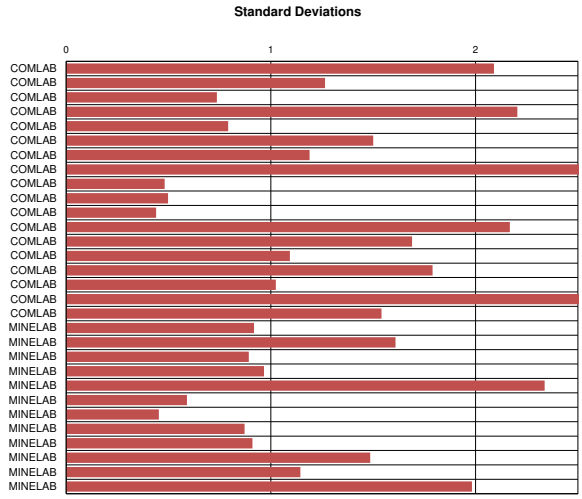
G315-4		G316-2		G912-3		G316-8		G915-9			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
0.31	-0.07	0.98	-0.87	1.98	-1.02	5.47	-2.39	9.67	-0.45	AR	MS
0.32	0.25	0.98	-0.87	2.16	0.55	6.31	1.00	9.48	-0.97	AR	MS
0.32	0.33	1.01	-0.32	2.06	-0.32	6.02	-0.17	9.66	-0.48	AR	ES
0.31	-0.03	0.95	-1.39	1.97	-1.10	6.03	-0.13	9.68	-0.42	AR	MS
0.37	2.34	1.07	0.79	2.14	0.37	6.20	0.56	10.00	0.45	AR	MS
0.33	0.73	1.03	0.05	2.17	0.63	5.96	-0.41	10.00	0.45	AR	DIBK
0.31	0.01	0.91	-2.21	2.28	1.59	5.91	-0.61	**12.30**	**3.00**	AR	AAS
0.36	1.98	1.03	0.05	2.12	0.20	**6.84**	**3.00**	10.10	0.72	AR	MS
0.34	1.14	1.03	0.05	2.02	-0.67	6.05	-0.05	9.80	-0.10	AR	AAS
0.29	-0.88	1.17	2.65	2.36	2.28	6.48	1.69	10.80	2.63	AR	DIBK,AAS
0.31	-0.07	1.16	2.46	**2.56**	**3.00**	**6.96**	**3.00**	**11.45**	**3.00**	AR	AAS
0.33	0.73	1.01	-0.32	1.99	-0.93	6.03	-0.13	9.59	-0.67	IH	AAS
0.33	0.73	1.07	0.79	1.99	-0.93	6.46	1.61	10.25	1.13	AR	AAS
0.33	0.73	1.08	0.98	2.14	0.37	6.52	1.85	10.37	1.46	AR	AAS
0.30	-0.47	1.01	-0.32	2.03	-0.58	5.88	-0.73	9.61	-0.61	FA	
0.43	**3.00**	1.07	0.79	2.10	0.02	5.87	-0.77	9.67	-0.45	FA	AAS
0.30	-0.47	0.93	-1.80	1.90	-1.71	5.89	-0.69	9.80	-0.10	AR	DIBK,AAS
0.31	-0.07	1.05	0.42	1.93	-1.45	6.27	0.84	**8.70**	**-3.00**	AR	
0.35	1.54	0.96	-1.24	2.10	0.02	5.95	-0.45	10.13	0.80	AR	AAS
0.28	-1.28	1.03	0.05	1.87	-1.97	5.85	-0.86	9.42	-1.13	FA	AAS
0.34	1.14	1.01	-0.32	2.08	-0.15	6.01	-0.21	9.70	-0.37	AR	AAS
0.33	0.73	1.01	-0.32	2.04	-0.50	6.02	-0.17	9.75	-0.23	AR	AAS
0.27	-1.68	**1.21**	**3.00**	2.39	2.54	6.18	0.48	9.40	-1.18	AR	AAS,DIBK

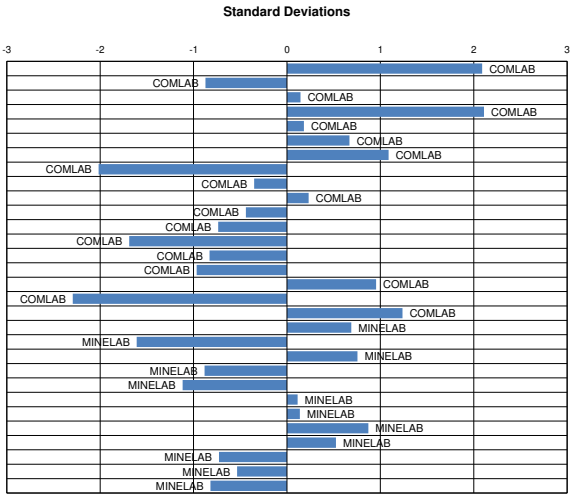
	G903-10	G908-4	G914-6	G316-7	G915-3
Target	0.22	0.93	3.16	5.79	9.22
Std Dev	0.03	0.06	0.17	0.21	0.58

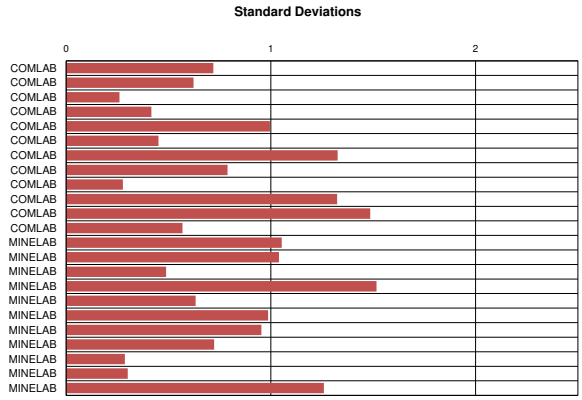
G903-10		G908-4		G914-6		G316-7		G915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
0.24	0.71	1.01	1.41	**3.75**	**3.00**	6.36	2.75	8.19	-1.79	AR	MS
0.22	-0.04	0.99	1.07	**1.95**	**-3.00**	>5.00	ald	>5.00	ald	AR	AAS
0.21	-0.19	0.93	0.01	3.20	0.23	5.82	0.15	9.29	0.13	AR	MS
0.29	2.11	0.99	1.07	3.30	0.80	6.31	2.51	9.43	0.37	AR	MS
0.19	-0.94	0.94	0.18	3.20	0.23	6.00	1.02	9.80	1.01	AR	MS
0.21	-0.19	0.95	0.36	3.27	0.63	5.79	0.00	9.46	0.42	AR	MS
0.21	-0.19	0.94	0.18	3.25	0.52	5.78	-0.04	9.44	0.39	AR	ICP
0.23	0.32	0.93	-0.03	**2.49**	**-3.00**	nr	nr	10.01	1.38	AR	AAS
0.28	1.90	**1.14**	**3.00**	2.95	-1.20	5.98	0.92	8.75	-0.81	AR	AAS
0.25	1.00	0.99	1.06	3.35	1.09	6.07	1.35	9.10	-0.20	AR	DIBK
0.20	-0.49	0.95	0.36	3.19	0.17	5.65	-0.67	9.24	0.04	AR	AAS
0.30	2.50	**0.72**	**-3.00**	3.13	-0.17	**4.92**	**-3.00**	9.82	1.05	AR	DIBK,AAS
0.22	0.11	0.83	-1.75	2.92	-1.37	**4.73**	**-3.00**	8.45	-1.33	AD	AAS
0.26	1.30	0.97	0.71	3.29	0.74	5.83	0.20	8.40	-1.42	AR	AAS
0.27	1.60	0.93	0.01	3.03	-0.74	**8.40**	**3.00**	8.72	-0.87	AR	AAS
0.30	2.50	**1.84**	**3.00**	**2.61**	**-3.00**	**9.01**	**3.00**	9.86	1.12	AR	AAS
0.17	-1.39	0.97	0.71	3.23	0.40	6.09	1.45	9.34	0.21	AR	AAS,DIBK
0.19	-0.83	0.96	0.53	2.96	-1.13	5.40	-1.89	8.06	-2.02	FA	AAS
0.19	-0.79	1.00	1.23	3.20	0.23	6.18	1.88	9.29	0.13	AR	AAS

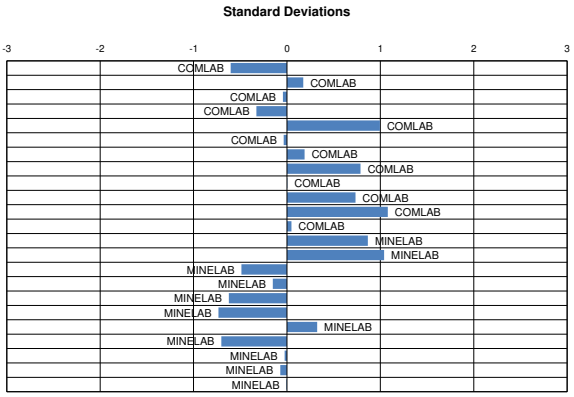
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

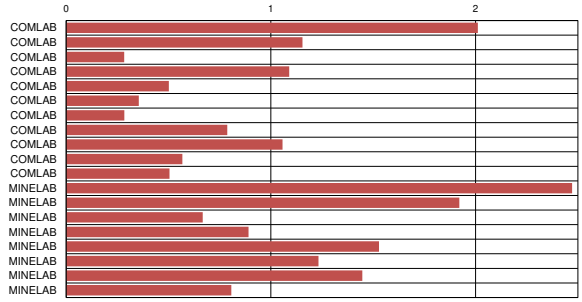
Aqua Regia Gold - Mean of Absolute Standardized Values - April 2017	Aqua Regia Gold - Mean of Standardized Values - April 2017

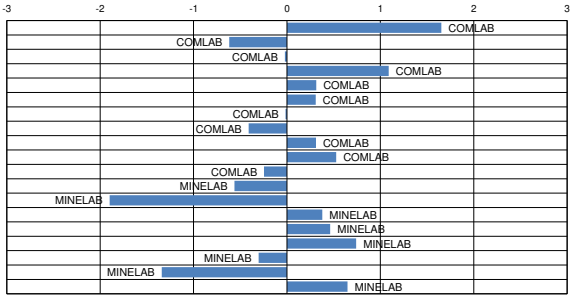












Low Grade Gold Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GLG317-1	GLG317-2	GLG317-3
MEAN (ppm)	152	190	95
STDEV (ppm)	10	12	7
95% CI (ppm)	2	3	1
95% CI (%)	1.50%	1.34%	1.53%
MIN (ppm)	125	160	80
MEDIAN (ppm)	151	191	94
MAX (ppm)	176	220	112
IQR (ppm)	11	13	7
COUNT	79	80	81

Standard Reference	GLG317-1		GLG317-2		GLG317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	170	1.76	200	0.88	95	0.06
COMLAB	134	-1.74	172	-1.55	90	-0.70
COMLAB	157	0.45	183	-0.61	96	0.23
COMLAB	142	-0.96	183	-0.60	90	-0.70
COMLAB	150	-0.18	170	-1.73	93	-0.18
COMLAB	152	0.01	193	0.27	94	-0.09
COMLAB	148	-0.38	189	-0.08	99	0.67
COMLAB	170	1.78	**234**	**3.00**	106	1.79
COMLAB	**333**	**3.00**	**366**	**3.00**	**333**	**3.00**
COMLAB	150	-0.18	188	-0.16	90	-0.70
COMLAB	163	1.10	203	1.10	105	1.53
COMLAB	160	0.79	200	0.88	100	0.82
COMLAB	161	0.89	208	1.58	98	0.50
COMLAB	147	-0.50	196	0.57	92	-0.42
COMLAB	141	-1.06	192	0.19	95	0.06
COMLAB	175	2.25	nr	nr	nr	nr
COMLAB	152	0.01	192	0.19	96	0.21
COMLAB	165	1.28	198	0.71	97	0.36
COMLAB	157	0.50	194	0.36	94	-0.09
COMLAB	142	-0.96	186	-0.34	91	-0.56
MINELAB	149	-0.28	**95**	**-3.00**	87	-1.15
MINELAB	130	-2.13	220	2.62	**70**	**-3.00**
MINELAB	**454**	**3.00**	**592**	**3.00**	**318**	**3.00**
MINELAB	153	0.13	203	1.12	99	0.60

Standard Reference	GLG317-1		GLG317-2		GLG317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	161	0.89	174	-1.38	98	0.52
COMLAB	165	1.28	188	-0.16	94	-0.09
COMLAB	145	-0.65	192	0.20	98	0.47
COMLAB	174	2.15	204	1.23	97	0.36
COMLAB	148	-0.38	186	-0.34	93	-0.24
COMLAB	156	0.40	193	0.27	95	0.06
COMLAB	155	0.30	176	-1.21	91	-0.54
COMLAB	161	0.89	199	0.79	101	0.97
COMLAB	164	1.18	183	-0.60	100	0.82
COMLAB	147	-0.45	186	-0.34	91	-0.60
COMLAB	146	-0.57	183	-0.60	91	-0.62
COMLAB	**369**	**3.00**	**450**	**3.00**	**231**	**3.00**
COMLAB	155	0.30	201	0.97	93	-0.24
COMLAB	148	-0.38	191	0.10	95	0.06
COMLAB	147	-0.45	180	-0.83	94	-0.11
COMLAB	148	-0.38	190	0.01	93	-0.24
COMLAB	150	-0.18	170	-1.73	90	-0.70
COMLAB	162	1.02	196	0.52	100	0.76
COMLAB	**185**	**3.00**	192	0.19	86	-1.30
COMLAB	165	1.25	213	1.99	97	0.39
COMLAB	155	0.30	186	-0.34	91	-0.54
COMLAB	144	-0.77	184	-0.51	88	-1.00
COMLAB	159	0.69	198	0.71	100	0.82
COMLAB	**203**	**3.00**	187	-0.25	87	-1.15
COMLAB	165	1.28	204	1.23	98	0.52
COMLAB	**271**	**3.00**	183	-0.60	90	-0.70
COMLAB	163	1.04	209	1.63	**61**	**-3.00**
COMLAB	152	0.04	170	-1.69	92	-0.39
COMLAB	150	-0.20	181	-0.79	93	-0.24
COMLAB	144	-0.75	191	0.10	111	2.41
MINELAB	**185**	**3.00**	218	2.41	**123**	**3.00**
MINELAB	**216**	**3.00**	**234**	**3.00**	**131**	**3.00**
MINELAB	**120**	**-3.00**	**135**	**-3.00**	90	-0.70
MINELAB	171	1.90	**226**	**3.00**	**151**	**3.00**
MINELAB	125	-2.62	193	0.24	87	-1.16
MINELAB	142	-0.96	184	-0.51	92	-0.39
MINELAB	130	-2.13	160	-2.60	80	-2.21
MINELAB	140	-1.15	180	-0.86	90	-0.70
MINELAB	nr	nr	**246**	**3.00**	**168**	**3.00**
MINELAB	152	0.01	180	-0.86	85	-1.45

Standard Reference	GLG317-1		GLG317-2		GLG317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	149	-0.28	185	-0.42	92	-0.39
COMLAB	152	0.05	201	0.99	99	0.61
COMLAB	156	0.37	193	0.30	95	0.02
COMLAB	150	-0.18	194	0.36	96	0.21
COMLAB	151	-0.09	184	-0.51	93	-0.24
COMLAB	153	0.11	192	0.19	96	0.21
COMLAB	150	-0.18	193	0.27	95	0.06
COMLAB	154	0.21	192	0.19	96	0.21
COMLAB	133	-1.83	174	-1.38	84	-1.60
COMLAB	152	0.01	190	0.01	91	-0.54
COMLAB	150	-0.18	192	0.19	94	-0.09
COMLAB	152	0.01	193	0.27	96	0.21
COMLAB	**69**	**-3.00**	**123**	**-3.00**	**36**	**-3.00**
COMLAB	155	0.30	199	0.79	103	1.27
COMLAB	147	-0.47	170	-1.73	86	-1.30
COMLAB	151	-0.09	188	-0.16	90	-0.70
COMLAB	148	-0.38	188	-0.16	91	-0.54
COMLAB	176	2.34	204	1.23	112	2.63
COMLAB	162	0.98	192	0.19	93	-0.32
COMLAB	142	-0.96	178	-1.03	91	-0.54
COMLAB	**190**	**3.00**	**236**	**3.00**	112	2.69
COMLAB	149	-0.25	**627**	**3.00**	85	-1.51
COMLAB	134	-1.74	174	-1.38	83	-1.75
COMLAB	155	0.27	205	1.28	104	1.46
COMLAB	147	-0.47	191	0.10	90	-0.70
COMLAB	154	0.21	192	0.19	107	1.88
COMLAB	156	0.40	**342**	**3.00**	98	0.52
COMLAB	148	-0.38	177	-1.12	109	2.18
COMLAB	145	-0.67	193	0.27	92	-0.39
MINELAB	**235**	**3.00**	215	2.19	**225**	**3.00**
MINELAB	139	-1.23	181	-0.75	**66**	**-3.00**
MINELAB	**662**	**3.00**	**575**	**3.00**	**675**	**3.00**
MINELAB	137	-1.42	172	-1.55	87	-1.15
MINELAB	160	0.79	190	0.01	110	2.33
MINELAB	125	-2.65	**132**	**-3.00**	78	-2.59
MINELAB	162	0.98	199	0.79	98	0.52
MINELAB	171	1.90	184	-0.54	91	-0.62

Existing Products

	GLG913-3	GLG316-1
Target	3	77
Std Dev	2	6

GLG913-3		GLG316-1			
assay	z-score	assay	z-score	Method	Reading
<2	bld	82	0.95	NAA	
4	0.64	68	-1.58	NAA	
14	**3.00**	75	-0.41	FA	AAS
1	-0.98	76	-0.13	FA	MS
1	-0.76	66	-1.97	PR,AR	MS
4	0.64	73	-0.68	FA	ES
<2	bld	79	0.41	FA	AAS
23	**3.00**	88	2.11	FA	AAS
323	**3.00**	**406**	**3.00**	FA	GRAV
<1	bld	74	-0.50	FA	MS
<20	bld	86	1.59	FA	
<1	bld	85	1.50	FA	AAS
<0.5	bld	71	-0.97	FA	ES
3	0.00	74	-0.59	FA,GF	AAS
2	-0.44	71	-1.04	FA	AAS,MS
nr	nr	nr	nr	AR	AAS
5	1.19	nr	nr	FA	ES
16	**3.00**	62	-2.67	AR	DIBK
<5	bld	74	-0.50	FA	AAS
<10	bld	81	0.70	AR	MS
1	-0.98	76	-0.13	FA	AAS
<50	bld	<50	bld	FA	AAS
18	**3.00**	**270**	**3.00**	FA	
8	**3.00**	80	0.66	AR	AAS

	GLG904-2	GLG908-4
Target	22	66
Std Dev	5	4

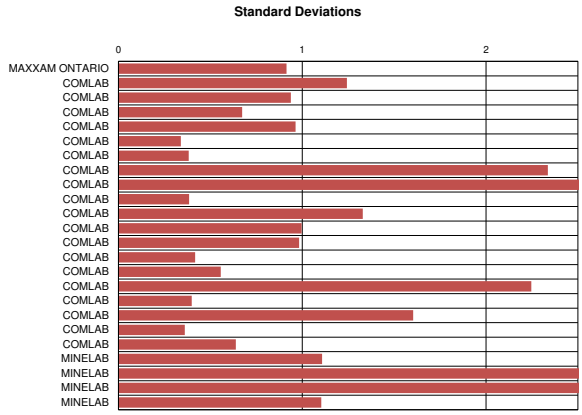
GLG904-2		GLG908-4			
assay	z-score	assay	z-score	Method	Reading
19	-0.52	68	0.51	FA	AAS
17	-0.93	64	-0.45	FA	AAS
20	-0.26	71	1.34	FA	AAS
17	-0.93	69	0.76	FA	AAS
18	-0.72	67	0.27	FA	ES
19	-0.52	70	1.00	FA	AAS
22	0.09	62	-0.94	FA	AAS
20	-0.34	71	1.29	FA	ES
20	-0.32	64	-0.45	FA	ES
20	-0.38	**83**	**3.00**	FA	AAS
18	-0.72	63	-0.70	AR	MS
nr	nr	**163**	**3.00**	AR	MS
17	-0.93	65	-0.21	FA	AAS
21	-0.11	nr	nr	FA	AAS
25	0.70	70	0.94	FA	AAS
19	-0.52	64	-0.45	FA	ES
30	1.72	70	1.00	FA	AAS
17	-0.87	70	1.09	AR	ICP
7	-2.96	62	-0.94	FA	AAS
19	-0.62	68	0.47	FA	
18	-0.72	61	-1.18	FA	ES
21	-0.11	60	-1.42	FA	MS
7	-2.96	61	-1.18	FA	
19	-0.52	65	-0.21	FA	ES
20	-0.32	67	0.27	FA	AAS
19	-0.52	63	-0.70	FA	ES
17	-0.89	**44**	**-3.00**	FA	MS
21	-0.17	64	-0.57	AR	AAS
13	-1.80	67	0.15	FA	AAS
24	0.58	71	1.21		ES
60	**3.00**	**99**	**3.00**	FA	AAS
48	**3.00**	**118**	**3.00**	FA	AAS
70	**3.00**	**80**	**3.00**	AD	AAS
48	**3.00**	**93**	**3.00**	FA	AAS
25	0.64	**49**	**-3.00**	FA	AAS
22	0.09	64	-0.45	FA	
<10	bld	**50**	**-3.00**	FA	AAS
20	-0.32	70	1.00	AR	
78	**3.00**	**181**	**3.00**	FA	AAS
21	-0.11	62	-0.94	FA	MS

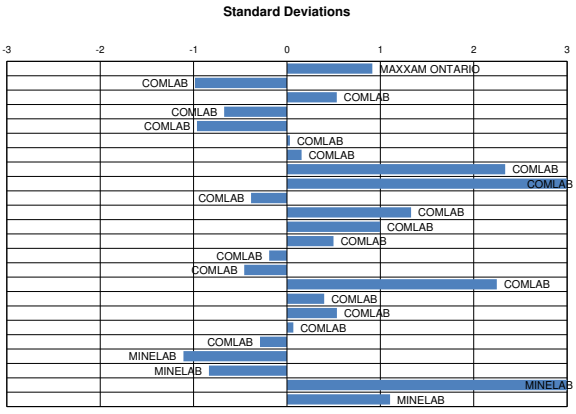
	GLG913-4	GLG910-3
Target	3	32
Std Dev	2	3

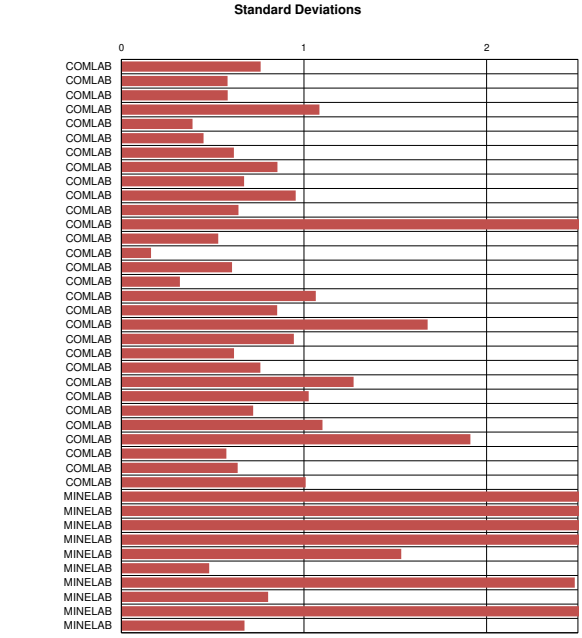
GLG913-4		GLG910-3			
assay	z-score	assay	z-score	Method	Reading
5	1.14	31	-0.26	FA	AAS
2	-0.66	36	1.09	FA	AAS
<5	bld	32	0.03	FA	AAS
<1	bld	32	0.03	FA	ES
<5	bld	30	-0.56	FA	AAS
2	-0.66	33	0.32	FA	AAS
1	-1.26	31	-0.26	FA	ES
<5	bld	34	0.62	FA	AAS
5	1.14	31	-0.26	FA	AAS
<2	bld	32	0.03	FA	AAS
2	-0.66	31	-0.26	FA	ES
<1	bld	32	0.03	FA	ES
<3	bld	<3	bld	AR	AAS
10	**3.00**	41	2.68	FA	AAS
9	**3.00**	32	0.03	FA	MS
2	-0.66	30	-0.56	FA	ES
<1	bld	29	-0.85	FA	MS
<5	bld	36	1.21	FA	AAS
3	0.18	37	1.36	AR	MS
<1	bld	31	-0.26	AR	MS
<8	bld	36	1.15	AR	AAS
11	**3.00**	32	0.12	FA	ICP
1	-1.02	32	0.03	FA	AAS
nr	nr	39	2.22	FA	ES
16	**3.00**	**59**	**3.00**	FA	AAS
33	**3.00**	**60**	**3.00**	FA	GRAV
7	2.34	37	1.50	FA	AAS
<20	bld	34	0.62	FA	AAS
3	-0.06	28	-1.15	IH	AAS
<10	bld	<10	bld	FA	AAS
43	**3.00**	40	2.39	FA	
375	**3.00**	**612**	**3.00**	AR	
<36	bld	<36	bld	FA	AAS
30	**3.00**	**80**	**3.00**	AR	AAS
8	2.63	30	-0.56	FA	ICP
bld	bld	33	0.32	FA	AAS
17	**3.00**	37	1.44	FA	ICP

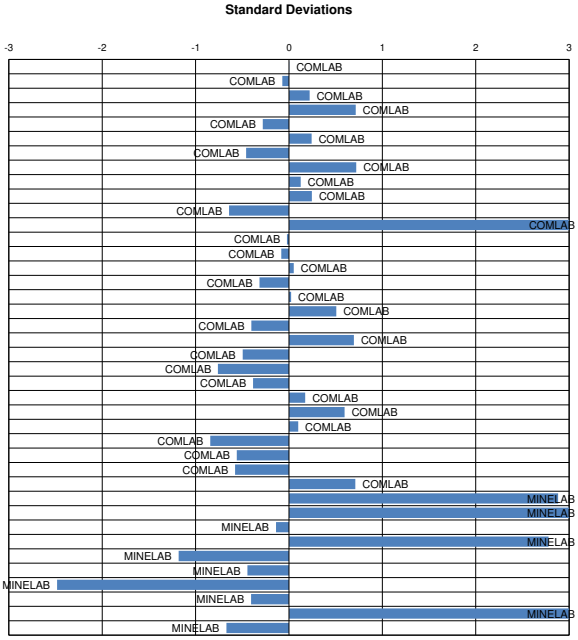
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

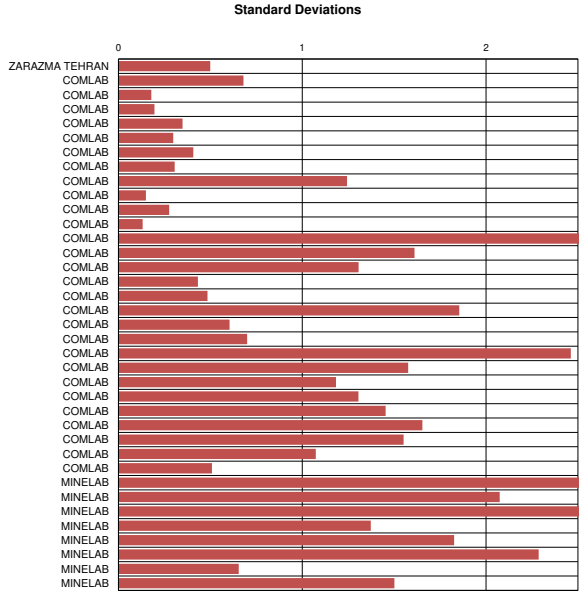
Low Grade Gold - Mean of Absolute Standardized Values - April 2017	Low Grade Gold - Mean of Standardized Values - April 2017

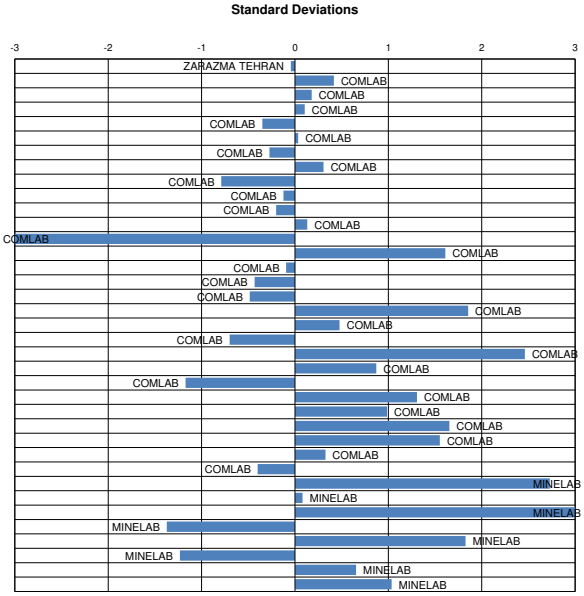












Gold on Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBC317-1	GBC317-2	GBC317-3
MEAN (ppm)	456	779	12
STDEV (ppm)	18	46	2
95% CI (ppm)	4	9	0
95% CI (%)	0.79%	1.21%	3.27%
MIN (ppm)	418	660	7
MEDIAN (ppm)	456	768	11
MAX (ppm)	501	885	16
IQR (ppm)	20	48	2
COUNT	93	94	81

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	450	-0.34	771	-0.16	**6**	**-3.00**
COMLAB	468	0.68	780	0.03	14	1.31
COMLAB	447	-0.51	750	-0.61	10	-0.97
COMLAB	**545**	**3.00**	878	2.15	**22**	**3.00**
COMLAB	420	-2.04	731	-1.02	**17**	**3.00**
COMLAB	456	0.00	729	-1.07	14	1.31
COMLAB	442	-0.82	nr	nr	12	0.00
COMLAB	447	-0.51	774	-0.10	14	1.26
COMLAB	478	1.25	823	0.96	11	-0.40
COMLAB	481	1.39	885	2.30	11	-0.46
MINELAB	431	-1.40	828	1.07	13	0.46
MINELAB	452	-0.23	753	-0.56	11	-0.59
MINELAB	455	-0.05	765	-0.29	11	-0.40
MINELAB	492	2.05	**931**	**3.00**	15	1.89
MINELAB	437	-1.08	846	1.45	13	0.74
MINELAB	495	2.22	853	1.61	**30**	**3.00**
MINELAB	483	1.53	871	1.99	**24**	**3.00**
MINELAB	496	2.27	730	-1.05	12	0.17
MINELAB	450	-0.34	761	-0.38	**19**	**3.00**
MINELAB	420	-2.04	716	-1.35	11	-0.40
MINELAB	432	-1.36	767	-0.25	13	0.74
MINELAB	440	-0.91	780	0.03	10	-0.97
MINELAB	446	-0.57	746	-0.70	15	1.89
MINELAB	501	2.56	751	-0.59	7	-2.69

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	465	0.51	775	-0.08	12	0.11
COMLAB	474	1.02	703	-1.63	13	0.74
COMLAB	447	-0.51	737	-0.90	13	0.74
COMLAB	457	0.06	755	-0.51	8	-2.12
COMLAB	437	-1.08	758	-0.44	**18**	**3.00**
COMLAB	468	0.68	838	1.28	11	-0.40
COMLAB	475	1.08	789	0.23	12	0.17
COMLAB	435	-1.19	757	-0.46	10	-0.69
COMLAB	462	0.34	878	2.14	12	0.17
COMLAB	434	-1.25	720	-1.26	11	-0.57
COMLAB	424	-1.81	821	0.92	11	-0.40
COMLAB	470	0.80	775	-0.08	**25**	**3.00**
COMLAB	447	-0.51	732	-1.00	13	0.86
COMLAB	468	0.69	875	2.07	11	-0.17
MINELAB	450	-0.34	769	-0.21	12	0.28
MINELAB	457	0.06	766	-0.27	11	-0.40
MINELAB	440	-0.91	763	-0.34	12	0.14
MINELAB	440	-0.91	740	-0.83	**20**	**3.00**
MINELAB	460	0.23	**940**	**3.00**	12	0.17
MINELAB	461	0.27	726	-1.14	**26**	**3.00**
MINELAB	472	0.91	755	-0.51	14	1.31
MINELAB	423	-1.87	738	-0.87	13	0.74

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	467	0.63	809	0.66	10	-0.97
COMLAB	461	0.29	798	0.42	11	-0.69
COMLAB	468	0.68	784	0.12	12	0.17
COMLAB	466	0.57	760	-0.40	13	0.46
COMLAB	430	-1.47	727	-1.11	10	-0.80
COMLAB	466	0.59	857	1.70	10	-0.88
COMLAB	468	0.68	863	1.82	11	-0.49
COMLAB	479	1.31	791	0.27	**17**	**3.00**
COMLAB	**399**	**-3.00**	743	-0.77	8	-1.87
COMLAB	453	-0.17	721	-1.24	**17**	**3.00**
COMLAB	**387**	**-3.00**	796	0.37	**24**	**3.00**
MINELAB	477	1.21	846	1.44	13	0.63
MINELAB	470	0.80	798	0.42	14	1.31
MINELAB	441	-0.88	772	-0.14	11	-0.57
MINELAB	463	0.40	812	0.72	8	-2.12
MINELAB	418	-2.17	799	0.43	14	1.48
MINELAB	461	0.30	816	0.82	<100	bld
MINELAB	465	0.53	790	0.25	<100	bld
MINELAB	456	-0.02	758	-0.45	**32**	**3.00**
MINELAB	450	-0.34	762	-0.36	13	0.74
MINELAB	**368**	**-3.00**	660	-2.55	11	-0.40
MINELAB	465	0.52	771	-0.16	10	-1.12
MINELAB	446	-0.57	799	0.44	10	-0.97
MINELAB	459	0.18	764	-0.31	12	0.03
MINELAB	455	-0.05	760	-0.40	14	1.31
MINELAB	452	-0.23	750	-0.62	**20**	**3.00**

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	450	-0.37	758	-0.45	10	-0.72
COMLAB	438	-1.02	740	-0.83	14	1.31
COMLAB	435	-1.19	792	0.29	12	0.17
COMLAB	460	0.25	766	-0.26	12	0.33
COMLAB	445	-0.62	758	-0.44	11	-0.40
COMLAB	488	1.82	781	0.05	11	-0.40
COMLAB	443	-0.73	742	-0.79	12	0.05
COMLAB	460	0.23	854	1.63	13	0.69
COMLAB	451	-0.26	764	-0.31	11	-0.35
COMLAB	478	1.25	879	2.16	12	0.27
COMLAB	427	-1.67	788	0.21	16	2.46
COMLAB	466	0.57	755	-0.51	11	-0.40
COMLAB	456	-0.01	841	1.35	11	-0.46
COMLAB	449	-0.40	771	-0.16	11	-0.40
COMLAB	**181**	**-3.00**	**376**	**-3.00**	14	1.31
MINELAB	474	1.05	774	-0.09	11	-0.28
MINELAB	466	0.57	854	1.63	14	1.31
MINELAB	454	-0.11	854	1.63	15	1.89
MINELAB	469	0.74	787	0.19	11	-0.18
MINELAB	462	0.34	778	-0.01	11	-0.23
MINELAB	454	-0.12	751	-0.60	11	-0.63
MINELAB	448	-0.44	726	-1.13	10	-1.24
MINELAB	465	0.51	865	1.86	11	-0.40
MINELAB	466	0.57	797	0.40	12	0.17
MINELAB	462	0.33	757	-0.47	14	1.13
MINELAB	**395**	**-3.00**	**284**	**-3.00**	8	-2.12
MINELAB	428	-1.62	676	-2.20	**22**	**3.00**
MINELAB	445	-0.62	751	-0.59	11	-0.40
MINELAB	471	0.85	795	0.35	11	-0.40
MINELAB	462	0.34	768	-0.23	11	-0.40
MINELAB	464	0.44	773	-0.11	10	-0.77
MINELAB	**513**	**3.00**	825	1.00	**20**	**3.00**
MINELAB	466	0.57	738	-0.87	10	-0.97
MINELAB	466	0.56	737	-0.89	**24**	**3.00**

Existing Products

	GLC916-2	GLC315-3	GLC615-6
Target	1174	1791	4442
Std Dev	41	111	193

GLC916-2		GLC315-3		GLC615-6			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
1180	0.14	**1270**	**-3.00**	4460	0.09	FA	GRAV
1185	0.26	1760	-0.28	4385	-0.29	FA	GRAV
1110	-1.56	1707	-0.76	4489	0.24	PR,AR	AAS
1246	1.74	2000	1.88	4557	0.60	FA	GRAV
1190	0.38	1720	-0.64	4210	-1.20	FA	GRAV
1027	**-3.00**	1749	-0.38	3930	-2.65	FA	AAS
1192	0.44	1984	1.74	4551	0.56	FA	AAS
1188	0.33	1794	0.02	4044	-2.06	FA	GRAV
1203	0.69	1799	0.07	4585	0.74	PR,AR	AAS
1278	2.50	2054	2.37	4570	0.66		AAS
1031	**-3.00**	1826	0.31	3907	-2.77	FA	GRAV
1134	-0.97	1737	-0.49	4306	-0.70	FA	GRAV
1160	-0.35	1745	-0.42	4425	-0.09	FA	GRAV
1213	0.93	1959	1.51	4493	0.27	AR	AAS
1197	0.55	1952	1.45	4322	-0.62	AD	AAS
1125	-1.19	**1340**	**-3.00**	4390	-0.27	PR,AR	DIBK,AAS
1177	0.06	1884	0.84	4617	0.91	PR,AR	AAS
1310	**3.00**	1900	0.98	4495	0.28	PR,AR	AAS
1156	-0.44	1759	-0.29	4506	0.33	PR,AR	AAS
1120	-1.31	1675	-1.05	4363	-0.41	AR	AAS
1129	-1.10	1696	-0.86	4504	0.32	AR	AAS
1132	-1.02	1720	-0.64	4436	-0.03	FA,GF	
1134	-0.98	1669	-1.11	4452	0.05	AR	DIBK
1288	2.75	1769	-0.20	4372	-0.36	PP	XRF

	GLC316-2	GLC915-3	GLC615-5
Target	1211	1472	3629
Std Dev	48	55	150

GLC316-2		GLC915-3		GLC615-5			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
1210	-0.03	1470	-0.04	3930	2.00	FA	GRAV
1225	0.29	1458	-0.26	3651	0.15	FA	GRAV
1280	1.43	1510	0.69	3690	0.40	PR,AR	AAS
1190	-0.44	1426	-0.85	3638	0.06	FA	GRAV
1137	-1.55	1463	-0.17	3692	0.42	1A	AAS
1218	0.14	1486	0.25	3657	0.19	FA	GRAV
1230	0.39	1440	-0.59	3680	0.34	FA	GRAV
1196	-0.32	1367	-1.92	3342	-1.91	FA	AAS
1165	-0.96	1515	0.78	3610	-0.13	FA	AAS
1143	-1.42	1379	-1.70	3580	-0.33	FA	GRAV
1150	-1.28	1440	-0.59	3580	-0.33	PR,AR	AAS
1180	-0.65	1590	2.15	3450	-1.19	PR,AR	AAS
1221	0.20	1521	0.89	3252	-2.51	PR,FUS	ES
1219	0.16	1525	0.95	3690	0.40	FA	GRAV
1250	0.81	1450	-0.41	3551	-0.52	FA	AAS,GRAV
1203	-0.17	1456	-0.30	3524	-0.70	PR,AR	AAS
1131	-1.67	1380	-1.69	3680	0.34	FA	GRAV
1120	-1.90	1347	-2.29	3340	-1.93	AR	AAS
1280	1.43	1580	1.96	3758	0.86	AR	AAS
1211	-0.01	1363	-1.99	3435	-1.29	PR,AR	AAS
1233	0.45	1487	0.27	3674	0.30	FA	GRAV
1190	-0.44	1390	-1.50	3280	-2.33	FA	AAS

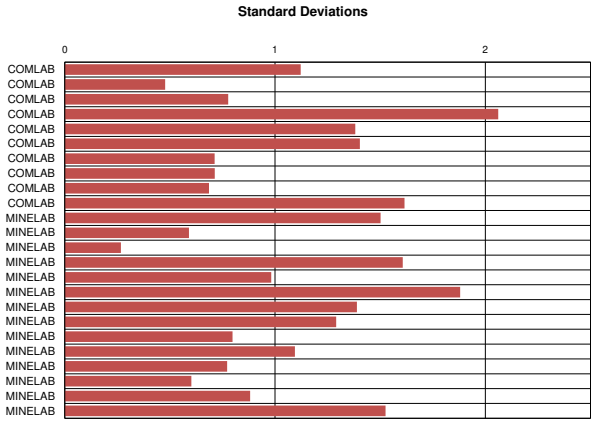
	GLC616-1	GLC315-3	GLC616-2
Target	1330	1791	2311
Std Dev	61	111	80

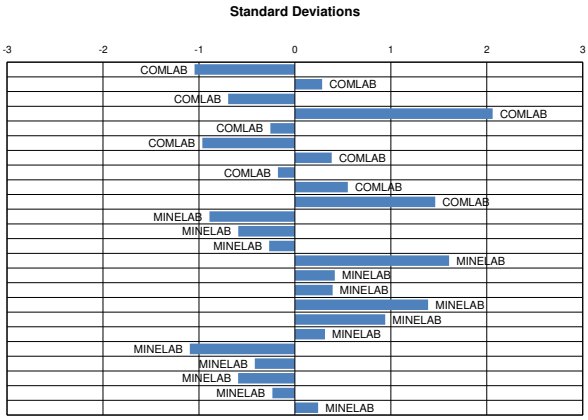
GLC616-1		GLC315-3		GLC616-2			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
1420	1.49	1855	0.57	2430	1.48		AAS
1360	0.50	1770	-0.19	2350	0.49	FA	GRAV
1362	0.53	1759	-0.29	2340	0.36	FA	GRAV
1300	-0.49	1670	-1.10	2280	-0.39	AR	MS
1313	-0.28	1734	-0.52	2293	-0.22	FA	GRAV
1370	0.66	1960	1.52	2337	0.32	FA	GRAV
1376	0.76	1976	1.67	2351	0.50	FA,PR	AAS
1345	0.25	1784	-0.07	2352	0.51	PR,AR	AAS
1166	-2.70	1627	-1.48	2073	-2.97	FA	GRAV
1260	-1.15	1680	-1.01	2270	-0.51	AR	AAS
1214	-1.91	1650	-1.27	2079	-2.90	PR,AR	AAS
1339	0.16	1906	1.04	2344	0.41	FA	GRAV
1363	0.55	1805	0.12	2398	1.08	FA	GRAV
1275	-0.91	1582	-1.89	2132	-2.24	FA	GRAV
1394	1.06	1842	0.46	2436	1.56	PR,AR	AAS
1378	0.80	1961	1.53	2307	-0.05	FA	GRAV
1337	0.11	1794	0.02	2321	0.13	AR	AAS
1372	0.69	1812	0.19	2344	0.41	AR	AAS
1342	0.20	1613	-1.61	2174	-1.71	AR	AAS
1337	0.12	1730	-0.55	2261	-0.62	PR,AR	AAS,DIBK
1337	0.12	1727	-0.58	2313	0.03	FA	GRAV
1304	-0.43	1753	-0.35	2258	-0.66	PR,AR	AAS
1278	-0.86	1858	0.60	2235	-0.95	PR,AR	AAS
1270	-0.99	1743	-0.43	2358	0.59	PR,AR	AAS
1166	-2.70	1700	-0.83	2256	-0.69	PR,AR	AAS
1267	-1.04	1642	-1.35	2149	-2.02	FA	GRAV

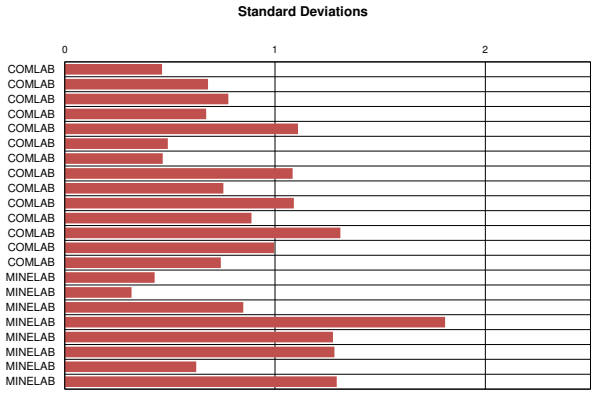
	GLC616-1	GLC915-1	GLC616-2
Target	1330	2077	2311
Std Dev	61	83	80

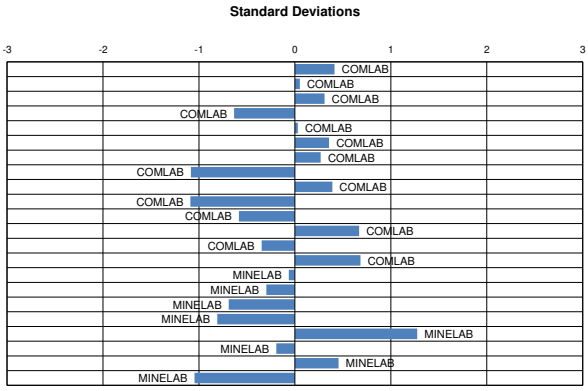
GLC616-1		GLC915-1		GLC616-2			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
1292	-0.62	2030	-0.57	2256	-0.68	FA	GRAV
1290	-0.66	1935	-1.71	2180	-1.63	PR,AR	AAS
1350	0.33	2030	-0.57	2270	-0.51	PR,AR	AAS
1324	-0.09	2021	-0.68	2255	-0.70	FA	GRAV
1296	-0.56	1993	-1.01	2251	-0.75	FA,PR	AAS
1386	0.93	2145	0.81	2389	0.97	FA	AAS
1206	-2.04	1872	-2.46	2160	-1.88	PR,AD	AAS
1360	0.50	2090	0.15	2310	-0.01	FA	GRAV
1343	0.22	2021	-0.68	2245	-0.82	FA	GRAV
1473	2.36	**2517**	**3.00**	**2736**	**3.00**	AR	AAS
1277	-0.87	1980	-1.16	2260	-0.63	AD	ES
1291	-0.64	2065	-0.15	2307	-0.05	FA	GRAV
1313	-0.27	2052	-0.30	2254	-0.71	FA	
1325	-0.08	2085	0.09	2383	0.90	AR	AAS
1059	**-3.00**	1934	-1.72	**4368**	**3.00**	FA	GRAV
1369	0.64	2053	-0.29	2322	0.14	FA	AAS
1394	1.06	2175	1.17	2358	0.59	FA	GRAV
1350	0.33	2103	0.31	2325	0.17		GRAV
1364	0.57	2082	0.06	2375	0.79	FA	GRAV
1366	0.60	2055	-0.27	2333	0.27	FA	GRAV
1358	0.47	2145	0.81	2289	-0.28	FA	
1234	-1.58	1995	-0.99	2075	-2.94	PR,AR	AAS
1384	0.89	2158	0.97	2366	0.69	FA	GRAV
1306	-0.39	2012	-0.79	2291	-0.25	FA	GRAV
1355	0.41	2031	-0.56	2324	0.16	FA	GRAV
672	**-3.00**	**753**	**-3.00**	**1577**	**-3.00**	FA	GRAV
1170	-2.64	2077	0.00	2185	-1.57	FA	GRAV
1324	-0.10	2035	-0.51	2315	0.05	FA	AAS,GRAV
1398	1.12	2064	-0.16	2380	0.86	PR,AR	AAS
1373	0.71	2039	-0.46	2355	0.55	FA	AAS
1356	0.43	2056	-0.26	2333	0.27	FA	GRAV
1390	0.99	2125	0.57	2400	1.11	PR,AR	
1273	-0.94	1842	-2.83	**2780**	**3.00**	AR	AAS
1280	-0.83	1843	-2.81	2195	-1.44	AR	AAS

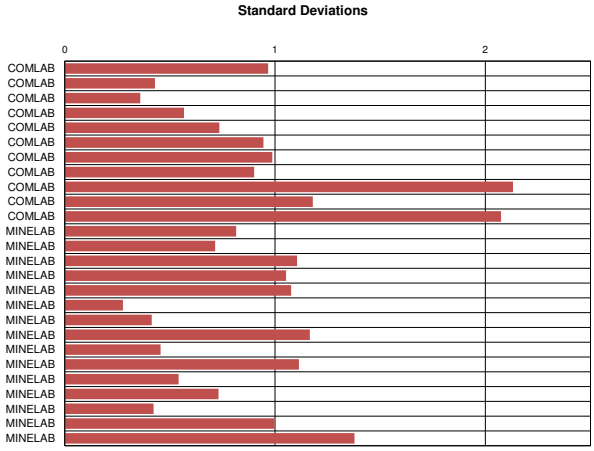
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

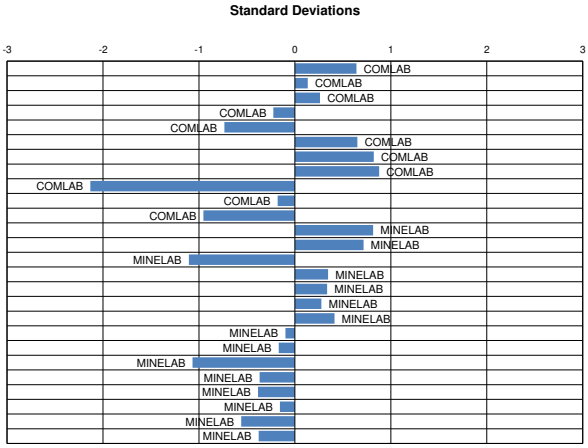


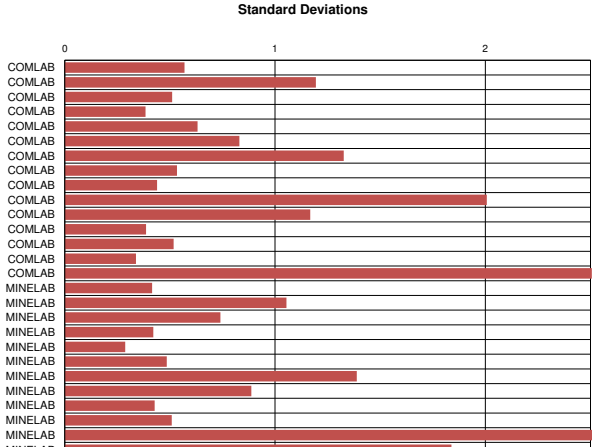


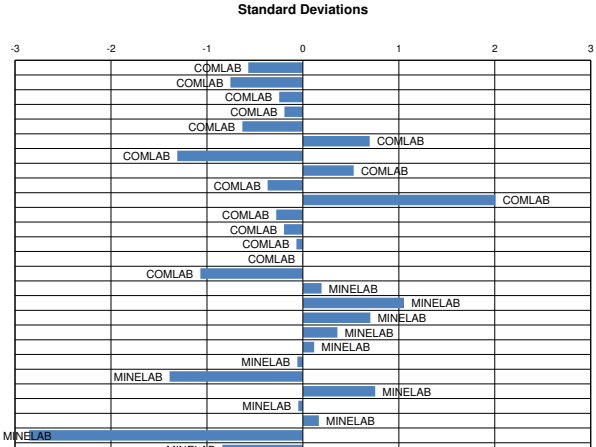












Gold on Carbon - Mean of Absolute Standardized Values - April 2017

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Gold on Carbon - Mean of Standardized Values - April 2017

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Silver on Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBC317-1	GBC317-2	GBC317-3
MEAN (ppm)	256	228	47
STDEV (ppm)	62	23	13
95% CI (ppm)	17	6	4
95% CI (%)	6.47%	2.85%	8.04%
MIN (ppm)	113	169	23
MEDIAN (ppm)	283	223	47
MAX (ppm)	340	285	82
IQR (ppm)	97	30	16
COUNT	55	48	47

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	282	0.42	218	-0.43	23	-1.85
COMLAB	296	0.65	222	-0.25	47	-0.03
COMLAB	199	-0.92	210	-0.78	57	0.72
COMLAB	247	-0.14	235	0.32	75	2.09
COMLAB	143	-1.82	199	-1.26	27	-1.55
COMLAB	296	0.64	241	0.60	45	-0.19
MINELAB	287	0.51	249	0.96	48	0.04
MINELAB	**648**	**3.00**	216	-0.50	**7073**	**3.00**
MINELAB	296	0.65	230	0.10	40	-0.56
MINELAB	306	0.81	243	0.67	66	1.40

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	294	0.62	215	-0.56	52	0.34
COMLAB	299	0.70	200	-1.22	46	-0.11
COMLAB	300	0.71	**320**	**3.00**	65	1.33
COMLAB	315	0.95	259	1.38	50	0.19
COMLAB	272	0.26	218	-0.43	43	-0.34
COMLAB	283	0.44	223	-0.21	**94**	**3.00**
COMLAB	185	-1.14	200	-1.22	45	-0.19
COMLAB	293	0.60	220	-0.34	47	-0.04
COMLAB	311	0.89	260	1.41	47	-0.07
MINELAB	145	-1.79	**147**	**-3.00**	28	-1.47
MINELAB	286	0.49	214	-0.60	28	-1.47
MINELAB	280	0.39	260	1.42	46	-0.11

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	321	1.05	214	-0.60	50	0.19
COMLAB	261	0.08	205	-1.00	35	-0.94
COMLAB	310	0.87	216	-0.51	48	0.03
COMLAB	247	-0.14	**146**	**-3.00**	23	-1.83
COMLAB	306	0.81	260	1.42	47	-0.03
COMLAB	156	-1.61	201	-1.17	56	0.65
COMLAB	113	-2.31	228	0.02	61	1.05
MINELAB	184	-1.16	**33**	**-3.00**	bld	bld
MINELAB	177	-1.27	237	0.42	65	1.31
MINELAB	136	-1.93	227	-0.03	40	-0.56
MINELAB	214	-0.67	**378**	**3.00**	nr	nr
MINELAB	164	-1.47	222	-0.25	<100	bld
MINELAB	174	-1.31	222	-0.26	<100	bld
MINELAB	132	-1.99	**125**	**-3.00**	56	0.65
MINELAB	252	-0.06	210	-0.78	39	-0.64
MINELAB	250	-0.09	237	0.42	30	-1.29

Standard Reference	GBC317-1		GBC317-2		GBC317-3	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	308	0.84	248	0.90	68	1.56
COMLAB	270	0.23	245	0.76	54	0.50
COMLAB	313	0.92	237	0.41	48	0.06
COMLAB	310	0.87	257	1.29	**<3**	**-3.00**
COMLAB	315	0.95	223	-0.21	<50	bld
COMLAB	313	0.92	269	1.80	45	-0.20
COMLAB	290	0.56	253	1.13	58	0.83
COMLAB	302	0.75	252	1.06	nr	nr
MINELAB	174	-1.33	193	-1.52	47	-0.05
MINELAB	304	0.78	202	-1.13	82	2.62
MINELAB	294	0.62	225	-0.12	45	-0.16
MINELAB	299	0.70	241	0.58	39	-0.65
MINELAB	340	1.36	**296**	**3.00**	59	0.87
MINELAB	299	0.69	222	-0.25	37	-0.82
MINELAB	268	0.20	**113**	**-3.00**	32	-1.17
MINELAB	**8**	**-3.00**	**8**	**-3.00**	**5**	**-3.00**
MINELAB	162	-1.51	169	-2.58	46	-0.11
MINELAB	283	0.44	285	2.52	35	-0.94
MINELAB	181	-1.21	223	-0.21	53	0.42
MINELAB	210	-0.74	210	-0.78	72	1.83

Existing Products

	GLC916-2	GLC315-3	GLC615-6
Target	209	548	1373
Std Dev	27	67	84

GLC916-2		GLC315-3		GLC615-6			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
223	0.54	**1030**	**3.00**	1440	0.79	FA	GRAV
213	0.16	540	-0.13	1356	-0.21	FA	GRAV
186	-0.85	544	-0.07	1431	0.68	PR,AR	AAS
nr	nr	480	-1.03	>500	ald	AR	AAS
160	-1.83	542	-0.10	1369	-0.05	PR,AR	AAS
222	0.49	626	1.16	1477	1.23		AAS
193	-0.60	557	0.13	1190	-2.17	FA	GRAV
211	0.10	485	-0.96	**8**	**-3.00**	FA	GRAV
213	0.16	526	-0.34	1380	0.08	FA	GRAV
223	0.54	542	-0.10	1388	0.17	PP	XRF

	GLC316-2	GLC915-3	GLC615-5
Target	527	114	757
Std Dev	29	14	18

GLC316-2		GLC915-3		GLC615-5			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
494	-1.17	85	-2.09	715	-2.28	FA	GRAV
504	-0.82	97	-1.23	712	-2.44	FA	GRAV
938	**3.00**	**481**	**3.00**	**930**	**3.00**	FA	GRAV
529	0.05	128	0.99	792	1.91	FA	GRAV
489	-1.35	106	-0.58	736	-1.14	FA	GRAV
540	0.44	**210**	**3.00**	807	2.72	PR,AR	AAS
495	-1.14	130	1.14	773	0.87	PR,AR	AAS
521	-0.23	113	-0.08	758	0.06	PR,FUS	ES
536	0.30	114	-0.02	802	2.42	AD	AAS
435	**-3.00**	93	-1.51	759	0.11	PR,AR	AAS
500	-0.96	**210**	**3.00**	**1100**	**3.00**	FA	GRAV
460	-2.36	112	-0.15	**700**	**-3.00**	AR	AAS

	GLC616-1	GLC315-3	GLC616-2
Target	601	548	1050
Std Dev	33	67	52

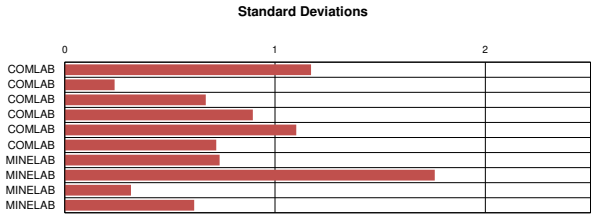
GLC616-1		GLC315-3		GLC616-2			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
612	0.33	574	0.38	1145	1.83	FA	GRAV
535	-1.99	492	-0.85	977	-1.41	FA	GRAV
562	-1.18	506	-0.64	958	-1.77	FA	GRAV
396	**-3.00**	386	-2.44	**707**	**-3.00**	FA	GRAV
632	0.94	620	1.07	1081	0.60	FA,PR	AAS
583	-0.54	501	-0.71	937	-2.18	AR	AAS
540	-1.84	458	-1.35	949	-1.94	PR,AR	AAS
255	**-3.00**	**87**	**-3.00**	**566**	**-3.00**	FA	GRAV
499	**-3.00**	526	-0.34	**2326**	**3.00**	3A	AAS
555	-1.39	514	-0.52	1020	-0.58	PR,AR	AAS
1362	**3.00**	**897**	**3.00**	**1393**	**3.00**	FA	GRAV
599	-0.05	554	0.08	1055	0.10	AR	AAS
608	0.20	529	-0.29	1065	0.29	AR	AAS
534	-2.04	412	-2.05	1023	-0.53	AR	AAS
585	-0.48	517	-0.47	1026	-0.46	FA	GRAV
530	-2.15	517	-0.47	966	-1.63	3A	AAS

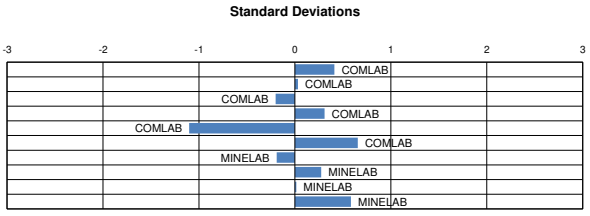
	GLC616-1	GLC915-1	GLC616-2
Target	601	416	1050
Std Dev	33	16	52

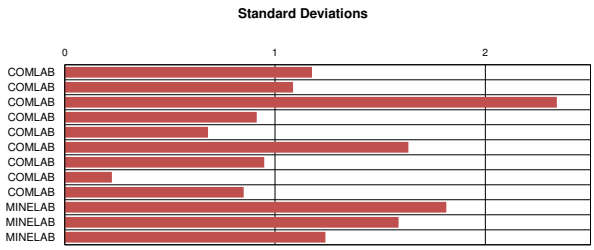
GLC616-1		GLC915-1		GLC616-2			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
601	0.00	**489**	**3.00**	1175	2.41	4A	AAS
605	0.12	400	-1.02	1100	0.96	PR,AR	AAS
624	0.70	422	0.34	1069	0.37	FA	GRAV
615	0.42	425	0.53	1080	0.58	FA	GRAV
647	1.39	437	1.28	1150	1.93	FA	GRAV
706	**3.00**	**473**	**3.00**	1182	2.54	AR	AAS
603	0.05	431	0.91	1017	-0.64	AD	ES
605	0.11	416	-0.04	1042	-0.16	FA	AAS
579	-0.67	372	-2.73	1012	-0.73	PR,AR	AAS
566	-1.06	**354**	**-3.00**	960	-1.74		GRAV
615	0.43	414	-0.15	1066	0.31	AR	AAS
641	1.22	**494**	**3.00**	1025	-0.49	FA	
663	1.88	**468**	**3.00**	1180	2.51	FA	GRAV
593	-0.24	395	-1.34	1065	0.30	FA	GRAV
333	**-3.00**	**127**	**-3.00**	**668**	**-3.00**	FA	GRAV
8	**-3.00**	**7**	**-3.00**	**9**	**-3.00**	FA	AAS
563	-1.15	379	-2.32	1015	-0.68	AR	AAS
930	**3.00**	**718**	**3.00**	**1688**	**3.00**	PR,AR	
495	**-3.00**	416	-0.02	1020	-0.58	AR	AAS
596	-0.14	409	-0.48	1051	0.02	AR	AAS

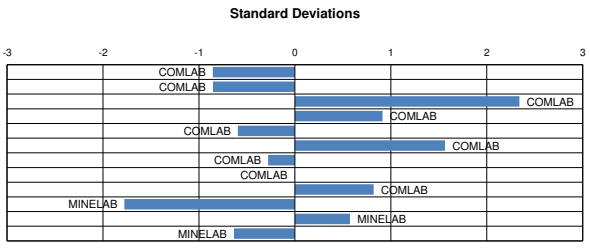
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

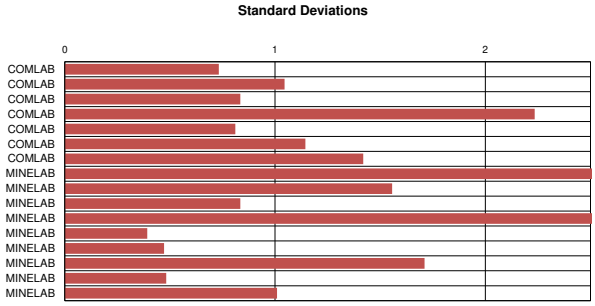
Silver on Carbon - Mean of Absolute Standardized Values - April 2017	Silver on Carbon - Mean of Standardized Values - April 2017

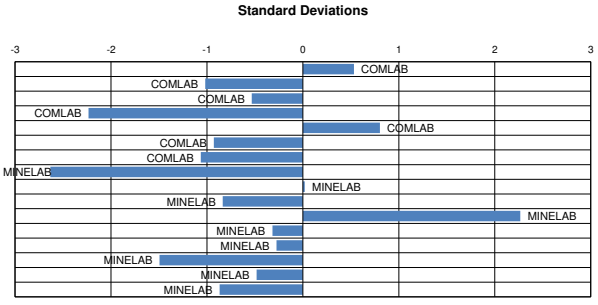


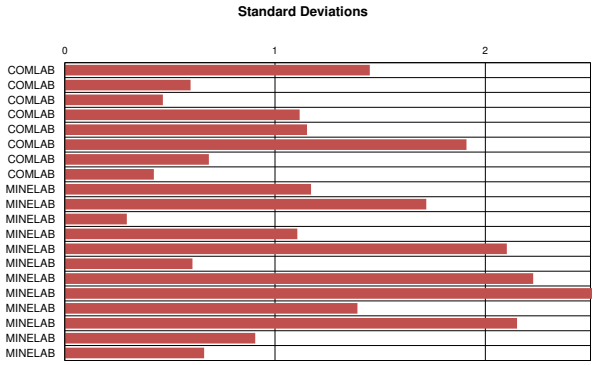


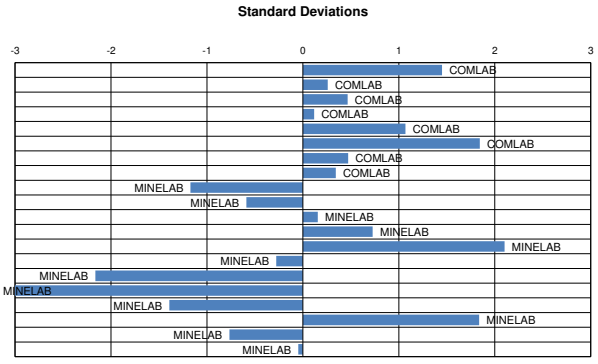












Silver (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	0.6	7.4	0.7	6.6	0.2
STDEV (ppm)	0.1	0.5	0.2	0.6	0.2
95% CI (ppm)	0.0	0.1	0.0	0.2	0.1
95% CI (%)	7.87%	1.67%	7.20%	2.32%	32.54%
MIN (ppm)	0.3	6.3	0.4	5.3	0.1
MEDIAN (ppm)	0.6	7.4	0.6	6.5	0.2
MAX (ppm)	0.9	8.6	1.1	8.1	0.6
IQR (ppm)	0.2	0.6	0.3	0.8	0.1
COUNT	37	57	46	61	19

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
MAXXAM ONTARIO	<5.0	bld	7.0	-0.80	<5.0	bld	7.0	0.74	<5.0	bld
COMLAB	0.4	-1.30	7.5	0.26	0.6	-0.38	6.6	0.07	0.2	-0.13
COMLAB	<0.5	bld	7.2	-0.38	0.5	-0.99	6.4	-0.26	<0.5	bld
COMLAB	0.5	-0.59	7.3	-0.16	0.5	-0.99	6.3	-0.43	<0.5	bld
COMLAB	0.5	-0.59	7.6	0.47	0.6	-0.38	6.5	-0.09	<0.5	bld
COMLAB	0.7	0.84	7.7	0.69	0.6	-0.38	6.5	-0.09	<0.5	bld
COMLAB	<0.5	bld	7.6	0.47	0.5	-0.99	7.0	0.74	<0.5	bld
COMLAB	0.5	-0.59	8.6	2.60	0.6	-0.38	7.2	1.07	0.1	-0.77
COMLAB	<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld
COMLAB	<0.5	bld	8.2	1.75	<0.5	bld	7.3	1.24	<0.5	bld
COMLAB	0.4	-1.30	8.3	1.96	0.7	0.23	6.8	0.40	0.5	1.81
COMLAB	0.5	-0.95	7.5	0.18	0.5	-0.87	6.2	-0.61	0.1	-0.71
COMLAB	**2.4**	**3.00**	**5.7**	**-3.00**	1.0	2.08	5.3	-2.09	<0.5	bld
COMLAB	0.7	0.76	6.8	-1.29	0.8	0.91	6.2	-0.66	<0.5	bld
COMLAB	0.4	-1.30	7.3	-0.16	0.5	-0.99	6.0	-0.92	<0.3	bld
COMLAB	0.5	-0.59	7.0	-0.80	0.4	-1.61	6.9	0.57	<0.2	bld
COMLAB	0.5	-0.45	8.0	1.24	0.6	-0.50	6.5	-0.08	0.2	-0.45
COMLAB	0.4	-1.30	7.0	-0.80	0.5	-0.99	5.8	-1.26	0.1	-0.77
COMLAB	**1.1**	**3.00**	7.2	-0.48	<1.0	bld	6.9	0.60	<1.0	bld
MINELAB	0.9	2.05	**9.6**	**3.00**	0.8	0.85	8.0	2.46	0.7	3.00
MINELAB	**2.0**	**3.00**	8.0	1.33	**2.0**	**3.00**	7.0	0.74	2.0	3.00

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	<0.3	bld	7.0	-0.80	0.4	-1.61	6.7	0.24	<0.3	bld
COMLAB	0.8	1.55	6.6	-1.66	0.7	0.23	6.8	0.40	<0.3	bld
COMLAB	0.5	-0.59	7.6	0.47	0.6	-0.38	6.5	-0.09	<0.5	bld
COMLAB	<1.0	bld	7.2	-0.38	<1.0	bld	6.3	-0.43	<1.0	bld
COMLAB	0.7	0.84	7.2	-0.38	0.7	0.23	5.7	-1.42	<0.5	bld
COMLAB	<0.5	bld	7.6	0.47	0.7	0.23	6.3	-0.43	<0.5	bld
COMLAB	**2.0**	**3.00**	7.0	-0.80	<1.0	bld	8.0	2.40	<1.0	bld
COMLAB	0.5	-0.59	7.7	0.69	0.6	-0.38	6.4	-0.26	0.2	-0.13
COMLAB	<1.0	bld	7.0	-0.80	1.0	2.08	6.2	-0.59	<1.0	bld
COMLAB	<30.0	bld	<30.0	bld	<30.0	bld	<30.0	bld	<30.0	bld
COMLAB	<1.0	bld	7.0	-0.80	<1.0	bld	6.0	-0.92	<1.0	bld
COMLAB	0.5	-0.59	7.7	0.69	0.6	-0.69	6.7	0.16	0.2	-0.45
COMLAB	<1.0	bld	7.2	-0.38	<1.0	bld	6.6	0.07	<1.0	bld
COMLAB	0.7	0.84	7.6	0.47	0.8	0.85	6.6	0.07	<0.5	bld
COMLAB	0.7	0.84	7.2	-0.38	1.1	2.69	5.8	-1.26	0.3	0.52
COMLAB	**3.6**	**3.00**	**12.1**	**3.00**	**4.4**	**3.00**	**8.9**	**3.00**	1.6	3.00
COMLAB	0.4	-1.30	7.4	-0.06	0.5	-1.30	6.1	-0.76	0.2	-0.45
COMLAB	<0.5	bld	7.4	0.05	0.5	-0.99	6.0	-0.92	<0.5	bld
COMLAB	**2.9**	**3.00**	6.9	-0.95	0.7	0.11	6.1	-0.78	0.1	-0.97
COMLAB	0.4	-1.30	6.6	-1.66	0.6	-0.38	6.1	-0.76	0.4	1.16
COMLAB	0.6	0.19	8.4	2.07	0.7	0.48	7.4	1.32	0.2	-0.26
COMLAB	0.5	-0.59	6.9	-1.02	0.6	-0.38	6.2	-0.59	0.1	-0.77
COMLAB	0.6	0.12	7.9	1.16	0.8	0.97	6.5	-0.13	0.6	2.19
COMLAB	<2.0	bld	7.0	-0.80	<2.0	bld	7.0	0.74	<2.0	bld
COMLAB	0.9	2.26	6.3	-2.29	0.5	-0.99	5.3	-2.09	0.4	1.16
COMLAB	<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld
MINELAB	**4.0**	**3.00**	**12.1**	**3.00**	**4.5**	**3.00**	**12.6**	**3.00**	2.8	3.00
MINELAB	<1.0	bld	**8.9**	**3.00**	<1.0	bld	8.1	2.56	<1.0	bld

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
ZARAZMA TEHRAN	0.7	0.84	7.3	-0.16	0.8	0.85	6.9	0.57	0.2	-0.13
COMLAB	0.6	0.12	6.8	-1.23	0.8	0.85	6.6	0.07	0.5	1.81
COMLAB	**3.0**	**3.00**	**9.6**	**3.00**	**2.8**	**3.00**	**8.7**	**3.00**	<0.4	bld
COMLAB	0.8	1.55	7.4	0.05	0.8	0.85	6.0	-0.92	<0.5	bld
COMLAB	0.7	0.84	7.7	0.69	0.8	0.85	6.5	-0.09	<0.5	bld
COMLAB	<0.5	bld	7.4	0.05	0.5	-0.99	6.3	-0.43	<0.5	bld
COMLAB	<2.0	bld	8.0	1.33	<2.0	bld	6.0	-0.92	<2.0	bld
COMLAB	0.5	-0.59	7.5	0.26	0.5	-0.99	6.0	-0.92	<0.5	bld
COMLAB	0.6	0.12	7.4	0.05	0.8	0.85	6.0	-0.92	<0.5	bld
COMLAB	0.8	1.55	8.3	1.96	0.9	1.46	7.4	1.40	<0.5	bld
COMLAB	**7.9**	**3.00**	7.7	0.71	**1.6**	**3.00**	7.7	1.87	0.1	-0.77
COMLAB	<1.0	bld	8.0	1.33	<1.0	bld	7.0	0.74	<1.0	bld
COMLAB	0.6	0.12	6.3	-2.29	0.8	0.85	6.7	0.24	0.8	3.00
MINELAB	**7.2**	**3.00**	**23.2**	**3.00**	**11.4**	**3.00**	**34.2**	**3.00**	7.9	3.00

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	0.6	0.12	7.6	0.47	0.6	-0.38	6.5	-0.09	<0.5	bld
COMLAB	0.7	0.84	7.5	0.26	0.7	0.23	5.9	-1.09	<0.5	bld
COMLAB	0.8	1.55	8.0	1.33	0.8	0.85	7.5	1.57	0.5	1.81
COMLAB	0.3	-2.01	6.9	-1.02	0.5	-0.99	5.8	-1.26	<0.1	bld
COMLAB	0.4	-1.02	7.4	-0.06	0.5	-0.87	6.3	-0.38	0.1	-0.58
COMLAB	<1.0	bld	8.0	1.33	<1.0	bld	7.0	0.74	<1.0	bld
COMLAB	**<0.01**	**-3.00**	**9.6**	**3.00**	**<0.01**	**-3.00**	5.8	-1.27	<0.01	bld
COMLAB	<0.5	bld	6.6	-1.66	<0.5	bld	7.1	0.90	<0.5	bld
COMLAB	<2.0	bld	7.3	-0.19	<2.0	bld	7.2	1.04	<2.0	bld
COMLAB	0.5	-0.73	7.4	0.09	0.5	-0.87	6.3	-0.46	0.1	-0.58
MINELAB	<2.0	bld	8.4	2.18	<2.0	bld	5.2	-2.25	<2.0	bld

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	0.8	0.5	6.0	0.3	14.4
Std Dev	0.8	0.2	0.7	0.3	0.9

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
<5.0	bld	<5.0	bld	6.0	-0.05	<5.0	bld	14.0	-0.47	NAA	
0.4	-0.50	0.5	-0.18	6.2	0.22	0.0	-0.98	14.2	-0.24	4A	ES
<0.5	bld	<0.5	bld	5.8	-0.32	<0.5	bld	14.4	-0.02	4A	ES
<0.5	bld	<0.5	bld	5.8	-0.32	<0.5	bld	14.4	-0.02	4A	ES
0.5	-0.38	0.5	-0.18	6.5	0.62	<0.5	bld	14.4	-0.02	4A	ES
<0.5	bld	0.5	-0.18	6.2	0.22	<0.5	bld	14.0	-0.47	4A	ES
<0.5	bld	<0.5	bld	6.3	0.35	<0.5	bld	14.7	0.33	4A	ES
0.3	-0.62	0.5	-0.18	6.4	0.49	0.1	-0.73	**18.9**	**3.00**	4A	ICP
<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld	16.0	1.81	4A	AAS
<0.5	bld	<0.5	bld	5.3	-0.99	<0.5	bld	14.1	-0.36	4A	ES
0.4	-0.50	0.9	1.98	6.1	0.09	<0.2	bld	14.1	-0.36	4A	ES
0.3	-0.68	0.4	-0.61	5.5	-0.69	0.2	-0.58	13.6	-0.94	4A	MS
<0.5	bld	<0.5	bld	5.1	-1.26	<0.5	bld	13.5	-1.04	4A	MS
<0.5	bld	<0.5	bld	5.8	-0.26	<0.5	bld	14.4	-0.02	4A	AAS
<0.3	bld	0.4	-0.72	5.8	-0.32	<0.3	bld	13.7	-0.81	4A	AAS
0.5	-0.38	nr	nr	5.5	-0.72	<0.2	bld	14.2	-0.24	4A	AAS
0.3	-0.63	0.5	-0.40	6.1	0.02	0.1	-0.70	14.6	0.21	4A	ES
0.3	-0.62	0.4	-0.72	5.3	-0.99	0.1	-0.73	13.0	-1.61	4A	AAS
<1.0	bld	<1.0	bld	5.3	-0.95	<1.0	bld	13.4	-1.16	4A	AAS
0.6	-0.26	0.6	0.14	6.0	-0.05	0.8	1.44	13.8	-0.70	4A	AAS
2.0	1.42	**3.0**	**3.00**	8.0	2.63	**3.0**	**3.00**	16.0	1.81	FA	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	3.1	1.2	3.0	6.7	1.1
Std Dev	0.7	0.4	0.2	0.4	0.2

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
2.6	-0.80	0.8	-1.14	2.8	-1.27	7.2	1.31	0.5	-2.51	4A	ES
2.9	-0.36	1.3	0.14	3.1	0.57	7.1	1.05	1.2	0.68	4A	ICP
2.9	-0.36	1.1	-0.37	2.9	-0.66	6.6	-0.26	1.0	-0.23	4A	ES
3.1	-0.06	1.2	-0.11	2.8	-1.27	6.7	0.00	1.1	0.22	4A	ES
3.1	-0.06	1.3	0.14	2.9	-0.66	6.5	-0.53	1.1	0.22	4A	ES
2.5	-0.94	0.7	-1.39	3.0	-0.04	7.1	1.05	0.8	-1.15	4A	ES
3.0	-0.21	2.0	1.93	3.0	-0.04	7.0	0.79	**2.0**	**3.00**	4A	ES
3.1	-0.06	1.1	-0.37	3.0	-0.04	6.6	-0.26	1.0	-0.23	4A	MS
3.4	0.38	2.0	1.93	2.8	-1.27	7.2	1.31	1.4	1.59	4A	AAS
<30.0	bld	<30.0	bld	<30.0	bld	<30.0	bld	<30.0	bld	4A	AAS
3.0	-0.21	1.0	-0.63	3.0	-0.04	7.0	0.79	<1.0	bld	4A	AAS
3.3	0.23	1.2	-0.24	3.0	-0.04	6.7	-0.13	1.0	-0.32	4A	MS
3.0	-0.21	1.5	0.65	3.0	-0.04	6.4	-0.79	1.1	0.22	4A	ES
3.0	-0.21	1.3	0.14	3.2	1.18	6.8	0.26	1.2	0.68	4A	AAS
2.9	-0.36	1.3	0.14	**3.7**	**3.00**	6.6	-0.26	1.1	0.22	4A	AAS
4.0	1.26	1.9	1.68	3.0	-0.04	7.3	1.57	nr	nr	4A	ES
2.9	-0.36	1.1	-0.50	2.9	-0.66	6.5	-0.53	0.9	-0.69	4A	MS
2.8	-0.50	1.3	0.14	2.6	-2.49	6.4	-0.79	0.9	-0.69	4A	ES
2.9	-0.41	1.1	-0.45	2.9	-0.72	6.7	-0.11	1.0	-0.23	4A	MS
3.0	-0.21	1.0	-0.63	2.9	-0.66	6.8	0.26	1.1	0.22	4A	AAS
3.6	0.64	1.3	0.09	3.4	2.59	7.4	1.92	1.3	1.04	4A	ICP
2.7	-0.65	1.0	-0.63	3.1	0.57	6.0	-1.84	1.0	-0.23	4A	ES
3.3	0.26	1.5	0.52	3.0	-0.04	7.5	1.97	1.1	0.18	4A	ICP
3.0	-0.21	1.0	-0.63	2.8	-1.33	6.0	-1.84	1.0	-0.23	4A	ES,AAS
2.8	-0.50	0.6	-1.65	**2.3**	**-3.00**	6.6	-0.26	0.8	-1.15	4A	ES
<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld	<10.0	bld	4A	ES
6.6	**3.00**	**6.1**	**3.00**	**6.6**	**3.00**	**9.4**	**3.00**	**4.0**	**3.00**	FA	AAS
3.5	0.52	1.6	0.91	**3.7**	**3.00**	6.3	-1.05	1.5	2.05	4A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	6.0	6.4	1.2	0.9	14.4
Std Dev	0.5	0.6	0.3	0.5	0.9

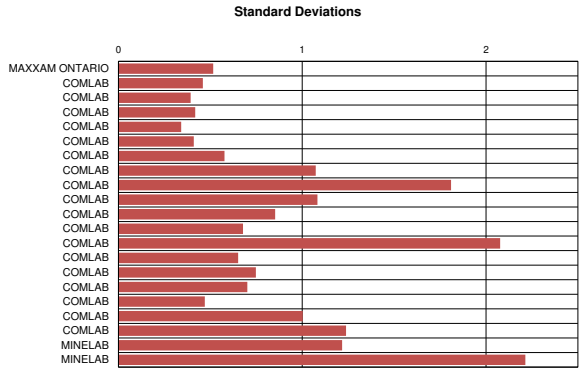
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
6.0	0.00	6.0	-0.59	1.3	0.38	0.9	0.09	14.1	-0.36	4A	ES
6.0	0.00	6.2	-0.28	1.1	-0.33	0.6	-0.51	13.5	-1.04	4A	ICP
8.0	**3.00**	**8.4**	**3.00**	**3.5**	**3.00**	**2.7**	**3.00**	16.2	2.04	4A	AAS
6.0	0.00	6.4	0.04	1.1	-0.33	<0.5	bld	15.1	0.78	4A	ES
6.2	0.40	7.3	1.46	1.0	-0.68	<0.5	bld	13.9	-0.59	4A	ICP
5.8	-0.40	6.7	0.51	1.4	0.74	<0.5	bld	14.1	-0.36	4A	ES
6.0	0.00	6.0	-0.59	<2.0	bld	<2.0	bld	14.0	-0.47	4A	ES
5.7	-0.60	6.3	-0.12	1.1	-0.33	<0.5	bld	14.3	-0.13	4A	ES
6.1	0.20	6.0	-0.59	1.3	0.38	<0.5	bld	14.0	-0.47	4A	ES
6.6	1.20	6.5	0.20	1.2	0.03	0.5	-0.70	15.0	0.67	4A	ES
5.8	-0.44	7.2	1.29	**3.0**	**3.00**	0.9	0.13	12.9	-1.72	4A	AAS
7.0	2.00	8.0	2.57	**4.0**	**3.00**	<1.0	bld	15.0	0.67	4A	AAS
4.2	**-3.00**	4.8	-2.49	0.7	-1.75	0.5	-0.70	>10.0	ald	4A	MS
24.4	**3.00**	**67.7**	**3.00**	**10.9**	**3.00**	**12.0**	**3.00**	**29.0**	**3.00**	4A	ES

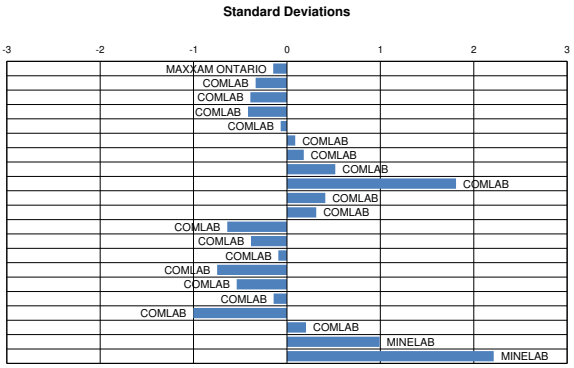
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	0.8	0.5	1.2	0.9	0.8
Std Dev	0.8	0.2	0.3	0.5	0.2

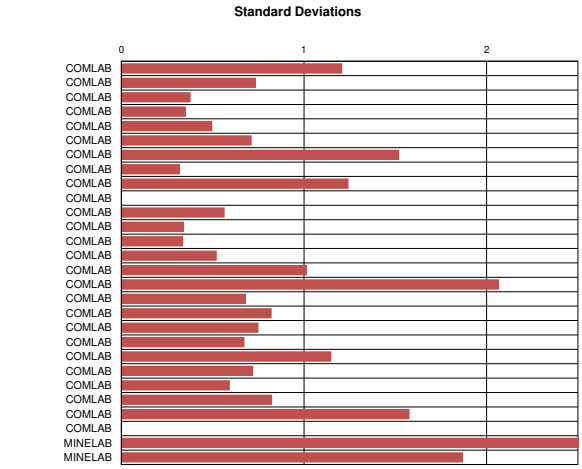
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
<0.5	bld	0.6	0.36	1.2	0.03	<0.5	bld	0.8	-0.32	4A	ES
<0.5	bld	<0.5	bld	1.1	-0.33	<0.5	bld	0.9	0.34	4A	ES
0.5	-0.38	0.7	0.90	1.3	0.38	1.0	0.29	1.0	1.01	4A	ES
0.2	-0.74	0.3	-1.26	1.2	0.03	0.2	-1.30	1.1	1.68	4A	MS
0.2	-0.70	0.4	-0.72	1.1	-0.47	<0.05	bld	0.7	-1.06	4A	ICP
<1.0	bld	<1.0	bld	1.0	-0.68	<1.0	bld	<1.0	bld	4A	AAS
<0.01	bld	<0.01	bld	0.6	-2.07	<0.01	bld	**0.2**	**-3.00**	4A	ES
<0.5	bld	<0.5	bld	1.1	-0.33	0.7	-0.31	0.7	-0.99	4A	ES
<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	4A	ES
0.2	-0.70	0.4	-0.61	1.2	-0.15	<0.02	bld	0.7	-0.79	4A	MS
<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	4A	MS

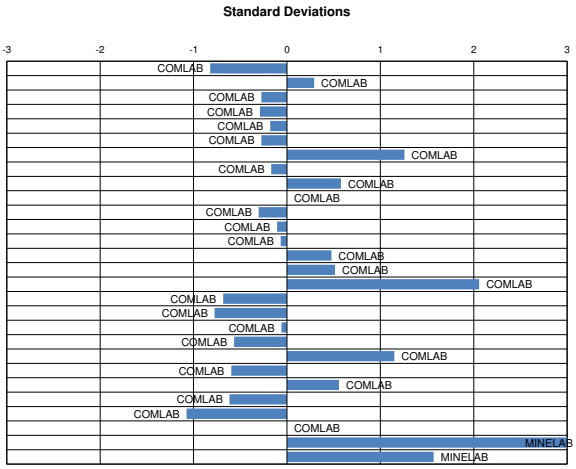
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

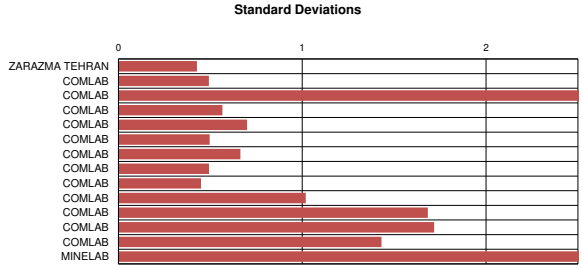
Silver (Total Digest) - Mean of Absolute Standardized Values - April 2017	Silver (Total Digest) - Mean of Standardized Values - April 2017

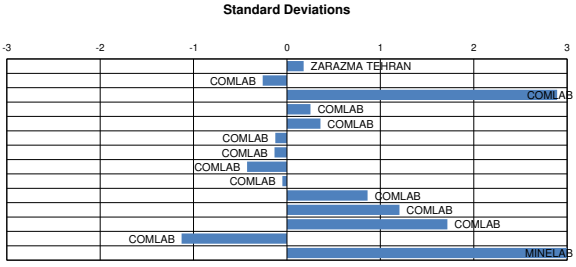


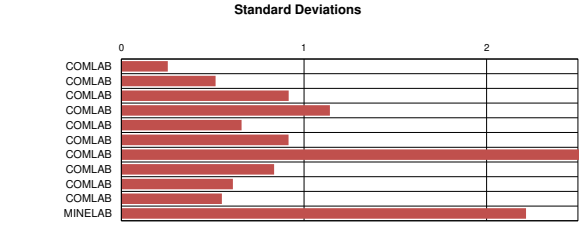


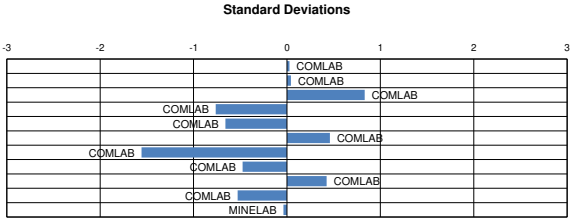












Silver (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	0.5	7.6	0.6	6.6	0.3
STDEV (ppm)	0.1	1.1	0.1	1.2	0.2
95% CI (ppm)	0.0	0.3	0.0	0.3	0.1
95% CI (%)	4.89%	3.50%	5.98%	4.47%	21.94%
MIN (ppm)	0.3	5.1	0.4	4.1	0.1
MEDIAN (ppm)	0.5	7.4	0.6	6.2	0.3
MAX (ppm)	0.6	10.4	0.8	10.0	0.7
IQR (ppm)	0.1	1.0	0.1	1.1	0.2
COUNT	36	68	33	68	25

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	0.6	1.23	7.2	-0.38	0.6	0.64	6.2	-0.35	0.3	-0.09
COMLAB	0.4	-1.26	7.4	-0.15	0.5	-0.77	6.0	-0.51	0.3	0.04
COMLAB	0.5	0.12	6.8	-0.69	0.6	0.23	5.4	-1.00	0.2	-0.58
COMLAB	0.5	0.12	7.8	0.21	0.6	0.23	6.4	-0.19	0.1	-1.20
COMLAB	1.2	3.00	8.5	0.84	1.3	3.00	8.3	1.35	<0.3	bld
COMLAB	0.5	0.12	7.9	0.30	0.7	1.24	7.0	0.30	0.2	-0.58
COMLAB	0.5	-0.57	6.9	-0.58	0.5	-0.87	6.1	-0.45	0.1	-1.27
COMLAB	1.8	3.00	6.0	-1.42	1.6	3.00	8.4	1.43	0.6	1.90
COMLAB	nr	nr	6.3	-1.17	nr	nr	4.9	-1.43	<0.10	bld
COMLAB	0.8	3.00	7.0	-0.54	1.0	3.00	6.1	-0.41	0.4	0.66
COMLAB	0.5	0.12	7.1	-0.42	0.5	-0.77	6.5	-0.11	<0.2	bld
COMLAB	0.5	-0.02	7.8	0.19	0.5	-0.37	6.6	0.01	0.1	-1.02
COMLAB	1.1	3.00	7.0	-0.51	<1.0	bld	6.6	-0.05	<1.0	bld
MINELAB	<2.0	bld	7.5	-0.06	<2.0	bld	5.9	-0.59	<2.0	bld
MINELAB	<1.0	bld	6.6	-0.88	<1.0	bld	5.2	-1.16	<1.0	bld
MINELAB	1.0	3.00	9.0	1.30	1.0	3.00	9.0	1.91	1.0	3.00
MINELAB	<1.0	bld	6.8	-0.69	<1.0	bld	6.6	-0.03	<1.0	bld
MINELAB	3.4	3.00	15.1	3.00	3.4	3.00	13.7	3.00	2.1	3.00
MINELAB	<5.0	bld	10.0	2.20	<5.0	bld	8.0	1.11	<5.0	bld

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	0.5	0.12	6.6	-0.88	0.8	2.24	6.1	-0.43	<0.2	bld
COMLAB	0.5	0.12	7.3	-0.24	0.8	2.24	6.5	-0.11	<0.2	bld
COMLAB	<1.0	bld	7.7	0.12	<1.0	bld	6.1	-0.43	<1.0	bld
COMLAB	0.4	-1.26	7.3	-0.24	0.7	1.24	6.1	-0.43	<0.2	bld
COMLAB	0.5	0.12	7.6	0.03	0.5	-0.77	6.3	-0.27	<0.2	bld
COMLAB	0.4	-1.26	7.6	0.03	0.6	0.23	5.8	-0.67	<0.2	bld
COMLAB	0.6	1.50	7.3	-0.24	0.5	-0.77	6.1	-0.43	0.2	-0.58
COMLAB	<2.0	bld	8.0	0.39	<2.0	bld	7.0	0.30	<2.0	bld
COMLAB	<1.0	bld	7.2	-0.33	<1.0	bld	6.2	-0.35	<1.0	bld
COMLAB	<2.0	bld	9.7	1.88	<2.0	bld	7.9	1.01	<2.0	bld
COMLAB	0.6	1.50	6.4	-1.06	0.5	-0.77	5.5	-0.92	0.2	-0.58
COMLAB	0.5	-0.43	6.6	-0.88	0.6	-0.27	5.8	-0.65	<0.3	bld
COMLAB	0.4	-1.67	5.3	-2.07	0.4	-1.37	4.1	-2.06	0.2	-0.83
COMLAB	1.0	3.00	10.0	2.20	1.5	3.00	7.5	0.70	0.5	1.28
COMLAB	<1.0	bld	8.0	0.39	<1.0	bld	7.0	0.30	<1.0	bld
COMLAB	0.3	-2.63	7.3	-0.24	0.3	-2.78	5.9	-0.59	0.3	0.04
COMLAB	<0.5	bld	7.1	-0.42	<0.5	bld	6.3	-0.27	<0.5	bld
COMLAB	0.6	1.50	7.5	-0.06	0.7	1.24	6.1	-0.43	0.4	0.66
MINELAB	2.3	3.00	8.5	0.87	1.9	3.00	8.3	1.32	<1.0	bld
MINELAB	4.5	3.00	12.4	3.00	2.0	3.00	9.4	2.24	2.0	3.00
MINELAB	<1.0	bld	10.1	2.25	<1.0	bld	11.1	3.00	3.9	3.00
MINELAB	<5.0	bld	9.0	1.30	<5.0	bld	10.0	2.72	<5.0	bld
MINELAB	<3.0	bld	5.2	-2.17	<3.0	bld	<3.0	bld	<3.0	bld
MINELAB	0.4	-0.84	9.1	1.34	0.9	3.00	6.2	-0.39	0.3	0.04
MINELAB	0.5	0.12	7.2	-0.33	0.6	0.23	5.8	-0.67	0.2	-0.58
MINELAB	bld	bld	7.0	-0.51	bld	bld	6.0	-0.51	bld	bld

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	1.8	3.00	9.5	1.75	1.7	3.00	9.4	2.24	0.4	0.66
COMLAB	0.5	-0.57	7.6	0.05	1.1	3.00	6.3	-0.25	0.5	1.22
COMLAB	0.5	0.12	7.4	-0.15	0.5	-0.77	6.4	-0.19	<0.2	bld
COMLAB	0.5	0.12	7.1	-0.42	0.5	-0.77	5.9	-0.59	<0.2	bld
COMLAB	0.4	-1.26	7.4	-0.15	0.6	0.23	6.0	-0.51	<0.2	bld
COMLAB	0.5	0.12	7.4	-0.15	5.7	3.00	6.3	-0.27	<0.2	bld
COMLAB	<1.0	bld	8.3	0.64	<1.0	bld	6.8	0.12	<1.0	bld
COMLAB	0.5	0.12	7.1	-0.42	0.6	0.23	6.4	-0.19	<0.2	bld
COMLAB	0.5	0.12	6.9	-0.60	<0.5	bld	6.2	-0.35	<0.5	bld
COMLAB	0.6	1.50	6.4	-1.06	0.7	1.24	5.9	-0.59	<0.2	bld
COMLAB	<2.0	bld	10.3	2.47	1.7	3.00	9.0	1.91	<2.0	bld
COMLAB	0.5	0.12	7.2	-0.33	0.7	1.24	6.1	-0.43	0.3	0.04
COMLAB	0.6	1.50	7.6	0.03	1.0	3.00	7.8	0.94	0.4	0.66
MINELAB	0.5	0.67	7.7	0.16	0.7	0.94	5.5	-0.95	0.2	-0.77
MINELAB	<0.5	bld	8.2	0.57	<0.5	bld	7.7	0.86	<0.5	bld
MINELAB	bld	bld	11.8	3.00	bld	bld	8.3	1.38	0.7	2.33
MINELAB	0.5	0.12	6.7	-0.79	0.7	0.74	5.6	-0.83	<0.5	bld
MINELAB	1.4	3.00	9.6	1.84	1.0	3.00	9.0	1.91	0.2	-0.58
MINELAB	0.8	3.00	8.0	0.39	1.2	3.00	6.7	0.05	<0.5	bld
MINELAB	2.4	3.00	10.4	2.58	1.1	3.00	8.9	1.85	1.7	3.00

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	0.5	0.12	7.4	-0.15	0.6	0.23	5.9	-0.59	<0.2	bld
COMLAB	0.6	1.50	6.4	-1.06	0.5	-0.77	5.5	-0.92	<0.5	bld
COMLAB	0.4	-0.70	6.8	-0.68	0.5	-1.17	5.9	-0.61	0.1	-1.20
COMLAB	<0.5	bld	9.0	1.30	<0.5	bld	5.5	-0.92	0.5	1.28
COMLAB	<0.02	-3.00	8.0	0.35	<0.02	-3.00	6.5	-0.09	<0.02	bld
COMLAB	0.3	-2.63	8.0	0.39	0.5	-0.77	7.2	0.46	<0.2	bld
COMLAB	<2.0	bld	7.0	-0.54	<2.0	bld	6.2	-0.33	<2.0	bld
COMLAB	0.5	-0.57	6.9	-0.65	0.6	0.03	5.7	-0.75	<0.5	bld
MINELAB	0.6	1.50	7.5	-0.06	0.5	-0.77	5.9	-0.59	0.2	-0.58
MINELAB	<3.0	bld	9.0	1.30	<3.0	bld	9.0	1.91	<3.0	bld
MINELAB	<0.45	bld	6.8	-0.66	0.5	-0.47	6.3	-0.28	<0.45	bld
MINELAB	0.2	-3.00	7.8	0.21	0.4	-1.78	5.7	-0.75	0.5	1.28
MINELAB	0.4	-1.26	8.4	0.75	0.5	-0.77	7.1	0.38	0.2	-0.58
MINELAB	0.6	1.78	5.1	-2.21	0.7	1.34	5.2	-1.18	0.3	-0.21
MINELAB	<2.0	bld	7.7	0.12	<2.0	bld	7.5	0.70	<2.0	bld
MINELAB	<1.0	bld	7.5	-0.06	<1.0	bld	6.6	-0.03	<1.0	bld

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	0.8	0.5	6.0	0.8	14.5
Std Dev	0.8	0.2	0.7	0.9	1.0

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
0.3	-0.57	0.7	1.01	5.5	-0.69	0.3	-0.50	13.2	-1.31	AR	MS
<0.2	bld	0.4	-0.72	5.8	-0.32	<0.2	bld	14.4	-0.08	AR	ES
0.2	-0.74	0.4	-0.72	5.2	-1.12	<0.2	bld	13.8	-0.69	AR	AAS
0.2	-0.74	0.4	-0.72	5.7	-0.45	<0.1	bld	14.5	0.03	AR	ICP
1.4	0.70	1.3	3.00	6.1	0.09	<0.3	bld	14.9	0.44	AR	ES
0.4	-0.50	0.4	-0.72	6.3	0.35	<0.2	bld	14.4	-0.08	AR	ES
0.2	-0.71	0.4	-0.77	5.6	-0.63	0.1	-0.68	13.4	-1.15	4A	MS
1.8	1.18	1.3	3.00	5.1	-1.26	2.2	1.56	10.8	-3.00		
<0.10	bld	<0.10	bld	5.2	-1.08	<0.10	bld	12.7	-1.83	AR	AAS
0.6	-0.29	1.1	3.00	6.3	0.30	<0.3	bld	15.7	1.26	3A	AAS
0.5	-0.38	0.5	-0.18	5.9	-0.18	<0.2	bld	13.8	-0.69	AR	AAS
0.2	-0.73	0.3	-1.15	6.1	0.05	0.1	-0.71	14.6	0.13	AR	MS
<1.0	bld	<1.0	bld	5.2	-1.07	<1.0	bld	13.4	-1.10	AR	AAS
<2.0	bld	<2.0	bld	5.5	-0.72	<2.0	bld	14.5	0.03	3A	AAS
<1.0	bld	<1.0	bld	5.8	-0.32	<1.0	bld	13.8	-0.69	AR	AAS
2.0	1.42	2.0	3.00	6.0	-0.05	1.0	0.25	13.0	-1.51	2A	AAS
<1.0	bld	<1.0	bld	5.2	-1.16	<1.0	bld	14.6	0.10	AR	MS
4.8	3.00	4.1	3.00	9.3	3.00	3.1	2.53	18.2	3.00	AR	AAS
15.0	3.00	<5.0	bld	9.0	3.00	<5.0	bld	17.0	2.59	AR	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	3.1	1.2	3.0	6.6	1.1
Std Dev	0.7	0.4	0.2	0.4	0.2

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
2.7	-0.65	1.1	-0.37	2.9	-0.51	6.2	-0.87	1.1	0.04	AR	ES
2.8	-0.50	1.1	-0.37	2.9	-0.51	6.5	-0.17	1.0	-0.49	AR	ES
3.4	0.38	1.0	-0.63	3.0	-0.06	6.7	0.29	1.1	0.04	AR	ES
3.2	0.08	1.2	-0.11	3.0	-0.06	6.6	0.06	1.0	-0.49	AR	ES
3.1	-0.06	1.2	-0.11	2.9	-0.51	6.8	0.53	1.0	-0.49	AR	ES
2.6	-0.80	1.1	-0.37	3.0	-0.06	6.5	-0.17	1.0	-0.49	AR	AAS
2.8	-0.50	0.9	-0.88	3.2	0.84	6.8	0.53	0.8	-1.56	AR	ES
3.0	-0.21	2.0	1.93	3.0	-0.06	7.0	0.99	<2.0	bld	AR	AAS
3.0	-0.21	1.5	0.65	3.0	-0.06	6.7	0.29	<1.0	bld	AR	ES
3.4	0.30	<2.0	bld	3.4	1.61	7.7	2.72	<2.0	bld	AR	ICP
2.7	-0.65	1.0	-0.63	2.6	-1.87	5.6	-2.27	1.0	-0.49	AR	ES
3.2	0.11	0.8	-1.27	2.9	-0.42	6.4	-0.40	0.9	-1.29	AR	AAS
2.6	-0.80	0.8	-1.09	2.2	-3.00	4.9	-3.00	0.7	-2.04	AR	ICP
5.0	2.73	2.0	1.93	2.5	-2.23	6.0	-1.34	2.0	3.00	AR	AAS
3.0	-0.21	1.0	-0.63	3.0	-0.06	7.0	0.99	1.0	-0.49	3A	AAS
2.6	-0.80	1.2	-0.11	2.7	-1.42	6.1	-1.10	0.7	-2.10	AR	ES
3.0	-0.21	1.1	-0.37	2.9	-0.51	6.5	-0.17	0.9	-1.03	3A	AAS
3.1	-0.06	1.4	0.40	3.0	-0.06	6.8	0.53	1.3	1.11	AD	AAS
3.0	-0.18	0.9	-0.98	2.3	-3.00	6.3	-0.59	3.6	3.00	3A	
5.0	2.73	4.0	3.00	5.5	3.00	11.4	3.00	3.9	3.00	AR	
2.9	-0.39	4.1	3.00	3.5	2.11	12.9	3.00	2.8	3.00	AR	ES
<5.0	bld	<5.0	bld	<5.0	bld	7.0	0.99	<5.0	bld	3A	AAS
<3.0	bld	<3.0	bld	<3.0	bld	6.3	-0.57	<3.0	bld	AR	ES
2.8	-0.47	3.6	3.00	3.4	1.79	6.6	-0.06	2.3	3.00	AR	MS
2.9	-0.36	2.0	1.93	3.1	0.39	6.3	-0.64	1.0	-0.49	AR	ES
3.0	-0.21	bld	bld	3.0	-0.06	6.0	-1.34	bld	bld	3A	AAS

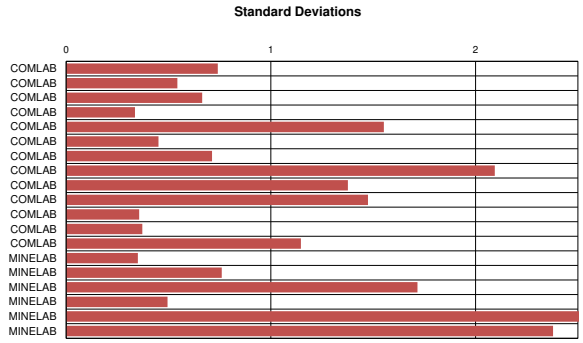
	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	6.0	6.4	1.2	1.1	14.5
Std Dev	0.5	0.6	0.3	1.0	1.0

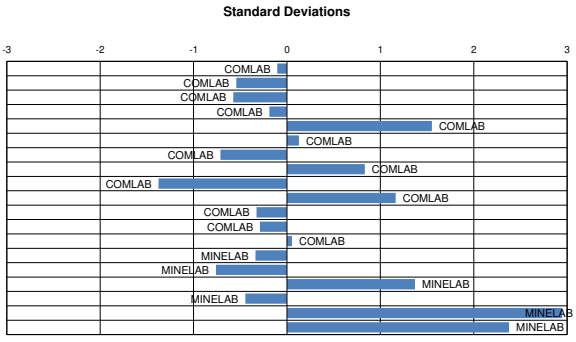
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
7.2	2.40	7.3	1.46	3.6	3.00	3.3	2.31	15.6	1.15	AR	AAS
6.3	0.66	6.2	-0.28	1.0	-0.65	0.4	-0.63	15.1	0.64	AR	ES
6.1	0.20	6.4	0.04	1.1	-0.33	<0.2	bld	15.1	0.64	AR	ES
5.8	-0.40	6.1	-0.43	1.2	0.03	<0.2	bld	14.5	0.03	AR	ICP
6.2	0.40	6.6	0.36	1.1	-0.33	<0.2	bld	14.2	-0.28	AR	ES
0.5	-3.00	6.2	-0.28	1.3	0.38	<0.2	bld	13.8	-0.69	AR	ES
6.2	0.44	6.6	0.28	1.5	1.13	<1.0	bld	14.7	0.23	AR	ES
6.0	0.00	6.1	-0.43	1.2	0.03	<0.2	bld	14.0	-0.49	AR	ES
6.0	0.00	6.3	-0.12	0.8	-1.39	0.5	-0.57	14.1	-0.38	AR	ES
6.2	0.40	6.7	0.51	1.3	0.38	<0.2	bld	13.4	-1.10	AR	AAS
7.0	2.00	7.2	1.31	2.2	3.00	3.0	2.00	14.0	-0.49	3A	AAS
6.0	0.00	5.9	-0.75	1.1	-0.33	0.1	-0.98	13.5	-1.00	AR	MS
6.2	0.40	6.0	-0.59	1.0	-0.68	0.8	-0.26	14.2	-0.28	AR	ES
6.8	1.64	7.1	1.07	1.5	1.06	bld	bld	14.0	-0.52	AR	AAS
6.3	0.60	6.0	-0.59	1.1	-0.33	2.1	1.08	14.1	-0.38	AR	AAS
4.4	-3.00	0.2	-3.00	1.7	1.85	0.5	-0.61	10.8	-3.00	AR	ICP
5.7	-0.54	6.3	-0.12	1.0	-0.61	<0.5	bld	13.6	-0.89	AR	AAS
7.0	2.00	7.6	1.94	2.5	3.00	2.0	0.97	16.0	1.56	AR	AAS
6.5	1.00	2.3	-3.00	1.8	2.16	<0.5	bld	10.8	-3.00	3A	AAS
5.8	-0.42	6.8	0.74	2.8	3.00	2.8	1.74	14.8	0.33	3A	AAS

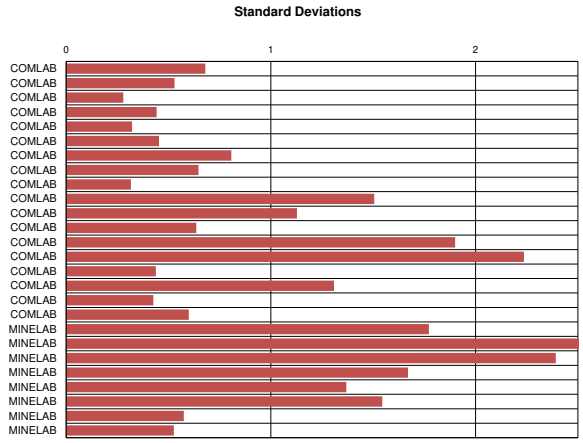
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	0.8	0.5	1.2	1.1	0.9
Std Dev	0.8	0.2	0.3	1.0	0.2

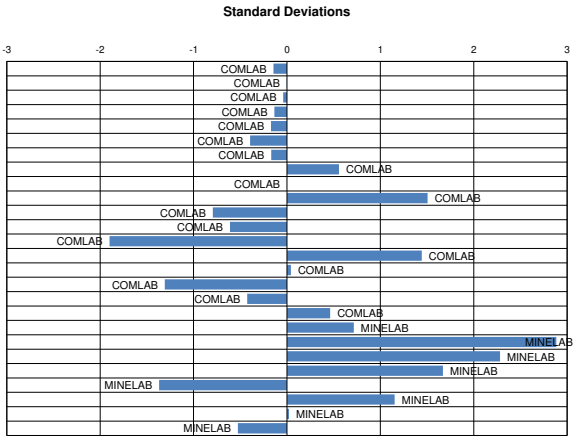
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
0.2	-0.74	0.4	-0.72	1.1	-0.33	<0.2	bld	0.9	0.24	AR	AAS
<0.5	bld	<0.5	bld	1.1	-0.33	<0.5	bld	0.8	-0.32	AR	AAS
0.2	-0.69	0.4	-0.77	1.0	-0.61	<0.05	bld	0.8	-0.21	AR	ICP
<0.5	bld	0.6	0.36	1.2	0.03	<0.5	bld	<0.5	bld	1A	ICP
<0.02	bld	<0.02	bld	<0.02	bld	<0.02	bld	<0.02	bld	AR	ES
<0.2	bld	<0.2	bld	1.1	-0.33	0.8	-0.26	0.7	-0.88	AR	ES
<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	<2.0	bld	AR	ES
<0.5	bld	<0.5	bld	1.0	-0.68	<0.5	bld	0.8	-0.49	AR	AAS
0.5	-0.38	0.7	0.90	1.2	0.03	0.4	-0.67	0.6	-1.45	AR	AAS
<3.0	bld	<3.0	bld	<3.0	bld	<3.0	bld	<3.0	bld	AR	AAS
<0.45	bld	<0.45	bld	1.3	0.45	<0.45	bld	0.7	-0.77	AR	ES
0.1	-0.86	0.1	-2.33	1.4	0.74	<0.1	bld	1.0	0.80	AR	AAS
0.6	-0.26	0.6	0.36	1.4	0.74	0.3	-0.77	0.6	-1.45	AR	ES
0.3	-0.68	0.5	-0.23	1.2	-0.04	0.1	-0.97	1.1	1.47	AR	AAS
2.5	2.02	2.0	3.00	2.3	3.00	2.4	1.38	<2.0	bld	3A	AAS
<1.0	bld	<1.0	bld	1.4	0.74	<1.0	bld	1.2	1.92	AR	AAS

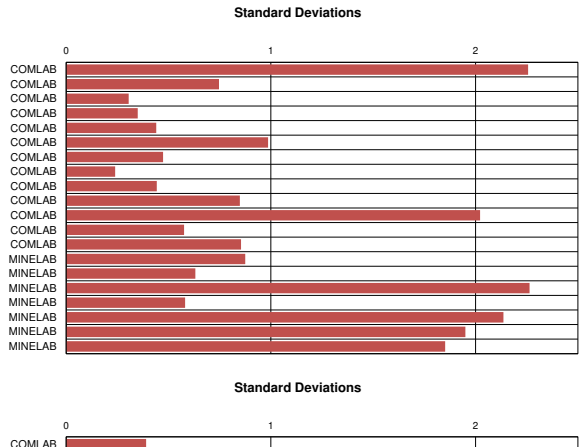
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

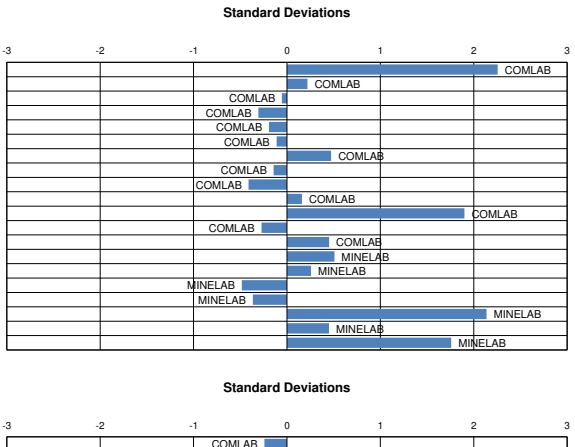


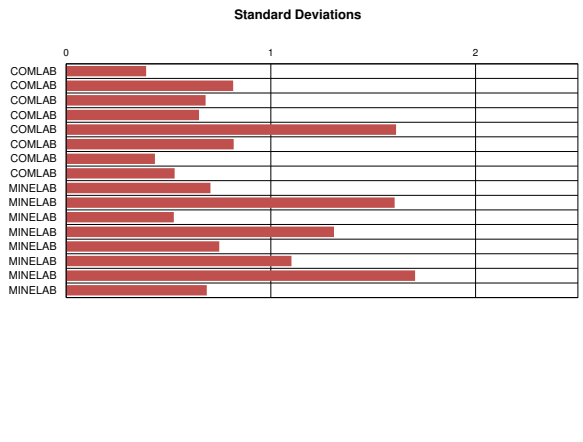


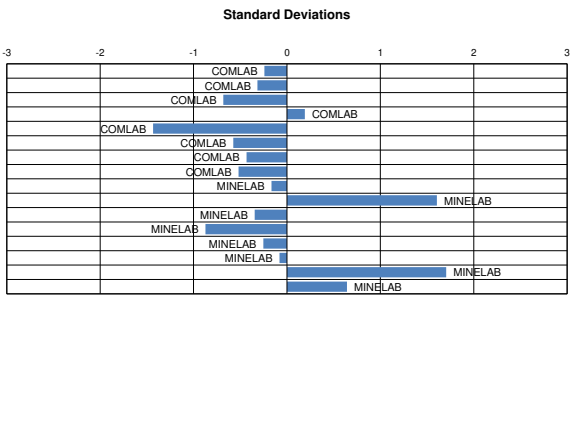












Silver (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Silver (Partial Digest) - Mean of Standardized Values - April 2017

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Standard Deviations

Copper (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	626	7414	796	5914	2871
STDEV (ppm)	21	258	26	188	145
95% CI (ppm)	5	60	6	43	34
95% CI (%)	0.78%	0.81%	0.83%	0.73%	1.17%
MIN (ppm)	573	6746	685	5450	2465
MEDIAN (ppm)	625	7436	734	5920	2890
MAX (ppm)	668	7970	804	6340	3230
IQR (ppm)	27	292	37	260	160
COUNT	70	72	71	73	73

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	617	-0.45	7042	-1.44	734	-0.08	6015	0.54	2622	-1.72
COMLAB	614	-0.60	7370	-0.17	743	0.27	5790	-0.66	2820	-0.35
COMLAB	632	0.27	7510	0.37	733	-0.12	5760	-0.82	2920	0.33
COMLAB	610	-0.79	7150	-1.02	721	-0.58	5650	-1.41	2800	-0.49
COMLAB	619	-0.36	7310	-0.40	716	-0.77	6220	1.63	2890	0.13
COMLAB	619	-0.36	7300	-0.44	741	0.19	6030	0.62	2840	-0.22
COMLAB	637	0.51	7770	1.38	748	0.44	6252	1.80	3010	0.95
COMLAB	654	1.33	6977	-1.69	769	1.26	5991	0.41	2686	-1.28
COMLAB	605	-1.03	7747	1.29	717	-0.73	5862	-0.28	2882	0.07
COMLAB	634	0.37	7572	0.61	745	0.34	5889	-0.13	3056	1.27
COMLAB	620	-0.31	7591	0.68	764	1.07	6147	1.24	2764	-0.74
COMLAB	584	-2.04	7327	-0.34	693	-1.65	5704	-1.12	2846	-0.18
COMLAB	604	-1.08	7251	-0.63	707	-1.11	5815	-0.53	2672	-1.37
COMLAB	620	-0.31	7572	0.61	742	0.23	6094	0.96	2897	0.18
COMLAB	658	1.52	7473	0.23	702	-1.30	5961	0.25	2907	0.24
COMLAB	636	0.46	7656	0.94	725	-0.42	5737	-0.95	3040	1.16
COMLAB	633	0.32	7490	0.29	758	0.84	6058	0.77	2846	-0.18
COMLAB	599	-1.31	7415	0.00	697	-1.48	6225	1.66	3089	1.50
MINELAB	611	-0.74	7508	0.36	715	-0.80	6106	1.02	2465	-2.80
MINELAB	643	0.80	7392	-0.09	762	0.99	5660	-1.36	2539	-2.29

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	618	-0.41	7280	-0.52	744	0.30	5890	-0.13	3220	2.40
COMLAB	603	-1.13	**6240**	**-3.00**	706	-1.15	5450	-2.48	2790	-0.56
COMLAB	626	-0.02	7480	0.25	747	0.42	5980	0.35	2900	0.20
COMLAB	635	0.41	7481	0.26	726	-0.38	5926	0.06	2883	0.08
COMLAB	638	0.56	7321	-0.36	748	0.46	5793	-0.65	2921	0.34
COMLAB	632	0.27	7600	0.72	748	0.46	5900	-0.08	2940	0.47
COMLAB	648	1.04	7584	0.66	758	0.84	6130	1.15	2970	0.68
COMLAB	610	-0.79	7410	-0.02	724	-0.46	5960	0.24	2980	0.75
COMLAB	645	0.90	6746	-2.59	743	0.27	5997	0.44	2722	-1.03
COMLAB	668	2.00	7676	1.01	777	1.57	6031	0.62	2896	0.17
COMLAB	649	1.10	7706	1.13	771	1.35	5967	0.28	2658	-1.47
COMLAB	616	-0.50	7360	-0.21	734	-0.08	5890	-0.13	2920	0.33
COMLAB	622	-0.21	7310	-0.40	720	-0.61	5820	-0.50	2950	0.54
COMLAB	618	-0.41	7502	0.34	730	-0.23	6043	0.69	2908	0.25
COMLAB	647	0.99	7970	2.15	785	1.87	6340	2.27	2590	-1.94
COMLAB	**754**	**3.00**	7620	0.80	**854**	**3.00**	5943	0.15	2940	0.47
COMLAB	607	-0.94	7080	-1.29	746	0.38	5730	-0.98	2790	-0.56
COMLAB	608	-0.89	7310	-0.40	721	-0.58	6069	0.82	2947	0.52
COMLAB	606	-0.98	7445	0.12	763	1.03	5884	-0.16	2866	-0.04
COMLAB	626	-0.02	6899	-2.00	727	-0.35	5663	-1.34	2857	-0.10
COMLAB	594	-1.56	7337	-0.30	688	-1.84	5783	-0.70	2833	-0.26
COMLAB	617	-0.45	7651	0.92	762	0.99	6241	1.74	3064	1.33
COMLAB	615	-0.54	7558	0.56	712	-0.93	6054	0.74	2918	0.32
COMLAB	573	-2.58	7421	0.03	685	-1.96	6169	1.36	2905	0.23
COMLAB	651	1.19	7834	1.62	724	-0.46	5954	0.21	2892	0.14
COMLAB	**561**	**-3.00**	6965	-1.74	672	-2.45	5472	-2.36	2847	-0.17
COMLAB	578	-2.33	7332	-0.32	696	-1.53	5822	-0.49	3071	1.37
MINELAB	**470**	**-3.00**	**690**	**-3.00**	760	0.92	**8535**	**3.00**	**170**	**-3.00**
MINELAB	624	-0.11	7104	-1.20	697	-1.51	5801	-0.60	2649	-1.53

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	653	1.30	7905	1.90	731	-0.18	6251	1.79	2869	-0.02
COMLAB	641	0.70	6890	-2.03	747	0.42	5970	0.30	2680	-1.32
COMLAB	611	-0.74	7295	-0.46	692	-1.68	5823	-0.49	2701	-1.17
COMLAB	650	1.14	7610	0.76	743	0.27	6100	0.99	2800	-0.49
COMLAB	622	-0.21	7500	0.33	727	-0.35	5880	-0.18	2880	0.06
COMLAB	632	0.27	7630	0.83	731	-0.19	5820	-0.50	2890	0.13
COMLAB	620	-0.31	7460	0.18	730	-0.23	5780	-0.72	3020	1.02
COMLAB	623	-0.16	7590	0.68	737	0.04	5600	-1.68	2910	0.27
COMLAB	651	1.19	7006	-1.58	804	2.60	5696	-1.16	2770	-0.70
COMLAB	626	-0.02	7460	0.18	741	0.19	5801	-0.60	2871	0.00
COMLAB	668	2.00	7363	-0.20	769	1.26	6034	0.64	2981	0.75
COMLAB	594	-1.55	7266	-0.58	707	-1.11	5743	-0.91	2656	-1.49
COMLAB	632	0.27	7401	-0.05	735	-0.04	6029	0.61	2972	0.69
COMLAB	631	0.22	7290	-0.48	707	-1.11	5920	0.03	2690	-1.25
MINELAB	**708**	**3.00**	7283	-0.51	767	1.18	5753	-0.86	2723	-1.02

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	609	-0.84	7431	0.06	719	-0.65	5897	-0.09	2883	0.08
COMLAB	659	1.57	7450	0.14	772	1.37	5770	-0.77	3160	1.99
COMLAB	615	-0.55	7450	0.14	723	-0.50	6080	0.88	2780	-0.63
COMLAB	643	0.80	7177	-0.92	769	1.26	5793	-0.65	2705	-1.15
COMLAB	619	-0.36	7540	0.49	719	-0.65	5740	-0.93	3020	1.02
COMLAB	604	-1.08	7376	-0.15	719	-0.65	5989	0.40	2953	0.56
COMLAB	659	1.57	7330	-0.33	**868**	**3.00**	6080	0.88	2930	0.40
COMLAB	633	0.30	7736	1.25	755	0.72	5949	0.19	2659	-1.46
COMLAB	661	1.67	7860	1.72	795	2.25	5960	0.24	3230	2.47
COMLAB	628	0.08	7238	-0.68	758	0.84	5598	-1.68	2874	0.01
COMLAB	635	0.41	7440	0.10	766	1.15	5620	-1.57	2970	0.68
COMLAB	**536**	**-3.00**	7900	1.88	728	-0.30	6196	1.50	3114	1.67
MINELAB	640	0.65	7250	-0.64	**900**	**3.00**	5750	-0.88	3000	0.88
MINELAB	638	0.56	6793	-2.41	735	-0.04	5561	-1.88	2927	0.38
MINELAB	644	0.85	6924	-1.90	748	0.46	5674	-1.28	2787	-0.58
MINELAB	612	-0.69	7252	-0.63	736	0.00	5700	-1.14	2956	0.58
MINELAB	628	0.08	**6526**	**-3.00**	749	0.50	5632	-1.51	2481	-2.69

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	61	336	1233	4290	907
Std Dev	9	19	49	134	42

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
56	-0.56	331	-0.28	1249	0.32	4177	-0.84	839	-1.64	4A	ES
63	0.22	337	0.04	1210	-0.47	4190	-0.74	918	0.25	4A	ES
68	0.78	326	-0.55	1240	0.14	4440	1.12	911	0.09	4A	ES
65	0.44	331	-0.28	1200	-0.67	4200	-0.67	929	0.52	4A	ES
70	1.00	347	0.58	1200	-0.67	4330	0.30	884	-0.56	4A	ES
66	0.56	350	0.74	1250	0.34	4330	0.30	880	-0.66	4A	ES
68	0.74	363	1.44	1301	1.38	4362	0.54	907	-0.02	4A	ICP
236	**3.00**	336	-0.01	1245	0.24	4252	-0.28	865	-1.02	4A	AAS
75	1.56	354	0.96	1236	0.06	3926	-2.71	918	0.25	4A	ES
61	0.00	341	0.26	1276	0.87	4319	0.22	887	-0.49	4A	ES
57	-0.44	339	0.15	1254	0.42	4348	0.43	920	0.30	4A	ES
55	-0.67	313	-1.25	1152	-1.65	4033	-1.91	873	-0.83	4A	ES
60	-0.11	332	-0.23	1204	-0.59	4233	-0.42	790	-2.82	FUS	ICP
75	1.56	337	0.04	1224	-0.19	4538	1.85	870	-0.90	4A	AAS
nr	nr	310	-1.41	1218	-0.31	4359	0.51	906	-0.03	4A	AAS
64	0.28	352	0.85	1225	-0.17	4388	0.73	924	0.40	4A	ES
62	0.11	348	0.64	1254	0.42	4414	0.92	948	0.97	4A	AAS,MS
64	0.29	356	1.08	1202	-0.63	4430	1.04	888	-0.46	4A	AAS
38	-2.58	326	-0.55	1173	-1.22	4168	-0.91	877	-0.73	4A	AAS
309	**3.00**	**559**	**3.00**	**1662**	**3.00**	4474	1.37	**766**	**-3.00**	FUS	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	687	441	37	4379	132
Std Dev	43	33	5	149	10

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
705	0.42	463	0.66	36	-0.17	4780	2.68	146	1.43	4A	ES
710	0.54	439	-0.06	35	-0.36	4250	-0.86	121	-1.16	4A	ICP
736	1.15	470	0.87	36	-0.17	4330	-0.33	130	-0.23	4A	ES
686	-0.02	461	0.60	37	0.02	4374	-0.03	128	-0.43	4A	ES
720	0.77	469	0.84	35	-0.36	4430	0.34	134	0.19	4A	ES
748	1.43	457	0.48	35	-0.36	4290	-0.60	126	-0.64	4A	ES
745	1.36	473	0.96	**56**	**3.00**	4458	0.53	**173**	**3.00**	4A	ES
702	0.35	480	1.17	38	0.21	4330	-0.33	140	0.81	4A	ES
744	1.33	461	0.60	nr	nr	4542	1.09	nr	nr	4A	AAS
738	1.19	484	1.29	48	2.11	4469	0.60	**173**	**3.00**	4A	AAS
718	0.73	494	1.60	**120**	**3.00**	4167	-1.42	145	1.34	4A	AAS
720	0.77	474	0.99	36	-0.17	4320	-0.39	138	0.60	4A	ES
750	1.47	480	1.17	40	0.59	4290	-0.60	160	2.88	4A	ES
689	0.05	449	0.24	38	0.21	4476	0.65	143	1.12	4A	AAS
720	0.77	481	1.20	52	2.87	**3230**	**-3.00**	**169**	**3.00**	4A	AAS
816	**3.00**	**694**	**3.00**	**641**	**3.00**	4663	1.90	**273**	**3.00**	4A	ES
710	0.54	462	0.63	36	-0.21	4200	-1.20	126	-0.64	4A	MS
701	0.33	442	0.03	31	-1.12	4396	0.11	119	-1.37	4A	ES
657	-0.70	448	0.21	36	-0.11	4465	0.58	113	-1.98	4A	ES
713	0.61	466	0.75	**55**	**3.00**	4385	0.04	145	1.33	4A	AAS
656	-0.72	421	-0.61	41	0.80	4380	0.01	130	-0.23	4A	ICP
705	0.42	447	0.18	**94**	**3.00**	4641	1.75	128	-0.43	4A	ES
737	1.17	454	0.38	37	0.06	4587	1.39	128	-0.44	FUS,4A	ICP
657	-0.70	429	-0.37	37	-0.06	4509	0.87	118	-1.44	4A	ICP
790	2.41	494	1.59	40	0.59	4705	2.18	143	1.12	4A	ES
673	-0.33	443	0.06	**15**	**-3.00**	4213	-1.11	124	-0.85	4A	ES
944	**3.00**	438	-0.09	**185**	**3.00**	4649	1.81	106	-2.71	4A	ES
735	1.12	**2940**	**3.00**	**70**	**3.00**	**4870**	**3.00**	**6820**	**3.00**	4A	AAS
675	-0.28	449	0.23	38	0.19	4314	-0.44	130	-0.28	4A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	1520	61	1350	11	907
Std Dev	109	5	73	5	42

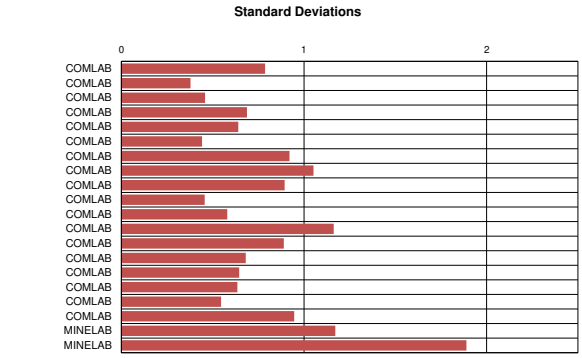
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
1549	0.27	57	-0.86	1352	0.03	5	-1.25	899	-0.21	4A	ES
1460	-0.55	59	-0.42	1220	-1.78	8	-0.59	843	-1.55	4A	ICP
1460	-0.55	56	-0.97	1292	-0.79	8	-0.59	871	-0.87	4A	AAS
1550	0.28	65	0.68	1400	0.68	10	-0.16	970	1.50	4A	ES
1530	0.09	64	0.50	1370	0.27	10	-0.16	852	-1.33	4A	ICP
1520	0.00	63	0.31	1380	0.41	7	-0.81	900	-0.18	4A	ES
1470	-0.46	65	0.68	1360	0.13	<5	bld	850	-1.38	4A	ES
1455	-0.60	62	0.13	1350	0.00	11	0.06	895	-0.30	4A	ES
1596	0.70	71	1.78	1383	0.45	**45**	**3.00**	955	1.14	4A	AAS
1518	-0.02	61	-0.06	1357	0.09	5	-1.25	918	0.25	4A	ES
1550	0.28	**86**	**3.00**	1331	-0.26	13	0.50	933	0.61	4A	ES
1571	0.47	66	0.85	1379	0.39	**25**	**3.00**	885	-0.55	4A	AAS
1518	-0.02	65	0.68	1351	0.01	11	0.06	904	-0.08	4A	AAS
1480	-0.37	73	2.17	1420	0.95	**59**	**3.00**	886	-0.51	4A	MS
1544	0.22	**79**	**3.00**	1491	1.92	**29**	**3.00**	988	1.92	4A	ES

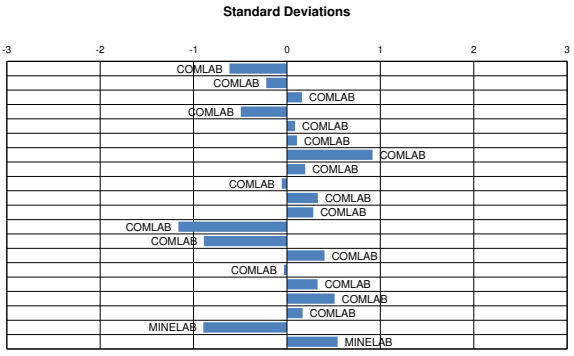
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	61	336	1350	11	1179
Std Dev	9	19	73	5	40

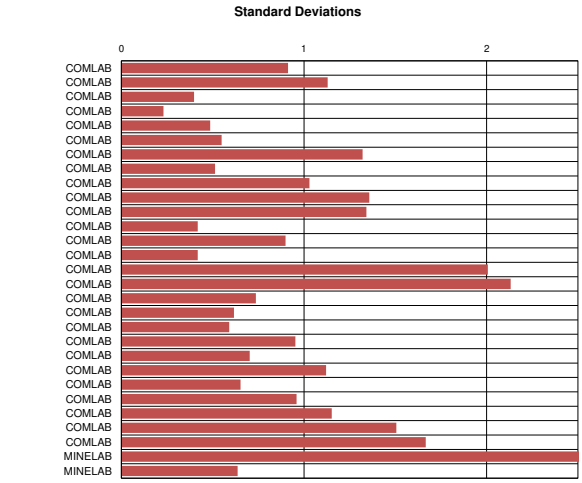
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
77	1.78	338	0.10	1350	0.00	20	2.03	1179	0.01	4A	ES
62	0.11	346	0.53	1350	0.00	12	0.28	1230	1.28	4A	ES
63	0.22	330	-0.33	1290	-0.82	2	-1.90	1145	-0.84	4A	ES
71	1.11	348	0.64	1374	0.33	<50	bld	1213	0.86	4A	
61	0.00	340	0.21	1310	-0.55	5	-1.25	1160	-0.46	4A	ES
66	0.56	348	0.64	1361	0.15	10	-0.16	1154	-0.61	4A	ICP
98	**3.00**	372	1.93	1400	0.68	10	-0.16	1210	0.78	4A	AAS
65	0.47	346	0.55	1379	0.39	6	-0.98	1155	-0.59	4A	ES
73	1.33	357	1.12	1470	1.64	9	-0.37	1220	1.03	4A	ES
74	1.43	369	1.76	1544	2.65	10	-0.16	1186	0.19	4A	ES
60	-0.09	338	0.10	1430	1.09	5	-1.36	1210	0.78	4A	ES
38	-2.50	299	-1.98	1370	0.27	**72**	**3.00**	1235	1.40	4A	
70	1.00	340	0.21	1390	0.54	10	-0.16	1170	-0.22	4A	AAS
54	-0.78	337	0.04	1321	-0.40	**28**	**3.00**	1168	-0.27	4A	AAS
nr	nr	385	2.63	1383	0.45	nr	nr	1223	1.11	4A	AAS
66	0.56	338	0.10	1348	-0.03	6	-1.03	1156	-0.56	4A	ES
78	1.89	356	1.07	1445	1.29	**33**	**3.00**	1160	-0.46	4A	ES

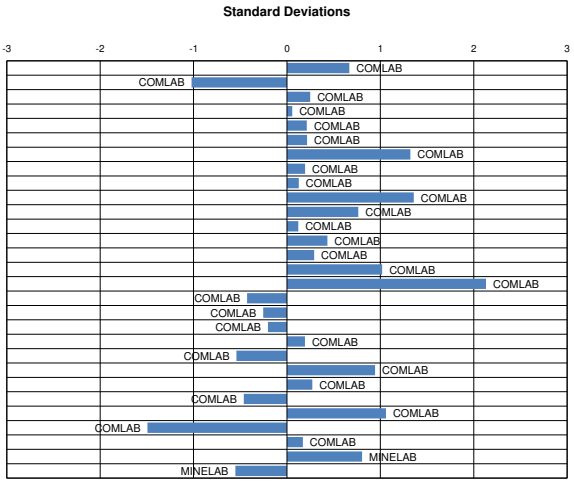
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

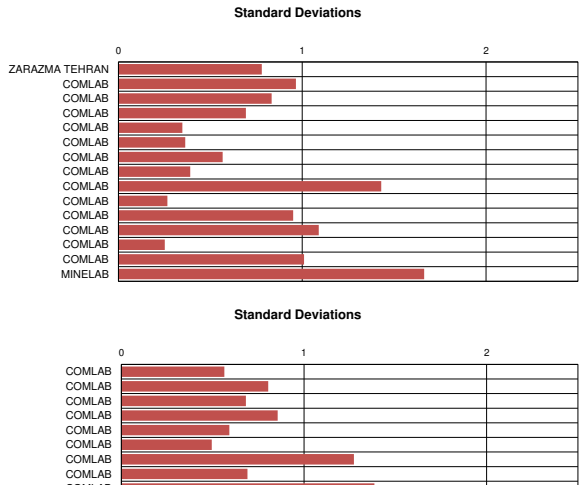
Copper (Total Digest) - Mean of Absolute Standardized Values - April 2017	Copper (Total Digest) - Mean of Standardized Values - April 2017

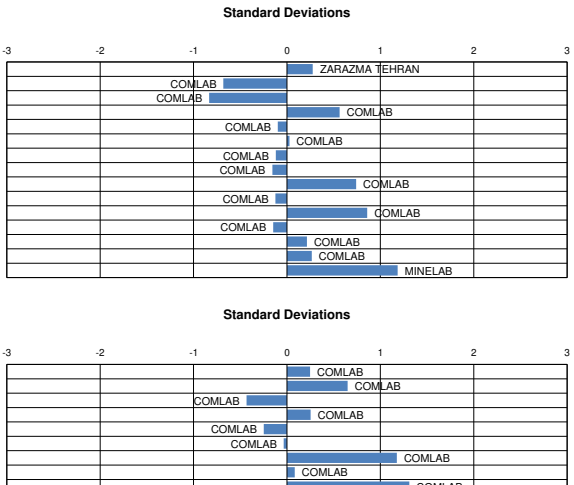












Copper (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	621	7287	794	5813	2701
STDEV (ppm)	29	316	37	232	108
95% CI (ppm)	7	72	8	54	25
95% CI (%)	1.08%	0.99%	1.15%	0.92%	0.92%
MIN (ppm)	545	6593	635	5208	2476
MEDIAN (ppm)	620	7275	735	5814	2695
MAX (ppm)	701	8033	813	6378	2975
IQR (ppm)	30	402	34	359	115
COUNT	73	74	74	73	74

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	613	-0.29	6994	-0.93	702	-0.89	5735	-0.34	**3201**	**3.00**
COMLAB	609	-0.41	7460	0.55	729	-0.14	5630	-0.79	2810	1.01
COMLAB	630	0.31	7240	-0.15	745	0.30	5660	-0.66	2670	-0.29
COMLAB	610	-0.39	7136	-0.48	721	-0.36	5731	-0.35	2649	-0.49
COMLAB	610	-0.38	7862	1.82	731	-0.09	5940	0.55	2595	-0.98
COMLAB	616	-0.17	7744	1.45	734	0.00	6090	1.20	2826	1.16
COMLAB	606	-0.52	6593	-2.20	728	-0.17	6024	0.91	2662	-0.36
COMLAB	603	-0.62	7400	0.36	718	-0.44	5900	0.38	2800	0.92
COMLAB	545	-2.62	6685	-1.91	673	-1.66	**4925**	**-3.00**	2759	0.54
COMLAB	612	-0.31	7298	0.04	728	-0.17	5723	-0.39	2702	0.01
COMLAB	655	1.17	nr	nr	696	-1.04	nr	nr	2892	1.77
COMLAB	609	-0.41	7214	-0.23	736	0.05	5913	0.43	2709	0.07
COMLAB	568	-1.81	7113	-0.55	682	-1.42	5535	-1.20	2694	-0.06
MINELAB	618	-0.10	7477	0.60	753	0.52	6040	0.98	2727	0.24
MINELAB	623	0.07	7642	1.12	736	0.05	5999	0.80	2718	0.16
MINELAB	636	0.51	**6268**	**-3.00**	741	0.19	**5061**	**-3.00**	2651	-0.46
MINELAB	604	-0.59	7581	0.93	725	-0.24	6115	1.30	2667	-0.31
MINELAB	648	0.93	7101	-0.59	798	1.74	5796	-0.07	2609	-0.85
MINELAB	670	1.68	7300	0.04	770	0.98	**6540**	**3.00**	**3040**	**3.00**
MINELAB	630	0.31	7174	-0.36	773	1.06	5485	-1.41	2670	-0.29

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	667	1.58	6830	-1.45	729	-0.14	5590	-0.96	2890	1.75
COMLAB	615	-0.21	7690	1.28	713	-0.58	5860	0.20	2610	-0.84
COMLAB	621	0.00	7633	1.10	725	-0.25	5846	0.14	2652	-0.45
COMLAB	630	0.31	7655	1.17	734	0.00	5814	0.01	2802	0.94
COMLAB	610	-0.38	7570	0.90	723	-0.30	6000	0.81	2700	-0.01
COMLAB	618	-0.10	7320	0.11	737	0.08	5510	-1.31	2680	-0.19
COMLAB	638	0.58	7730	1.40	743	0.24	5960	0.64	2810	1.01
COMLAB	665	1.51	7501	0.68	793	1.61	6051	1.03	2712	0.10
COMLAB	588	-1.13	6950	-1.07	735	0.02	5550	-1.13	2531	-1.58
COMLAB	570	-1.75	6770	-1.64	675	-1.61	5580	-1.00	2530	-1.59
COMLAB	667	1.58	8033	2.36	777	1.16	6378	2.44	2714	0.12
COMLAB	639	0.62	7556	0.85	733	-0.03	6147	1.44	2759	0.54
COMLAB	601	-0.68	7509	0.70	812	2.13	6167	1.53	2737	0.33
COMLAB	640	0.65	7699	1.31	780	1.25	5967	0.67	2503	-1.84
COMLAB	676	1.89	7766	1.52	750	0.43	5920	0.46	2805	0.97
COMLAB	620	-0.03	7148	-0.44	710	-0.66	5721	-0.40	2639	-0.57
COMLAB	609	-0.41	6689	-1.89	705	-0.79	5573	-1.03	2799	0.91
COMLAB	639	0.62	6989	-0.94	755	0.57	5485	-1.41	2831	1.21
COMLAB	613	-0.28	7444	0.50	722	-0.33	6051	1.03	2585	-1.08
MINELAB	681	2.06	7156	-0.41	769	0.95	5923	0.48	2687	-0.13
MINELAB	**500**	**-3.00**	6635	-2.06	635	-2.71	5272	-2.33	2601	-0.93
MINELAB	**740**	**3.00**	6950	-1.07	800	1.80	5810	-0.01	2770	0.64
MINELAB	606	-0.50	7208	-0.25	682	-1.41	5546	-1.15	2583	-1.09
MINELAB	651	1.03	7384	0.31	713	-0.58	5769	-0.19	2703	0.02
MINELAB	635	0.47	7355	0.21	728	-0.17	6011	0.86	2962	2.42
MINELAB	<1000	bld	7600	0.99	<1000	bld	6000	0.81	2600	-0.94
MINELAB	660	1.33	7740	1.43	795	1.65	5850	0.16	2858	1.46
MINELAB	622	0.03	7352	0.21	721	-0.36	5969	0.68	2670	-0.28
MINELAB	580	-1.41	7506	0.69	667	-1.83	**5022**	**-3.00**	2852	1.40
MINELAB	632	0.38	7224	-0.20	735	0.02	5720	-0.40	2695	-0.05

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	617	-0.14	7232	-0.17	740	0.16	5816	0.01	2542	-1.47
COMLAB	622	0.03	7530	0.77	742	0.22	5940	0.55	2640	-0.57
COMLAB	635	0.48	7500	0.68	740	0.16	6100	1.24	2700	-0.01
COMLAB	596	-0.86	7460	0.55	717	-0.47	5700	-0.49	2740	0.36
COMLAB	627	0.21	7450	0.52	731	-0.09	5750	-0.27	2750	0.46
COMLAB	605	-0.55	7570	0.90	**1470**	**3.00**	6000	0.81	2700	-0.01
COMLAB	606	-0.52	7090	-0.62	689	-1.23	5730	-0.36	2690	-0.10
COMLAB	621	0.00	7367	0.25	741	0.19	5996	0.79	2742	0.38
COMLAB	670	1.68	7258	-0.09	785	1.39	5966	0.66	2895	1.80
COMLAB	nr	nr	7360	0.23	nr	nr	6024	0.91	nr	nr
COMLAB	591	-1.03	7283	-0.01	691	-1.18	5740	-0.31	2710	0.08
COMLAB	606	-0.52	6783	-1.60	715	-0.52	5370	-1.91	2630	-0.66
COMLAB	595	-0.89	7204	-0.26	726	-0.22	6460	2.79	**3146**	**3.00**
MINELAB	580	-1.40	7400	0.36	694	-1.10	6136	1.40	2671	-0.28
MINELAB	636	0.51	7267	-0.06	744	0.27	6056	1.05	**3176**	**3.00**
MINELAB	635	0.47	6795	-1.56	749	0.41	5629	-0.79	2478	-2.07
MINELAB	637	0.55	7459	0.55	758	0.65	6131	1.37	2676	-0.23
MINELAB	600	-0.72	7160	-0.40	736	0.05	5613	-0.86	2476	-2.09
MINELAB	**723**	**3.00**	7263	-0.08	**891**	**3.00**	5909	0.42	2758	0.53
MINELAB	602	-0.65	6985	-0.96	803	1.88	5797	-0.07	2668	-0.31
MINELAB	607	-0.47	7111	-0.56	673	-1.67	5585	-0.98	2502	-1.85

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	619	-0.07	7110	-0.56	750	0.43	5640	-0.75	2740	0.36
COMLAB	554	-2.30	6902	-1.22	662	-1.97	5208	-2.61	**2229**	**-3.00**
COMLAB	632	0.38	6809	-1.51	749	0.41	5508	-1.32	2645	-0.52
COMLAB	601	-0.69	7355	0.22	704	-0.82	5689	-0.53	2735	0.32
COMLAB	643	0.75	7826	1.71	780	1.25	6061	1.07	2975	2.54
COMLAB	701	2.74	7256	-0.10	813	2.15	6081	1.16	2948	2.30
COMLAB	632	0.38	7430	0.45	749	0.41	5940	0.55	2810	1.01
COMLAB	594	-0.93	7150	-0.43	756	0.59	5410	-1.74	2669	-0.29
COMLAB	572	-1.68	6968	-1.01	716	-0.49	5863	0.22	2573	-1.19
MINELAB	608	-0.45	7002	-0.90	719	-0.41	5581	-1.00	2562	-1.29
MINELAB	573	-1.65	7359	0.23	697	-1.01	6003	0.82	2694	-0.06
MINELAB	600	-0.72	7155	-0.42	710	-0.66	5810	-0.01	2715	0.13
MINELAB	643	0.75	6912	-1.19	770	0.98	5779	-0.15	2669	-0.30
MINELAB	606	-0.52	7300	0.04	710	-0.66	5560	-1.09	2726	0.23
MINELAB	622	0.03	**5500**	**-3.00**	750	0.43	5788	-0.11	2612	-0.82
MINELAB	666	1.54	7846	1.77	786	1.42	6132	1.38	2737	0.34
MINELAB	618	-0.10	7251	-0.11	783	1.33	5662	-0.65	2790	0.83

Existing Products

	GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10	
Target	61		336		1233		4313		908	
Std Dev	9		19		49		194		42	
	GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	69	0.86	315	-1.15	1178	-1.13	3943	-1.91	**778**	**-3.00**	AR	MS
	54	-0.78	330	-0.33	1225	-0.17	4320	0.04	914	0.14	AR	ES
	51	-1.11	326	-0.55	1220	-0.27	4340	0.14	905	-0.07	AR	AAS
	49	-1.29	335	-0.09	1216	-0.34	4178	-0.69	884	-0.57	AR	ICP
	53	-0.89	344	0.42	1338	2.13	4089	-1.15	921	0.31	AR	ES
	46	-1.67	341	0.26	1240	0.14	4345	0.16	895	-0.30	AR	ES
	54	-0.78	332	-0.23	1221	-0.25	4301	-0.06	925	0.40	4A	ES
	22	**-3.00**	320	-0.87	1200	-0.67	4200	-0.58	871	-0.87	3A	ICP
	59	-0.17	325	-0.62	**1057**	**-3.00**	4036	-1.42	**769**	**-3.00**	AR	AAS
	41	-2.18	328	-0.44	1250	0.34	4200	-0.58	933	0.59	AR	ES
	38	-2.56	313	-1.25	1225	-0.17	4327	0.07	887	-0.49	AR	AAS
	40	-2.32	340	0.21	1240	0.14	4299	-0.07	923	0.36	AR	MS
	39	-2.44	320	-0.86	1266	0.67	4560	1.27	836	-1.70	AR	AAS
	64	0.33	336	-0.01	1249	0.32	4476	0.84	925	0.40	3A	AAS
	56	-0.56	348	0.64	1221	-0.25	4500	0.96	913	0.12	AR	AAS
	67	0.67	309	-1.46	1271	0.77	**3661**	**-3.00**	900	-0.19	2A	AAS
	65	0.48	334	-0.10	1220	-0.28	4347	0.17	901	-0.16	AR	MS
	25	**-3.00**	316	-1.06	1327	1.91	4384	0.36	913	0.13	AR	AAS
	43	-2.00	340	0.21	**128**	**-3.00**	4770	2.35	940	0.76	2A	ICP
	60	-0.11	314	-1.19	1232	-0.02	4220	-0.48	874	-0.80	3A	AAS

	GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3	
Target	687		441		33		4370		132	
Std Dev	43		33		4		198		13	
	GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	734	1.10	433	-0.25	40	1.95	4290	-0.40	131	-0.08	AR	ES
	718	0.73	478	1.11	29	-1.13	4290	-0.40	133	0.08	AR	ES
	712	0.58	497	1.68	28	-1.41	4259	-0.56	130	-0.15	AR	ES
	731	1.03	465	0.72	32	-0.29	4436	0.33	140	0.62	AR	ES
	712	0.58	490	1.47	31	-0.57	4340	-0.15	119	-1.00	AR	ES
	708	0.49	468	0.81	32	-0.29	4240	-0.66	118	-1.08	AR	AAS
	745	1.36	468	0.81	32	-0.29	4290	-0.40	131	-0.08	AR	ES
	748	1.43	476	1.05	**50**	**3.00**	4423	0.27	159	2.09	AR	ES
	659	-0.65	441	0.00	33	-0.01	4224	-0.74	134	0.16	3A	AAS
	630	-1.33	390	-1.54	23	-2.81	4200	-0.86	98	-2.63	AR	ES
	759	1.69	502	1.84	35	0.50	4450	0.41	156	1.85	AR	ICP
	715	0.65	441	0.00	33	-0.01	4500	0.66	126	-0.46	AR	ES
	788	2.36	448	0.20	32	-0.21	4400	0.15	120	-0.96	AR	ICP
	720	0.77	510	2.07	32	-0.29	4398	0.14	101	-2.44	AR	AAS
	769	1.92	486	1.35	36	0.83	4355	-0.08	143	0.85	AR,3A	ES,AAS
	686	-0.02	411	-0.91	bld	bld	4251	-0.60	**306**	**3.00**	AR	AAS
	693	0.14	445	0.12	28	-1.41	4241	-0.65	124	-0.62	AR	ES
	699	0.28	437	-0.12	34	0.27	4411	0.21	118	-1.08	3A	AAS
	687	0.00	448	0.21	31	-0.57	4165	-1.04	126	-0.46	AD	AAS
	736	1.15	490	1.47	**59**	**3.00**	4282	-0.44	150	1.39	AR	AAS
	606	-1.88	359	-2.46	30	-0.77	4180	-0.96	105	-2.10	3A	
	760	1.71	540	2.98	**160**	**3.00**	4510	0.71	**220**	**3.00**	AR	AAS,ES
	693	0.15	394	-1.42	34	0.23	4259	-0.56	117	-1.17	3A	AAS
	743	1.31	389	-1.57	**46**	**3.00**	4560	0.96	98	-2.63	AR	
	688	0.02	441	-0.02	29	-1.19	4641	1.37	126	-0.44	AR	ES
	<1000	bld	<1000	bld	<1000	bld	4500	0.66	<1000	bld	3A	AAS
	747	1.41	489	1.44	**48**	**3.00**	4606	1.20	**198**	**3.00**	AR	ES
	691	0.09	426	-0.47	28	-1.28	4371	0.00	125	-0.58	AR	MS
	683	-0.09	399	-1.27	37	1.11	4611	1.22	122	-0.77	AR	ES
	709	0.51	440	-0.03	bld	bld	4323	-0.24	136	0.31	3A	AAS

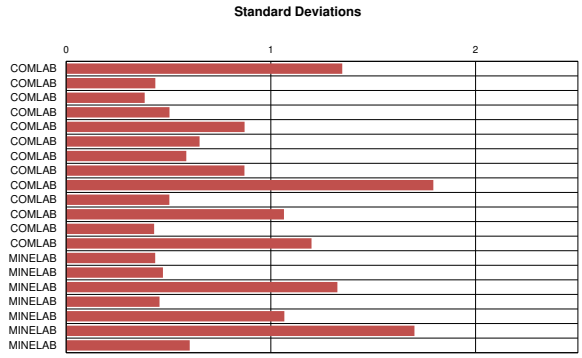
	GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10	
Target	1520		61		1350		9		908	
Std Dev	109		5		73		3		42	
	GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	1498	-0.20	56	-0.97	1306	-0.60	10	0.24	868	-0.94	AR	AAS
	1540	0.18	61	-0.11	1260	-1.23	8	-0.35	909	0.03	AR	ES
	1540	0.18	62	0.13	1390	0.54	7	-0.64	990	1.93	AR	ES
	1510	-0.09	61	-0.06	1350	0.00	6	-0.93	909	0.03	AR	ICP
	1530	0.09	59	-0.42	1350	0.00	6	-0.93	896	-0.28	AR	ES
	717	**-3.00**	58	-0.61	1380	0.41	9	-0.05	899	-0.21	AR	ES
	1470	-0.46	58	-0.64	1300	-0.68	8	-0.45	917	0.21	AR	ES
	1517	-0.03	59	-0.42	1365	0.20	5	-1.22	899	-0.21	AR	ES
	1554	0.31	71	1.78	1328	-0.30	11	0.53	918	0.24	AR	ES
	1514	-0.06	57	-0.75	1354	0.06	10	0.24	nr	nr	AR	ICP
	1440	-0.73	<100	bld	1430	1.09	<100	bld	845	-1.48	3A	AAS
	1430	-0.83	61	-0.06	1280	-0.96	6	-0.93	854	-1.27	AR	MS
	1537	0.16	**38**	**-3.00**	1279	-0.97	<1	bld	891	-0.40	AR	ES
	1462	-0.53	60	-0.29	1286	-0.87	10	0.13	830	-1.83	AR	AAS
	1647	1.17	**81**	**3.00**	1312	-0.52	17	2.27	928	0.47	AR	ES
	1522	0.02	68	1.25	1384	0.47	14	1.37	908	-0.01	AR	ICP
	1581	0.56	59	-0.42	1372	0.30	9	-0.05	931	0.54	AR	AAS
	1400	-1.10	58	-0.61	1316	-0.47	12	0.82	843	-1.53	AR	AAS
	1626	0.97	**131**	**3.00**	1551	2.74	**97**	**3.00**	1012	2.45	3A	AAS
	1516	-0.04	72	1.97	1399	0.67	<10	bld	886	-0.52	3A	AAS
	1375	-1.33	57	-0.71	1276	-1.01	2	-2.21	837	-1.67	3A	AAS

	GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4	
Target	61		336		1350		9		1172	
Std Dev	9		19		73		3		53	
	GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	52	-1.00	332	-0.23	1335	-0.21	7	-0.64	1160	-0.24	AR	ES
	55	-0.67	**278**	**-3.00**	1378	0.38	5	-1.22	1148	-0.46	AR	AAS
	50	-1.22	336	-0.01	1363	0.18	7	-0.64	1203	0.58	AR	AAS
	63	0.22	338	0.10	1324	-0.36	9	-0.05	1132	-0.77	AR	ICP
	55	-0.67	339	0.15	1354	0.05	10	0.24	1193	0.39	3A	ICP
	69	0.87	361	1.33	**1651**	**3.00**	7	-0.70	1307	2.54	AR	ES
	41	-2.22	365	1.55	1410	0.82	6	-0.93	1190	0.33	AR	ES
	48	-1.47	347	0.61	1437	1.18	9	0.00	1141	-0.60	AR	ES
	54	-0.83	311	-1.36	1306	-0.60	6	-0.81	1122	-0.95	AR	AAS
	63	0.22	328	-0.44	1290	-0.82	11	0.53	1152	-0.39	AR	AAS
	80	2.11	**280**	**-3.00**	1351	0.01	**21**	**3.00**	1162	-0.20	AR	AAS
	<100	bld	330	-0.33	1310	-0.55	<100	bld	1150	-0.43	AR	ES
	48	-1.44	295	-2.22	1325	-0.34	8	-0.35	1196	0.45	AR	AAS
	62	0.11	332	-0.23	1302	-0.66	10	0.24	1150	-0.43	AR	ES
	46	-1.67	375	2.09	1445	1.29	7	-0.64	1244	1.35	AR	AAS
	57	-0.46	348	0.64	1414	0.87	8	-0.35	1219	0.87	3A	AAS
	46	-1.67	330	-0.33	1312	-0.52	7	-0.64	1260	1.66	AR	AAS

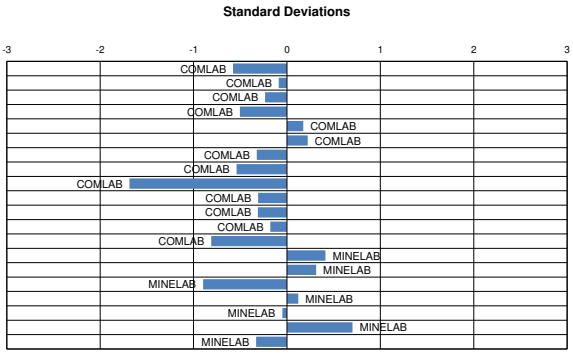
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

Copper (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Copper (Partial Digest) - Mean of Standardized Values - April 2017

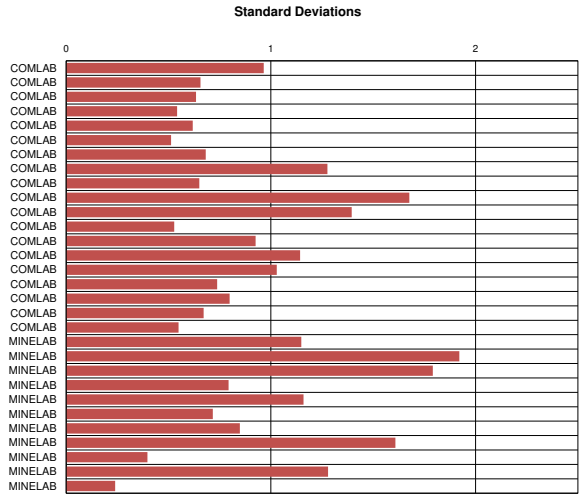
Standard Deviations



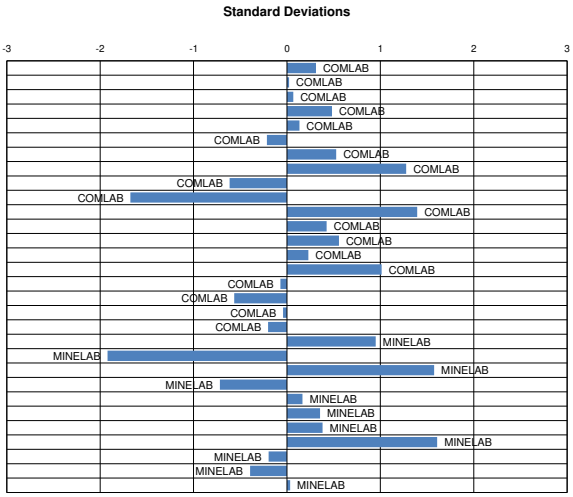
Standard Deviations



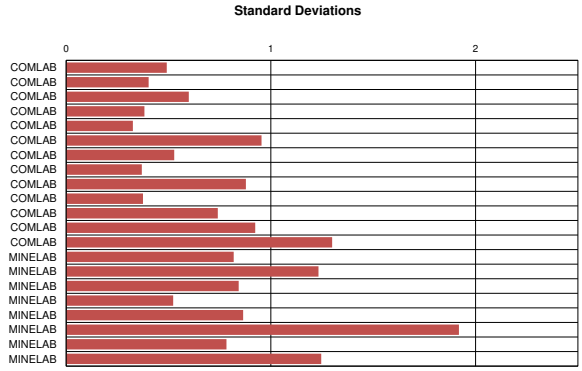
Standard Deviations



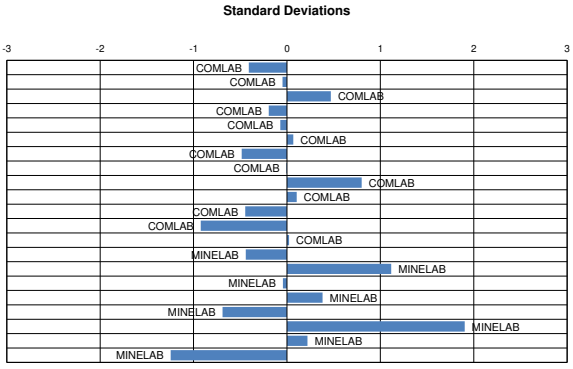
Standard Deviations



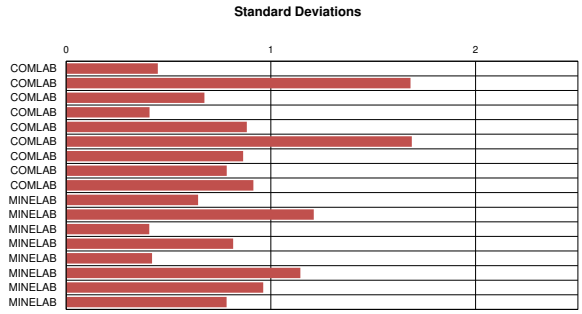
Standard Deviations



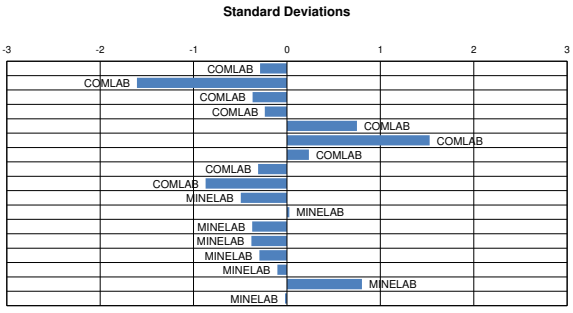
Standard Deviations



Standard Deviations



Standard Deviations



Lead (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	12	338	10	41	244
STDEV (ppm)	3	23	3	9	17
95% CI (ppm)	1	6	1	2	4
95% CI (%)	7.59%	1.69%	8.16%	5.53%	1.70%
MIN (ppm)	3	277	5	19	200
MEDIAN (ppm)	13	337	10	40	245
MAX (ppm)	19	389	18	64	284
IQR (ppm)	4	21	4	9	17
COUNT	52	64	54	60	65

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	18	139	152	8	261
Std Dev	6	12	11	3	16

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5		GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
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	Method	Reading
COMLAB	7	-1.54	310	-1.23	5	-1.70	35	-0.63	**193**	**-3.00**	22	0.67	134	-0.39	137	-1.35	8	-0.10	**204**	**-3.00**	4A	ES
COMLAB	13	0.24	334	-0.19	10	-0.09	45	0.51	245	0.06	20	0.33	139	0.03	152	-0.02	8	-0.10	255	-0.37	4A	ES
COMLAB	12	-0.05	337	-0.06	8	-0.73	39	-0.17	248	0.23	21	0.50	139	0.03	153	0.07	8	-0.10	277	0.99	4A	ES
COMLAB	11	-0.35	326	-0.54	14	1.19	40	-0.06	236	-0.48	21	0.50	133	-0.47	148	-0.38	8	-0.10	255	-0.37	4A	ES
COMLAB	8	-1.24	332	-0.28	8	-0.73	40	-0.06	247	0.18	16	-0.33	138	-0.05	151	-0.11	8	-0.10	247	-0.87	4A	ES
COMLAB	10	-0.65	326	-0.54	7	-1.05	36	-0.51	245	0.06	17	-0.17	138	-0.05	151	-0.11	9	0.24	252	-0.56	4A	ES
COMLAB	13	0.36	377	1.67	11	0.30	48	0.89	255	0.66	23	0.83	154	1.26	161	0.78	9	0.21	253	-0.47	4A	ICP
COMLAB	<10	bld	307	-1.36	<10	bld	34	-0.74	220	-1.42	12	-1.00	128	-0.89	145	-0.64	<10	bld	235	-1.61	4A	AAS
COMLAB	**28**	**3.00**	380	1.80	**28**	**3.00**	64	2.68	245	0.06	35	2.83	140	0.12	172	1.75	**23**	**3.00**	280	1.18	4A	ES
COMLAB	15	0.84	340	0.07	12	0.55	42	0.17	268	1.42	25	1.17	137	-0.14	152	-0.02	8	-0.10	252	-0.56	4A	ES
COMLAB	14	0.54	355	0.72	10	-0.09	47	0.74	253	0.53	22	0.67	142	0.28	159	0.60	8	-0.10	261	0.00	4A	ES
COMLAB	13	0.24	350	0.50	10	-0.09	46	0.63	247	0.18	23	0.83	135	-0.30	144	-0.73	10	0.59	267	0.37	4A	ES
COMLAB	15	0.84	366	1.19	13	0.87	45	0.51	222	-1.30	24	1.00	151	1.04	163	0.95	11	0.93	240	-1.30	4A	MS
COMLAB	18	1.73	329	-0.41	13	0.87	48	0.85	220	-1.42	24	1.00	145	0.53	152	-0.02	14	1.97	263	0.13	4A	AAS
COMLAB	nr	nr	342	0.15	nr	nr	nr	nr	237	-0.42	nr	nr	137	-0.14	147	-0.46	nr	nr	258	-0.18	4A	AAS
COMLAB	12	0.03	370	1.37	9	-0.27	39	-0.23	278	2.01	20	0.38	167	2.38	160	0.69	7	-0.53	293	1.98	4A	ES
COMLAB	14	0.54	350	0.50	12	0.55	50	1.08	256	0.71	**39**	**3.00**	137	-0.14	155	0.24	9	0.24	271	0.62	4A	MS
COMLAB	9	-1.06	338	-0.04	8	-0.68	33	-0.90	269	1.50	11	-1.18	139	0.01	149	-0.25	5	-1.29	266	0.28	4A	AAS
MINELAB	**2141**	**3.00**	365	1.15	**2305**	**3.00**	**143**	**3.00**	269	1.48	32	2.33	154	1.29	**232**	**3.00**	**110**	**3.00**	305	2.73	4A	AAS
MINELAB	**52**	**3.00**	367	1.24	**55**	**3.00**	**117**	**3.00**	**301**	**3.00**	**67**	**3.00**	161	1.88	**192**	**3.00**	**47**	**3.00**	**312**	**3.00**	4A	ICP
MINELAB	<100	bld	341	0.11	<100	bld	<100	bld	**190**	**-3.00**	**200**	**3.00**	133	-0.47	155	0.24	<100	bld	229	-1.98	FUS	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	908	461	18	923	31
Std Dev	73	28	3	49	5

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5		GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
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	Method	Reading
COMLAB	9	-0.95	294	-1.92	6	-1.37	32	-0.97	262	1.06	827	-1.12	397	-2.31	14	-1.12	993	1.42	33	0.36	4A	ES
COMLAB	4	-2.43	277	-2.66	8	-0.73	19	-2.45	244	0.00	863	-0.62	413	-1.73	19	0.34	907	-0.32	19	-2.39	4A	ICP
COMLAB	19	2.02	330	-0.36	16	1.84	53	1.42	237	-0.42	930	0.30	445	-0.57	21	0.92	905	-0.36	30	-0.23	4A	ES
COMLAB	18	1.73	313	-1.10	17	2.16	48	0.85	233	-0.65	885	-0.32	448	-0.46	20	0.63	898	-0.51	32	0.16	4A	ES
COMLAB	12	-0.05	331	-0.32	9	-0.41	37	-0.40	245	0.06	905	-0.04	461	0.01	15	-0.83	924	0.02	27	-0.82	4A	ES
COMLAB	13	0.24	337	-0.06	5	-1.70	40	-0.06	247	0.18	923	0.21	458	-0.10	17	-0.25	928	0.10	32	0.16	4A	ES
COMLAB	<100	bld	373	1.50	<100	bld	<100	bld	266	1.30	1000	1.27	517	2.03	<100	bld	1007	1.70	<100	bld	4A	ES
COMLAB	15	0.84	344	0.24	10	-0.09	41	0.00	252	0.47	908	0.00	466	0.19	21	0.77	957	0.69	32	0.06	4A	MS
COMLAB	**30**	**3.00**	350	0.50	**33**	**3.00**	22	-2.11	234	-0.59	905	-0.04	463	0.08	nr	nr	850	-1.48	nr	nr	4A	AAS
COMLAB	<30	bld	**232**	**-3.00**	<30	bld	<30	bld	203	-2.43	954	0.63	456	-0.17	<30	bld	936	0.26	<30	bld	4A	AAS
COMLAB	<10	bld	308	-1.32	<10	bld	22	-2.11	242	-0.12	996	1.21	497	1.31	<10	bld	893	-0.61	25	-1.21	4A	AAS
COMLAB	13	0.24	355	0.72	10	-0.09	43	0.31	265	1.24	905	-0.04	480	0.69	20	0.63	960	0.75	34	0.45	4A	MS
COMLAB	<20	bld	368	1.28	<20	bld	48	0.85	244	0.00	854	-0.74	492	1.13	<20	bld	872	-1.03	41	1.93	4A	ES
COMLAB	19	2.02	342	0.15	16	1.68	50	1.12	240	-0.24	919	0.15	465	0.15	20	0.51	886	-0.75	33	0.39	4A	AAS
COMLAB	3	-2.73	346	0.33	14	1.19	46	0.63	246	0.12	921	0.18	493	1.16	9	-2.58	867	-1.13	31	-0.04	4A	AAS
COMLAB	**135**	**3.00**	**498**	**3.00**	**136**	**3.00**	**200**	**3.00**	**337**	**3.00**	1004	1.32	**600**	**3.00**	**154**	**3.00**	1009	1.73	**158**	**3.00**	4A	ES
COMLAB	14	0.60	380	1.80	11	0.17	46	0.60	272	1.66	981	1.01	513	1.89	21	1.04	1030	2.17	33	0.32	4A	MS
COMLAB	14	0.54	339	0.03	10	-0.09	40	-0.06	258	0.83	886	-0.30	445	-0.57	17	-0.25	948	0.51	30	-0.23	4A	ES
COMLAB	15	0.72	348	0.40	14	1.10	41	0.05	256	0.70	903	-0.08	481	0.71	18	0.02	952	0.58	28	-0.67	4A	MS
COMLAB	13	0.15	337	-0.06	10	-0.19	39	-0.19	247	0.18	884	-0.33	445	-0.57	17	-0.30	911	-0.24	30	-0.29	4A	ICP
COMLAB	12	-0.05	373	1.50	10	-0.09	45	0.51	257	0.77	901	-0.10	462	0.04	17	-0.25	953	0.61	26	-1.02	4A	ES
COMLAB	8	-1.30	336	-0.13	5	-1.66	29	-1.32	239	-0.29	908	0.00	459	-0.08	9	-2.49	971	0.98	22	-1.72	FUS,4A	ICP
COMLAB	15	0.78	300	-1.68	12	0.46	47	0.77	246	0.10	953	0.62	502	1.50	21	1.04	959	0.73	32	0.08	4A	ICP
COMLAB	16	1.13	367	1.24	14	1.19	45	0.51	245	0.06	943	0.48	510	1.78	15	-0.83	877	-0.93	37	1.14	4A	MS,ES
COMLAB	**267**	**3.00**	353	0.63	**36**	**3.00**	55	1.65	268	1.42	938	0.41	479	0.66	28	2.96	934	0.22	**57**	**3.00**	4A	ES
COMLAB	6	-1.84	**263**	**-3.00**	<5	bld	23	-2.00	224	-1.19	808	-1.38	**354**	**-3.00**	15	-0.83	866	-1.15	27	-0.82	4A	ES
MINELAB	10	-0.68	332	-0.26	8	-0.67	37	-0.41	222	-1.30	890	-0.25	447	-0.50	13	-1.47	**660**	**-3.00**	31	-0.14	4A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	521	33	266	17	261
Std Dev	39	8	21	5	16

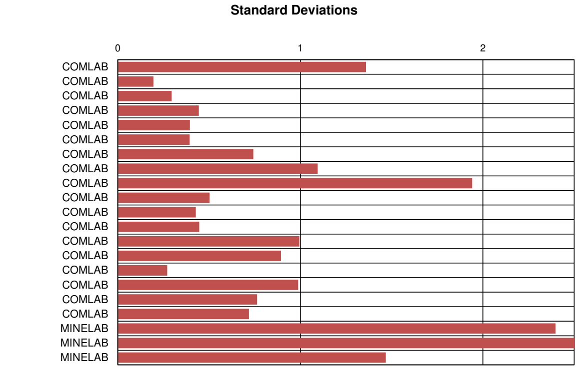
Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5		GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
ZARAZMA TEHRAN	14	0.48	327	-0.51	11	0.13	37	-0.40	266	1.30	543	0.56	43	1.24	255	-0.50	14	-0.57	246	-0.95	4A	ES
COMLAB	10	-0.65	289	-2.14	7	-1.05	35	-0.63	250	0.35	499	-0.56	32	-0.13	249	-0.77	3	-2.71	236	-1.55	4A	ICP
COMLAB	14	0.54	335	-0.15	9	-0.41	45	0.51	210	-2.02	521	0.00	41	1.01	281	0.73	24	1.38	265	0.25	4A	AAS
COMLAB	9	-0.95	312	-1.14	7	-1.05	34	-0.74	230	-0.83	490	-0.79	34	0.12	255	-0.49	13	-0.76	240	-1.30	4A	ES
COMLAB	12	-0.05	349	0.46	9	-0.41	43	0.28	252	0.47	544	0.59	39	0.76	283	0.82	21	0.80	258	-0.18	4A	ICP
COMLAB	11	-0.35	330	-0.36	7	-1.05	34	-0.74	245	0.06	517	-0.10	33	0.00	272	0.30	10	-1.35	260	-0.06	4A	ES
COMLAB	<10	bld	330	-0.36	<10	bld	30	-1.20	240	-0.24	520	-0.03	30	-0.38	250	-0.73	<10	bld	260	-0.06	4A	ES
COMLAB	12	-0.05	338	-0.02	10	-0.09	42	0.17	235	-0.54	498	-0.59	39	0.76	265	-0.02	21	0.80	255	-0.37	4A	ES
COMLAB	15	0.84	352	0.59	14	1.19	62	2.45	253	0.53	520	-0.03	44	1.39	264	-0.07	**42**	**3.00**	266	0.31	4A	ES
COMLAB	15	0.84	352	0.59	18	2.48	50	1.08	272	1.66	537	0.41	30	-0.38	261	-0.21	12	-0.96	262	0.06	4A	ES
COMLAB	**28**	**3.00**	305	-1.44	11	0.22	44	0.40	200	-2.60	492	-0.74	35	0.27	277	0.56	28	2.16	243	-1.13	4A	AAS
COMLAB	11	-0.35	319	-0.84	<10	bld	35	-0.63	270	1.54	523	0.05	37	0.50	273	0.35	16	-0.18	256	-0.31	4A	AAS
COMLAB	14	0.45	351	0.54	16	1.84	45	0.50	241	-0.18	560	1.00	46	1.67	273	0.35	25	1.57	**326**	**3.00**	4A	MS
MINELAB	**25**	**3.00**	389	2.21	13	0.75	52	1.30	284	2.36	559	0.97	47	1.79	309	2.02	**38**	**3.00**	273	0.77	4A	ES

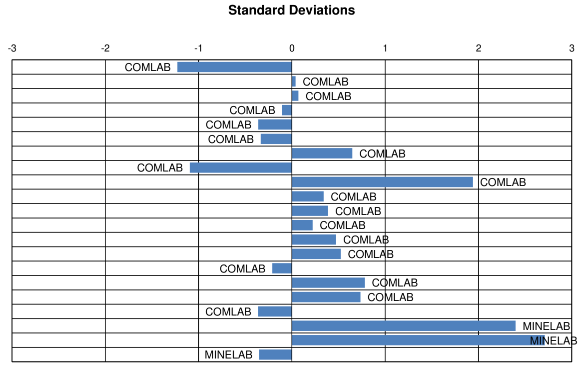
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	18	139	266	17	15
Std Dev	6	12	21	5	3

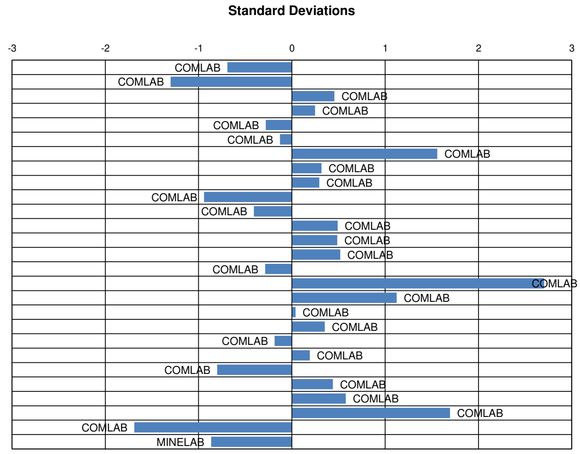
Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5		GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
COMLAB	10	-0.65	346	0.33	10	-0.09	42	0.17	243	-0.06	21	0.50	144	0.45	267	0.07	13	-0.76	15	0.07	4A	ES
COMLAB	12	-0.05	333	-0.23	12	0.55	38	-0.29	262	1.06	22	0.67	143	0.37	287	1.01	19	0.41	19	1.39	4A	ES
COMLAB	8	-1.24	333	-0.23	6	-1.37	38	-0.29	227	-1.01	20	0.33	142	0.28	242	-1.10	12	-0.96	11	-1.25	4A	ES
COMLAB	**1**	**-3.00**	334	-0.19	6	-1.37	23	-2.00	217	-1.60	2	-2.67	148	0.79	288	1.06	6	-2.13	10	-1.58	4A	AAS
COMLAB	12	-0.05	363	1.06	9	-0.41	39	-0.17	259	0.89	20	0.33	137	-0.14	275	0.45	15	-0.37	10	-1.58	4A	MS
COMLAB	13	0.24	349	0.46	9	-0.41	38	-0.29	244	0.00	14	-0.67	142	0.28	265	-0.02	11	-1.15	16	0.40	4A	ICP
COMLAB	11	-0.35	357	0.80	11	0.23	**13**	**-3.00**	240	-0.24	26	1.33	111	-2.32	225	-1.90	10	-1.35	10	-1.58	4A	ICP
COMLAB	12	-0.11	289	-2.12	10	-0.25	41	0.00	217	-1.62	20	0.41	124	-1.22	255	-0.51	17	-0.04	12	-0.88	4A	ES
COMLAB	**24**	**3.00**	337	-0.06	**20**	**3.00**	**92**	**3.00**	244	0.00	28	1.67	140	0.12	264	-0.07	**52**	**3.00**	**26**	**3.00**	4A	ES
COMLAB	15	0.76	332	-0.26	9	-0.57	39	-0.14	232	-0.70	18	-0.08	133	-0.45	240	-1.18	5	-2.41	6	-2.87	4A	ES
COMLAB	13	0.33	333	-0.23	11	0.26	44	0.44	253	0.53	22	0.68	138	-0.05	286	0.96	20	0.68	17	0.73	4A	MS
COMLAB	bld	bld	**36**	**-3.00**	bld	bld	bld	bld	**28**	**-3.00**	bld	bld	**11**	**-3.00**	**25**	**-3.00**	bld	bld	bld	bld	4A	
MINELAB	12	-0.05	328	-0.45	8	-0.73	36	-0.51	260	0.95	14	-0.67	134	-0.39	262	-0.16	12	-0.96	12	-0.92	4A	ES
MINELAB	**26**	**3.00**	298	-1.75	**24**	**3.00**	**76**	**3.00**	245	0.06	**37**	**3.00**	140	0.12	281	0.73	**63**	**3.00**	**30**	**3.00**	4A	ES

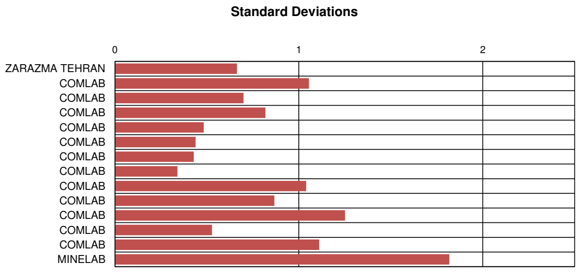
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

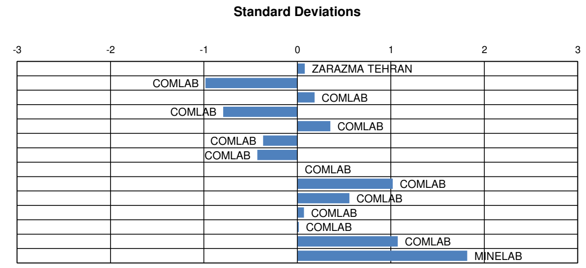
Lead (Total Digest) - Mean of Absolute Standardized Values - April 2017	Lead (Total Digest) - Mean of Standardized Values - April 2017

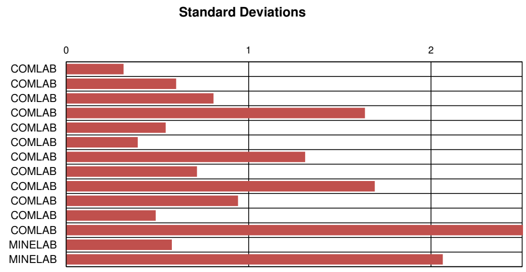


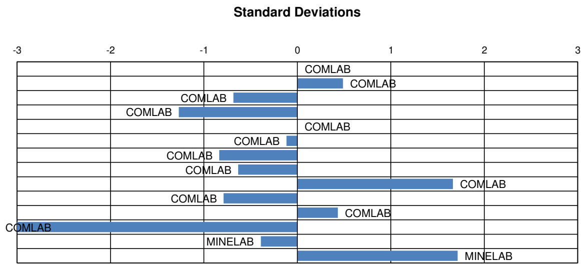












Lead (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	9	338	7	36	185
STDEV (ppm)	3	27	2	8	16
95% CI (ppm)	1	7	1	2	4
95% CI (%)	8.28%	2.08%	9.71%	6.06%	2.36%
MIN (ppm)	4	270	2	21	153
MEDIAN (ppm)	9	334	7	36	183
MAX (ppm)	15	396	12	57	229
IQR (ppm)	3	35	2	8	17
COUNT	48	59	47	49	54

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	9	0.25	303	-1.27	8	0.53	32	-0.57	217	1.97
COMLAB	8	-0.27	329	-0.34	6	-0.35	39	0.32	184	-0.07
COMLAB	10	0.53	334	-0.15	8	0.53	38	0.19	179	-0.38
COMLAB	9	0.13	332	-0.23	6	-0.17	44	0.90	197	0.76
COMLAB	14	2.12	394	2.04	12	2.29	47	1.35	171	-0.87
COMLAB	6	-1.06	328	-0.37	<5	bld	40	0.45	191	0.36
COMLAB	9	0.13	343	0.18	6	-0.35	37	0.07	177	-0.50
COMLAB	13	1.52	384	1.68	<10	bld	**64**	**3.00**	**247**	**3.00**
COMLAB	9	0.15	308	-1.11	5	-0.70	27	-1.21	177	-0.51
COMLAB	8	-0.23	346	0.29	6	-0.48	39	0.26	179	-0.38
COMLAB	8	-0.27	323	-0.56	4	-1.22	33	-0.45	208	1.41
COMLAB	8	-0.11	368	1.09	6	-0.32	39	0.26	211	1.59
COMLAB	4	-1.85	313	-0.93	2	-2.18	21	-2.02	171	-0.89
MINELAB	<50	bld	353	0.54	<50	bld	**71**	**3.00**	214	1.78
MINELAB	8	-0.27	353	0.54	7	0.09	50	1.73	224	2.39
MINELAB	4	-1.86	280	-2.13	2	-2.10	29	-0.96	**131**	**-3.00**
MINELAB	9	0.15	369	1.11	6	-0.29	36	-0.11	187	0.11

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	7	-0.67	270	-2.50	5	-0.78	30	-0.83	187	0.12
COMLAB	5	-1.46	334	-0.15	6	-0.35	25	-1.47	167	-1.12
COMLAB	6	-1.06	327	-0.41	5	-0.78	28	-1.08	164	-1.30
COMLAB	7	-0.67	323	-0.56	7	0.09	33	-0.45	178	-0.44
COMLAB	9	0.13	329	-0.34	7	0.09	35	-0.19	175	-0.62
COMLAB	8	-0.27	327	-0.41	7	0.09	38	0.19	173	-0.75
COMLAB	10	0.53	342	0.14	5	-0.78	35	-0.19	179	-0.38
COMLAB	<100	bld	396	2.12	<100	bld	<100	bld	229	2.70
COMLAB	4	-1.86	330	-0.30	6	-0.35	**9**	**-3.00**	178	-0.44
COMLAB	<10	bld	301	-1.37	<10	bld	33	-0.40	170	-0.94
COMLAB	8	-0.27	367	1.06	7	0.09	33	-0.45	212	1.65
COMLAB	9	0.25	354	0.58	6	-0.48	32	-0.56	177	-0.53
COMLAB	<5	bld	328	-0.37	<5	bld	34	-0.28	175	-0.62
COMLAB	11	0.93	341	0.10	**14**	**3.00**	42	0.71	213	1.72
COMLAB	13	1.72	314	-0.89	7	0.09	35	-0.19	179	-0.38
COMLAB	11	0.93	353	0.54	8	0.53	40	0.45	**240**	**3.00**
COMLAB	10	0.53	341	0.10	11	1.85	39	0.32	186	0.05
MINELAB	**19**	**3.00**	367	1.06	10	1.26	53	2.11	209	1.44
MINELAB	<1000	bld	<1000	bld	<1000	bld	<1000	bld	<1000	bld
MINELAB	<17	bld	339	0.03	<17	bld	<17	bld	183	-0.16
MINELAB	6	-1.08	336	-0.07	9	0.78	35	-0.18	165	-1.22
MINELAB	**28**	**3.00**	365	0.98	**35**	**3.00**	**208**	**3.00**	185	-0.01
MINELAB	bld	bld	373	1.28	bld	bld	bld	bld	**248**	**3.00**

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	9	0.13	325	-0.48	6	-0.35	41	0.58	170	-0.93
COMLAB	9	-0.03	338	-0.01	8	0.31	**72**	**3.00**	183	-0.13
COMLAB	4	-1.86	306	-1.18	5	-0.78	31	-0.70	185	-0.01
COMLAB	7	-0.67	332	-0.23	5	-0.78	32	-0.57	175	-0.62
COMLAB	7	-0.67	333	-0.19	8	0.53	31	-0.70	174	-0.69
COMLAB	10	0.53	328	-0.37	**505**	**3.00**	37	0.07	175	-0.62
COMLAB	<5	bld	300	-1.40	<5	bld	22	-1.83	169	-0.99
COMLAB	12	1.32	324	-0.52	8	0.53	57	2.62	198	0.79
COMLAB	8	-0.27	277	-2.24	6	-0.35	30	-0.83	186	0.05
COMLAB	8	-0.27	nr	nr	nr	nr	nr	nr	nr	nr
COMLAB	<100	bld	376	1.38	<100	bld	<100	bld	190	0.30
COMLAB	9	0.13	369	1.13	7	0.09	36	-0.06	177	-0.50
COMLAB	8	-0.27	362	0.87	4	-1.22	40	0.45	230	2.76
MINELAB	10	0.58	375	1.34	7	-0.12	35	-0.19	184	-0.07
MINELAB	8	-0.27	341	0.10	6	-0.35	25	-1.47	195	0.61
MINELAB	5	-1.38	368	1.11	2	-1.97	**67**	**3.00**	187	0.10
MINELAB	10	0.53	363	0.91	12	2.29	**75**	**3.00**	190	0.30
MINELAB	**48**	**3.00**	**455**	**3.00**	**58**	**3.00**	**121**	**3.00**	**250**	**3.00**
MINELAB	<20	bld	370	1.17	<20	bld	53	2.11	200	0.92

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	10	0.53	322	-0.59	8	0.53	40	0.45	180	-0.32
COMLAB	13	1.72	349	0.40	9	0.97	38	0.19	**244**	**3.00**
COMLAB	10	0.53	350	0.43	8	0.53	34	-0.32	200	0.92
COMLAB	**17**	**3.00**	333	-0.18	10	1.31	44	0.94	153	-1.98
COMLAB	15	2.52	330	-0.30	11	1.85	50	1.73	190	0.30
COMLAB	7	-0.80	306	-1.17	4	-1.37	36	-0.02	193	0.50
COMLAB	<10	bld	319	-0.70	<10	bld	31	-0.70	159	-1.61
MINELAB	12	1.32	324	-0.52	8	0.53	44	0.96	173	-0.75
MINELAB	<100	bld	345	0.25	<100	bld	<100	bld	195	0.61
MINELAB	8	-0.27	338	-0.01	6	-0.35	32	-0.57	188	0.18
MINELAB	4	-1.86	330	-0.30	3	-1.66	31	-0.70	180	-0.32

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	18	139	152	8	262
Std Dev	6	12	11	3	16

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
18	0.00	128	-0.87	129	-2.05	8	-0.05	220	-2.70	AR	MS
20	0.33	137	-0.14	150	-0.20	7	-0.29	264	0.15	AR	ES
23	0.83	134	-0.39	150	-0.20	9	0.29	256	-0.36	AR	AAS
20	0.40	135	-0.30	158	0.50	7	-0.37	263	0.09	AR	ICP
36	**3.00**	141	0.20	157	0.42	15	2.03	270	0.53	AR	ES
15	-0.50	134	-0.39	149	-0.29	<5	bld	251	-0.68	AR	ES
20	0.33	135	-0.30	151	-0.11	8	0.00	259	-0.17	4A	ES
29	1.88	133	-0.47	140	-1.11	15	2.03	240	-1.36	3A	ICP
14	-0.74	136	-0.20	152	-0.04	6	-0.63	251	-0.70	AR	AAS
19	0.17	141	0.20	145	-0.64	7	-0.34	238	-1.52	AR	MS
20	0.33	136	-0.22	143	-0.82	6	-0.58	256	-0.36	AR	AAS
20	0.33	167	2.38	159	0.60	7	-0.36	294	2.07	AR	MS
10	-1.39	126	-1.06	136	-1.42	4	-1.24	246	-0.99	AR	AAS
<50	bld	144	0.45	162	0.86	<50	bld	277	0.98	3A	AAS
18	0.00	137	-0.14	156	0.33	7	-0.29	272	0.66	AR	AAS
8	-1.67	124	-1.23	147	-0.46	1	-2.02	254	-0.49	2A	AAS
21	0.43	144	0.45	152	-0.06	8	0.09	262	0.05	AR	MS

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	908	461	14	540	28
Std Dev	73	28	3	59	5

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
867	-0.57	**373**	**-3.00**	18	1.24	534	-0.10	29	0.17	AR	ES
940	0.44	467	0.22	8	-1.65	512	-0.47	29	0.17	AR	ES
915	0.10	484	0.84	10	-1.08	509	-0.52	31	0.59	AR	ES
921	0.18	475	0.51	11	-0.79	523	-0.28	27	-0.26	AR	ES
940	0.44	488	0.98	11	-0.79	527	-0.22	30	0.38	AR	ES
918	0.14	480	0.69	14	0.08	506	-0.57	26	-0.47	AR	AAS
910	0.03	452	-0.32	13	-0.21	512	-0.47	27	-0.26	AR	ES
992	1.16	528	2.43	<100	bld	563	0.40	<100	bld	AR	ES
890	-0.25	400	-2.20	6	-2.23	545	0.09	25	-0.69	AR	ES
833	-1.03	403	-2.10	<10	bld	480	-1.02	28	-0.03	AR	ICP
953	0.62	472	0.40	14	0.08	614	1.27	29	0.17	AR	ES
946	0.53	462	0.04	12	-0.61	529	-0.18	25	-0.65	AR	ICP
807	-1.39	386	-2.70	7	-1.81	502	-0.64	23	-1.14	AR	AAS
966	0.80	498	1.34	13	-0.21	**789**	**3.00**	29	0.17	3A	AAS
842	-0.91	426	-1.26	12	-0.50	519	-0.35	30	0.38	AR	ES
872	-0.50	443	-0.64	15	0.37	**907**	**3.00**	31	0.59	3A	AAS
933	0.34	446	-0.54	21	2.10	541	0.02	27	-0.26	AD	AAS
967	0.81	500	1.42	11	-0.92	555	0.25	30	0.41	AR	ES
<1000	bld	<1000	bld	<1000	bld	<1000	bld	<1000	bld	3A	AAS
870	-0.52	463	0.07	<17	bld	544	0.07	29	0.07	AR	ES
902	-0.08	479	0.66	10	-1.17	511	-0.50	18	-2.08	AR	MS
892	-0.22	476	0.55	**64**	**3.00**	545	0.09	33	1.02	AR	ES
981	1.01	500	1.42	bld	bld	**921**	**3.00**	bld	bld	3A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	521	33	266	13	262
Std Dev	39	8	21	6	16

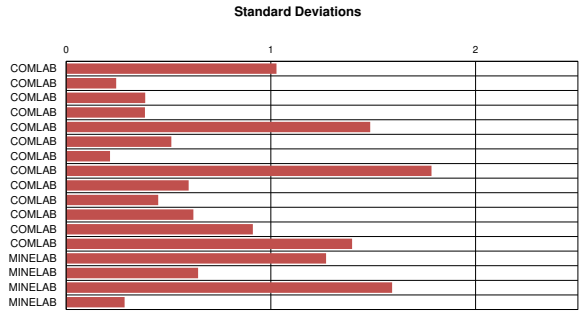
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
520	-0.03	32	-0.13	271	0.26	16	0.46	256	-0.36	AR	AAS
538	0.44	31	-0.30	273	0.35	11	-0.29	270	0.53	AR	ES
505	-0.41	28	-0.64	260	-0.26	<2	bld	280	1.17	AR	ES
508	-0.33	28	-0.64	272	0.30	11	-0.36	261	-0.04	AR	ICP
523	0.05	30	-0.38	276	0.49	9	-0.68	267	0.34	AR	ES
7	**-3.00**	30	-0.38	273	0.35	14	0.13	250	-0.75	AR	ES
490	-0.79	31	-0.30	247	-0.87	<5	bld	251	-0.68	AR	ES
508	-0.33	33	0.00	260	-0.26	**40**	**3.00**	254	-0.49	AR	ES
495	-0.67	30	-0.38	248	-0.82	12	-0.19	241	-1.33	AR	ES
472	-1.26	25	-1.07	244	-1.01	11	-0.37	nr	nr	AR	ICP
552	0.79	<100	bld	290	1.15	<100	bld	280	1.17	3A	AAS
541	0.51	31	-0.26	278	0.59	12	-0.19	256	-0.36	AR	MS
554	0.85	32	-0.13	276	0.49	10	-0.52	272	0.66	AR	ES
470	-1.31	28	-0.60	**563**	**3.00**	14	0.15	261	-0.04	AR	ES
547	0.67	27	-0.76	249	-0.77	11	-0.36	254	-0.49	AR	ES
542	0.54	32	-0.18	284	0.85	bld	bld	270	0.52	AR	ICP
512	-0.23	35	0.25	299	1.57	**61**	**3.00**	302	2.59	AR	AAS
621	2.56	**66**	**3.00**	**391**	**3.00**	**94**	**3.00**	**317**	**3.00**	3A	AAS
515	-0.15	35	0.25	313	2.23	**45**	**3.00**	292	1.94	3A	AAS

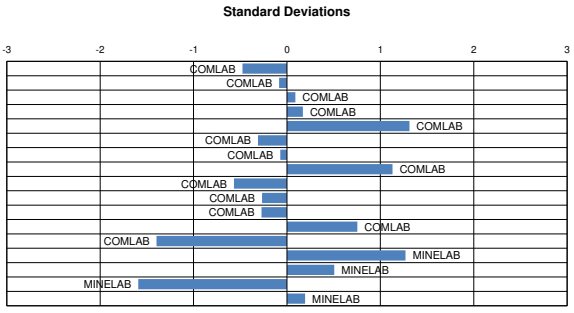
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	18	139	266	13	11
Std Dev	6	12	21	6	2

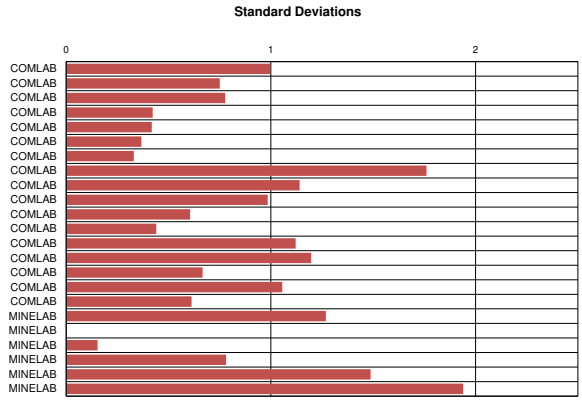
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
24	1.00	135	-0.30	264	-0.07	15	0.29	13	0.99	AR	ES
20	0.33	142	0.28	265	-0.02	11	-0.36	16	2.26	AR	ICP
12	-1.00	126	-1.06	262	-0.16	13	-0.03	13	0.99	3A	ICP
22	0.70	145	0.51	311	2.15	18	0.72	15	1.89	AR	ES
18	0.00	139	0.03	269	0.16	23	1.59	13	0.99	AR	ES
17	-0.17	128	-0.92	247	-0.87	4	-1.46	6	-2.00	AR	ES
15	-0.53	129	-0.81	247	-0.87	12	-0.13	<10	bld	AR	AAS
31	2.17	145	0.53	268	0.12	23	1.59	15	1.84	AR	AAS
<100	bld	150	0.95	285	0.91	<100	bld	<100	bld	AR	ES
16	-0.33	138	-0.05	272	0.30	6	-1.17	10	-0.27	AR	ES
14	-0.67	125	-1.14	278	0.59	9	-0.68	9	-0.69	AR	AAS

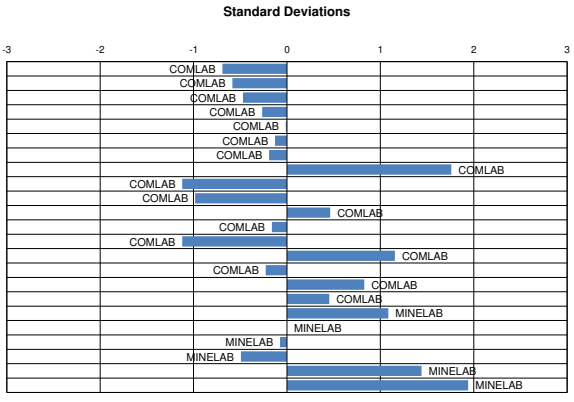
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

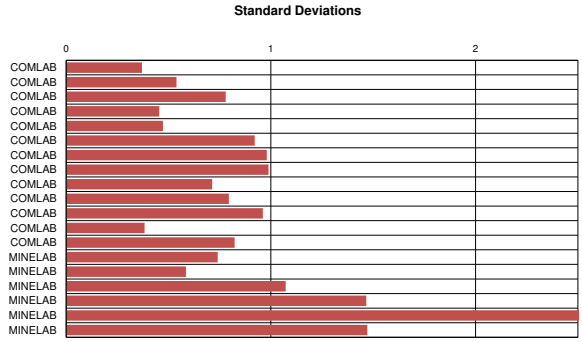
Lead (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Lead (Partial Digest) - Mean of Standardized Values - April 2017

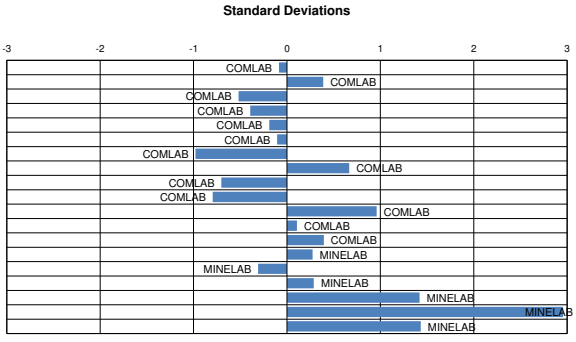


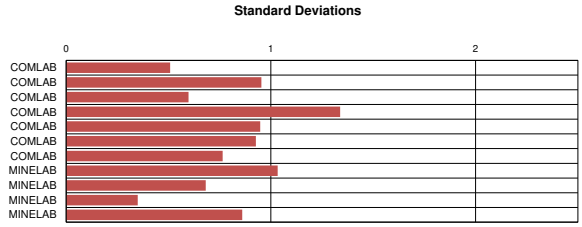


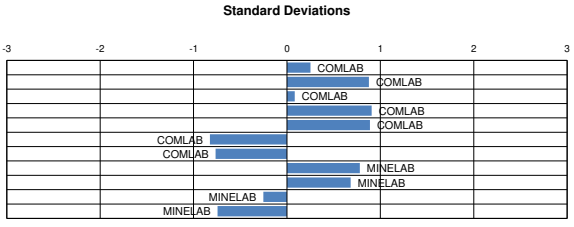












Zinc (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	77	2356	71	23	3688
STDEV (ppm)	6	125	5	7	159
95% CI (ppm)	2	31	1	2	39
95% CI (%)	2.13%	1.30%	1.80%	7.34%	1.06%
MIN (ppm)	61	2030	58	9	3250
MEDIAN (ppm)	77	2353	72	23	3686
MAX (ppm)	94	2700	83	39	4010
IQR (ppm)	6	119	5	6	220
COUNT	61	65	59	56	65

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	<200	bld	2700	2.74	<200	bld	<200	bld	3750	0.39
COMLAB	62	-2.27	2097	-2.07	62	-1.88	15	-1.30	3976	1.81
COMLAB	78	0.21	2330	-0.21	72	0.12	20	-0.53	3700	0.08
COMLAB	83	0.99	2300	-0.45	72	0.12	22	-0.22	3780	0.58
COMLAB	73	-0.56	2260	-0.77	69	-0.48	22	-0.22	3510	-1.12
COMLAB	78	0.21	2330	-0.21	72	0.12	20	-0.53	3710	0.14
COMLAB	80	0.52	2410	0.43	75	0.72	22	-0.22	3540	-0.93
COMLAB	76	-0.10	2536	1.44	77	1.12	24	0.09	3991	1.90
COMLAB	79	0.37	2522	1.32	77	1.12	**45**	**3.00**	3712	0.15
COMLAB	77	0.06	2445	0.71	73	0.32	24	0.09	3681	-0.04
COMLAB	74	-0.41	2385	0.23	70	-0.28	26	0.39	3860	1.08
COMLAB	71	-0.87	2525	1.35	69	-0.48	18	-0.84	3822	0.84
COMLAB	77	0.06	2397	0.33	72	0.12	29	0.86	3621	-0.42
COMLAB	77	0.06	2560	1.63	70	-0.28	23	-0.07	3502	-1.17
COMLAB	80	0.52	2286	-0.56	74	0.52	26	0.39	3466	-1.39
COMLAB	nr	nr	2315	-0.33	nr	nr	nr	nr	3896	1.31
COMLAB	75	-0.27	2372	0.13	70	-0.36	22	-0.22	3852	1.03
COMLAB	81	0.68	2300	-0.45	74	0.52	32	1.32	3486	-1.27
COMLAB	73	-0.58	2302	-0.43	68	-0.66	25	0.16	3683	-0.03
MINELAB	**44**	**-3.00**	2185	-1.37	**5345**	**3.00**	23	-0.10	**3195**	**-3.00**
MINELAB	86	1.45	2400	0.35	82	2.12	<69.61	bld	3900	1.33
MINELAB	<100	bld	2426	0.56	<100	bld	<100	bld	3367	-2.01

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	66	-1.65	**1940**	**-3.00**	64	-1.48	23	-0.07	3830	0.89
COMLAB	67	-1.49	**1930**	**-3.00**	65	-1.28	19	-0.68	3450	-1.49
COMLAB	75	-0.25	2330	-0.21	72	0.12	22	-0.22	3670	-0.11
COMLAB	74	-0.41	2273	-0.66	70	-0.28	24	0.09	3700	0.08
COMLAB	77	0.06	2335	-0.17	71	-0.08	22	-0.22	3622	-0.41
COMLAB	83	0.99	2460	0.83	70	-0.28	20	-0.53	3790	0.64
COMLAB	<100	bld	2395	0.31	<100	bld	<100	bld	3653	-0.22
COMLAB	75	-0.25	2370	0.11	70	-0.28	25	0.24	3960	1.71
COMLAB	94	2.69	2397	0.33	**90**	**3.00**	39	2.39	3644	-0.27
COMLAB	88	1.76	2402	0.37	82	2.12	39	2.39	3730	0.27
COMLAB	74	-0.41	2440	0.67	70	-0.28	20	-0.53	3690	0.01
COMLAB	**100**	**3.00**	2320	-0.29	**88**	**3.00**	**44**	**3.00**	4010	2.02
COMLAB	80	0.49	2313	-0.34	74	0.58	30	1.05	3578	-0.69
COMLAB	90	2.07	2100	-2.04	**119**	**3.00**	**56**	**3.00**	3350	-2.12
COMLAB	88	1.76	2435	0.63	82	2.12	**78**	**3.00**	3535	-0.96
COMLAB	74	-0.48	2520	1.31	71	-0.08	23	-0.14	3700	0.08
COMLAB	71	-0.87	2464	0.86	72	0.12	21	-0.37	3855	1.05
COMLAB	75	-0.25	2384	0.22	80	1.72	19	-0.68	3551	-0.86
COMLAB	71	-0.87	2366	0.08	68	-0.68	25	0.24	3630	-0.36
COMLAB	82	0.80	2388	0.25	76	0.82	30	1.01	3653	-0.22
COMLAB	**138**	**3.00**	2332	-0.19	**117**	**3.00**	**85**	**3.00**	3909	1.39
COMLAB	75	-0.25	2546	1.52	73	0.24	13	-1.63	3786	0.62
COMLAB	73	-0.56	2050	-2.44	69	-0.48	30	1.01	3566	-0.76
COMLAB	76	-0.10	2336	-0.16	73	0.32	30	1.01	3777	0.56
COMLAB	**298**	**3.00**	2222	-1.07	59	-2.48	6	-2.68	3703	0.10
COMLAB	74	-0.41	**1826**	**-3.00**	79	1.52	38	2.24	3250	-2.75
MINELAB	81	0.69	2290	-0.53	70	-0.24	28	0.66	3486	-1.27

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	75	-0.20	2499	1.14	68	-0.64	33	1.39	3934	1.55
COMLAB	64	-1.96	2110	-1.96	62	-1.88	17	-0.99	3846	0.99
COMLAB	85	1.30	2420	0.51	80	1.72	**48**	**3.00**	3669	-0.12
COMLAB	75	-0.25	2550	1.55	68	-0.68	25	0.24	3500	-1.18
COMLAB	78	0.21	2430	0.59	74	0.52	24	0.09	3760	0.45
COMLAB	78	0.21	2480	0.99	70	-0.28	11	-1.91	3810	0.77
COMLAB	72	-0.72	2266	-0.72	66	-1.08	20	-0.53	3512	-1.10
COMLAB	74	-0.41	2360	0.03	70	-0.28	15	-1.30	3590	-0.61
COMLAB	81	0.68	2347	-0.07	75	0.72	35	1.78	3620	-0.43
COMLAB	84	1.14	2364	0.06	64	-1.48	**95**	**3.00**	3908	1.38
COMLAB	77	0.02	2353	-0.02	67	-0.91	29	0.84	3472	-1.35
COMLAB	81	0.68	2334	-0.18	74	0.52	23	-0.07	3299	-2.44
COMLAB	78	0.21	2350	-0.05	72	0.12	29	0.86	3620	-0.43
MINELAB	**134**	**3.00**	2547	1.52	**97**	**3.00**	**90**	**3.00**	**4173**	**3.00**

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	77	0.06	2301	-0.44	72	0.12	25	0.24	3725	0.23
COMLAB	80	0.52	2330	-0.21	75	0.72	20	-0.53	3820	0.83
COMLAB	61	-2.42	2030	-2.60	58	-2.68	13	-1.60	3868	1.13
COMLAB	88	1.76	2392	0.29	83	2.32	**45**	**3.00**	3569	-0.75
COMLAB	80	0.52	2330	-0.21	74	0.52	26	0.39	3660	-0.17
COMLAB	77	0.06	2405	0.39	73	0.32	23	-0.07	3715	0.17
COMLAB	76	-0.10	2230	-1.01	69	-0.48	20	-0.53	3570	-0.74
COMLAB	63	-2.16	2393	0.30	65	-1.29	16	-1.20	3686	-0.01
COMLAB	72	-0.72	2250	-0.85	70	-0.28	**52**	**3.00**	**4180**	**3.00**
COMLAB	78	0.28	2342	-0.12	75	0.73	22	-0.19	3765	0.48
COMLAB	72	-0.72	2170	-1.49	67	-0.88	18	-0.84	3730	0.27
COMLAB	**34**	**-3.00**	**1009**	**-3.00**	**30**	**-3.00**	9	-2.22	**1663**	**-3.00**
MINELAB	76	-0.13	2434	0.62	73	0.32	16	-1.13	3795	0.67
MINELAB	83	0.99	2133	-1.78	78	1.32	**46**	**3.00**	3491	-1.24

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	32	485	629	117	938
Std Dev	10	25	37	11	50

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
<200	bld	520	1.42	680	1.36	<200	bld	1040	2.05	NAA	
18	-1.40	461	-0.97	633	0.10	115	-0.19	887	-1.01	4A	ES
29	-0.30	514	1.18	645	0.42	118	0.09	944	0.13	4A	ES
28	-0.40	494	0.37	637	0.21	119	0.19	978	0.81	4A	ES
28	-0.40	490	0.21	625	-0.11	116	-0.10	926	-0.23	4A	ES
31	-0.10	521	1.46	642	0.34	116	-0.10	940	0.05	4A	ES
31	-0.10	520	1.42	648	0.50	122	0.47	937	-0.01	4A	ES
27	-0.50	544	2.40	688	1.57	124	0.66	963	0.51	4A	ICP
51	1.90	**564**	**3.00**	699	1.87	125	0.75	1042	2.09	4A	AAS
12	-2.00	472	-0.52	623	-0.17	103	-1.32	885	-1.05	4A	ES
25	-0.70	485	0.00	610	-0.51	113	-0.38	904	-0.67	4A	ES
27	-0.50	519	1.38	637	0.21	113	-0.38	933	-0.09	4A	ES
36	0.40	489	0.17	613	-0.43	112	-0.47	984	0.93	4A	ES
30	-0.20	518	1.34	625	-0.11	114	-0.28	888	-0.99	FUS	ES
34	0.20	498	0.53	618	-0.30	119	0.19	922	-0.31	4A	AAS
nr	nr	438	-1.90	584	-1.21	107	-0.94	908	-0.59	4A	AAS
31	-0.13	521	1.46	624	-0.14	119	0.19	1018	1.61	4A	ES
37	0.50	501	0.65	619	-0.27	114	-0.28	970	0.65	4A	AAS,MS
30	-0.25	483	-0.07	577	-1.39	111	-0.59	944	0.12	4A	AAS
20	-1.20	**408**	**-3.00**	539	-2.41	132	1.41	819	-2.37	4A	AAS
<64.72	bld	550	2.64	670	1.09	130	1.22	980	0.85	4A	ICP
250	**3.00**	517	1.30	664	0.93	**178**	**3.00**	816	-2.43	FUS	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	801	1354	66	127	171
Std Dev	59	79	6	8	12

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
688	-1.91	**1070**	**-3.00**	57	-1.53	137	1.31	153	-1.47	4A	ES
743	-0.98	1160	-2.44	58	-1.36	121	-0.82	154	-1.39	4A	ICP
828	0.46	1340	-0.18	63	-0.54	124	-0.42	170	-0.09	4A	ES
802	0.02	1326	-0.35	62	-0.70	127	-0.02	173	0.15	4A	ES
822	0.36	1378	0.30	66	-0.04	126	-0.16	169	-0.17	4A	ES
870	1.17	1465	1.40	**45**	**-3.00**	125	-0.29	**130**	**-3.00**	4A	ES
858	0.96	1422	0.85	<100	bld	138	1.44	181	0.80	4A	ES
794	-0.12	1350	-0.05	65	-0.21	135	1.04	165	-0.50	4A	ES
nr	nr	1388	0.43	**128**	**3.00**	131	0.51	180	0.72	4A	AAS
858	0.96	1467	1.42	81	2.43	125	-0.29	**214**	**3.00**	4A	AAS
810	0.15	1400	0.58	64	-0.37	126	-0.16	170	-0.09	4A	ES
748	-0.89	1330	-0.30	84	2.93	148	2.77	188	1.37	4A	ES
780	-0.35	1411	0.72	71	0.75	127	-0.02	174	0.23	4A	AAS
782	-0.32	1280	-0.93	71	0.78	106	-2.82	188	1.37	4A	AAS
823	0.38	1465	1.40	**94**	**3.00**	145	2.41	197	2.12	4A	ES
813	0.20	1450	1.21	69	0.37	123	-0.55	168	-0.26	4A	MS
789	-0.20	1355	0.01	67	0.12	131	0.51	165	-0.50	4A	ES
763	-0.64	1403	0.62	61	-0.87	144	2.24	156	-1.23	4A	ES
770	-0.52	1337	-0.22	63	-0.54	115	-1.62	161	-0.82	4A	AAS
807	0.10	1323	-0.39	72	0.98	117	-1.35	183	0.96	4A	ICP
794	-0.12	1298	-0.71	**117**	**3.00**	**195**	**3.00**	190	1.53	4A	ES
820	0.33	1357	0.04	64	-0.37	130	0.40	165	-0.47	FUS,4A	ICP
811	0.17	1269	-1.07	67	0.12	112	-2.02	163	-0.66	4A	ICP
874	1.23	1348	-0.08	56	-1.69	138	1.44	168	-0.26	4A	ES
781	-0.34	1330	-0.30	59	-1.20	117	-1.35	165	-0.50	4A	ES
704	-1.64	1131	-2.81	**115**	**3.00**	**159**	**3.00**	205	2.74	4A	ES
779	-0.37	1351	-0.04	70	0.64	123	-0.58	175	0.27	4A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	5189	119	233	9	938
Std Dev	232	19	97	4	50

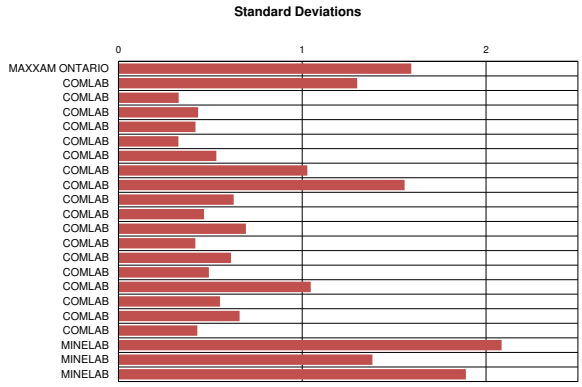
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
5048	-0.61	121	0.08	322	0.91	**24**	**3.00**	835	-2.05	4A	ES
4846	-1.48	112	-0.39	277	0.45	6	-0.80	809	-2.57	4A	ICP
5233	0.19	142	1.21	182	-0.53	19	2.20	942	0.09	4A	AAS
5300	0.48	128	0.46	390	1.61	11	0.35	1010	1.45	4A	ES
5260	0.31	136	0.89	377	1.48	5	-1.03	938	0.01	4A	ICP
5240	0.22	135	0.84	372	1.43	<2	bld	957	0.39	4A	ES
5120	-0.30	120	0.04	284	0.52	2	-1.73	892	-0.91	4A	ES
5070	-0.51	136	0.89	355	1.25	6	-0.80	926	-0.23	4A	ES
5196	0.03	138	1.00	380	1.51	20	2.43	970	0.65	4A	ES
5193	0.02	92	-1.46	230	-0.03	**39**	**3.00**	944	0.13	4A	ES
4814	-1.62	117	-0.13	170	-0.66	16	1.51	870	-1.36	4A	AAS
4757	-1.86	132	0.68	370	1.41	7	-0.57	929	-0.17	4A	AAS
4970	-0.94	138	1.00	219	-0.15	**26**	**3.00**	841	-1.93	4A	MS
5623	1.87	163	2.31	239	0.06	**42**	**3.00**	1033	1.90	4A	ES

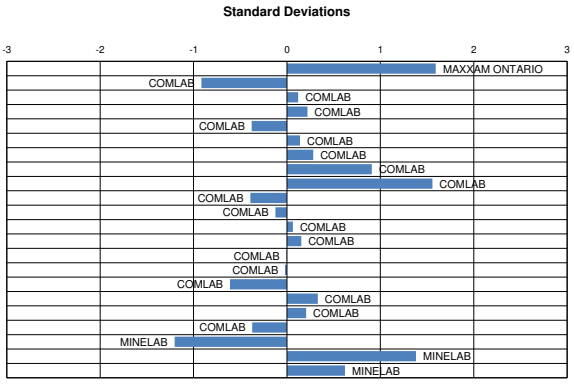
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	32	485	233	9	89
Std Dev	10	25	97	4	6

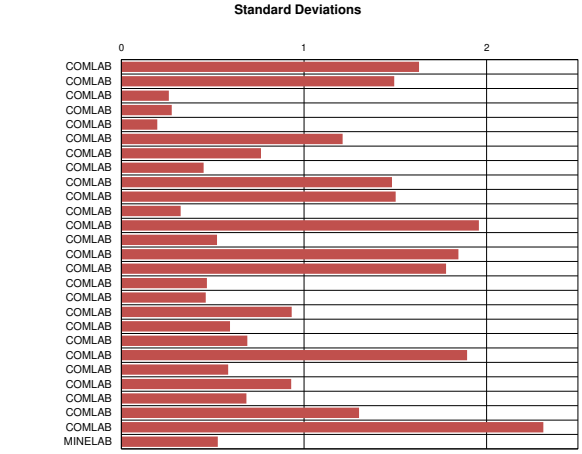
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
27	-0.50	487	0.09	234	0.01	7	-0.57	90	0.09	4A	ES
26	-0.60	525	1.63	376	1.47	9	-0.11	93	0.56	4A	ES
17	-1.50	427	-2.35	131	-1.06	1	-1.96	72	-2.73	4A	ES
43	1.10	518	1.34	248	0.15	**27**	**3.00**	102	1.97	4A	AAS
38	0.60	521	1.46	380	1.51	8	-0.34	89	-0.06	4A	ES
30	-0.20	522	1.50	358	1.28	7	-0.57	89	-0.06	4A	ICP
29	-0.30	496	0.45	326	0.95	6	-0.80	86	-0.53	4A	AAS
37	0.47	506	0.88	192	-0.43	10	0.12	93	0.63	4A	ES
26	-0.60	484	-0.04	250	0.17	10	0.12	86	-0.53	4A	ES
28	-0.42	492	0.31	123	-1.14	6	-0.90	82	-1.20	4A	ES
22	-1.00	468	-0.68	335	1.05	2	-1.73	85	-0.69	4A	ES
4	-2.81	**199**	**-3.00**	82	-1.56	2	-1.68	**39**	**-3.00**	4A	
30	-0.22	517	1.30	366	1.36	4	-1.24	89	0.00	4A	ES
42	1.00	489	0.17	317	0.86	15	1.28	91	0.25	4A	ES

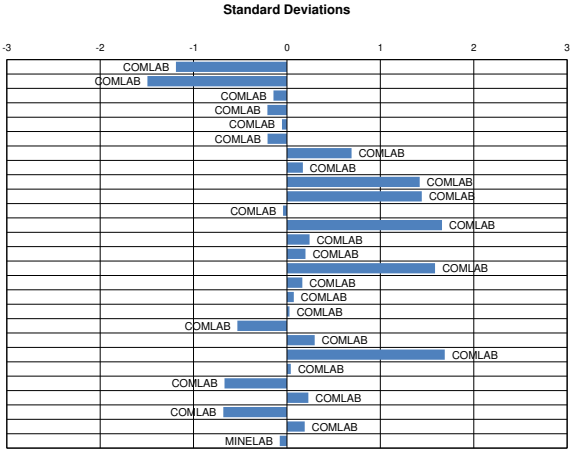
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

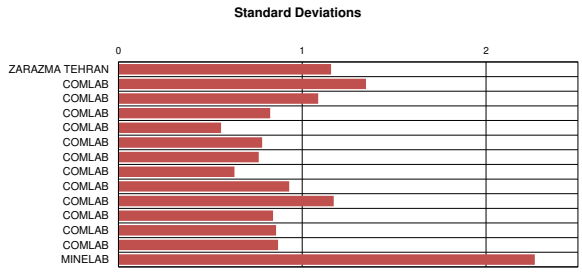
Zinc (Total Digest) - Mean of Absolute Standardized Values - April 2017	Zinc (Total Digest) - Mean of Standardized Values - April 2017

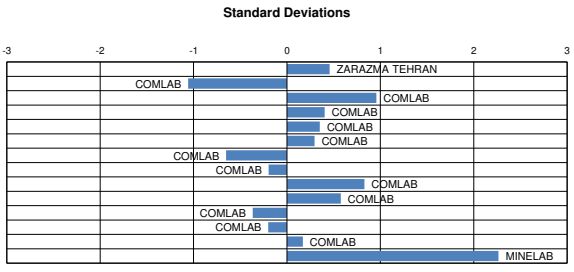


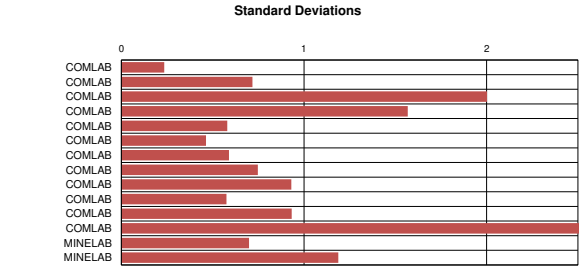


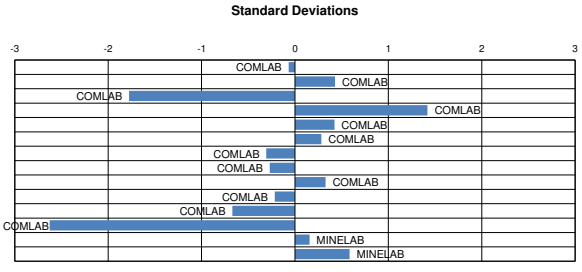












Zinc (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	62	2227	61	16	3687
STDEV (ppm)	5	147	5	5	183
95% CI (ppm)	1	37	1	2	46
95% CI (%)	2.27%	1.66%	2.28%	9.97%	1.24%
MIN (ppm)	50	1860	50	5	3280
MEDIAN (ppm)	62	2251	60	15	3681
MAX (ppm)	73	2565	72	28	4115
IQR (ppm)	5	211	7	5	201
COUNT	51	62	51	46	62

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	70	1.67	2053	-1.18	66	1.03	21	1.07	3678	-0.05
COMLAB	61	-0.13	2140	-0.59	60	-0.24	12	-0.67	3840	0.84
COMLAB	58	-0.73	2120	-0.72	58	-0.64	12	-0.67	3630	-0.31
COMLAB	54	-1.52	2125	-0.69	57	-0.84	10	-1.04	4115	2.34
COMLAB	73	2.24	2474	1.68	62	0.15	15	-0.10	3893	1.13
COMLAB	62	0.06	2354	0.87	62	0.15	**32**	**3.00**	3712	0.14
COMLAB	64	0.46	2122	-0.71	61	-0.05	13	-0.48	3763	0.42
COMLAB	**92**	**3.00**	**2900**	**3.00**	**81**	**3.00**	**87**	**3.00**	3900	1.17
COMLAB	58	-0.63	2318	0.62	52	-1.87	24	1.61	3581	-0.58
COMLAB	60	-0.33	2305	0.53	60	-0.24	11	-0.85	3840	0.84
COMLAB	58	-0.73	1995	-1.58	52	-1.83	5	-1.99	4039	1.93
COMLAB	68	1.17	2354	0.87	60	-0.26	13	-0.55	3699	0.07
COMLAB	56	-1.10	2291	0.44	56	-1.14	16	0.13	3649	-0.21
MINELAB	60	-0.33	2100	-0.86	58	-0.64	17	0.28	3612	-0.41
MINELAB	59	-0.53	2358	0.89	60	-0.24	12	-0.67	3657	-0.16
MINELAB	71	1.84	2264	0.25	68	1.34	20	0.84	3541	-0.80
MINELAB	63	0.24	2265	0.26	65	0.75	23	1.44	3788	0.56

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	61	-0.13	1860	-2.49	61	-0.05	10	-1.04	4060	2.04
COMLAB	63	0.26	2280	0.36	61	-0.05	11	-0.85	3710	0.13
COMLAB	62	0.06	2226	0.00	62	0.15	13	-0.48	3720	0.18
COMLAB	61	-0.13	2119	-0.73	60	-0.24	13	-0.48	3642	-0.25
COMLAB	61	-0.13	2190	-0.25	60	-0.24	13	-0.48	3740	0.29
COMLAB	60	-0.33	2280	0.36	58	-0.64	13	-0.48	3770	0.45
COMLAB	65	0.66	2240	0.09	66	0.95	16	0.09	3800	0.62
COMLAB	<100	bld	2348	0.83	<100	bld	<100	bld	3772	0.47
COMLAB	70	1.64	2302	0.51	**88**	**3.00**	**33**	**3.00**	4087	2.19
COMLAB	52	-1.91	2000	-1.54	50	-2.23	**38**	**3.00**	3280	-2.23
COMLAB	54	-1.50	2249	0.15	52	-1.76	**54**	**3.00**	3578	-0.60
COMLAB	**103**	**3.00**	2482	1.74	72	2.14	**53**	**3.00**	**4272**	**3.00**
COMLAB	61	-0.13	2142	-0.58	60	-0.24	15	-0.10	3390	-1.63
COMLAB	56	-1.06	2551	2.21	56	-1.02	20	0.81	3803	0.63
COMLAB	73	2.24	2252	0.17	67	1.15	**32**	**3.00**	3630	-0.31
COMLAB	**77**	**3.00**	2414	1.28	**78**	**3.00**	**38**	**3.00**	3455	-1.27
COMLAB	63	0.26	2072	-1.05	60	-0.24	13	-0.48	3924	1.30
COMLAB	61	-0.13	2059	-1.14	58	-0.64	17	0.28	3701	0.08
COMLAB	62	0.06	2363	0.93	64	0.55	16	0.09	3553	-0.73
MINELAB	50	-2.22	1872	-2.41	65	0.79	**256**	**3.00**	3323	-1.99
MINELAB	**100**	**3.00**	2406	1.22	**78**	**3.00**	**68**	**3.00**	3806	0.65
MINELAB	<1000	bld	2400	1.18	<1000	bld	<1000	bld	3800	0.62
MINELAB	66	0.88	2419	1.31	63	0.44	**65**	**3.00**	3503	-1.01
MINELAB	63	0.32	2287	0.41	66	1.02	27	2.22	3650	-0.20
MINELAB	55	-1.32	2003	-1.52	55	-1.24	17	0.28	3696	0.05
MINELAB	bld	bld	2088	-0.94	bld	bld	bld	bld	3654	-0.18

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	63	0.26	2345	0.81	68	1.34	23	1.41	3580	-0.59
COMLAB	64	0.52	2270	0.30	71	1.98	16	0.17	3610	-0.42
COMLAB	63	0.26	2220	-0.04	64	0.55	14	-0.29	3800	0.62
COMLAB	58	-0.73	2090	-0.93	58	-0.64	12	-0.67	3660	-0.15
COMLAB	63	0.26	2400	1.18	60	-0.24	10	-1.04	3830	0.78
COMLAB	62	0.06	2130	-0.66	**4990**	**3.00**	11	-0.85	3590	-0.53
COMLAB	60	-0.27	2200	-0.18	59	-0.48	8	-1.36	3540	-0.80
COMLAB	69	1.45	2296	0.47	65	0.75	27	2.17	3684	-0.02
COMLAB	63	0.26	1956	-1.84	59	-0.44	**41**	**3.00**	3836	0.82
COMLAB	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
COMLAB	<100	bld	2233	0.04	<100	bld	<100	bld	3350	-1.84
COMLAB	64	0.46	2170	-0.38	66	0.95	14	-0.29	3544	-0.78
COMLAB	64	0.46	2366	0.95	63	0.35	15	-0.10	**4552**	**3.00**
MINELAB	63	0.22	2217	-0.06	60	-0.33	16	0.07	3593	-0.51
MINELAB	63	0.26	2312	0.58	69	1.54	21	1.03	**4424**	**3.00**
MINELAB	**80**	**3.00**	2352	0.85	**84**	**3.00**	**131**	**3.00**	3580	-0.58
MINELAB	**87**	**3.00**	**2693**	**3.00**	**85**	**3.00**	**32**	**3.00**	3760	0.40
MINELAB	**109**	**3.00**	2351	0.85	**126**	**3.00**	**111**	**3.00**	3627	-0.33
MINELAB	**77**	**3.00**	2167	-0.41	60	-0.24	28	2.35	3451	-1.29

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	60	-0.33	2050	-1.20	62	0.15	11	-0.85	3690	0.02
COMLAB	**85**	**3.00**	**1490**	**-3.00**	**39**	**-3.00**	18	0.47	**2150**	**-3.00**
COMLAB	61	-0.13	2276	0.34	63	0.35	14	-0.29	3619	-0.37
COMLAB	66	0.85	2339	0.76	63	0.35	**58**	**3.00**	3762	0.41
COMLAB	**77**	**3.00**	2565	2.30	**82**	**3.00**	25	1.79	4095	2.23
COMLAB	56	-1.12	2080	-1.00	57	-0.84	10	-1.04	3750	0.34
COMLAB	55	-1.29	2191	-0.24	56	-1.02	17	0.28	3655	-0.18
COMLAB	54	-1.52	2099	-0.87	55	-1.24	15	-0.10	3288	-2.18
MINELAB	64	0.46	2272	0.31	70	1.74	15	-0.10	3767	0.44
MINELAB	<100	bld	2250	0.16	<100	bld	<100	bld	3705	0.10
MINELAB	61	-0.13	2303	0.52	62	0.15	6	-1.80	3677	-0.05
MINELAB	55	-1.32	2501	1.87	56	-1.04	21	1.03	3749	0.34

Existing Products

	GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10	
Target	32		485		629		116		919	
Std Dev	10		25		37		10		35	
	GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	28	-0.36	464	-0.84	605	-0.64	104	-1.08	854	-1.90	AR	MS
	19	-1.30	470	-0.60	630	0.02	114	-0.15	917	-0.07	AR	ES
	19	-1.30	456	-1.17	628	-0.03	109	-0.62	893	-0.76	AR	AAS
	17	-1.50	465	-0.81	581	-1.29	104	-1.10	901	-0.53	AR	ICP
	5	-2.70	471	-0.56	656	0.72	109	-0.62	945	0.74	AR	ES
	27	-0.50	485	0.00	622	-0.19	119	0.33	915	-0.13	AR	ES
	20	-1.20	460	-1.01	612	-0.46	114	-0.15	886	-0.97	4A	ES
	49	1.67	**748**	**3.00**	720	2.43	129	1.29	**1100**	**3.00**	3A	ICP
	21	-1.10	514	1.18	628	-0.02	99	-1.54	901	-0.52	AR	AAS
	15	-1.70	461	-0.97	633	0.10	112	-0.34	941	0.62	AR	ES
	5	-2.70	413	-2.91	589	-1.08	111	-0.43	891	-0.82	AR	AAS
	15	-1.71	492	0.29	637	0.21	114	-0.15	968	1.40	AR	MS
	24	-0.76	482	-0.10	564	-1.75	112	-0.38	889	-0.88	AR	AAS
	27	-0.50	467	-0.72	596	-0.89	109	-0.62	879	-1.17	3A	AAS
	17	-1.50	505	0.82	612	-0.46	112	-0.34	907	-0.36	AR	AAS
	36	0.40	480	-0.20	616	-0.35	127	1.10	871	-1.40	2A	AAS
	40	0.80	480	-0.20	639	0.27	124	0.78	941	0.63	AR	MS

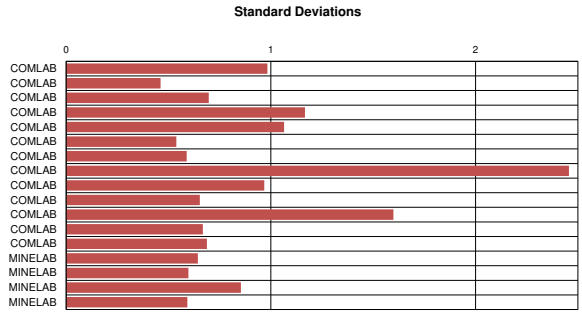
	GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3	
Target	801		1354		36		111		121	
Std Dev	59		79		3		12		8	
	GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	734	-1.13	**1070**	**-3.00**	37	0.37	126	1.24	**158**	**3.00**	AR	ES
	814	0.22	1370	0.20	35	-0.42	105	-0.54	136	1.84	AR	ES
	822	0.36	1503	1.87	33	-1.22	109	-0.20	141	2.45	AR	ES
	790	-0.19	1343	-0.14	35	-0.42	105	-0.54	116	-0.62	AR	ES
	823	0.37	1410	0.70	34	-0.82	107	-0.37	126	0.61	AR	ES
	820	0.32	1400	0.58	39	1.17	106	-0.46	125	0.48	AR	AAS
	807	0.10	1380	0.33	37	0.37	107	-0.37	120	-0.13	AR	ES
	826	0.42	1382	0.35	<100	bld	124	1.07	133	1.47	AR	ES
	810	0.15	1366	0.15	**101**	**3.00**	**148**	**3.00**	**188**	**3.00**	3A	AAS
	690	-1.87	1150	-2.57	29	-2.81	90	-1.82	**90**	**-3.00**	AR	ES
	762	-0.65	1310	-0.56	35	-0.58	110	-0.11	105	-1.99	AR	ICP
	871	1.18	1326	-0.35	43	2.76	145	2.86	125	0.48	AR	ES
	819	0.30	1355	0.01	37	0.37	102	-0.80	107	-1.73	AR	ICP
	768	-0.56	**973**	**-3.00**	33	-1.10	117	0.48	107	-1.73	AR	AAS
	835	0.58	1380	0.33	40	1.56	131	1.67	136	1.84	AR,3A	ES,AAS
	787	-0.24	1354	0.00	bld	bld	144	2.77	137	1.96	AR	AAS
	755	-0.78	1240	-1.44	37	0.37	110	-0.12	123	0.24	AR	ES
	736	-1.10	1169	-2.33	36	-0.03	112	0.05	119	-0.25	3A	AAS
	810	0.15	1388	0.43	35	-0.42	101	-0.88	121	-0.01	AD	AAS
	608	**-3.00**	**147**	**-3.00**	38	0.76	92	-1.67	102	-2.40	AR	AAS
	761	-0.67	1403	0.61	**68**	**3.00**	118	0.55	117	-0.53	AR	ES
	<1000	bld	1300	-0.68	<1000	bld	<1000	bld	<1000	bld	3A	AAS
	844	0.72	1489	1.69	36	0.02	120	0.75	120	-0.13	AR	ES
	754	-0.79	1430	0.96	40	1.41	111	-0.03	116	-0.62	AR	MS
	728	-1.23	1140	-2.70	33	-1.22	112	0.05	105	-1.97	AR	ES
	813	0.20	1327	-0.34	bld	bld	114	0.22	130	1.10	3A	AAS

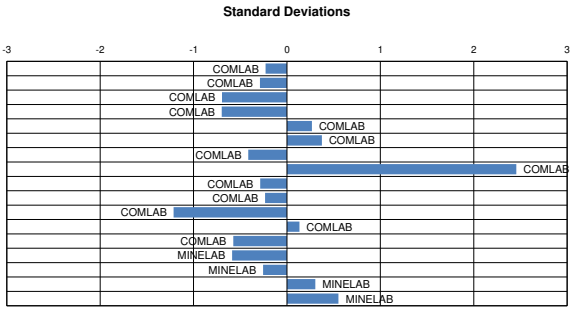
	GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10	
Target	5189		119		233		7		919	
Std Dev	232		19		97		4		35	
	GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	5260	0.31	107	-0.66	166	-0.69	15	1.99	888	-0.91	AR	AAS
	5280	0.39	107	-0.66	136	-1.00	6	-0.18	927	0.22	AR	ES
	5150	-0.17	110	-0.50	150	-0.86	10	0.76	1000	2.32	AR	ES
	4990	-0.86	106	-0.71	139	-0.97	<2	bld	886	-0.97	AR	ICP
	5280	0.39	108	-0.60	146	-0.90	<2	bld	921	0.04	AR	ES
	59	**-3.00**	107	-0.66	142	-0.94	4	-0.72	902	-0.50	AR	ES
	4970	-0.94	104	-0.82	139	-0.97	1	-1.42	928	0.25	AR	ES
	5125	-0.28	117	-0.12	148	-0.88	16	2.24	942	0.65	AR	ES
	5001	-0.81	87	-1.73	142	-0.94	14	1.75	866	-1.54	AR	ES
	4811	-1.63	92	-1.46	129	-1.08	4	-0.72	nr	nr	AR	ICP
	4980	-0.90	<100	bld	177	-0.58	<100	bld	872	-1.37	3A	AAS
	5049	-0.60	109	-0.55	142	-0.94	3	-0.97	876	-1.25	AR	MS
	5373	0.79	128	0.46	142	-0.94	3	-0.97	937	0.51	AR	ES
	4988	-0.87	100	-1.02	142	-0.94	8	0.17	950	0.88	AR	AAS
	5605	1.79	114	-0.28	128	-1.09	12	1.25	894	-0.74	AR	ES
	5086	-0.45	119	0.00	195	-0.39	**33**	**3.00**	998	2.27	AR	ICP
	5147	-0.18	125	0.30	187	-0.48	**43**	**3.00**	1004	2.44	AR	AAS
	5271	0.35	132	0.68	344	1.14	**48**	**3.00**	985	1.89	3A	AAS
	4954	-1.01	116	-0.18	175	-0.60	**23**	**3.00**	859	-1.75	3A	AAS

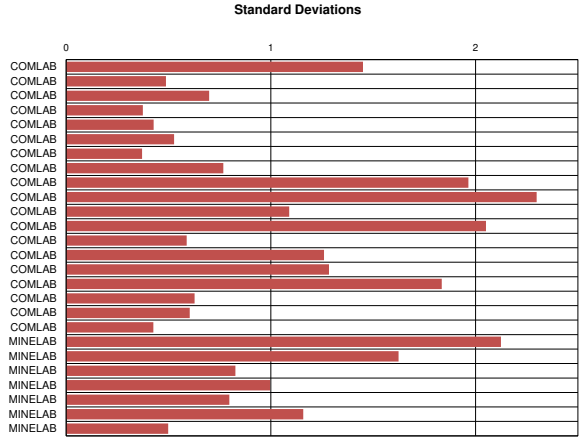
	GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4	
Target	32		485		233		7		86	
Std Dev	10		25		97		4		6	
	GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
	17	-1.50	463	-0.89	135	-1.01	2	-1.21	85	-0.21	AR	AAS
	26	-0.60	**233**	**-3.00**	83	-1.55	**55**	**3.00**	**198**	**3.00**	AR	AAS
	26	-0.60	477	-0.32	148	-0.88	4	-0.72	83	-0.53	AR	ICP
	29	-0.30	445	-1.62	156	-0.80	11	1.01	78	-1.31	3A	ICP
	38	0.63	551	2.70	223	-0.10	10	0.76	105	2.98	AR	ES
	12	-2.00	445	-1.62	128	-1.09	<2	bld	77	-1.47	AR	ES
	11	-2.08	457	-1.13	127	-1.10	5	-0.48	80	-0.98	AR	ES
	24	-0.80	430	-2.22	131	-1.06	<10	bld	79	-1.16	AR	AAS
	40	0.80	480	-0.20	158	-0.78	8	0.27	89	0.41	AR	AAS
	<100	bld	495	0.41	145	-0.91	<100	bld	<100	bld	AR	ES
	19	-1.30	468	-0.68	141	-0.95	<0.5	bld	85	-0.21	AR	ES
	23	-0.90	460	-1.01	132	-1.04	9	0.51	80	-1.00	AR	AAS

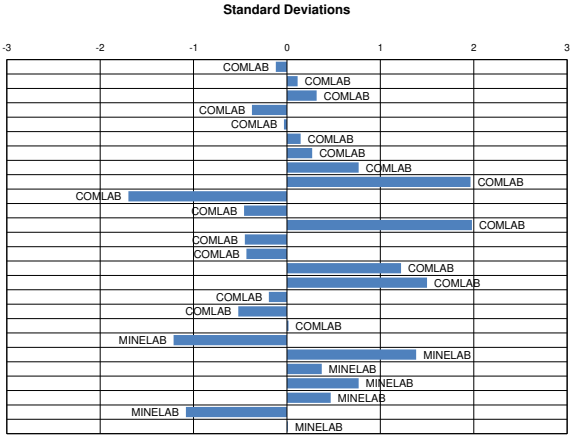
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

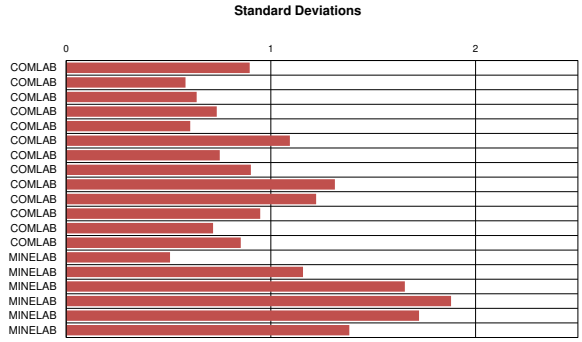
Zinc (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Zinc (Partial Digest) - Mean of Standardized Values - April 2017

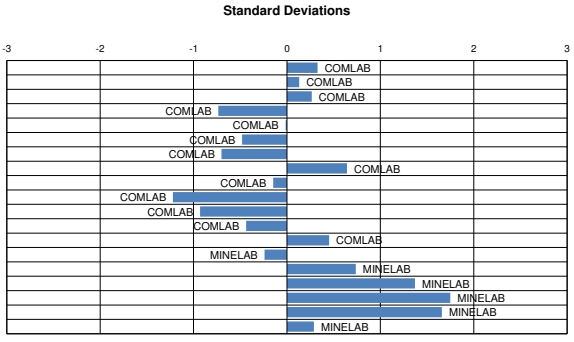


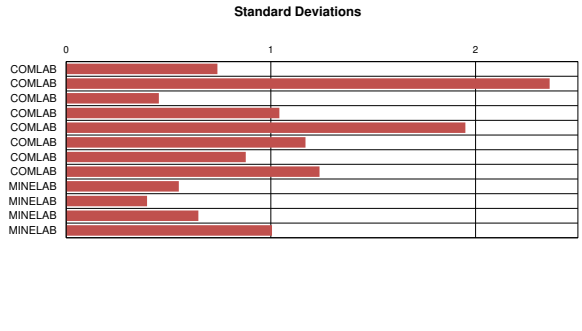


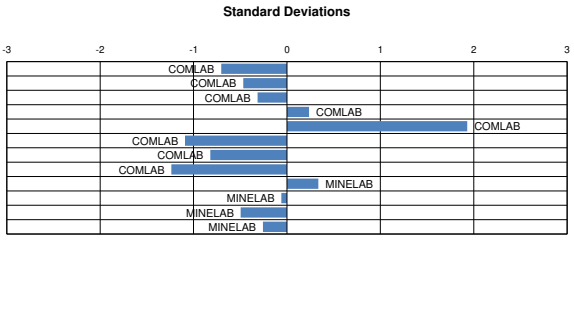












Nickel (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	62	11	66	4252	25
STDEV (ppm)	3	3	4	189	2
95% CI (ppm)	1	1	1	47	1
95% CI (%)	1.22%	6.25%	1.42%	1.11%	2.47%
MIN (ppm)	54	5	58	3750	20
MEDIAN (ppm)	61	12	65	4232	24
MAX (ppm)	67	17	74	4731	31
IQR (ppm)	4	3	4	232	3
COUNT	55	56	59	63	61

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	70	3.00	<20	bld	70	1.18	4350	0.52	26	0.42
COMLAB	57	-1.61	15	1.33	63	-0.75	4550	1.58	29	1.65
COMLAB	62	0.17	11	-0.15	67	0.35	4220	-0.17	23	-0.81
COMLAB	62	0.17	11	-0.15	66	0.08	4140	-0.59	24	-0.40
COMLAB	57	-1.61	12	0.22	66	0.08	4050	-1.07	23	-0.81
COMLAB	65	1.24	8	-1.26	66	0.08	4500	1.31	24	-0.40
COMLAB	66	1.59	13	0.59	69	0.90	4400	0.78	25	0.01
COMLAB	66	1.66	12	0.29	71	1.35	4632	2.01	24	-0.28
COMLAB	54	-2.68	<10	bld	58	-2.14	4181	-0.37	20	-2.04
COMLAB	63	0.52	13	0.59	67	0.35	4376	0.66	23	-0.81
COMLAB	61	-0.19	10	-0.52	64	-0.48	4288	0.19	26	0.42
COMLAB	60	-0.54	12	0.22	65	-0.20	4387	0.71	23	-0.81
COMLAB	58	-1.25	9	-0.89	65	-0.20	4207	-0.24	23	-0.81
COMLAB	59	-0.90	8	-1.26	64	-0.48	3959	-1.55	26	0.42
COMLAB	57	-1.61	11	-0.15	64	-0.48	4080	-0.91	23	-0.81
COMLAB	nr	nr	nr	nr	nr	nr	4417	0.87	nr	nr
COMLAB	63	0.67	12	0.18	65	-0.12	4232	-0.11	24	-0.36
COMLAB	61	-0.19	12	0.22	66	0.08	4206	-0.24	23	-0.81
COMLAB	59	-0.93	5	-2.20	61	-1.33	4399	0.78	23	-0.73
MINELAB	61	-0.19	<0.287	-3.00	65	-0.20	4060	-1.01	23	-0.81

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	67	1.95	16	1.70	74	2.29	4640	2.05	28	1.24
COMLAB	64	0.88	13	0.59	68	0.63	4150	-0.54	30	2.06
COMLAB	62	0.17	10	-0.52	69	0.90	4190	-0.33	24	-0.40
COMLAB	60	-0.54	9	-0.89	65	-0.20	4249	-0.02	23	-0.81
COMLAB	62	0.17	14	0.96	68	0.63	4150	-0.54	26	0.42
COMLAB	65	1.24	10	-0.52	70	1.18	4260	0.04	30	2.06
COMLAB	64	0.88	14	0.96	68	0.63	4450	1.05	26	0.42
COMLAB	60	-0.54	7	-1.63	66	0.08	4109	-0.76	24	-0.40
COMLAB	58	-1.25	12	0.22	64	-0.48	4290	0.20	22	-1.22
COMLAB	61	-0.19	9	-0.89	63	-0.75	3980	-1.44	23	-0.81
COMLAB	60	-0.54	<3	-3.00	65	-0.20	4465	1.13	24	-0.40
COMLAB	53	-3.00	11	-0.15	59	-1.86	3480	-3.00	27	0.83
COMLAB	60	-0.58	9	-1.04	63	-0.73	4165	-0.46	21	-1.75
COMLAB	61	-0.12	12	0.22	68	0.68	4320	0.36	24	-0.32
COMLAB	50	-3.00	9	-0.89	62	-1.03	4438	0.98	23	-0.81
COMLAB	60	-0.61	12	0.07	77	3.00	4215	-0.20	23	-0.93
COMLAB	63	0.52	15	1.33	68	0.63	4293	0.22	24	-0.40
COMLAB	61	-0.19	13	0.59	65	-0.20	4152	-0.53	26	0.42
COMLAB	62	0.07	11	-0.27	65	-0.28	4239	-0.07	25	-0.06
COMLAB	58	-1.11	12	0.11	63	-0.75	4178	-0.39	22	-1.18
COMLAB	62	0.17	12	0.22	63	-0.75	4266	0.07	26	0.42
COMLAB	57	-1.61	14	0.96	64	-0.48	3902	-1.85	24	-0.40
COMLAB	61	-0.19	30	3.00	65	-0.20	3750	-2.65	36	3.00

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	61	-0.19	12	0.29	60	-1.64	4142	-0.58	26	0.22
COMLAB	73	3.00	22	3.00	71	1.46	4490	1.26	29	1.65
COMLAB	59	-0.90	6	-2.01	61	-1.31	3763	-2.58	24	-0.40
COMLAB	59	-0.90	13	0.59	60	-1.58	4250	-0.01	27	0.83
COMLAB	60	-0.54	17	2.07	71	1.46	4250	-0.01	24	-0.40
COMLAB	66	1.59	10	-0.52	70	1.18	4210	-0.22	23	-0.81
COMLAB	60	-0.54	10	-0.52	60	-1.58	4180	-0.38	25	0.01
COMLAB	62	0.17	7	-1.63	65	-0.20	4040	-1.12	24	-0.40
COMLAB	59	-0.90	14	0.96	62	-1.03	4113	-0.73	25	0.01
COMLAB	66	1.59	9	-0.89	65	-0.20	4301	0.26	37	3.00
COMLAB	63	0.39	12	0.18	62	-1.06	4148	-0.55	28	1.13
COMLAB	64	0.88	9	-0.89	67	0.35	3881	-1.96	26	0.42
COMLAB	64	0.81	13	0.70	74	2.26	4460	1.10	27	0.63
MINELAB	70	3.00	23	3.00	68	0.67	4280	0.15	29	1.84

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	61	-0.19	12	0.22	65	-0.20	4258	0.03	24	-0.40
COMLAB	65	1.24	11	-0.15	70	1.18	4180	-0.38	26	0.42
COMLAB	62	0.17	7	-1.63	65	-0.20	4545	1.55	22	-1.22
COMLAB	74	3.00	17	2.07	68	0.63	4731	2.53	31	2.47
COMLAB	60	-0.54	14	0.96	64	-0.48	4360	0.57	25	0.01
COMLAB	60	-0.54	12	0.22	64	-0.48	4147	-0.55	24	-0.40
COMLAB	64	0.88	10	-0.52	89	3.00	3970	-1.49	28	1.24
COMLAB	<0.01	-3.00	<0.01	-3.00	<0.01	-3.00	4229	-0.12	22	-1.32
COMLAB	66	1.59	17	2.07	72	1.73	4290	0.20	29	1.65
COMLAB	64	0.94	15	1.27	71	1.33	4169	-0.44	24	-0.28
COMLAB	64	0.88	9	-0.89	65	-0.20	4010	-1.28	27	0.83
COMLAB	71	3.00	11	-0.29	83	3.00	4441	1.00	28	1.33
MINELAB	59	-0.90	5	-2.38	64	-0.48	4209	-0.23	23	-0.81
MINELAB	59	-0.90	5	-2.38	63	-0.75	4269	0.09	23	-0.81

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	573	3661	214	72	317
Std Dev	120	221	13	7	19

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
770	1.64	3900	1.08	230	1.23	80	1.20	350	1.72	NAA	
809	1.97	4084	1.91	238	1.84	78	0.89	266	-2.67	4A	ES
712	1.16	3840	0.81	214	0.01	74	0.27	319	0.10	4A	ES
691	0.98	3750	0.40	217	0.24	75	0.43	330	0.68	4A	ES
695	1.02	3690	0.13	218	0.32	73	0.12	322	0.26	4A	ES
722	1.24	3900	1.08	212	-0.14	75	0.43	313	-0.21	4A	ES
716	1.19	3950	1.31	224	0.77	77	0.74	329	0.63	4A	ES
708	1.12	4018	1.62	227	1.02	76	0.51	319	0.11	4A	ICP
664	0.76	3667	0.03	205	-0.67	58	-2.18	273	-2.30	4A	AAS
768	1.63	3947	1.29	218	0.32	72	-0.03	331	0.73	4A	ES
654	0.68	3750	0.40	207	-0.52	73	0.12	303	-0.73	4A	ES
709	1.13	3791	0.59	218	0.32	71	-0.19	301	-0.84	4A	ES
720	1.23	3708	0.21	207	-0.52	69	-0.49	328	0.57	4A	ES
631	0.48	3520	-0.64	197	-1.28	70	-0.34	270	-2.46	4A	ES
632	0.49	3740	0.36	196	-1.35	65	-1.11	269	-2.51	4A	AAS
nr	nr	3897	1.07	211	-0.21	nr	nr	310	-0.37	4A	AAS
705	1.10	3925	1.19	219	0.39	74	0.31	319	0.10	4A	ES
690	0.98	3778	0.53	216	0.17	72	-0.03	324	0.37	4A	AAS,MS
657	0.70	4016	1.60	224	0.74	70	-0.37	328	0.55	4A	AAS
658	0.71	3830	0.76	209	-0.37	75	0.43	298	-0.99	4A	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	243	4736	22	6	51
Std Dev	21	438	3	1	3

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
272	1.36	4720	-0.04	29	2.06	10	2.58	55	1.23	4A	ES
274	1.45	4580	-0.36	26	1.20	10	2.58	55	1.23	4A	ICP
278	1.64	5060	0.74	25	0.91	6	-0.25	54	0.92	4A	ES
256	0.60	4999	0.60	24	0.62	5	-0.96	52	0.31	4A	ES
268	1.17	5033	0.68	23	0.33	6	-0.25	55	1.23	4A	ES
265	1.03	4850	0.26	10	-3.00	9	1.87	45	-1.81	4A	ES
274	1.45	5070	0.76	24	0.62	8	1.16	54	0.92	4A	ES
260	0.79	5017	0.64	21	-0.24	5	-0.96	51	0.01	4A	AAS
258	0.69	5080	0.79	24	0.62	6	-0.25	52	0.31	4A	ES
240	-0.17	4970	0.53	21	-0.24	7	0.46	51	0.01	4A	ES
253	0.45	5191	1.04	23	0.33	<3	bld	52	0.31	4A	AAS
224	-0.93	4130	-1.38	21	-0.24	5	-0.96	57	1.83	4A	ES
255	0.55	4895	0.36	22	0.10	4	-1.53	52	0.31	4A	ES
274	1.45	4980	0.56	25	0.85	7	0.17	53	0.62	4A	MS
265	1.03	5016	0.64	16	-1.68	5	-0.96	42	-2.73	4A	ES
245	0.07	4808	0.17	23	0.27	11	3.00	46	-1.51	4A	ES
255	0.55	4865	0.30	26	1.20	9	1.87	56	1.53	4A	ICP
254	0.50	4681	-0.13	27	1.48	7	0.46	51	0.01	4A	ES
264	0.98	4590	-0.33	24	0.52	8	0.93	51	-0.03	FUS,4A	ICP
246	0.10	4744	0.02	23	0.33	6	-0.32	49	-0.54	4A	ICP
275	1.50	5298	1.28	24	0.62	9	1.87	47	-1.21	4A	ES
252	0.41	4736	0.00	11	-3.00	3	-2.38	33	-3.00	4A	ES
226	-0.83	4442	-0.67	30	2.35	25	3.00	50	-0.29	4A	ES

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	63	25	2504	4	317
Std Dev	14	8	156	2	19

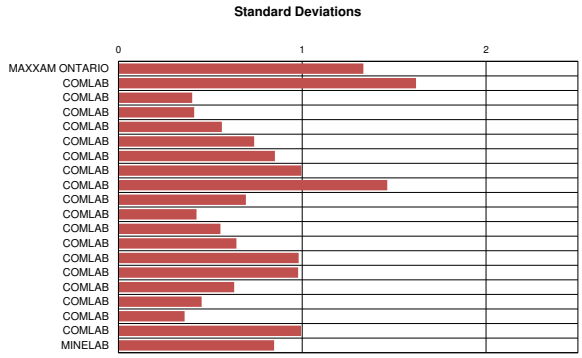
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
63	0.02	26	0.06	2361	-0.91	4	-0.06	309	-0.42	4A	ES
68	0.36	28	0.38	2610	0.68	7	1.50	306	-0.58	4A	ICP
67	0.29	26	0.13	2456	-0.31	2	-1.38	296	-1.10	4A	AAS
65	0.14	25	0.00	2500	-0.02	2	-1.38	315	-0.10	4A	ES
68	0.36	30	0.64	2600	0.62	6	0.92	311	-0.31	4A	ICP
69	0.43	30	0.64	2680	1.13	3	-0.80	327	0.52	4A	ES
65	0.14	30	0.64	2620	0.75	<5	bld	295	-1.15	4A	ES
63	0.00	25	0.00	2600	0.62	4	-0.23	315	-0.10	4A	ES
68	0.36	23	-0.26	2549	0.29	6	0.92	310	-0.37	4A	ES
75	0.86	22	-0.39	2298	-1.32	5	0.35	304	-0.68	4A	ES
58	-0.37	22	-0.39	2538	0.22	11	3.00	302	-0.78	4A	AAS
68	0.36	27	0.25	2439	-0.41	<5	bld	297	-1.05	4A	AAS
67	0.26	29	0.54	2330	-1.11	5	0.17	305	-0.63	4A	MS
74	0.79	33	1.00	2688	1.18	<20	bld	343	1.38	4A	ES

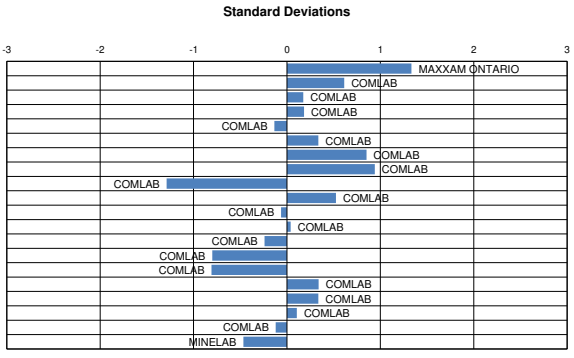
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	573	3661	2504	4	68
Std Dev	120	221	156	2	4

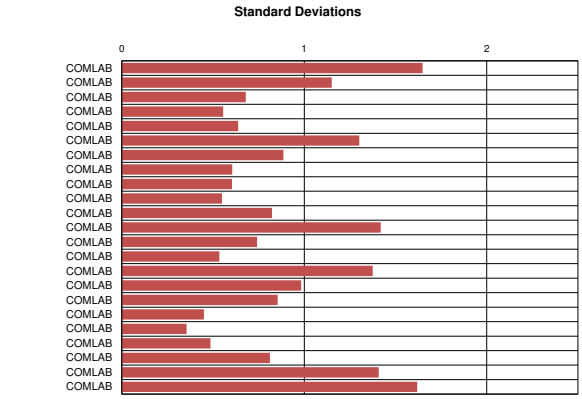
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
684	0.93	3642	-0.09	2504	0.00	6	0.92	68	0.09	4A	ES
645	0.60	3800	0.63	2700	1.26	5	0.35	68	0.09	4A	ES
714	1.18	3910	1.13	2551	0.30	2	-1.38	65	-0.72	4A	ES
724	1.26	4082	1.90	2716	1.36	11	3.00	71	0.90	4A	AAS
671	0.82	4050	1.76	2630	0.81	5	0.35	62	-1.53	4A	ES
669	0.80	3621	-0.18	2503	0.00	5	0.35	65	-0.72	4A	ICP
655	0.68	3690	0.13	2390	-0.73	<5	bld	68	0.09	4A	ICP
564	-0.07	4083	1.91	2655	0.97	2	-1.18	<0.01	bld	4A	ES
716	1.19	3930	1.22	2710	1.32	8	2.07	71	0.90	4A	ES
669	0.80	3857	0.88	2772	1.72	10	3.00	66	-0.57	4A	ES
641	0.57	3730	0.31	2590	0.55	3	-0.80	66	-0.45	4A	ES
668	0.79	4195	2.41	2593	0.57	13	3.00	72	1.12	4A	
651	0.65	3619	-0.19	2414	-0.57	3	-0.80	64	-0.99	4A	ES
647	0.62	3688	0.12	2271	-1.49	<2	bld	63	-1.26	4A	ES

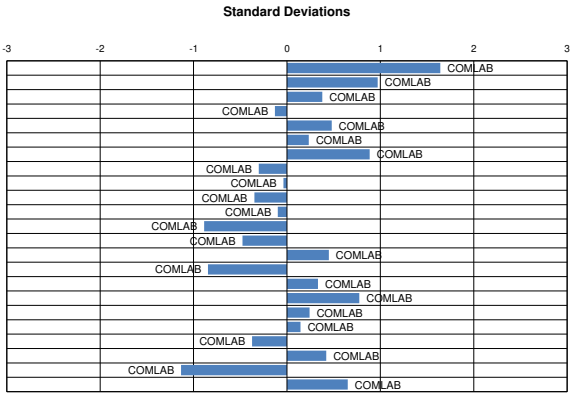
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

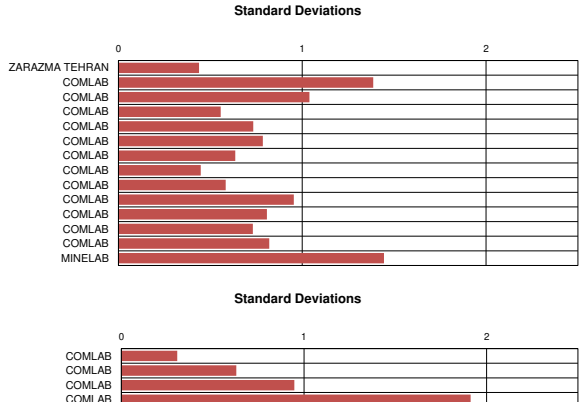
Nickel (Total Digest) - Mean of Absolute Standardized Values - April 2017	Nickel (Total Digest) - Mean of Standardized Values - April 2017

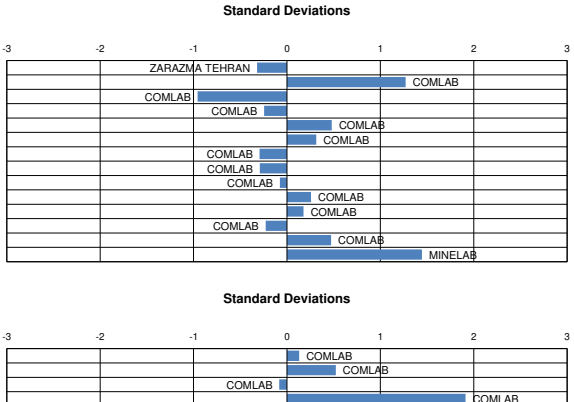


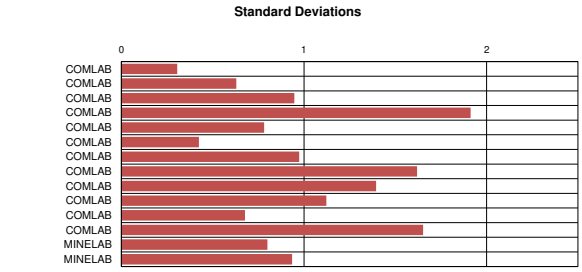


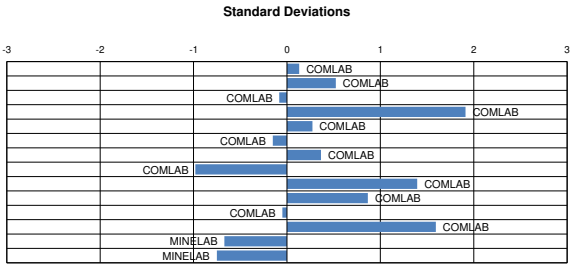












Nickel (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	51	11	55	4215	24
STDEV (ppm)	3	3	3	235	2
95% CI (ppm)	1	1	1	65	0
95% CI (%)	1.55%	9.29%	1.61%	1.54%	2.08%
MIN (ppm)	45	2	48	3740	20
MEDIAN (ppm)	51	11	55	4223	24
MAX (ppm)	58	15	62	4797	28
IQR (ppm)	3	5	4	246	2
COUNT	47	44	47	51	47

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	**66**	**3.00**	14	1.07	**67**	**3.00**	4256	0.18	25	0.80
COMLAB	50	-0.49	10	-0.18	57	0.49	4080	-0.57	24	0.10
COMLAB	49	-0.85	6	-1.39	53	-0.80	4190	-0.11	21	-1.64
COMLAB	51	-0.16	12	0.34	55	-0.19	4440	0.96	26	1.38
COMLAB	54	0.96	15	1.35	58	0.82	4687	2.01	24	0.10
COMLAB	50	-0.49	9	-0.48	53	-0.80	4214	0.00	25	0.68
COMLAB	54	0.96	10	-0.18	59	1.14	4280	0.28	24	0.10
COMLAB	55	1.29	<10	bld	60	1.37	4600	1.64	23	-0.77
COMLAB	50	-0.58	6	-1.44	53	-0.81	3808	-1.73	**13**	**-3.00**
COMLAB	50	-0.38	15	1.38	55	-0.15	3886	-1.40	25	0.86
COMLAB	47	-1.57	4	-2.00	49	-2.10	nr	nr	21	-1.64
COMLAB	50	-0.38	11	0.04	55	-0.28	4159	-0.24	24	-0.07
COMLAB	47	-1.72	5	-1.72	52	-1.00	4302	0.37	21	-1.94
MINELAB	49	-0.85	6	-1.39	54	-0.48	4330	0.49	20	-2.23
MINELAB	54	0.95	**29**	**3.00**	57	0.36	4249	0.15	24	0.20
MINELAB	54	0.96	12	0.43	**65**	**3.00**	3834	-1.62	26	1.27

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	53	0.60	7	-1.09	**238**	**3.00**	3810	-1.73	24	0.10
COMLAB	51	-0.13	10	-0.18	54	-0.48	4010	-0.87	23	-0.48
COMLAB	50	-0.49	9	-0.48	54	-0.48	4094	-0.52	22	-1.06
COMLAB	54	0.96	14	1.04	58	0.82	4223	0.03	26	1.27
COMLAB	51	-0.13	10	-0.18	55	-0.15	4380	0.70	24	0.10
COMLAB	56	1.68	15	1.35	56	0.17	4240	0.11	25	0.68
COMLAB	48	-1.21	8	-0.78	50	-1.77	3800	-1.77	24	0.10
COMLAB	51	-0.04	<10	bld	55	-0.15	4108	-0.46	24	-0.05
COMLAB	54	0.96	13	0.74	57	0.49	4268	0.23	**29**	**3.00**
COMLAB	51	-0.02	12	0.34	55	-0.06	4272	0.24	24	-0.19
COMLAB	45	-2.30	11	0.13	55	-0.15	4226	0.05	25	0.68
COMLAB	**60**	**3.00**	11	0.13	62	2.11	4067	-0.63	27	1.67
COMLAB	nr	nr	2	-2.61	62	2.11	4490	1.17	nr	nr
COMLAB	45	-2.30	9	-0.48	48	-2.42	3673	-2.31	19	-2.81
COMLAB	52	0.24	13	0.74	**71**	**3.00**	3916	-1.27	28	2.43
COMLAB	45	-2.30	11	0.13	51	-1.45	4434	0.93	23	-0.48
MINELAB	**<20**	**-3.00**	<20	bld	**67**	**3.00**	4202	-0.06	<20	bld
MINELAB	52	0.22	10	-0.19	55	-0.08	4278	0.27	25	0.48
MINELAB	51	-0.28	7	-0.95	55	-0.17	4326	0.47	22	-0.85
MINELAB	55	1.41	**42**	**3.00**	54	-0.48	4338	0.53	27	1.61
MINELAB	45	-2.30	13	0.74	48	-2.42	**3005**	**-3.00**	25	0.68

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	49	-0.85	6	-1.39	55	-0.15	3740	-2.02	22	-1.06
COMLAB	53	0.42	15	1.26	55	-0.12	4340	0.53	25	0.39
COMLAB	54	0.96	15	1.35	55	-0.15	4200	-0.06	25	0.68
COMLAB	50	-0.49	15	1.35	58	0.82	4120	-0.40	23	-0.48
COMLAB	52	0.24	11	0.13	56	0.17	4190	-0.11	24	0.10
COMLAB	51	-0.13	11	0.13	50	-1.77	4360	0.62	24	0.10
COMLAB	51	-0.09	12	0.40	55	-0.32	4110	-0.45	25	0.74
COMLAB	50	-0.49	12	0.43	55	-0.15	4019	-0.83	24	0.10
COMLAB	55	1.32	8	-0.78	57	0.49	3860	-1.51	26	1.27
COMLAB	nr	nr	13	0.62	nr	nr	nr	nr	nr	nr
COMLAB	53	0.60	12	0.43	59	1.14	>1000	ald	23	-0.48
COMLAB	**60**	**3.00**	13	0.74	**71**	**3.00**	**5378**	**3.00**	**36**	**3.00**
MINELAB	48	-1.05	9	-0.60	52	-1.06	4687	2.01	22	-0.82
MINELAB	**83**	**3.00**	**37**	**3.00**	**79**	**3.00**	4431	0.92	**47**	**3.00**
MINELAB	**83**	**3.00**	**159**	**3.00**	**84**	**3.00**	4541	1.39	**42**	**3.00**
MINELAB	58	2.41	**26**	**3.00**	61	1.79	4320	0.45	25	0.68

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	52	0.24	11	0.13	58	0.82	4100	-0.49	23	-0.48
COMLAB	**63**	**3.00**	12	0.43	**72**	**3.00**	**3504**	**-3.00**	**31**	**3.00**
COMLAB	54	0.96	12	0.43	59	1.14	4110	-0.45	24	0.10
COMLAB	53	0.60	**21**	**3.00**	58	0.82	4797	2.48	**29**	**3.00**
COMLAB	**<0.01**	**-3.00**	**<0.01**	**-3.00**	**<0.01**	**-3.00**	4336	0.52	24	-0.13
COMLAB	51	-0.13	13	0.74	56	0.17	4120	-0.40	25	0.68
COMLAB	52	0.36	14	0.94	57	0.49	3964	-1.07	23	-0.48
COMLAB	48	-1.21	<20	bld	54	-0.48	4088	-0.54	20	-2.23
MINELAB	<100	bld	<100	bld	<100	bld	4085	-0.55	<100	bld
MINELAB	56	1.68	11	0.13	58	0.82	4312	0.41	26	1.27
MINELAB	59	2.77	15	1.35	**65**	**3.00**	4458	1.04	**30**	**3.00**

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	573	3661	214	70	310
Std Dev	120	221	13	5	18

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
647	0.62	3969	1.39	218	0.30	74	0.79	290	-1.12	AR	MS
469	-0.87	3550	-0.50	212	-0.14	69	-0.14	313	0.15	AR	ES
432	-1.18	3560	-0.46	198	-1.20	65	-0.89	304	-0.35	AR	AAS
419	-1.28	3541	-0.55	210	-0.33	68	-0.25	313	0.15	AR	ICP
462	-0.93	3601	-0.27	234	1.53	70	0.04	334	1.30	AR	ES
362	-1.76	3307	-1.60	199	-1.13	67	-0.51	298	-0.67	AR	ES
545	-0.23	3649	-0.06	214	0.01	69	-0.14	303	-0.40	4A	ES
554	-0.16	4100	1.98	200	-1.05	69	-0.12	286	-1.33	3A	ICP
652	0.66	3503	-0.72	182	-2.40	66	-0.69	266	-2.43	AR	AAS
428	-1.21	3396	-1.20	202	-0.90	69	-0.14	300	-0.56	AR	ES
nr	nr	3142	-2.35	200	-1.05	67	-0.51	286	-1.33	AR	AAS
339	-1.95	3272	-1.76	204	-0.75	67	-0.44	316	0.31	AR	MS
424	-1.24	3438	-1.01	198	-1.19	63	-1.26	304	-0.35	AR	AAS
448	-1.04	3669	0.03	207	-0.52	71	0.23	300	-0.56	AR	AAS
462	-0.92	3623	-0.17	215	0.12	70	0.07	309	-0.05	AR	MS
326	-2.06	3357	-1.38	205	-0.67	72	0.41	284	-1.44	AR	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	243	4736	10	6	35
Std Dev	21	438	3	2	3

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
262	0.88	4340	-0.90	**160**	**3.00**	9	1.50	29	-1.76	AR	ES
249	0.26	4590	-0.33	9	-0.46	6	-0.23	35	0.15	AR	ES
234	-0.45	4528	-0.47	8	-0.78	6	-0.23	33	-0.48	AR	ES
263	0.93	4485	-0.57	10	-0.13	7	0.35	35	0.15	AR	ES
252	0.41	4530	-0.47	9	-0.46	6	-0.23	37	0.79	AR	ES
255	0.55	4530	-0.47	13	0.84	8	0.92	37	0.79	AR	ES
230	-0.64	**3370**	**-3.00**	7	-1.10	2	-2.53	30	-1.44	AR	ES
240	-0.15	3717	-2.33	<10	bld	<10	bld	32	-0.94	AR	ICP
254	0.50	3991	-1.70	12	0.51	7	0.35	37	0.79	AR	ES
245	0.05	3994	-1.69	9	-0.39	6	-0.12	33	-0.64	AR	ICP
271	1.29	3436	-2.97	9	-0.46	6	-0.23	30	-1.50	AR	AAS
251	0.36	4685	-0.12	17	2.13	9	1.50	40	1.74	AR,3A	ES,AAS
232	-0.55	4626	-0.25	bld	bld	**1**	**-3.00**	28	-2.08	AR	AAS
207	-1.74	4059	-1.55	8	-0.78	3	-1.96	29	-1.76	AR	ES
257	0.64	4370	-0.84	15	1.48	9	1.50	38	1.11	3A	AAS
258	0.69	4936	0.46	11	0.19	7	0.35	35	0.15	AD	AAS
<20	bld	**2144**	**-3.00**	**23**	**3.00**	<20	bld	42	2.34	AR	AAS
235	-0.41	4142	-1.35	9	-0.40	6	-0.32	34	-0.03	AR	ES
247	0.19	3753	-2.24	8	-0.74	6	-0.18	31	-1.04	AR	ES
234	-0.47	4224	-1.17	13	0.68	9	1.70	33	-0.39	AR	MS
208	-1.69	3507	-2.81	13	0.84	8	0.92	30	-1.44	AR	ES

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	63	25	2504	5	310
Std Dev	14	8	156	2	18

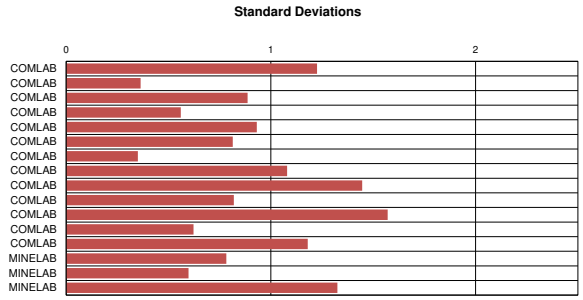
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
47	-1.14	17	-1.04	2292	-1.36	3	-0.62	280	-1.66	AR	AAS
50	-0.91	19	-0.83	2320	-1.18	4	-0.42	313	0.15	AR	ES
48	-1.07	20	-0.65	2280	-1.43	3	-0.62	320	0.53	AR	ES
49	-1.00	19	-0.78	2310	-1.24	4	-0.22	311	0.04	AR	ICP
52	-0.79	20	-0.65	2420	-0.54	2	-1.03	310	-0.02	AR	ES
54	-0.64	21	-0.52	2450	-0.34	2	-1.03	301	-0.51	AR	ES
51	-0.84	20	-0.66	2330	-1.11	4	-0.25	312	0.09	AR	ES
58	-0.36	19	-0.78	2483	-0.13	5	0.19	294	-0.89	AR	ES
50	-0.93	16	-1.17	2270	-1.50	<5	bld	300	-0.56	AR	ES
45	-1.26	18	-0.90	2077	-2.73	6	0.43	nr	nr	AR	ICP
53	-0.71	20	-0.65	>1000	ald	3	-0.62	304	-0.35	AR	MS
59	-0.29	22	-0.39	2729	1.44	2	-1.03	**379**	**3.00**	AR	ES
47	-1.13	15	-1.29	2776	1.75	bld	bld	298	-0.70	AR	ES
73	0.71	46	2.71	2344	-1.02	**24**	**3.00**	327	0.91	AR	ES
101	2.71	46	2.68	2555	0.33	**100**	**3.00**	**373**	**3.00**	AR	ICP
57	-0.43	21	-0.52	2748	1.57	**14**	**3.00**	**3236**	**3.00**	AR	AAS

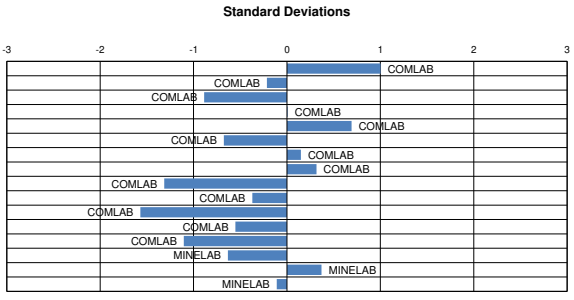
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	573	3661	2504	5	64
Std Dev	120	221	156	2	5

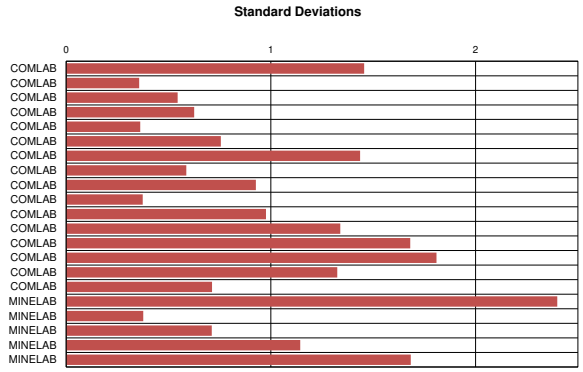
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
451	-1.02	3560	-0.46	2380	-0.79	2	-1.03	65	0.16	AR	ES
478	-0.79	**2913**	**-3.00**	**1980**	**-3.00**	**16**	**3.00**	76	2.45	AR	AAS
584	0.09	3543	-0.54	2475	-0.18	5	0.19	62	-0.46	AR	ICP
544	-0.24	3211	-2.04	**2026**	**-3.00**	11	2.62	69	0.99	3A	ICP
671	0.81	3841	0.81	2907	2.58	4	-0.33	<0.01	bld	AR	ES
271	-2.52	3360	-1.36	2350	-0.98	3	-0.62	62	-0.46	AR	ES
378	-1.63	3566	-0.43	2423	-0.52	6	0.46	66	0.30	AR	ES
405	-1.40	3381	-1.27	2341	-1.04	<20	bld	61	-0.67	AR	AAS
425	-1.23	3380	-1.27	2240	-1.69	<100	bld	<100	bld	AR	ES
498	-0.63	3462	-0.90	2337	-1.07	3	-0.62	68	0.79	AR	ES
390	-1.53	3888	1.03	2548	0.28	4	-0.22	75	2.24	AR	AAS

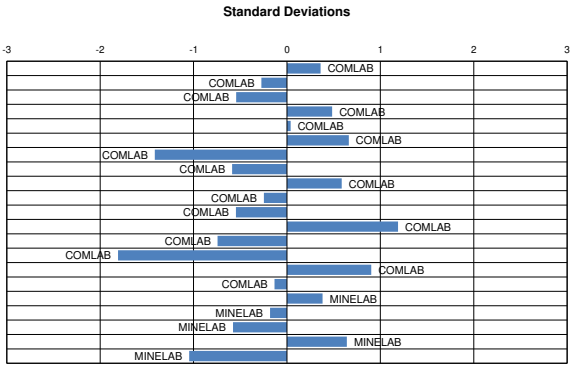
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

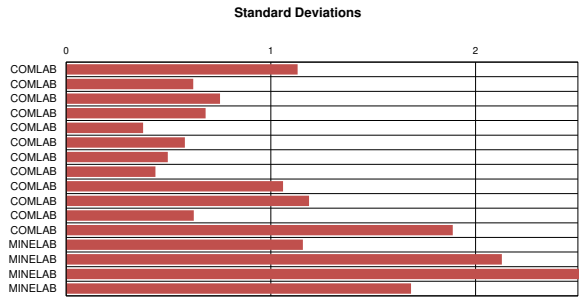
Nickel (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Nickel (Partial Digest) - Mean of Standardized Values - April 2017

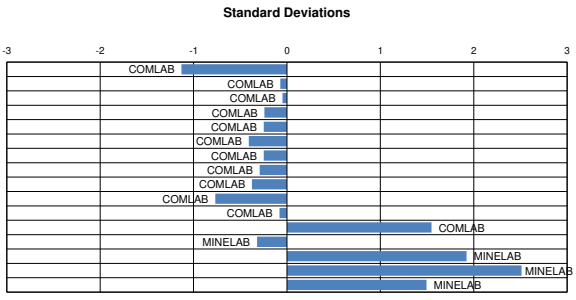


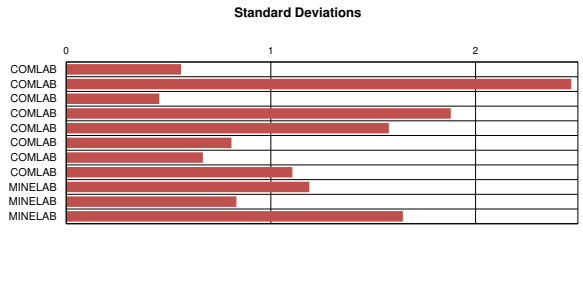


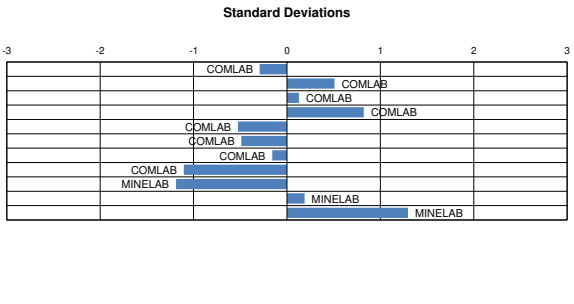












Arsenic (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	100	166	17	1829	2541
STDEV (ppm)	4	12	3	99	118
95% CI (ppm)	1	3	1	26	31
95% CI (%)	1.22%	1.98%	5.72%	1.39%	1.22%
MIN (ppm)	89	138	9	1600	2273
MEDIAN (ppm)	100	168	17	1844	2550
MAX (ppm)	108	185	25	2037	2780
IQR (ppm)	4	16	4	90	151
COUNT	46	49	49	59	56

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	103	0.77	180	1.20	19	0.57	1880	0.52	2550	0.08
COMLAB	96	-0.91	150	-1.37	17	-0.01	1600	-2.31	2670	1.10
COMLAB	99	-0.19	159	-0.60	18	0.28	1865	0.37	2570	0.25
COMLAB	101	0.29	160	-0.52	15	-0.59	1800	-0.29	2620	0.67
COMLAB	96	-0.91	159	-0.60	20	0.86	1805	-0.24	2500	-0.35
COMLAB	99	-0.19	164	-0.17	16	-0.30	1790	-0.39	2590	0.42
COMLAB	96	-0.91	159	-0.60	17	-0.01	1890	0.62	2600	0.50
COMLAB	**83**	**-3.00**	**93**	**-3.00**	17	-0.01	1927	0.99	**1244**	**-3.00**
COMLAB	**50**	**-3.00**	**112**	**-3.00**	<10	bld	1991	1.64	2273	-2.28
COMLAB	97	-0.67	165	-0.09	17	-0.01	1759	-0.70	2573	0.27
COMLAB	101	0.29	178	1.06	18	0.19	1836	0.07	2543	0.02
COMLAB	99	-0.19	172	0.51	21	1.15	1783	-0.46	2297	-2.08
COMLAB	99	-0.19	176	0.86	16	-0.30	1812	-0.17	2506	-0.30
COMLAB	108	1.97	169	0.26	17	-0.01	1860	0.32	2536	-0.04
COMLAB	91	-2.09	161	-0.40	16	-0.39	1811	-0.18	2525	-0.14
MINELAB	98	-0.43	**331**	**3.00**	**1641**	**3.00**	1758	-0.71	2553	0.10
MINELAB	**151**	**3.00**	193	2.32	**77**	**3.00**	1910	0.82	2540	-0.01
MINELAB	<100	bld	**205**	**3.00**	<100	bld	1611	-2.20	2221	-2.72

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	**78**	**-3.00**	152	-1.20	20	0.86	1730	-0.99	2620	0.67
COMLAB	90	-2.36	**127**	**-3.00**	13	-1.17	1620	-2.10	2390	-1.29
COMLAB	93	-1.63	162	-0.34	9	-2.34	1850	0.22	2700	1.35
COMLAB	89	-2.60	165	-0.09	10	-2.05	1869	0.41	2606	0.55
COMLAB	94	-1.39	179	1.12	17	-0.01	1837	0.08	2576	0.30
COMLAB	105	1.25	164	-0.17	13	-1.17	1845	0.17	2660	1.01
COMLAB	**142**	**3.00**	**300**	**3.00**	<100	bld	1900	0.72	**1873**	**-3.00**
COMLAB	102	0.53	174	0.69	18	0.28	1890	0.62	2390	-1.29
COMLAB	nr	nr	**376**	**3.00**	nr	nr	1872	0.44	2743	1.72
COMLAB	**113**	**3.00**	**225**	**3.00**	**32**	**3.00**	1998	1.71	2532	-0.08
COMLAB	97	-0.67	175	0.77	19	0.57	1930	1.02	2450	-0.77
COMLAB	108	1.97	175	0.77	18	0.28	1670	-1.60	2580	0.33
COMLAB	101	0.29	167	0.09	<25	bld	1888	0.60	2671	1.11
COMLAB	104	1.01	169	0.26	17	-0.01	1910	0.82	2600	0.50
COMLAB	101	0.29	164	-0.17	18	0.28	1807	-0.22	2560	0.16
COMLAB	105	1.27	174	0.71	24	2.13	1875	0.47	2680	1.18
COMLAB	**138**	**3.00**	176	0.86	20	0.86	1835	0.06	2678	1.17
COMLAB	103	0.77	179	1.12	16	-0.25	1850	0.22	2475	-0.56
COMLAB	98	-0.43	155	-0.95	20	0.86	1819	-0.10	2566	0.21
COMLAB	102	0.53	185	1.62	19	0.56	1849	0.21	2407	-1.14
COMLAB	99	-0.19	173	0.60	16	-0.30	1791	-0.38	2433	-0.92
COMLAB	96	-0.91	168	0.17	20	0.86	1994	1.67	2591	0.42
COMLAB	**118**	**3.00**	**214**	**3.00**	25	2.31	2037	2.10	**2928**	**3.00**
MINELAB	<100	bld	156	-0.83	<100	bld	1641	-1.89	2388	-1.30

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	101	0.29	138	-2.40	17	-0.01	1600	-2.31	2660	1.01
COMLAB	**123**	**3.00**	180	1.20	**29**	**3.00**	1903	0.75	2683	1.21
COMLAB	105	1.25	175	0.77	12	-1.46	1790	-0.39	2430	-0.94
COMLAB	101	0.29	138	-2.40	19	0.57	1860	0.32	2550	0.08
COMLAB	104	1.01	177	0.94	21	1.15	1880	0.52	2550	0.08
COMLAB	100	0.05	150	-1.37	10	-2.05	1920	0.92	2275	-2.26
COMLAB	105	1.25	155	-0.95	20	0.86	1840	0.12	2510	-0.26
COMLAB	101	0.29	160	-0.52	20	0.86	1797	-0.32	2538	-0.03
COMLAB	**137**	**3.00**	172	0.51	**36**	**3.00**	1749	-0.80	2476	-0.55
COMLAB	100	0.05	179	1.12	**43**	**3.00**	1990	1.63	2420	-1.03
MINELAB	**69**	**-3.00**	**128**	**-3.00**	20	0.73	1675	-1.55	2440	-0.86

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	102	0.53	169	0.26	16	-0.30	1875	0.47	2490	-0.43
COMLAB	100	0.05	146	-1.72	18	0.28	1725	-1.05	2750	1.78
COMLAB	101	0.29	165	-0.09	16	-0.30	1850	0.22	2630	0.76
COMLAB	**224**	**3.00**	**308**	**3.00**	**128**	**3.00**	1969	1.42	2780	2.03
COMLAB	99	-0.19	144	-1.89	14	-0.88	1820	-0.09	2420	-1.03
COMLAB	99	-0.19	174	0.69	16	-0.30	1844	0.16	2550	0.08
COMLAB	100	-0.05	176	0.84	13	-1.13	1618	-2.13	2677	1.16
COMLAB	104	1.01	175	0.77	21	1.15	1770	-0.59	2500	-0.35
COMLAB	98	-0.45	176	0.89	17	0.01	1747	-0.82	2351	-1.62
COMLAB	102	0.53	154	-1.03	13	-1.17	1860	0.32	2590	0.42
COMLAB	**143**	**3.00**	**227**	**3.00**	11	-1.88	**2461**	**3.00**	**3622**	**3.00**
MINELAB	103	0.77	162	-0.34	23	1.73	1835	0.06	2406	-1.15

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	449	13	395	14	497
Std Dev	74	4	29	3	27

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
510	0.82	14	0.25	390	-0.16	14	-0.08	530	1.20	NAA	
422	-0.36	12	-0.18	416	0.73	14	-0.08	431	-2.41	4A	ES
466	0.23	14	0.39	395	0.01	13	-0.38	497	-0.01	4A	ES
470	0.28	16	0.96	390	-0.16	13	-0.38	516	0.69	4A	ES
465	0.22	12	-0.18	382	-0.43	17	0.84	510	0.47	4A	ES
462	0.18	13	0.11	381	-0.47	16	0.53	471	-0.95	4A	ES
476	0.36	10	-0.75	394	-0.02	7	-2.21	494	-0.11	4A	ES
522	0.99	15	0.67	354	-1.39	11	-0.99	523	0.94	4A	ICP
426	-0.31	<10	bld	309	-2.93	<10	bld	469	-1.03	4A	AAS
448	-0.01	14	0.39	394	-0.02	14	-0.08	474	-0.84	4A	ES
475	0.35	14	0.33	393	-0.06	14	-0.08	510	0.46	4A	MS,ES
472	0.31	16	0.96	374	-0.71	18	1.14	495	-0.08	4A	MS
478	0.39	16	0.96	378	-0.57	13	-0.38	469	-1.03	FUS	MS
500	0.69	<15	bld	398	0.11	15	0.23	517	0.72	4A	AAS
440	-0.12	9	-1.17	368	-0.92	11	-1.02	475	-0.81	4A	ES
390	-0.80	**67**	**3.00**	**494**	**3.00**	**81**	**3.00**	562	2.36	4A	AAS
556	1.45	**42**	**3.00**	432	1.28	**75**	**3.00**	564	2.44	4A	ICP
497	0.65	<100	bld	371	-0.81	<100	bld	489	-0.30	FUS	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	770	14	6	1409	33
Std Dev	61	6	2	72	5

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
723	-0.76	14	0.06	<3	bld	1520	1.53	21	-2.56	4A	ES
732	-0.61	15	0.23	7	0.62	1320	-1.23	25	-1.74	4A	ICP
757	-0.21	12	-0.28	5	-0.34	1500	1.25	34	0.11	4A	ES
736	-0.55	13	-0.11	5	-0.34	1466	0.79	33	-0.09	4A	ES
779	0.15	13	-0.11	<5	bld	1467	0.80	34	0.11	4A	ES
789	0.32	8	-0.97	<5	bld	1480	0.98	33	-0.09	4A	ES
679	-1.48	**114**	**3.00**	**102**	**3.00**	1320	-1.23	<100	bld	4A	ES
753	-0.27	16	0.40	6	0.14	1430	0.29	32	-0.30	4A	MS
846	1.25	nr	nr	**83**	**3.00**	1498	1.23	**163**	**3.00**	4A	AAS
808	0.63	**44**	**3.00**	**20**	**3.00**	1474	0.90	**58**	**3.00**	4A	AAS
750	-0.32	17	0.58	6	0.33	1440	0.43	33	-0.09	4A	MS
722	-0.78	18	0.75	**14**	**3.00**	1390	-0.26	**50**	**3.00**	4A	ES
759	-0.17	<25	bld	<25	bld	1483	1.02	36	0.53	4A	AAS
792	0.37	15	0.23	5	-0.34	1470	0.84	34	0.01	4A	MS
766	-0.06	21	1.26	<10	bld	1424	0.21	33	-0.09	4A	ES
745	-0.40	15	0.25	5	-0.15	1480	0.98	32	-0.28	4A	MS
801	0.51	<20	bld	**32**	**3.00**	1535	1.74	**72**	**3.00**	4A	AAS
758	-0.19	14	0.02	5	-0.43	1410	0.01	34	0.07	4A	ICP
755	-0.24	15	0.23	10	2.05	1447	0.52	34	0.11	4A	ES
709	-0.99	16	0.37	8	0.94	1438	0.40	37	0.77	4A	ICP
731	-0.63	15	0.23	6	0.14	1403	-0.08	32	-0.30	4A	ICP
725	-0.73	25	1.95	**16**	**3.00**	1468	0.81	25	-1.74	4A	ES,MS,AAS
861	1.49	27	2.30	<10	bld	**1706**	**3.00**	31	-0.50	4A	ES
707	-1.02	<100	bld	<100	bld	1381	-0.39	<100	bld	4A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	96	8	57	22	497
Std Dev	11	7	7	8	27

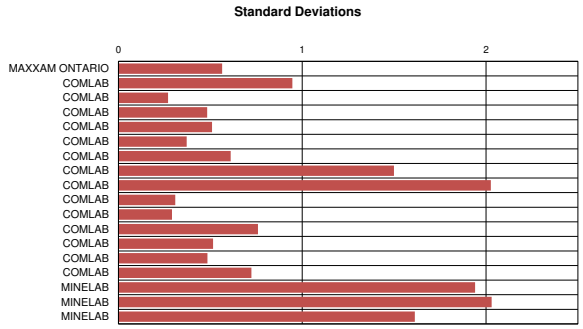
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
67	-2.64	7	-0.20	37	-2.74	16	-0.79	**303**	**-3.00**	4A	ICP
117	1.91	<20	bld	66	1.20	43	2.80	506	0.32	4A	AAS
99	0.27	<5	bld	54	-0.43	20	-0.26	505	0.29	4A	ES
103	0.64	<5	bld	56	-0.15	26	0.54	476	-0.77	4A	ICP
101	0.45	<5	bld	55	-0.29	24	0.27	497	-0.01	4A	ES
100	0.36	<10	bld	**10**	**-3.00**	20	-0.26	490	-0.26	4A	ES
91	-0.45	<5	bld	57	-0.02	24	0.27	482	-0.55	4A	ES
98	0.18	<5	bld	58	0.12	12	-1.33	495	-0.08	4A	ES
95	-0.09	18	1.37	51	-0.83	**77**	**3.00**	475	-0.81	4A	ES
94	-0.18	5	-0.49	46	-1.51	**85**	**3.00**	511	0.50	4A	MS
79	-1.57	14	0.76	45	-1.61	32	1.30	**360**	**-3.00**	4A	ES

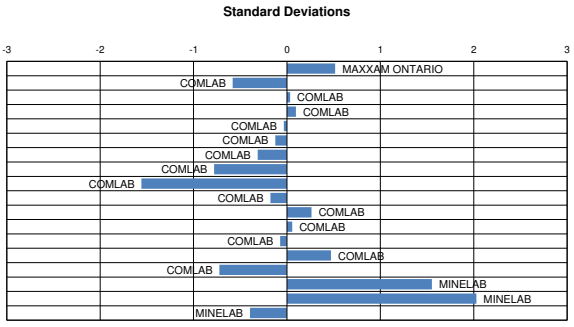
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	449	13	57	22	10
Std Dev	74	4	7	8	2

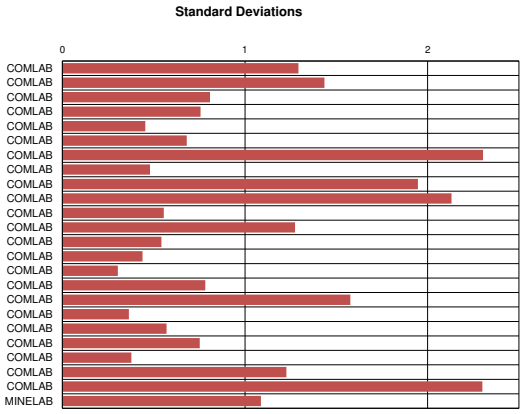
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
467	0.24	13	0.11	56	-0.15	42	2.66	10	0.17	4A	ES
438	-0.15	12	-0.18	57	-0.02	29	0.93	10	0.17	4A	ES
471	0.30	12	-0.18	53	-0.56	23	0.14	9	-0.41	4A	ES
618	2.28	**176**	**3.00**	**173**	**3.00**	**148**	**3.00**	**107**	**3.00**	4A	AAS
453	0.05	14	0.39	53	-0.56	20	-0.26	8	-0.99	4A	MS
484	0.47	15	0.67	59	0.25	26	0.54	9	-0.41	4A	ICP
403	-0.62	13	0.12	44	-1.75	8	-1.80	9	-0.43	4A	ES
474	0.34	**26**	**3.00**	**81**	**3.00**	**47**	**3.00**	13	1.92	4A	ES
462	0.17	13	0.09	51	-0.87	23	0.11	13	2.17	4A	ES
457	0.11	9	-1.03	57	-0.02	12	-1.33	9	-0.41	4A	ES
625	2.38	bld	bld	61	0.59	2	-2.65	bld	bld	4A	
485	0.49	22	2.66	55	-0.29	33	1.47	**16**	**3.00**	4A	ES

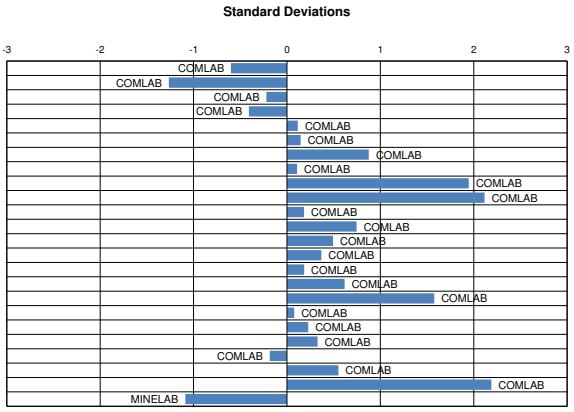
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

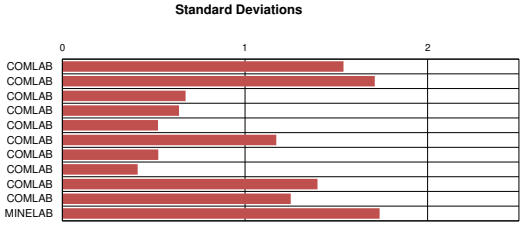
Arsenic (Total Digest) - Mean of Absolute Standardized Values - April 2017	Arsenic (Total Digest) - Mean of Standardized Values - April 2017

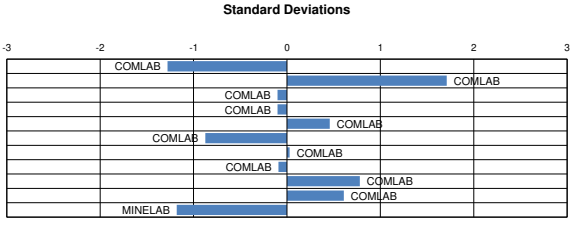


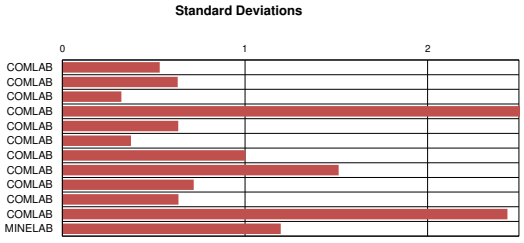


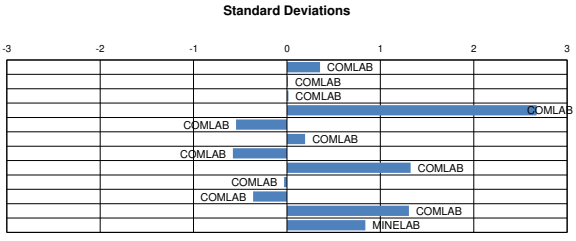












Arsenic (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	101	169	16	1677	2534
STDEV (ppm)	7	11	2	105	201
95% CI (ppm)	2	3	1	28	53
95% CI (%)	2.06%	1.83%	3.14%	1.70%	2.08%
MIN (ppm)	85	145	13	1440	2061
MEDIAN (ppm)	101	170	17	1690	2565
MAX (ppm)	119	192	20	1890	2975
IQR (ppm)	8	14	2	147	209
COUNT	50	51	46	53	57

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	97	-0.51	152	-1.54	13	-1.82	1584	-0.89	2391	-0.71
COMLAB	102	0.12	174	0.42	15	-0.80	1705	0.26	2650	0.58
COMLAB	91	-1.38	164	-0.49	17	0.50	1718	0.39	2587	0.26
COMLAB	112	1.47	190	1.85	17	0.33	1691	0.13	2482	-0.26
COMLAB	95	-0.82	163	-0.57	16	-0.24	1690	0.12	2578	0.22
COMLAB	97	-0.55	161	-0.75	15	-0.80	1755	0.74	2431	-0.51
COMLAB	158	3.00	225	3.00	17	0.22	1750	0.70	2410	-0.62
COMLAB	100	-0.10	208	3.00	29	3.00	1716	0.37	2091	-2.20
COMLAB	101	-0.01	189	1.76	20	2.03	1560	-1.12	2798	1.31
COMLAB	105	0.53	113	-3.00	9	-3.00	1492	-1.77	2858	1.61
COMLAB	97	-0.59	155	-1.28	15	-0.86	1519	-1.51	2975	2.19
COMLAB	100	-0.14	174	0.42	18	0.90	1890	2.03	2594	0.30
COMLAB	90	-1.46	145	-2.18	14	-1.14	1692	0.14	2349	-0.92
MINELAB	109	1.06	154	-1.37	16	-0.24	1810	1.27	2711	0.88
MINELAB	103	0.31	169	-0.05	15	-0.93	1676	-0.01	2617	0.41

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	105	0.53	192	2.03	55	3.00	1590	-0.83	2870	1.67
COMLAB	104	0.39	176	0.60	14	-1.37	1640	-0.36	2640	0.53
COMLAB	100	-0.14	173	0.33	15	-0.80	1629	-0.46	2604	0.35
COMLAB	104	0.39	180	0.96	17	0.33	1687	0.09	2674	0.70
COMLAB	99	-0.28	178	0.78	16	-0.24	1730	0.50	2660	0.63
COMLAB	103	0.26	175	0.51	17	0.33	1735	0.55	2690	0.77
COMLAB	85	-2.16	125	-3.00	16	-0.24	1440	-2.27	2350	-0.91
COMLAB	89	-1.62	156	-1.19	14	-1.37	1470	-1.98	2130	-2.00
COMLAB	55	-3.00	160	-0.81	6	-3.00	1638	-0.38	2370	-0.81
COMLAB	105	0.53	188	1.63	20	1.86	1717	0.38	2578	0.22
COMLAB	109	1.06	173	0.33	15	-0.80	1759	0.78	2579	0.22
COMLAB	93	-1.08	173	0.33	16	-0.24	1545	-1.26	2370	-0.81
COMLAB	81	-2.70	189	1.76	<50	bld	1515	-1.55	2509	-0.12
COMLAB	110	1.20	174	0.42	18	0.90	1757	0.76	2498	-0.18
COMLAB	102	0.12	169	-0.03	8	-3.00	1562	-1.10	2492	-0.21
COMLAB	137	3.00	168	-0.16	7	-3.00	116	-3.00	2487	-0.23
COMLAB	109	1.06	174	0.42	19	1.46	1782	1.00	2632	0.49
MINELAB	103	0.32	169	0.00	17	0.30	1784	1.02	2637	0.51
MINELAB	77	-3.00	133	-3.00	<10	-3.00	1350	-3.00	2208	-1.62
MINELAB	99	-0.29	132	-3.00	14	-1.20	1768	0.87	2576	0.21
MINELAB	105	0.56	167	-0.20	22	3.00	1678	0.00	2603	0.34
MINELAB	86	-2.02	149	-1.82	18	0.90	1230	-3.00	2286	-1.23
MINELAB	bld	bld	187	1.58	bld	bld	1715	0.36	2061	-2.35

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	100	-0.20	171	0.11	17	0.50	1854	1.69	2567	0.16
COMLAB	104	0.39	170	0.06	<20	bld	1722	0.43	2684	0.74
COMLAB	115	1.87	170	0.06	15	-0.86	1880	1.94	2770	1.17
COMLAB	101	-0.01	170	0.06	17	0.33	1800	1.17	2400	-0.66
COMLAB	103	0.26	164	-0.48	16	-0.24	1670	-0.07	2490	-0.22
COMLAB	103	0.26	172	0.24	17	0.33	1690	0.12	2550	0.08
COMLAB	102	0.12	175	0.51	97	3.00	1690	0.12	2570	0.18
COMLAB	99	-0.35	159	-0.92	15	-1.09	1620	-0.55	2480	-0.27
COMLAB	97	-0.55	157	-1.10	20	2.03	1711	0.32	2542	0.04
COMLAB	125	3.00	154	-1.37	17	0.33	1569	-1.04	2119	-2.06
COMLAB	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
COMLAB	96	-0.68	173	0.33	17	0.33	1620	-0.55	2457	-0.38
COMLAB	100	-0.14	190	1.85	15	-0.80	>1000	ald	>1000	ald
MINELAB	96	-0.70	180	0.99	20	1.75	1600	-0.74	2689	0.77
MINELAB	115	1.87	172	0.24	18	0.90	1776	0.94	2806	1.35
MINELAB	bld	bld	167	-0.23	bld	bld	1526	-1.44	2565	0.15
MINELAB	95	-0.82	151	-1.64	13	-1.94	1608	-0.66	2521	-0.06

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	101	-0.01	163	-0.57	19	1.46	1620	-0.55	2640	0.53
COMLAB	99	-0.28	174	0.42	16	-0.24	1820	1.36	2555	0.10
COMLAB	106	0.66	161	-0.75	17	0.33	1594	-0.80	2508	-0.13
COMLAB	119	2.44	185	1.36	16	-0.39	2115	3.00	2937	2.00
COMLAB	110	1.20	185	1.40	17	0.33	1620	-0.55	2460	-0.37
COMLAB	85	-2.14	164	-0.50	16	-0.05	1506	-1.64	2160	-1.85
COMLAB	95	-0.82	161	-0.75	15	-0.97	1779	0.97	2517	-0.08
MINELAB	105	0.53	185	1.40	<100	bld	1695	0.17	2585	0.25
MINELAB	104	0.39	174	0.42	20	2.03	1804	1.21	2494	-0.20
MINELAB	92	-1.22	188	1.67	9	-3.00	1558	-1.14	2462	-0.36

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	449	13	395	14	479
Std Dev	74	4	29	2	37

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
417	-0.44	12	-0.21	335	-2.03	11	-1.44	345	-3.00	AR	MS
352	-1.31	10	-0.75	389	-0.19	14	0.13	501	0.58	AR	ES
274	-2.36	10	-0.75	389	-0.18	12	-0.70	491	0.30	AR	ICP
263	-2.51	11	-0.46	400	0.18	11	-1.34	489	0.26	AR	ES
264	-2.50	13	0.11	367	-0.95	15	0.62	462	-0.47	AR	ES
452	0.04	13	0.11	390	-0.16	14	0.13	499	0.53	4A	MS,ES
309	-1.89	48	3.00	408	0.46	73	3.00	550	1.91	3A	ICP
222	-3.00	18	1.58	293	-3.00	16	1.16	329	-3.00	AR	AAS
389	-0.81	13	0.11	400	0.18	12	-0.85	443	-0.99	AR	MS
188	-3.00	3	-2.73	399	0.15	8	-2.80	472	-0.20	AR	AAS
168	-3.00	11	-0.46	351	-1.49	14	0.18	486	0.18	AR	MS
429	-0.27	13	0.11	399	0.15	13	-0.36	493	0.37	AR	AAS
386	-0.86	7	-1.58	356	-1.34	11	-1.19	465	-0.39	AR	ES
297	-2.05	<10	bld	395	0.01	10	-1.83	497	0.48	AR	AAS
401	-0.65	13	0.10	365	-1.02	14	0.12	486	0.17	AR	MS

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	770	14	6	1463	33
Std Dev	61	6	3	88	4

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
772	0.04	10	-0.63	4	-0.51	1500	0.43	36	0.83	AR	ES
749	-0.34	14	0.06	3	-0.83	1510	0.54	32	-0.27	AR	ES
770	0.01	12	-0.28	3	-0.83	1487	0.28	33	0.00	AR	ES
791	0.35	10	-0.63	3	-0.83	1470	0.08	34	0.28	AR	ES
762	-0.12	11	-0.46	5	-0.20	1500	0.43	35	0.56	AR	ES
791	0.35	10	-0.63	4	-0.51	1480	0.20	36	0.83	AR	ES
665	-1.71	5	-1.49	5	-0.20	1315	-1.68	43	2.77	AR	ES
664	-1.73	6	-1.32	4	-0.51	1250	-2.42	28	-1.38	AR	ES
658	-1.83	11	-0.41	4	-0.51	1385	-0.88	23	-2.85	3A,MICR	ES
799	0.48	16	0.49	<10	bld	1439	-0.27	34	0.42	AR	ICP
796	0.43	11	-0.46	4	-0.51	1456	-0.07	30	-0.83	AR	ES
763	-0.11	9	-0.80	3	-0.83	1324	-1.58	32	-0.27	AR	ICP
706	-1.04	<50	bld	<50	bld	1452	-0.12	<50	bld	AR	AAS
783	0.22	14	0.06	5	-0.20	1465	0.03	37	1.11	AR,3A	MS,AAS
767	-0.04	7	-1.15	3	-0.83	1347	-1.32	19	-3.00	AR	ES
728	-0.69	8	-0.97	<1	bld	1424	-0.44	26	-1.82	AR	ICP
798	0.46	21	1.26	7	0.42	1499	0.42	34	0.28	AD	ES
801	0.51	14	0.01	4	-0.52	1412	-0.58	36	0.78	AR	ES
685	-1.38	<10	bld	<10	bld	1261	-2.30	26	-1.93	AR	AAS
792	0.37	<14	bld	<14	bld	1455	-0.09	32	-0.33	AR	ES
780	0.17	19	0.84	6	0.19	1368	-1.08	38	1.40	AR	MS
682	-1.43	13	-0.11	5	-0.20	1336	-1.44	31	-0.55	AR	ES
714	-0.91	bld	bld	bld	bld	1249	-2.43	bld	bld	3A	AAS

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	96	8	57	10	479
Std Dev	11	7	7	6	37

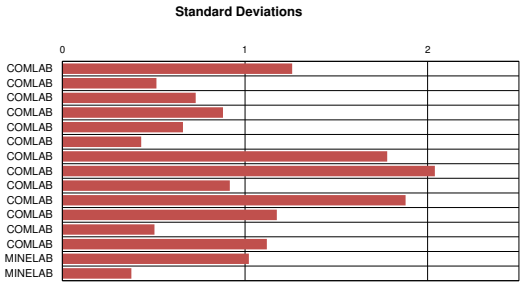
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
98	0.15	3	-0.73	52	-0.67	12	0.20	493	0.37	AR	ES
98	0.18	<20	bld	58	0.12	<20	bld	500	0.56	AR	AAS
107	1.00	<0.1	bld	52	-0.64	13	0.51	522	1.15	AR	ES
95	-0.09	<2	bld	55	-0.29	10	-0.08	510	0.83	AR	ES
93	-0.27	2	-0.91	56	-0.15	11	0.09	491	0.31	AR	ICP
97	0.09	2	-0.91	56	-0.15	8	-0.43	494	0.39	AR	ES
16	-3.00	2	-0.91	59	0.25	8	-0.43	483	0.10	AR	ES
90	-0.51	<5	bld	55	-0.25	8	-0.38	485	0.15	AR	ES
93	-0.27	<2	bld	57	-0.02	<2	bld	485	0.15	AR	ES
82	-1.27	8	-0.06	41	-2.19	9	-0.25	478	-0.04	AR	ES
130	3.00	1	-1.06	50	-0.97	9	-0.25	444	-0.96	AR	ICP
91	-0.45	1	-1.06	54	-0.43	8	-0.43	461	-0.50	AR	MS
100	0.36	<5	bld	60	0.39	10	-0.08	510	0.83	AR	ES
93	-0.31	0	-1.17	53	-0.58	26	2.65	470	-0.25	AR	AAS
104	0.73	<2	bld	57	-0.02	10	-0.08	523	1.18	AR	ES
bld	bld	bld	bld	42	-2.04	bld	bld	bld	bld	AR	ICP
91	-0.45	<1	bld	52	-0.70	<1	bld	481	0.04	AR	AAS

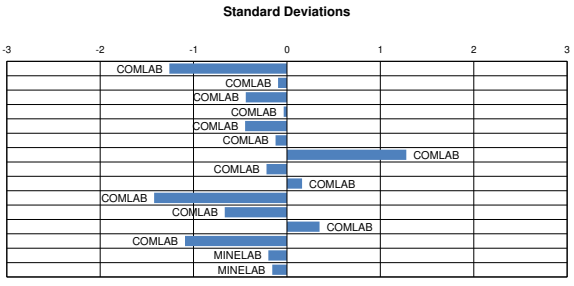
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	449	13	57	10	10
Std Dev	74	4	7	6	1

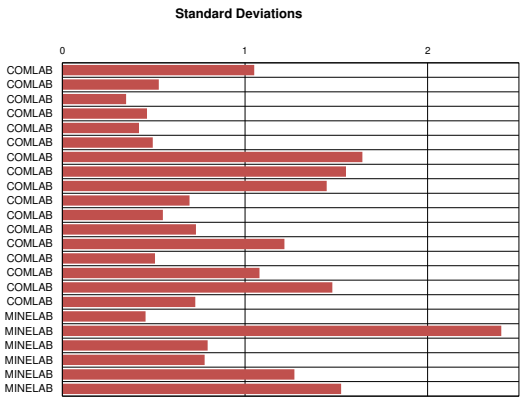
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
316	-1.80	11	-0.46	58	0.12	6	-0.78	10	0.29	AR	ES
463	0.19	13	0.11	58	0.12	10	-0.08	10	0.29	AR	ICP
419	-0.41	13	0.11	54	-0.43	7	-0.60	10	0.29	1A	ICP
486	0.49	10	-0.66	57	-0.08	17	1.08	7	-1.81	AR	ES
160	-3.00	20	2.10	72	2.02	20	1.67	10	0.29	AR	ES
228	-2.98	12	-0.18	47	-1.35	8	-0.43	8	-1.00	AR	ES
406	-0.58	11	-0.35	49	-1.11	9	-0.25	9	-0.13	AR	ES
365	-1.14	<100	bld	<100	bld	<100	bld	<100	bld	AR	ES
412	-0.50	12	-0.18	58	0.12	8	-0.43	8	-1.12	AR	ES
278	-2.31	15	0.67	47	-1.38	11	0.09	20	3.00	AR	AAS

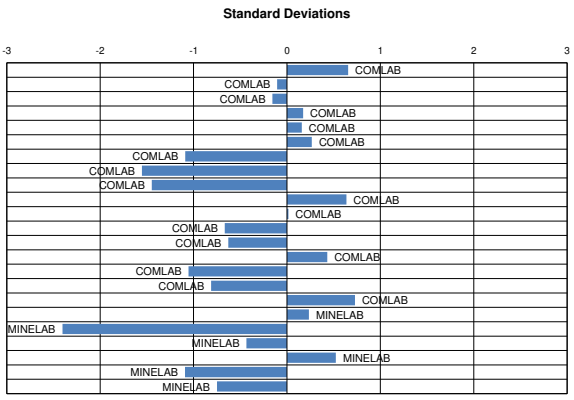
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

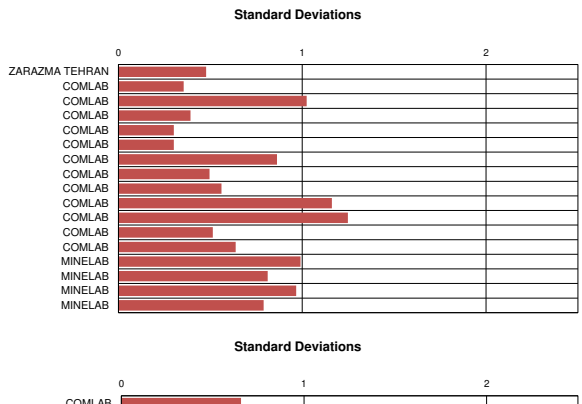
Arsenic (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Arsenic (Partial Digest) - Mean of Standardized Values - April 2017

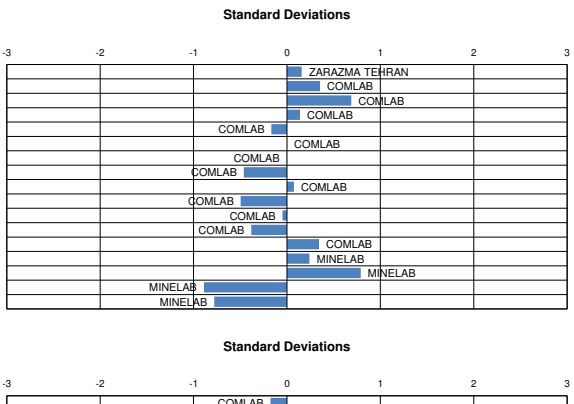


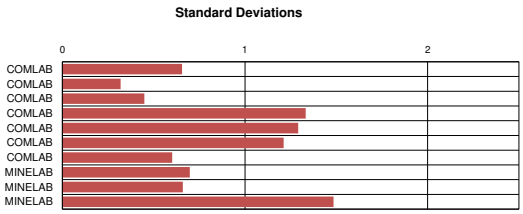


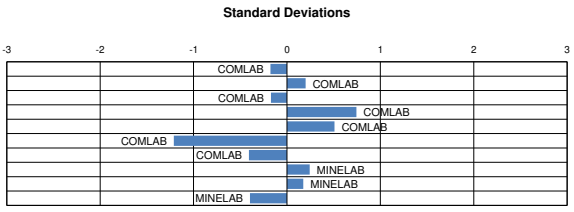












Cobalt (Total Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	21	388	17	1081	53
STDEV (ppm)	2	19	1	62	2
95% CI (ppm)	1	5	0	15	0
95% CI (%)	2.75%	1.28%	2.18%	1.42%	0.93%
MIN (ppm)	16	334	15	912	49
MEDIAN (ppm)	21	390	17	1089	53
MAX (ppm)	27	434	21	1220	56
IQR (ppm)	2	22	2	66	2
COUNT	60	60	56	63	53

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	22	0.25	425	1.91	18	0.53	1180	1.60	55	1.13
COMLAB	17	-1.92	**329**	**-3.00**	16	-0.87	1003	-1.26	**59**	**3.00**
COMLAB	22	0.25	390	0.11	17	-0.17	1100	0.31	53	0.03
COMLAB	21	-0.18	377	-0.56	17	-0.17	1060	-0.34	53	0.03
COMLAB	21	-0.18	386	-0.09	17	-0.17	1075	-0.10	52	-0.53
COMLAB	21	-0.18	390	0.11	17	-0.17	1090	0.15	53	0.03
COMLAB	20	-0.61	390	0.11	15	-1.58	1110	0.47	53	0.03
COMLAB	23	0.77	406	0.91	17	-0.17	1074	-0.11	**60**	**3.00**
COMLAB	21	-0.18	362	-1.33	16	-0.87	1132	0.82	51	-1.08
COMLAB	22	0.25	427	2.01	18	0.53	1137	0.91	53	0.03
COMLAB	20	-0.61	373	-0.76	16	-0.87	1025	-0.91	56	1.69
COMLAB	21	-0.14	395	0.35	17	-0.03	1085	0.06	51	-1.13
COMLAB	17	-1.92	386	-0.09	15	-1.58	1090	0.15	53	0.03
COMLAB	22	0.12	389	0.06	17	0.11	1091	0.16	53	0.14
COMLAB	20	-0.61	350	-1.94	17	-0.17	1056	-0.41	51	-1.08
COMLAB	nr	nr	413	1.29	nr	nr	1154	1.18	nr	nr
COMLAB	22	0.08	406	0.93	17	-0.38	1110	0.47	56	1.91
COMLAB	22	0.25	406	0.93	18	0.53	1087	0.10	53	0.03
COMLAB	21	-0.22	392	0.23	19	0.88	1130	0.79	52	-0.42
MINELAB	**38**	**3.00**	**510**	**3.00**	**31**	**3.00**	1060	-0.34	**77**	**3.00**
MINELAB	16	-2.35	369	-0.97	13	-2.98	1021	-0.97	**47**	**-3.00**

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	21	-0.18	434	2.37	18	0.53	1220	2.25	**62**	**3.00**
COMLAB	19	-1.05	334	-2.76	16	-0.87	1030	-0.83	55	1.13
COMLAB	22	0.25	378	-0.51	17	-0.17	1040	-0.66	52	-0.53
COMLAB	24	1.12	370	-0.92	19	1.24	1065	-0.26	53	0.03
COMLAB	20	-0.61	376	-0.61	18	0.53	1068	-0.21	52	-0.53
COMLAB	21	-0.18	401	0.68	15	-1.58	1110	0.47	54	0.58
COMLAB	22	0.25	395	0.37	19	1.24	1110	0.47	55	1.13
COMLAB	19	-1.05	**298**	**-3.00**	16	-0.87	983	-1.59	50	-1.63
COMLAB	20	-0.61	394	0.32	18	0.53	1090	0.15	56	1.69
COMLAB	20	-0.61	396	0.42	16	-0.87	1030	-0.83	54	0.58
COMLAB	22	0.25	378	-0.51	19	1.24	1117	0.58	55	1.13
COMLAB	26	1.99	382	-0.30	**22**	**3.00**	1060	-0.34	53	0.03
COMLAB	**29**	**3.00**	387	-0.05	**24**	**3.00**	1075	-0.10	50	-1.74
COMLAB	21	-0.05	422	1.75	18	0.32	1140	0.95	56	1.52
COMLAB	20	-0.61	380	-0.40	17	-0.17	1089	0.13	50	-1.63
COMLAB	21	-0.35	397	0.47	20	1.66	1108	0.44	51	-0.91
COMLAB	18	-1.48	376	-0.61	**12**	**-3.00**	1024	-0.92	52	-0.53
COMLAB	25	1.51	361	-1.38	19	1.03	979	-1.65	50	-1.80
COMLAB	19	-1.05	388	0.01	16	-0.87	1089	0.13	56	1.69
COMLAB	20	-0.48	378	-0.53	17	-0.48	1086	0.08	51	-0.95
COMLAB	19	-0.92	396	0.43	16	-1.08	968	-1.83	49	-2.13
COMLAB	20	-0.61	370	-0.92	16	-0.87	1116	0.57	52	-0.69
COMLAB	23	0.69	**316**	**-3.00**	17	-0.17	**870**	**-3.00**	**46**	**-3.00**
COMLAB	27	2.42	413	1.29	**23**	**3.00**	1170	1.44	**60**	**3.00**

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	22	0.43	361	-1.39	17	-0.45	1020	-0.98	52	-0.80
COMLAB	23	0.69	**475**	**3.00**	19	1.24	**1299**	**3.00**	**63**	**3.00**
COMLAB	25	1.56	364	-1.22	18	0.53	930	-2.45	**59**	**3.00**
COMLAB	21	-0.18	390	0.11	16	-0.87	1100	0.31	54	0.58
COMLAB	21	-0.18	393	0.27	17	-0.17	1120	0.63	54	0.58
COMLAB	21	-0.18	393	0.27	15	-1.58	1070	-0.18	54	0.58
COMLAB	25	1.56	400	0.62	20	1.94	1070	-0.18	55	1.13
COMLAB	21	-0.18	384	-0.20	17	-0.17	1050	-0.50	52	-0.53
COMLAB	19	-1.05	402	0.73	15	-1.58	1107	0.42	51	-1.08
COMLAB	23	0.69	396	0.42	19	1.24	1127	0.74	**67**	**3.00**
COMLAB	26	1.92	377	-0.55	21	2.62	1177	1.55	53	-0.06
COMLAB	20	-0.61	337	-2.61	<20	bld	956	-2.02	57	2.24
COMLAB	21	-0.14	395	0.37	18	0.74	1150	1.12	52	-0.69
MINELAB	<20	bld	**233**	**-3.00**	<20	bld	912	-2.73	**39**	**-3.00**

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	21	-0.18	375	-0.66	17	-0.17	1085	0.06	55	1.13
COMLAB	21	-0.18	377	-0.56	18	0.53	1010	-1.15	56	1.69
COMLAB	25	1.56	381	-0.35	20	1.94	1145	1.04	53	0.03
COMLAB	20	-0.61	399	0.57	18	0.53	1130	0.79	54	0.58
COMLAB	24	1.12	402	0.73	17	-0.17	1070	-0.18	55	1.13
COMLAB	27	2.42	361	-1.38	**24**	**3.00**	1023	-0.94	55	1.13
COMLAB	16	-2.26	372	-0.82	15	-1.87	960	-1.96	52	-0.56
COMLAB	23	0.69	412	1.24	18	0.53	1160	1.28	**64**	**3.00**
COMLAB	21	-0.28	406	0.92	17	-0.38	1156	1.21	53	-0.07
COMLAB	19	-1.05	342	-2.35	16	-0.87	997	-1.36	55	1.13
COMLAB	**33**	**3.00**	416	1.43	**28**	**3.00**	1146	1.05	**65**	**3.00**
MINELAB	20	-0.61	365	-1.17	16	-0.59	1035	-0.74	52	-0.30
MINELAB	**30**	**3.00**	349	-1.99	**24**	**3.00**	1082	0.02	56	1.69

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	60	249	34	205	149
Std Dev	4	20	2	11	8

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
64	1.04	275	1.30	37	1.35	215	0.92	160	1.36	NAA	
53	-1.56	251	0.11	32	-0.73	216	1.02	126	-2.94	4A	ES
58	-0.38	269	1.00	36	0.94	209	0.35	153	0.48	4A	ES
59	-0.14	258	0.46	35	0.52	208	0.26	158	1.11	4A	ES
61	0.33	259	0.51	35	0.52	209	0.35	161	1.49	4A	ES
58	-0.38	263	0.70	35	0.52	211	0.54	149	-0.03	4A	ES
59	-0.14	275	1.30	32	-0.73	216	1.02	150	0.10	4A	ES
67	1.63	281	1.59	40	2.77	217	1.09	149	0.02	4A	ICP
56	-0.85	247	-0.09	34	0.10	204	-0.12	137	-1.55	4A	AAS
67	1.74	281	1.59	36	0.94	200	-0.50	160	1.36	4A	ES
54	-1.32	247	-0.09	34	0.10	194	-1.08	135	-1.80	4A	ES
61	0.33	256	0.34	36	0.81	210	0.41	153	0.41	4A	MS,ES
53	-1.56	252	0.16	32	-0.73	195	-0.98	147	-0.28	4A	ES
59	-0.26	261	0.60	34	0.10	205	-0.03	139	-1.30	FUS	MS
52	-1.79	252	0.16	33	-0.31	194	-1.08	131	-2.31	4A	AAS
nr	nr	272	1.15	nr	nr	219	1.30	169	2.50	4A	AAS
60	0.07	275	1.30	35	0.60	220	1.40	161	1.49	4A	ES
61	0.33	273	1.20	35	0.52	214	0.83	160	1.36	4A	AAS,MS
56	-0.85	270	1.06	34	0.02	206	0.06	152	0.35	4A	AAS
84	**3.00**	**353**	**3.00**	**54**	**3.00**	**288**	**3.00**	**218**	**3.00**	4A	ICP
75	**3.00**	243	-0.29	28	-2.39	189	-1.55	132	-2.18	FUS	ICP

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	52	832	19	12	40
Std Dev	2	76	2	1	3

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
57	1.94	897	0.86	21	0.94	13	0.93	43	0.94	4A	ES
55	1.12	762	-0.92	18	-0.63	12	0.20	40	-0.13	4A	ICP
53	0.30	869	0.49	21	0.94	12	0.20	41	0.23	4A	ES
53	0.30	813	-0.25	20	0.42	13	0.93	40	-0.13	4A	ES
51	-0.52	852	0.26	18	-0.63	11	-0.53	40	-0.13	4A	ES
53	0.30	873	0.54	**10**	**-3.00**	9	-1.98	**25**	**-3.00**	4A	ES
55	1.12	862	0.39	20	0.42	12	0.20	40	-0.13	4A	ES
47	-2.17	794	-0.50	18	-0.63	10	-1.25	36	-1.57	4A	AAS
54	0.71	878	0.61	20	0.42	12	0.20	40	-0.13	4A	ES
49	-1.34	863	0.41	19	-0.10	10	-1.25	38	-0.85	4A	ES
53	0.30	852	0.26	21	0.94	12	0.20	42	0.58	4A	AAS
51	-0.52	778	-0.71	**30**	**3.00**	12	0.20	**56**	**3.00**	4A	ES
50	-1.10	839	0.10	**29**	**3.00**	11	-0.89	**54**	**3.00**	4A	ES
56	1.45	915	1.09	21	1.05	12	0.49	42	0.65	4A	MS
54	0.71	859	0.36	20	0.42	11	-0.53	39	-0.49	4A	ES
51	-0.69	872	0.53	19	0.00	13	0.86	38	-0.74	4A	MS
50	-0.93	818	-0.18	21	0.94	13	0.93	43	0.94	4A	AAS
54	0.55	731	-1.33	21	1.10	11	-0.67	43	0.98	4A	ICP
51	-0.52	820	-0.16	19	-0.10	11	-0.53	38	-0.85	4A	ES
54	0.90	813	-0.25	20	0.56	12	0.15	41	0.15	FUS,4A	ICP
49	-1.34	741	-1.19	19	-0.37	11	-0.74	39	-0.60	4A	ICP
53	0.18	861	0.38	18	-0.63	11	-0.45	37	-1.21	4A	MS,ES
49	-1.34	714	-1.55	20	0.42	9	-1.98	48	2.73	4A	ES
54	0.71	883	0.67	**31**	**3.00**	13	0.93	**49**	**3.00**	4A	ES

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	43	19	140	2	149
Std Dev	9	5	24	1	8

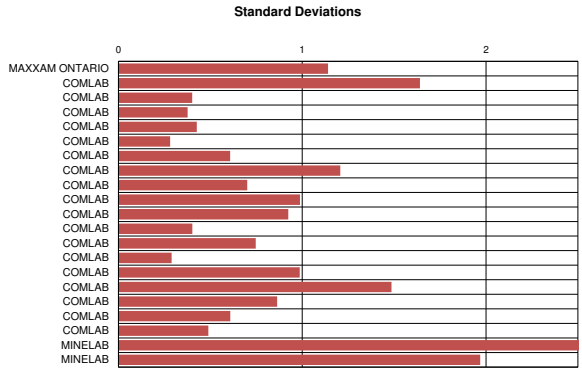
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
42	-0.10	22	0.73	153	0.53	**5**	**3.00**	137	-1.51	4A	ES
49	0.67	24	1.09	167	1.12	2	-0.05	149	-0.03	4A	ICP
49	0.67	24	1.09	132	-0.34	3	0.96	152	0.35	4A	AAS
43	0.00	21	0.46	143	0.12	3	0.96	150	0.10	4A	ES
44	0.11	21	0.46	178	1.58	<1	bld	144	-0.66	4A	ICP
46	0.33	22	0.67	167	1.12	4	1.96	150	0.10	4A	ES
45	0.22	30	2.35	160	0.83	**15**	**3.00**	155	0.73	4A	ES
42	-0.11	22	0.67	164	1.00	1	-1.05	148	-0.16	4A	ES
40	-0.33	19	0.04	146	0.25	1	-1.05	141	-1.04	4A	ES
53	1.11	25	1.30	130	-0.42	**11**	**3.00**	165	2.00	4A	ES
49	0.63	19	0.03	119	-0.89	**6**	**3.00**	151	0.17	4A	AAS
44	0.11	21	0.46	150	0.41	<20	bld	135	-1.80	4A	AAS
42	-0.09	21	0.40	149	0.37	2	-0.45	159	1.24	4A	MS
11	**-3.00**	<20	bld	94	-1.90	<20	bld	**81**	**-3.00**	4A	ES

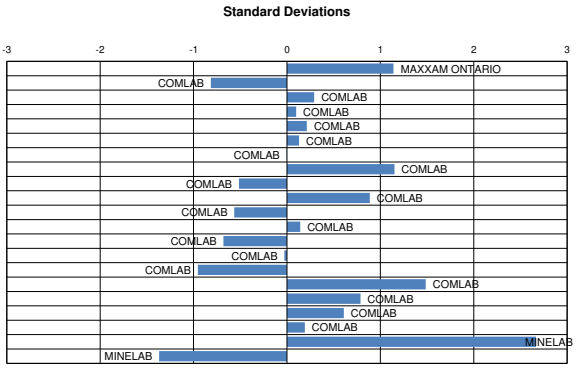
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	60	249	140	2	17
Std Dev	4	20	24	1	2

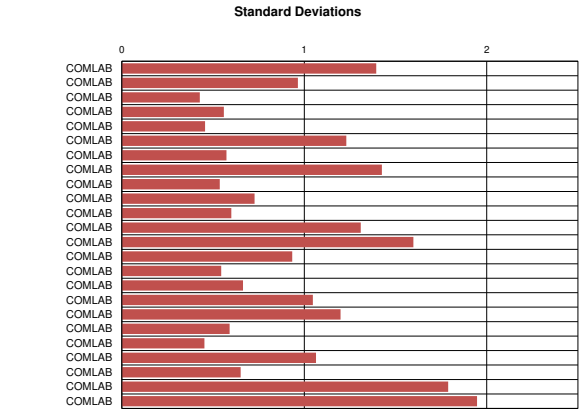
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
59	-0.14	251	0.11	140	0.00	2	-0.05	17	0.01	4A	ES
56	-0.85	269	1.00	172	1.33	<1	bld	15	-1.22	4A	ES
62	0.56	258	0.46	125	-0.63	**9**	**3.00**	19	1.24	4A	ES
57	-0.61	271	1.10	180	1.66	1	-1.05	17	0.01	4A	MS
61	0.33	261	0.60	160	0.83	2	-0.05	16	-0.60	4A	ICP
61	0.33	230	-0.93	150	0.41	**7**	**3.00**	19	1.24	4A	ICP
56	-0.75	239	-0.47	127	-0.54	1	-1.10	13	-2.43	4A	ES
61	0.33	278	1.45	161	0.87	<1	bld	18	0.63	4A	ES
63	0.80	270	1.05	182	1.76	2	-0.21	16	-0.45	4A	ES
46	**-3.00**	239	-0.48	159	0.79	nr	nr	15	-1.22	4A	ES
70	2.46	292	2.13	142	0.07	**18**	**3.00**	**25**	**3.00**	4A	
55	-1.18	250	0.07	160	0.84	2	0.35	16	-0.72	4A	ES
62	0.56	247	-0.09	154	0.58	**15**	**3.00**	**23**	**3.00**	4A	ES

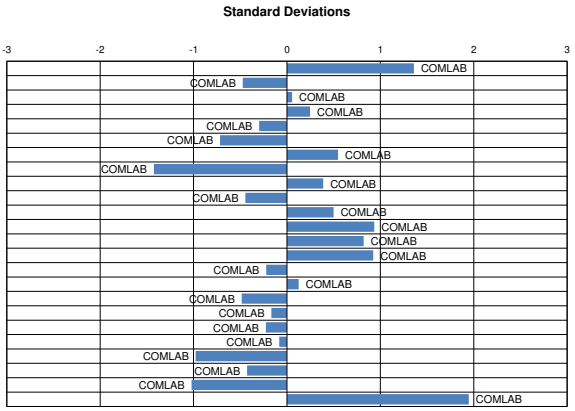
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

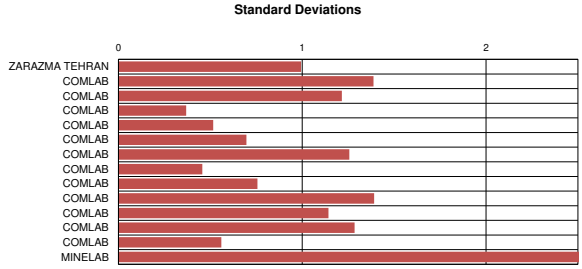
Cobalt (Total Digest) - Mean of Absolute Standardized Values - April 2017	Cobalt (Total Digest) - Mean of Standardized Values - April 2017

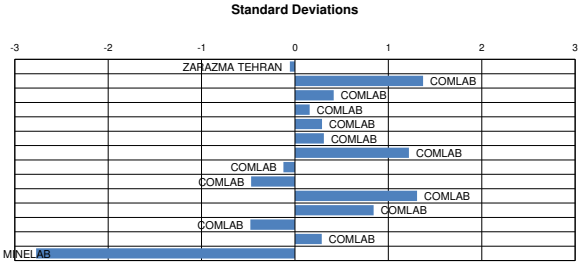


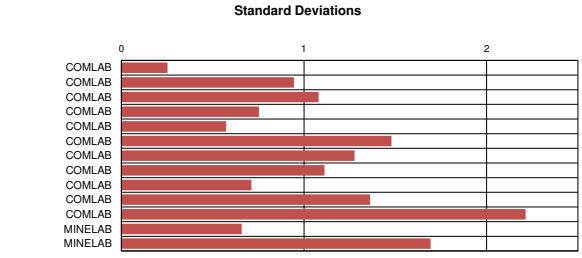


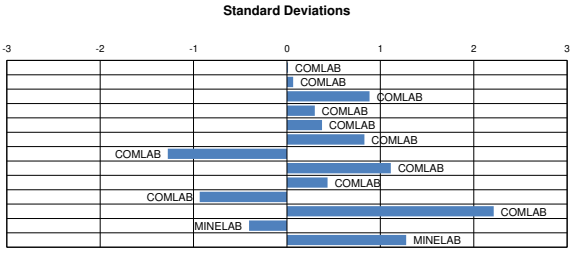












Cobalt (Partial Digest) Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5
MEAN (ppm)	18	384	15	1073	55
STDEV (ppm)	2	24	2	65	3
95% CI (ppm)	1	7	1	18	1
95% CI (%)	3.09%	1.76%	3.55%	1.67%	1.48%
MIN (ppm)	15	328	12	940	47
MEDIAN (ppm)	18	387	15	1074	55
MAX (ppm)	22	437	20	1209	61
IQR (ppm)	3	22	2	69	3
COUNT	46	49	44	52	50

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	22	1.96	340	-1.84	16	0.33	1098	0.39	58	0.94
COMLAB	17	-0.56	394	0.42	14	-0.76	1075	0.04	57	0.73
COMLAB	17	-0.71	390	0.24	14	-0.71	1072	-0.01	60	1.76
COMLAB	16	-1.08	**477**	**3.00**	14	-0.76	1209	2.10	53	-0.65
COMLAB	15	-1.60	383	-0.04	13	-1.31	1073	0.01	55	0.04
COMLAB	17	-0.77	350	-1.43	14	-0.65	1090	0.27	51	-1.45
COMLAB	**35**	**3.00**	<500	bld	**27**	**3.00**	1200	1.96	**67**	**3.00**
COMLAB	16	-1.00	336	-2.02	13	-1.58	955	-1.80	48	-2.52
COMLAB	17	-0.77	374	-0.42	15	-0.11	951	-1.87	51	-1.48
COMLAB	20	1.02	nr	nr	17	0.88	nr	nr	60	1.76
COMLAB	17	-0.71	393	0.37	15	-0.43	1132	0.91	56	0.49
COMLAB	16	-1.08	354	-1.27	13	-1.42	1113	0.62	47	-2.62
MINELAB	18	0.07	385	0.05	16	0.40	1064	-0.13	56	0.26

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	17	-0.56	**312**	**-3.00**	**57**	**3.00**	940	-2.04	58	1.07
COMLAB	18	-0.03	387	0.12	15	-0.22	1040	-0.50	52	-1.00
COMLAB	19	0.49	381	-0.13	**32**	**3.00**	1013	-0.92	51	-1.35
COMLAB	18	-0.03	388	0.17	15	-0.22	1072	-0.01	54	-0.31
COMLAB	17	-0.56	397	0.54	14	-0.76	1100	0.42	55	0.04
COMLAB	18	-0.03	416	1.34	15	-0.22	1130	0.88	56	0.38
COMLAB	17	-0.56	**300**	**-3.00**	12	-1.86	**855**	**-3.00**	**45**	**-3.00**
COMLAB	19	0.26	382	-0.11	16	0.17	1079	0.10	56	0.55
COMLAB	16	-1.08	405	0.88	14	-0.76	1143	1.08	60	1.76
COMLAB	16	-1.03	350	-1.44	14	-0.82	991	-1.26	54	-0.24
COMLAB	15	-1.60	>100	ald	14	-0.76	>100	ald	54	-0.31
COMLAB	18	-0.08	**272**	**-3.00**	14	-0.76	1108	0.54	56	0.49
COMLAB	20	1.02	328	-2.34	**9**	**-3.00**	989	-1.28	**11**	**-3.00**
COMLAB	15	-1.60	340	-1.84	13	-1.31	973	-1.53	51	-1.35
COMLAB	**24**	**3.00**	373	-0.46	**25**	**3.00**	1026	-0.72	58	1.07
COMLAB	21	1.54	390	0.25	19	1.97	1043	-0.45	52	-1.00
MINELAB	<20	bld	395	0.46	18	1.30	1056	-0.25	55	-0.10
MINELAB	**24**	**3.00**	381	-0.12	20	2.48	1080	0.11	58	0.95
MINELAB	**31**	**3.00**	374	-0.42	**23**	**3.00**	965	-1.65	56	0.38
MINELAB	**39**	**3.00**	**471**	**3.00**	**34**	**3.00**	1141	1.05	**76**	**3.00**
MINELAB	21	1.75	387	0.14	19	1.82	1085	0.19	53	-0.82
MINELAB	19	0.49	373	-0.46	17	0.88	**877**	**-3.00**	55	0.04

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	18	-0.03	357	-1.13	15	-0.22	968	-1.61	55	0.04
COMLAB	20	1.07	406	0.92	18	1.15	1150	1.19	56	0.31
COMLAB	17	-0.56	387	0.12	14	-0.76	1090	0.27	55	0.04
COMLAB	16	-1.08	386	0.08	15	-0.22	1070	-0.04	54	-0.31
COMLAB	17	-0.56	386	0.08	14	-0.76	1070	-0.04	54	-0.31
COMLAB	16	-1.08	395	0.46	**38**	**3.00**	1060	-0.19	53	-0.65
COMLAB	16	-1.29	376	-0.34	14	-1.04	1050	-0.35	56	0.21
COMLAB	15	-1.60	396	0.50	14	-0.76	1095	0.34	54	-0.31
COMLAB	21	1.54	**277**	**-3.00**	18	1.43	1053	-0.30	55	0.04
COMLAB	16	-1.13	356	-1.18	nr	nr	nr	nr	nr	nr
COMLAB	**29**	**3.00**	382	-0.09	**28**	**3.00**	1056	-0.25	**42**	**-3.00**
COMLAB	18	-0.03	377	-0.29	15	-0.22	>1000	ald	51	-1.35
COMLAB	20	1.02	361	-0.96	19	1.97	1072	-0.01	61	2.11
MINELAB	17	-0.66	412	1.18	15	-0.07	1202	1.98	55	0.19
MINELAB	22	2.07	352	-1.34	18	1.43	1094	0.33	61	2.11
MINELAB	**26**	**3.00**	407	0.95	**22**	**3.00**	1126	0.82	57	0.66
MINELAB	**25**	**3.00**	437	2.21	**24**	**3.00**	1136	0.97	56	0.38
MINELAB	21	1.54	407	0.96	16	0.33	1041	-0.49	57	0.73
MINELAB	<20	bld	394	0.42	<20	bld	1006	-1.02	58	1.07

Standard Reference	GBM317-1		GBM317-2		GBM317-3		GBM317-4		GBM317-5	
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score
COMLAB	16	-1.08	374	-0.42	14	-0.76	1080	0.11	54	-0.31
COMLAB	**159**	**3.00**	430	1.92	**148**	**3.00**	**841**	**-3.00**	**115**	**3.00**
COMLAB	19	0.49	391	0.29	15	-0.22	1076	0.05	55	0.04
COMLAB	21	1.54	346	-1.59	18	1.43	974	-1.52	52	-1.00
COMLAB	20	1.16	410	1.08	16	0.31	1159	1.33	53	-0.65
COMLAB	18	-0.03	425	1.71	15	-0.22	1180	1.65	56	0.38
COMLAB	17	-0.38	402	0.75	15	-0.40	1018	-0.84	54	-0.42
COMLAB	20	1.02	361	-0.96	18	1.37	1061	-0.18	**46**	**-3.00**
MINELAB	<20	bld	355	-1.21	<20	bld	1045	-0.42	55	0.04
MINELAB	16	-0.98	382	-0.09	14	-0.65	1124	0.79	54	-0.27
MINELAB	17	-0.56	337	-1.97	18	1.43	1030	-0.65	49	-2.04

Existing Products

	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10
Target	50	249	34	208	144
Std Dev	6	20	2	13	7

GBM397-1		GBM310-5		GBM311-1		GBM314-6		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
56	1.20	230	-0.93	36	0.81	192	-1.23	133	-1.55	AR	MS
50	0.08	251	0.11	32	-0.73	211	0.24	143	-0.17	AR	ES
50	0.05	242	-0.33	34	-0.06	198	-0.79	145	0.12	AR	ICP
53	0.63	260	0.55	35	0.52	202	-0.46	152	1.07	AR	ES
41	-1.54	242	-0.34	30	-1.56	192	-1.24	136	-1.14	AR	ES
57	1.38	253	0.23	30	-1.44	206	-0.14	150	0.72	4A	MS,ES
104	**3.00**	296	2.34	**54**	**3.00**	220	0.95	**188**	**3.00**	3A	ICP
50	0.06	212	-1.82	**26**	**-3.00**	180	-2.16	125	-2.71	AR	AAS
48	-0.33	232	-0.83	31	-1.14	196	-0.93	139	-0.72	AR	MS
41	-1.54	nr	nr	32	-0.73	212	0.32	nr	nr	AR	AAS
45	-0.89	254	0.26	32	-0.69	208	0.01	151	0.93	AR	MS
41	-1.54	248	-0.05	29	-2.10	190	-1.39	130	-1.96	AR	AAS
56	1.23	248	-0.04	35	0.57	209	0.11	148	0.52	AR	MS

	GBM397-7	GBM908-6	GBM313-6	GBM913-8	GBM915-3
Target	51	832	12	12	25
Std Dev	3	76	5	1	4

GBM397-7		GBM908-6		GBM313-6		GBM913-8		GBM915-3			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
47	-1.35	700	-1.74	**34**	**3.00**	12	0.26	30	1.27	AR	ES
50	-0.29	877	0.59	7	-0.92	12	0.26	22	-0.67	AR	ES
49	-0.65	868	0.47	9	-0.53	11	-0.54	24	-0.19	AR	ES
53	0.76	859	0.36	7	-0.92	10	-1.34	23	-0.43	AR	ES
52	0.41	885	0.70	8	-0.73	12	0.26	23	-0.43	AR	ES
54	1.12	887	0.72	8	-0.73	12	0.26	21	-0.91	AR	ES
39	**-3.00**	650	-2.40	10	-0.34	9	-2.14	22	-0.67	AR	ES
51	0.08	820	-0.16	<10	bld	14	1.68	22	-0.56	AR	ICP
52	0.41	880	0.63	6	-1.12	10	-1.34	23	-0.43	AR	ES
49	-0.65	780	-0.69	7	-0.94	11	-0.46	21	-0.84	AR	ICP
52	0.41	>100	ald	6	-1.12	11	-0.54	20	-1.16	AR	AAS
51	0.06	868	0.47	8	-0.73	11	-0.46	23	-0.43	AR,3A	MS,AAS
28	**-3.00**	790	-0.55	bld	bld	**23**	**3.00**	**8**	**-3.00**	AR	AAS
44	-2.41	773	-0.78	6	-1.12	11	-0.54	20	-1.16	AR	ES
54	1.12	790	-0.55	17	0.95	14	1.87	36	2.73	3A	AAS
46	-1.70	893	0.80	12	0.05	11	-0.54	28	0.78	AD	AAS
53	0.72	785	-0.62	6	-1.05	<20	bld	17	-1.82	3A	AAS
52	0.51	841	0.12	13	0.34	12	0.14	31	1.63	AR	ES
56	1.82	807	-0.33	26	2.79	**23**	**3.00**	34	2.24	3A	AAS
79	**3.00**	882	0.66	**29**	**3.00**	**38**	**3.00**	**43**	**3.00**	AR	ES
47	-1.37	848	0.21	11	-0.08	12	0.43	19	-1.36	AR	MS
48	-1.00	775	-0.75	11	-0.14	12	0.26	28	0.78	AR	ES

	GBM901-5	GBM907-3	GBM311-8	GBM913-2	GBM915-10
Target	43	19	140	5	144
Std Dev	9	5	24	5	7

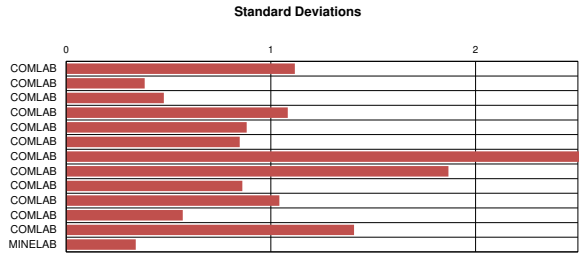
GBM901-5		GBM907-3		GBM311-8		GBM913-2		GBM915-10			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
38	-0.56	14	-1.01	118	-0.92	2	-0.62	127	-2.38	AR	AAS
41	-0.20	16	-0.68	122	-0.75	2	-0.54	145	0.10	AR	ES
38	-0.56	14	-1.01	115	-1.04	4	-0.22	150	0.79	AR	ES
36	-0.78	12	-1.43	118	-0.92	1	-0.83	139	-0.72	AR	ICP
38	-0.56	12	-1.43	125	-0.63	<1	bld	142	-0.31	AR	ES
14	**-3.00**	12	-1.43	127	-0.54	<1	bld	138	-0.86	AR	ES
36	-0.76	12	-1.37	117	-0.96	<1	bld	145	0.10	AR	ES
36	-0.78	12	-1.43	114	-1.09	<1	bld	134	-1.41	AR	ES
35	-0.89	17	-0.38	98	-1.75	<5	bld	**120**	**-3.00**	AR	ES
33	-1.09	11	-1.68	107	-1.39	1	-0.85	nr	nr	AR	ICP
42	-0.11	<20	bld	142	0.08	<20	bld	134	-1.41	3A	AAS
36	-0.78	13	-1.22	121	-0.79	1	-0.83	131	-1.83	AR	MS
40	-0.33	17	-0.38	107	-1.38	6	0.19	137	-1.00	AR	ES
44	0.14	11	-1.60	122	-0.74	5	0.03	143	-0.13	AR	ES
42	-0.11	19	0.04	106	-1.42	3	-0.42	139	-0.72	AR	ES
45	0.24	22	0.76	126	-0.60	9	0.80	152	1.08	AR	ICP
51	0.89	**35**	**3.00**	139	-0.04	18	2.63	162	2.45	AR	AAS
41	-0.22	18	-0.17	154	0.58	15	2.02	151	0.93	3A	AAS
47	0.44	<20	bld	139	-0.04	<20	bld	134	-1.41	3A	AAS

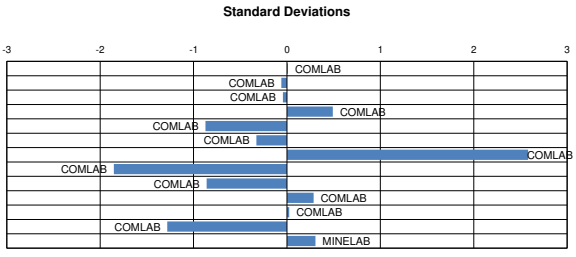
	GBM397-1	GBM310-5	GBM311-8	GBM913-2	GBM315-4
Target	50	249	140	5	17
Std Dev	6	20	24	5	2

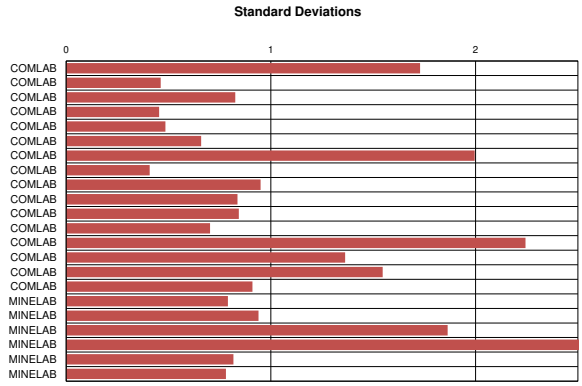
GBM397-1		GBM310-5		GBM311-8		GBM913-2		GBM315-4			
assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	Method	Reading
47	-0.46	253	0.21	119	-0.88	<1	bld	15	-0.82	AR	ES
200	**3.00**	**402**	**3.00**	**322**	**3.00**	**146**	**3.00**	**156**	**3.00**	AR	AAS
55	0.99	256	0.36	120	-0.84	1	-0.83	16	-0.33	AR	ICP
50	0.08	228	-1.03	106	-1.42	5	-0.01	18	0.64	3A	ICP
56	1.10	269	1.00	153	0.54	1	-0.81	15	-1.00	AR	ES
41	-1.54	271	1.10	132	-0.34	<1	bld	16	-0.33	AR	ES
47	-0.52	253	0.22	119	-0.88	2	-0.69	15	-0.66	AR	ES
70	**3.00**	254	0.26	127	-0.54	12	1.41	19	1.12	AR	AAS
50	0.08	240	-0.44	120	-0.84	<20	bld	<20	bld	AR	AAS
48	-0.20	245	-0.20	117	-0.95	<0.5	bld	15	-0.77	AR	ES
48	-0.28	232	-0.83	130	-0.42	1	-0.83	18	0.64	AR	AAS

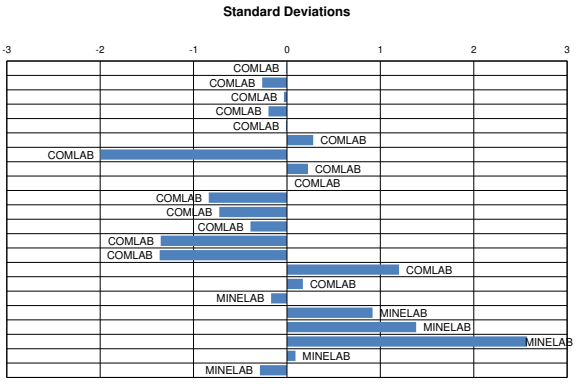
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

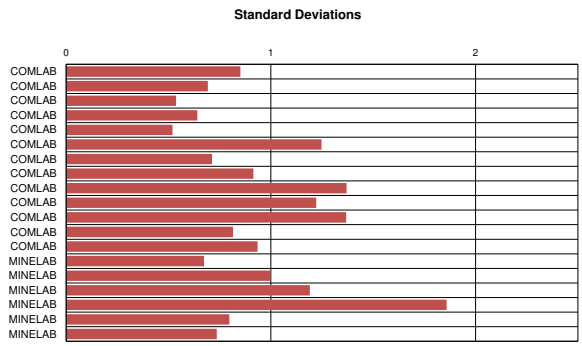
Cobalt (Partial Digest) - Mean of Absolute Standardized Values - April 2017	Cobalt (Partial Digest) - Mean of Standardized Values - April 2017

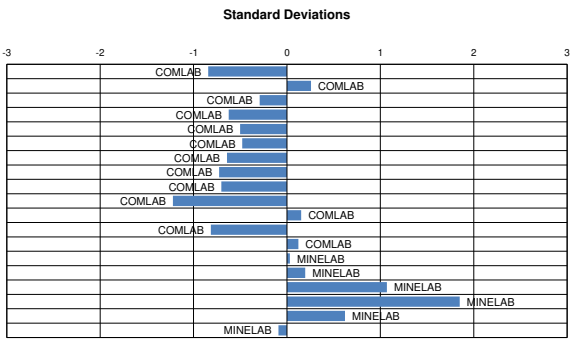


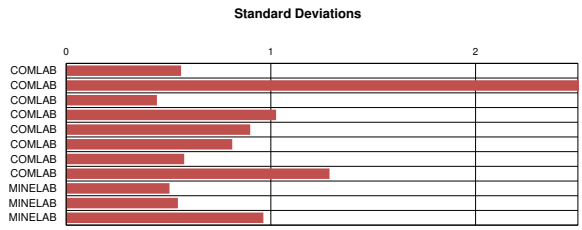


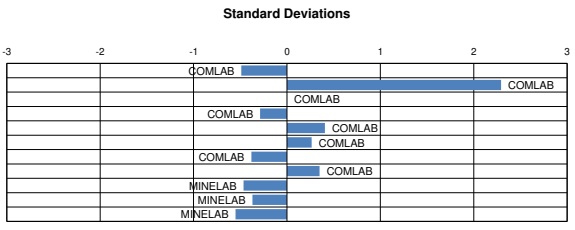












Ore Grade Copper Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	160746	24309	103409
STDEV (ppm)	4485	793	3068
95% CI (ppm)	827	140	554
95% CI (%)	0.51%	0.58%	0.54%
MIN (ppm)	149000	22510	95113
MEDIAN (ppm)	160153	24300	103434
MAX (ppm)	173000	26580	111300
IQR (ppm)	5038	860	3788
COUNT	114	124	119

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
ZARAZMA TEHRAN	161590	0.19	24280	-0.04	107686	1.39
COMLAB	162550	0.40	24545	0.30	107800	1.43
COMLAB	161500	0.17	23800	-0.64	102000	-0.46
COMLAB	165300	1.02	25000	0.87	105100	0.55
COMLAB	162500	0.39	25000	0.87	104500	0.36
COMLAB	161318	0.13	25243	1.18	105270	0.61
COMLAB	152902	-1.75	22728	-2.00	102691	-0.23
COMLAB	159531	-0.27	23062	-1.57	101371	-0.66
COMLAB	>100000	ald	24730	0.53	>100000	ald
COMLAB	160856	0.02	24254	-0.07	103808	0.13
COMLAB	164528	0.84	24927	0.78	100123	-1.07
COMLAB	149000	-2.62	23200	-1.40	99300	-1.34
COMLAB	157661	-0.69	24462	0.19	100719	-0.88
COMLAB	159556	-0.27	24480	0.22	101923	-0.48
COMLAB	155800	-1.10	23060	-1.58	103000	-0.13
COMLAB	159050	-0.38	25180	1.10	106153	0.89
COMLAB	159700	-0.23	24400	0.11	102700	-0.23
COMLAB	172900	2.71	24800	0.62	111300	2.57
MINELAB	161783	0.23	23615	-0.88	106649	1.06
MINELAB	166766	1.34	24356	0.06	104680	0.41
MINELAB	161998	0.28	23981	-0.41	102047	-0.44
MINELAB	168000	1.62	23670	-0.81	102300	-0.36
MINELAB	**140459**	**-3.00**	25895	2.00	95113	-2.70
MINELAB	168864	1.81	23927	-0.48	104133	0.24
MINELAB	151019	-2.17	23203	-1.40	96876	-2.13
MINELAB	163986	0.72	24632	0.41	104851	0.47
MINELAB	**125194**	**-3.00**	**21695**	**-3.00**	**87554**	**-3.00**
MINELAB	157800	-0.66	23600	-0.90	101600	-0.59
MINELAB	165033	0.96	25233	1.17	106600	1.04
MINELAB	158011	-0.61	23697	-0.77	99500	-1.27
MINELAB	162000	0.28	**28200**	**3.00**	**115000**	**3.00**
MINELAB	159472	-0.28	23288	-1.29	106927	1.15
MINELAB	153870	-1.53	23679	-0.80	101594	-0.59

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	158000	-0.61	24300	-0.01	104000	0.19
COMLAB	155818	-1.10	24420	0.14	101676	-0.56
COMLAB	164000	0.73	24600	0.37	107000	1.17
COMLAB	156000	-1.06	23400	-1.15	99200	-1.37
COMLAB	163000	0.50	24600	0.37	103000	-0.13
COMLAB	169000	1.84	23000	-1.65	100500	-0.95
COMLAB	165992	1.17	23951	-0.45	100576	-0.92
COMLAB	157500	-0.72	24800	0.62	105500	0.68
COMLAB	158000	-0.61	24200	-0.14	103000	-0.13
COMLAB	160270	-0.11	24370	0.08	103350	-0.02
COMLAB	158000	-0.61	nr	nr	nr	nr
COMLAB	nr	nr	24200	-0.14	nr	nr
COMLAB	156583	-0.93	26324	2.54	105469	0.67
COMLAB	159776	-0.22	24637	0.41	103948	0.18
COMLAB	160176	-0.13	**18979**	**-3.00**	101413	-0.65
COMLAB	161330	0.13	23660	-0.82	102760	-0.21
COMLAB	160810	0.01	24033	-0.35	103027	-0.12
COMLAB	162604	0.41	24876	0.71	102463	-0.31
COMLAB	155000	-1.28	24400	0.11	101000	-0.79
COMLAB	156012	-1.06	24006	-0.38	101057	-0.77
COMLAB	155798	-1.10	23677	-0.80	98325	-1.66
COMLAB	151800	-1.99	24169	-0.18	104917	0.49
COMLAB	155101	-1.26	23554	-0.95	103434	0.01
COMLAB	162000	0.28	24300	-0.01	102000	-0.46
COMLAB	152454	-1.85	23340	-1.22	97213	-2.02
COMLAB	161807	0.24	24769	0.58	103593	0.06
COMLAB	159264	-0.33	24439	0.16	103774	0.12
COMLAB	**141634**	**-3.00**	22529	-2.25	**83852**	**-3.00**
MINELAB	158800	-0.43	24140	-0.21	104200	0.26
MINELAB	164942	0.94	24119	-0.24	106040	0.86
MINELAB	166100	1.19	23260	-1.32	103660	0.08
MINELAB	158719	-0.45	24755	0.56	102440	-0.32
MINELAB	156380	-0.97	24297	-0.02	97934	-1.78
MINELAB	159550	-0.27	26580	2.86	**112950**	**3.00**
MINELAB	157724	-0.67	24022	-0.36	106367	0.96
MINELAB	167383	1.48	25417	1.40	109260	1.91

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	158949	-0.40	23580	-0.92	100296	-1.01
COMLAB	164544	0.85	26116	2.28	105539	0.69
COMLAB	158000	-0.61	24500	0.24	102000	-0.46
COMLAB	158500	-0.50	23900	-0.52	104000	0.19
COMLAB	158500	-0.50	25100	1.00	107000	1.17
COMLAB	157000	-0.84	24300	-0.01	102000	-0.46
COMLAB	163050	0.51	23880	-0.54	102600	-0.26
COMLAB	**175000**	**3.00**	24800	0.62	108000	1.50
COMLAB	161000	0.06	24400	0.11	100000	-1.11
COMLAB	159660	-0.24	24060	-0.31	101250	-0.70
COMLAB	173000	2.73	25600	1.63	102000	-0.46
COMLAB	167000	1.39	24725	0.52	105250	0.60
COMLAB	163000	0.50	23900	-0.52	97100	-2.06
COMLAB	165800	1.13	23783	-0.66	106500	1.01
COMLAB	161225	0.11	23892	-0.53	105204	0.59
COMLAB	**175749**	**3.00**	26062	2.21	110285	2.24
COMLAB	161700	0.21	23900	-0.52	101500	-0.62
COMLAB	160100	-0.14	24639	0.42	100900	-0.82
COMLAB	159713	-0.23	24308	0.00	102288	-0.37
COMLAB	164000	0.73	24400	0.11	106000	0.84
COMLAB	160600	-0.03	24200	-0.14	95680	-2.52
COMLAB	**187740**	**3.00**	26293	2.50	103983	0.19
COMLAB	nr	nr	24391	0.10	102660	-0.24
COMLAB	160130	-0.14	24340	0.04	101940	-0.48
MINELAB	158941	-0.40	23841	-0.59	104924	0.49
MINELAB	169931	2.05	24610	0.38	**66050**	**-3.00**
MINELAB	158696	-0.46	24367	0.07	102009	-0.46
MINELAB	166986	1.39	23195	-1.41	107604	1.37
MINELAB	160200	-0.12	23450	-1.08	104300	0.29
MINELAB	150000	-2.40	24100	-0.26	101000	-0.79
MINELAB	164019	0.73	25124	1.03	108200	1.56
MINELAB	158000	-0.61	24000	-0.39	102000	-0.46
MINELAB	151810	-1.99	23850	-0.58	102585	-0.27
MINELAB	**146603**	**-3.00**	22876	-1.81	97258	-2.01
MINELAB	167654	1.54	25090	0.98	104881	0.48
MINELAB	166385	1.26	25515	1.52	107744	1.41
MINELAB	162400	0.37	24875	0.71	105300	0.62
MINELAB	158300	-0.55	23700	-0.77	105900	0.81

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	168000	1.62	24000	-0.39	109000	1.82
COMLAB	158000	-0.61	23900	-0.52	103500	0.03
COMLAB	160500	-0.05	24200	-0.14	104000	0.19
COMLAB	158700	-0.46	24500	0.24	101000	-0.79
COMLAB	165000	0.95	25000	0.87	105000	0.52
COMLAB	171800	2.46	24720	0.52	103000	-0.13
COMLAB	166035	1.18	25137	1.04	106078	0.87
COMLAB	162000	0.28	24400	0.11	102000	-0.46
COMLAB	159598	-0.26	25875	1.98	106526	1.02
COMLAB	>100000	ald	22510	-2.27	98930	-1.46
COMLAB	161500	0.17	23700	-0.77	101200	-0.72
COMLAB	153800	-1.55	23800	-0.64	97300	-1.99
COMLAB	160200	-0.12	24600	0.37	104600	0.39
COMLAB	163000	0.50	24300	-0.01	104000	0.19
COMLAB	167057	1.41	24904	0.75	105872	0.80
COMLAB	**174322**	**3.00**	24460	0.19	**116301**	**3.00**
COMLAB	162500	0.39	24730	0.53	103650	0.08
COMLAB	157530	-0.72	24185	-0.16	108387	1.62
COMLAB	158700	-0.46	25100	1.00	100600	-0.92
COMLAB	155750	-1.11	22680	-2.06	104150	0.24
COMLAB	167636	1.54	24551	0.30	107246	1.25
MINELAB	166483	1.28	23799	-0.64	106213	0.91
MINELAB	**188055**	**3.00**	**27125**	**3.00**	**114488**	**3.00**
MINELAB	159760	-0.22	23720	-0.74	105920	0.82
MINELAB	164467	0.83	24219	-0.11	109186	1.88
MINELAB	160116	-0.14	24219	-0.11	104537	0.37
MINELAB	157337	-0.76	23194	-1.41	99957	-1.13
MINELAB	158746	-0.45	25876	1.98	103380	-0.01
MINELAB	**136267**	**-3.00**	23147	-1.47	**86133**	**-3.00**
MINELAB	160000	-0.17	23900	-0.52	102250	-0.38
MINELAB	156256	-1.00	23207	-1.39	102183	-0.40
MINELAB	159249	-0.33	23242	-1.35	100147	-1.06

Existing Products

Target	GBM306-12	GBM913-12	GBM310-16
Std Dev	14902	1067	3423
	418	64	195

GBM306-12		GBM913-12		GBM310-16			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
15243	0.82	1057	-0.15	3304	-0.61	AR	ES
15645	1.78	1204	2.15	3340	-0.42	4A	AAS
15200	0.71	1000	-1.04	3300	-0.63	FUS	XRF
15150	0.59	1120	0.84	3510	0.45	4A	ES
14800	-0.24	1010	-0.89	3290	-0.68	4A	ES
15443	1.29	1096	0.46	3406	-0.09	4A	AAS
14866	-0.09	1068	0.02	3089	-1.71	4A	AAS
15064	0.39	1059	-0.12	3224	-1.02	4A	
14770	-0.32	1060	-0.10	3510	0.45	AR	ES
15108	0.49	1042	-0.39	3302	-0.62	4A	ICP
14181	-1.73	1016	-0.79	3431	0.04	4A	ES
14700	-0.48	1110	0.68	3270	-0.78	4A	ES
14504	-0.95	955	-1.75	3237	-0.95	4A	ES
15287	0.92	1058	-0.14	3324	-0.51	FUS,TITR	ICP
13820	-2.59	1010	-0.89	3180	-1.24	3A	AAS
13132	**-3.00**	1190	1.93	3567	0.74	AR	AAS
15800	2.15	1040	-0.42	3678	1.31	3A	AAS
15790	2.13	1090	0.37	3117	-1.57	1A	AAS
14677	-0.54	1041	-0.40	3277	-0.75	4A	AAS
15310	0.98	**1534**	**3.00**	3161	-1.34	AR	AAS
14794	-0.26	nr	nr	**1062**	**-3.00**	FUS	XRF
15360	1.10	1025	-0.65	3270	-0.78	AR	ES
15568	1.59	**2722**	**3.00**	3988	2.89	AR	
14898	-0.01	1040	-0.42	3522	0.50	AR	ES
14906	0.01	1150	1.31	3345	-0.40	AD	ICP
15056	0.37	1105	0.60	3413	-0.05	AR	MS
13069	**-3.00**	**1622**	**3.00**	3253	-0.87	4A	ES
14700	-0.48	1200	2.09	3400	-0.12	FUS	XRF
14857	-0.11	1010	-0.89	3360	-0.32	1A,AR	AAS,TITR
14964	0.15	1230	2.56	3381	-0.21	3A	AAS
16900	**3.00**	1130	0.99	3890	2.39	2A	ICP
15005	0.25	1008	-0.92	3418	-0.03	AR	AAS
14568	-0.80	1022	-0.70	3270	-0.78	4A	AAS

Target	GBM915-16	GBM910-11	GBM913-11
Std Dev	22960	1306	1380
	581	59	138

GBM915-16		GBM910-11		GBM913-11			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
23000	0.07	1370	1.08	1320	-0.44	FUS	ICP
22632	0.56	1367	1.03	1363	0.12	4A	AAS
23100	0.24	1310	0.06	1220	-1.16	4A	ES
22700	-0.45	1340	0.57	1360	-0.15	FUS	ES
22600	-0.62	1260	-0.78	1290	-0.65	4A	ES
22600	-0.62	1260	-0.78	1270	-0.80	FUS	ES
22933	-0.05	1343	0.62	1257	-0.89	4A	ES
23000	0.07	1300	-0.10	1250	-0.94	4A	ES
23000	0.07	1360	0.91	1280	-0.73	4A	ES
22780	-0.31	1290	-0.27	1320	-0.44	3A	ES
23610	1.12	1360	0.91	nr	nr	4A	AAS
22900	-0.10	1300	-0.10	1300	-0.58	4A	AAS
21654	-2.25	1325	0.32	1388	0.06	4A	AAS
24533	2.71	1299	-0.12	1334	-0.33	3A,4A	VOL,AAS
21693	-2.18	1294	-0.20	1216	-1.19	4A	AAS
22880	-0.14	1270	-0.61	1260	-0.87	4A	AAS
23089	0.22	1306	0.00	nr	nr	4A	AAS
22619	-0.59	1254	-0.88	1187	-1.40	4A	ES
22900	-0.10	1400	1.58	1300	-0.58	AR	MS
18994	**-3.00**	1264	-0.71	1449	0.50	4A	AAS
22650	-0.53	1206	-1.69	1585	1.49	4A	AAS
22967	0.01	1240	-1.12	1200	-1.31	AR	MS
22528	-0.74	1295	-0.19	1425	0.33	4A	ICP,AAS
22600	-0.62	1280	-0.44	1440	0.43	FUS	ES
21343	-2.78	1252	-0.91	1199	-1.31	4A	ES
22464	-0.85	1360	0.91	1290	-0.65	3A	ES
23425	0.80	1321	0.25	1281	-0.72	4A	AAS,TITR
21786	-2.03	1251	-0.93	1204	-1.28	4A	ES
23480	0.89	1320	0.23	1250	-0.94	4A	AAS
23756	1.37	1339	0.55	1297	-0.60	AR	AAS
21800	-2.00	1300	-0.10	1300	-0.58	AD	ES
22699	-0.45	1267	-0.66	1149	-1.68	4A	AAS
22638	-0.55	1293	-0.22	1206	-1.26		ICP
24805	**3.00**	1300	-0.10	1250	-0.94	4A	AAS
23523	0.97	1274	-0.54	1200	-1.31	3A	ES
24403	2.48	1244	-1.05	1273	-0.78	AR	AAS

Target	GBM306-12	GBM913-12	GBM310-16
Std Dev	14902	1067	3423
	418	64	195

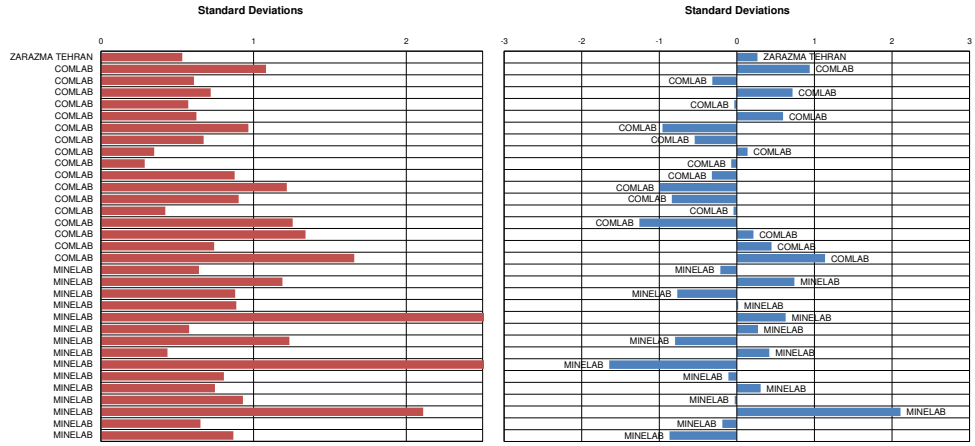
GBM306-12		GBM913-12		GBM310-16			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
14892	-0.02	990	-1.20	3266	-0.80	4A	AAS
14934	0.08	1119	0.82	3578	0.79	3A	ES
14850	-0.12	1030	-0.57	3340	-0.42	4A	ES
15100	0.47	1120	0.84	3360	-0.32	4A	ES
15200	0.71	1100	0.52	3500	0.39	4A	ICP
14900	-0.01	1030	-0.57	3340	-0.42	AR	ES
14980	0.19	1050	-0.26	3350	-0.37	AR	AAS
15100	0.47	989	-1.22	3190	-1.19	AR	ES
15200	0.71	1050	-0.26	3370	-0.27	4A	ES
15180	0.67	1100	0.52	3310	-0.58	4A,TITR	ES
14000	-2.16	1130	0.99	3330	-0.48	4A	AAS
14925	0.05	**1270**	**3.00**	3490	0.34	4A	ES
15300	0.95	1100	0.52	3400	-0.12	3A	AAS
14617	-0.68	1053	-0.21	3328	-0.49	4A	ICP
14991	0.21	1053	-0.21	3383	-0.20	FUS,AR,4A	ES
15127	0.54	1061	-0.09	3512	0.46	3A	ICP
14600	-0.72	1040	-0.42	3260	-0.83	4A	AAS
15396	1.18	1043	-0.37	3439	0.08	4A	AAS
15410	1.22	**1390**	**3.00**	3779	1.82	FUS	XRF
15400	1.19	1030	-0.57	3510	0.45	4A	ES
15710	1.93	1115	0.76	3461	0.19	4A	ES,AAS
16348	**3.00**	1093	0.41	2928	-2.53	4A	
14887	-0.04	978	-1.39	3473	0.26	4A	AAS
15430	1.26	953	-1.79	3482	0.30	4A	AAS
15366	1.11	1032	-0.54	3322	-0.52	AR	AAS,ICP
15944	2.49	1020	-0.73	3553	0.67	3A	AAS
14742	-0.38	978	-1.39	3315	-0.55	3A	AAS
16428	**3.00**	1142	1.18	3688	1.36		AAS
14570	-0.80	930	-2.14	3140	-1.45	3A	AAS
15200	0.71	1200	2.09	3200	-1.14	FUS	XRF
15439	1.28	1069	0.04	3445	0.11	AR	MS
15100	0.47	1000	-1.04	3400	-0.12	3A	AAS
14980	0.19	1110	0.68	3530	0.55	3A	ES
14398	-1.21	1016	-0.80	3190	-1.19	AR	ICP
15253	0.84	1084	0.27	3252	-0.87	3A	AAS
16283	**3.00**	1136	1.08	3366	-0.29	3A	AAS
15061	0.38	978	-1.39	3209	-1.09	3A,TITR	AAS
14080	-1.97	1073	0.10	3680	1.32	3A	AAS

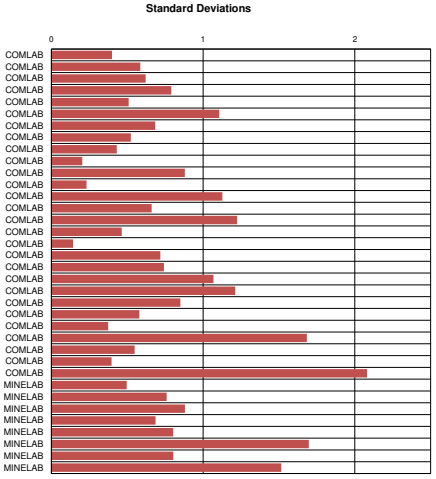
Target	GBM315-13	GBM315-16	GBM310-13
Std Dev	12570	582	353
	379	45	37

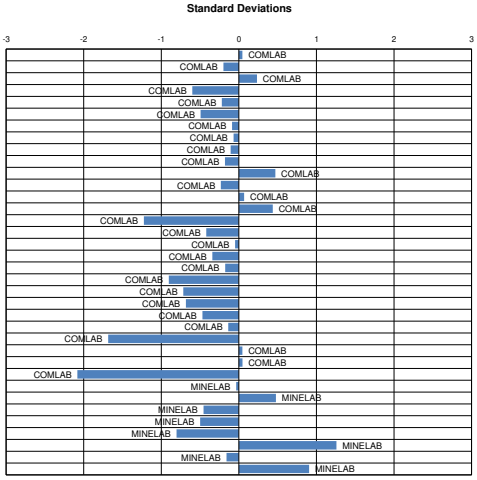
GBM315-13		GBM315-16		GBM310-13			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
12300	-0.71	536	-1.02	322	-0.85	4A	ES
12400	-0.45	560	-0.49	320	-0.91	AR	ES
12400	-0.45	560	-0.49	320	-0.91	4A	ES
13000	1.14	580	-0.05	340	-0.36	4A	ES
12650	0.21	580	-0.05	340	-0.36	4A	ES
12690	0.32	560	-0.49	320	-0.91	4A	AAS
13078	1.34	609	0.59	366	0.34	4A	ES
11900	-1.77	538	-0.98	298	-1.50	3A	ES
12204	-0.97	534	-1.07	345	-0.23	VOL,3A	AAS
12140	-1.13	470	-2.48	300	-1.45	AR	AAS
12300	-0.71	600	0.39	300	-1.45	AR	AAS
12270	-0.79	602	0.43	374	0.56	AR	ES
12600	0.08	583	0.01	388	0.94	4A	ES
11600	-2.56	630	1.05	364	0.29	4A	AAS
12537	-0.09	608	0.57	375	0.59	FUS	ES
12742	0.45	741	3.00	395	1.13	3A	AAS
12939	0.97	580	-0.05	316	-1.01	4A	ES
14151	**3.00**	668	1.89	334	-0.53		AAS
13100	1.40	600	0.39	300	-1.45	4A	ES
12203	-0.97	513	-1.53	327	-0.72	AR	AAS
12508	-0.16	492	-2.00	312	-1.13	AR	AAS
12774	0.54	563	-0.43	351	-0.06	AR	AAS
13335	2.02	507	-1.66	352	-0.04	4A	AAS
12130	-1.16	600	0.39	400	1.27	AR	AAS,ES
12820	0.66	518	-1.42	311	-1.15	4A	AAS
12797	0.60	nr	nr	nr	nr	4A	AAS
12015	-1.46	544	-0.84	357	0.09	4A	ES
13403	2.20	566	-0.37	384	0.83	AR,3A	ES,AAS
11253	**-3.00**	566	-0.36	311	-1.15	AR	AAS
12598	0.07	714	2.90	437	2.27	3A	AAS
12421	-0.39	710	2.82	452	2.69	1A,AR	AAS
13235	1.76	786	3.00	439	2.33	FUS	ICP

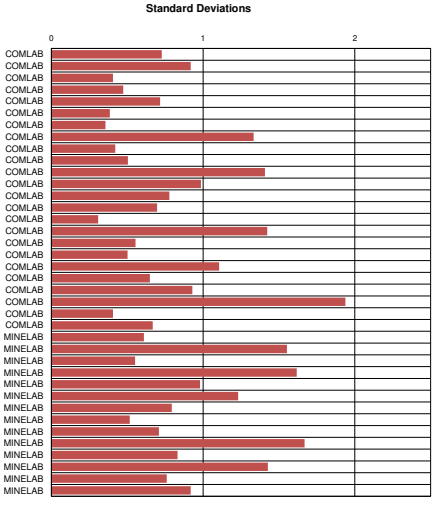
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

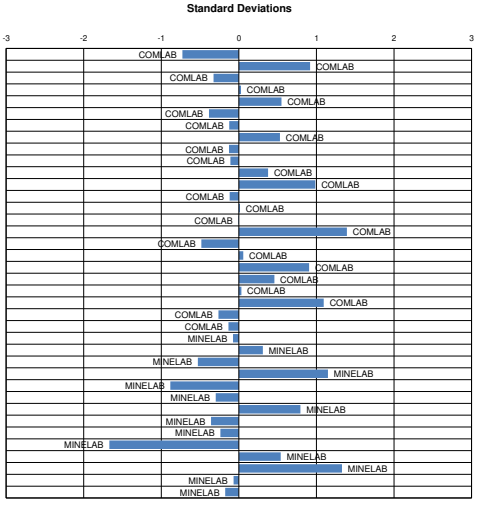
Ore Grade Copper - Mean of Absolute Standardized Values - April 2017	Ore Grade Copper - Mean of Standardized Values - April 2017

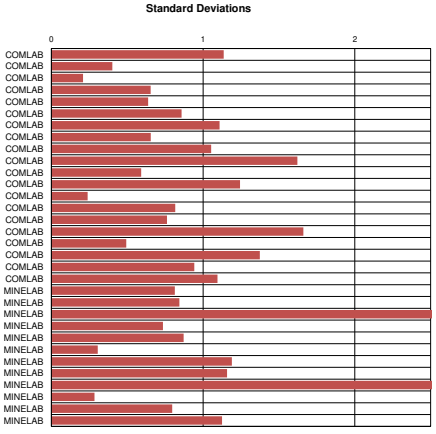


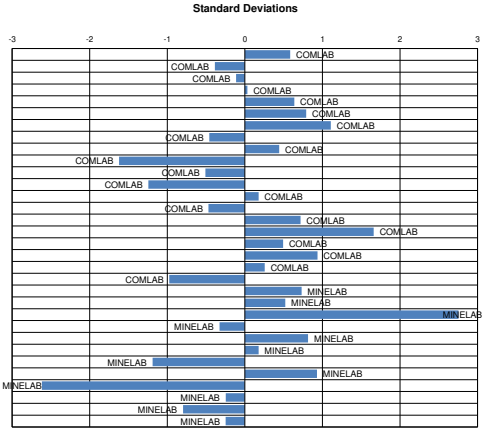












Ore Grade Lead Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	4270	544	7361
STDEV (ppm)	188	52	267
95% CI (ppm)	37	10	52
95% CI (%)	0.86%	1.88%	0.71%
MIN (ppm)	3760	411	6686
MEDIAN (ppm)	4271	540	7400
MAX (ppm)	4767	684	8078
IQR (ppm)	233	58	288
COUNT	102	101	102

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	4269	-0.01	507	-0.72	7492	0.49
COMLAB	4760	2.60	600	1.07	8026	2.49
COMLAB	4200	-0.37	500	-0.85	7300	-0.23
COMLAB	4400	0.69	520	-0.47	7590	0.86
COMLAB	4230	-0.21	530	-0.27	7360	0.00
COMLAB	4308	0.20	515	-0.56	7663	1.13
COMLAB	4151	-0.63	471	-1.41	7298	-0.24
COMLAB	4400	0.69	600	1.07	7500	0.52
COMLAB	4272	0.01	535	-0.18	7388	0.10
COMLAB	4305	0.18	550	0.11	7294	-0.25
COMLAB	3760	-2.71	457	-1.67	6500	-3.00
COMLAB	4545	1.46	605	1.16	7596	0.88
COMLAB	4365	0.50	558	0.26	7198	-0.61
COMLAB	4140	-0.69	572	0.53	7290	-0.27
COMLAB	3814	-2.43	537	-0.14	6686	-2.53
COMLAB	4295	0.13	566	0.42	7784	1.58
MINELAB	4437	0.89	555	0.21	7558	0.74
MINELAB	4615	1.83	606	1.18	7816	1.70
MINELAB	3875	-2.10	530	-0.27	6755	-2.27
MINELAB	4154	-0.62	514	-0.59	7130	-0.87
MINELAB	4117	-0.82	522	-0.43	7274	-0.33
MINELAB	4297	0.14	525	-0.37	7062	-1.12
MINELAB	3982	-1.53	484	-1.16	7219	-0.53
MINELAB	4431	0.85	626	1.57	7443	0.31
MINELAB	3384	-3.00	493	-0.98	6209	-3.00
MINELAB	4131	-0.74	678	2.56	7068	-1.10
MINELAB	4300	0.16	564	0.38	7440	0.30
MINELAB	4011	-1.38	484	-1.16	6925	-1.63
MINELAB	4222	-0.26	630	1.64	7531	0.64

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	4200	-0.37	600	1.07	7500	0.52
COMLAB	3990	-1.49	490	-1.04	7100	-0.98
COMLAB	4140	-0.69	620	1.45	7080	-1.05
COMLAB	4100	-0.91	510	-0.66	7220	-0.53
COMLAB	4270	0.00	530	-0.27	7420	0.22
COMLAB	4400	0.69	500	-0.85	7400	0.15
COMLAB	4190	-0.43	506	-0.73	7287	-0.28
COMLAB	4140	-0.69	550	0.11	7600	0.89
COMLAB	4600	1.75	nr	nr	7900	2.02
COMLAB	4200	-0.37	500	-0.85	7500	0.52
COMLAB	4600	1.75	600	1.07	7500	0.52
COMLAB	4541	1.44	537	-0.14	7566	0.77
COMLAB	4310	0.21	550	0.11	7470	0.41
COMLAB	4232	-0.20	538	-0.12	7249	-0.42
COMLAB	4366	0.51	540	-0.08	7565	0.76
COMLAB	4900	3.00	800	3.00	8400	3.00
COMLAB	4264	-0.04	475	-1.34	6845	-1.93
COMLAB	4236	-0.18	500	-0.85	6972	-1.46
COMLAB	4196	-0.40	555	0.21	7092	-1.01
COMLAB	4087	-0.98	575	0.59	7010	-1.31
COMLAB	4300	0.16	600	1.07	7600	0.89
COMLAB	4288	0.09	553	0.17	7465	0.39
COMLAB	4407	0.73	615	1.36	7393	0.12
COMLAB	4194	-0.41	536	-0.16	7332	-0.11
COMLAB	4510	1.27	561	0.32	6781	-2.17
MINELAB	4500	1.22	700	2.99	3700	-3.00
MINELAB	4286	0.08	635	1.74	7529	0.63
MINELAB	4372	0.54	636	1.76	7543	0.68
MINELAB	3873	-2.11	544	-0.01	7092	-1.01

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	4248	-0.12	540	-0.08	7230	-0.49
COMLAB	4460	1.01	573	0.55	7611	0.93
COMLAB	4140	-0.69	530	-0.27	7420	0.22
COMLAB	4210	-0.32	520	-0.47	7300	-0.23
COMLAB	4100	-0.91	500	-0.85	7500	0.52
COMLAB	4130	-0.75	530	-0.27	7330	-0.12
COMLAB	4260	-0.06	540	-0.08	7410	0.18
COMLAB	4150	-0.64	463	-1.56	7350	-0.04
COMLAB	4350	0.42	560	0.30	7420	0.22
COMLAB	4070	-1.07	545	0.01	7310	-0.19
COMLAB	4280	0.05	604	1.15	7190	-0.64
COMLAB	4055	-1.14	684	2.67	7045	-1.18
COMLAB	4300	0.16	600	1.07	7400	0.15
COMLAB	4375	0.56	488	-1.08	7683	1.20
COMLAB	4182	-0.47	532	-0.24	7254	-0.40
COMLAB	3792	-2.54	550	0.11	7169	-0.72
COMLAB	4350	0.42	640	1.84	7420	0.22
COMLAB	4244	-0.14	492	-1.00	7426	0.24
COMLAB	4440	0.90	613	1.32	7497	0.51
COMLAB	4210	-0.32	480	-1.23	7330	-0.12
COMLAB	4390	0.64	496	-0.93	7440	0.30
COMLAB	456	-3.00	55	-3.00	719	-3.00
COMLAB	4262	-0.04	585	0.78	7445	0.31
COMLAB	4386	0.61	519	-0.49	7337	-0.09
MINELAB	4239	-0.17	516	-0.54	7436	0.28
MINELAB	2838	-3.00	541	-0.06	383	-3.00
MINELAB	4282	0.06	525	-0.37	7394	0.12
MINELAB	3885	-2.05	558	0.26	6686	-2.53
MINELAB	4500	1.22	nr	nr	7500	0.52
MINELAB	4211	-0.32	524	-0.39	7424	0.24
MINELAB	4600	1.75	<1000	bld	7900	2.02
MINELAB	4060	-1.12	500	-0.85	7240	-0.45
MINELAB	nr	nr	nr	nr	7259	-0.38
MINELAB	4290	0.10	560	0.30	7409	0.18

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	4370	0.53	657	2.16	7610	0.93
COMLAB	4200	-0.37	520	-0.47	7510	0.56
COMLAB	4150	-0.64	530	-0.27	7440	0.30
COMLAB	4300	0.16	550	0.11	7290	-0.27
COMLAB	4350	0.42	560	0.30	7500	0.52
COMLAB	4400	0.69	500	-0.85	7800	1.64
COMLAB	4455	0.98	563	0.36	7591	0.86
COMLAB	4280	0.05	570	0.49	7510	0.56
COMLAB	4283	0.07	411	-2.56	7022	-1.27
COMLAB	4370	0.53	502	-0.81	7256	-0.39
COMLAB	4600	1.75	600	1.07	7600	0.89
COMLAB	4029	-1.28	450	-1.81	6843	-1.94
COMLAB	4209	-0.33	515	-0.56	7523	0.61
COMLAB	4420	0.79	558	0.26	7000	-1.35
COMLAB	4023	-1.32	566	0.42	7191	-0.64
COMLAB	3990	-1.49	427	-2.25	7443	0.31
COMLAB	4422	0.80	444	-1.92	8256	3.00
COMLAB	4400	0.69	600	1.07	7600	0.89
COMLAB	4092	-0.95	487	-1.10	7017	-1.29
MINELAB	4767	2.64	547	0.05	8078	2.68
MINELAB	3983	-1.53	521	-0.45	6924	-1.64
MINELAB	4372	0.54	542	-0.05	7562	0.75
MINELAB	4381	0.59	560	0.31	7098	-0.98
MINELAB	2933	-3.00	521	-0.45	6787	-2.15
MINELAB	4436	0.88	583	0.74	7292	-0.26
MINELAB	4405	0.72	548	0.07	7491	0.49

Existing Products

	GBM306-12	GBM913-12	GBM310-16
Target	27095	22958	112603
Std Dev	949	891	5008

GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
26720	-0.40	23206	0.28	111978	-0.12	AR	ES
28405	1.38	24425	1.65	101100	-2.30	4A	AAS
26600	-0.52	22400	-0.63	106000	-1.32	FUS	XRF
27600	0.53	23200	0.27	110500	-0.42	4A	ES
26500	-0.63	22900	-0.07	108000	-0.92	4A	ES
28200	1.16	23626	0.75	110941	-0.33	4A	AAS
26115	-1.03	23393	0.49	105954	-1.33	4A	AAS
25800	-1.36	23100	0.16	>40000	ald	AR	ES
26828	-0.28	23426	0.53	107888	-0.94	4A	ICP
27302	0.22	23276	0.36	109773	-0.57	4A	ES
25500	-1.68	20100	-3.00	97800	-2.96	4A	ES
27261	0.17	22282	-0.76	110181	-0.48	4A	ES
26968	-0.13	22417	-0.61	108387	-0.84	FUS	ICP
26675	-0.44	22200	0.27	105300	-1.46	3A	AAS
27359	0.28	22605	-0.40	88360	-3.00	3A	AAS
25270	-1.92	21830	-1.27	105200	-1.48	1A	AAS
27825	0.77	23503	0.61	92930	-3.00	AR	AAS
28187	1.15	24375	1.59	114223	0.32	FUS	XRF
27470	0.39	23380	0.47	112000	-0.12	AR	ES
28248	1.21	24605	1.85	103832	-1.75	AR	ES
29685	2.73	22971	0.01	119792	1.44	AD	ICP
26664	-0.45	22703	-0.29	102233	-2.07	AR	MS
25889	-1.27	22235	-0.81	84722	-3.00	4A	ES
25666	-1.51	22721	-0.27	106871	-1.14	FUS	XRF
38224	3.00	26888	3.00	15338	-3.00	AR	AAS
26420	-0.71	22762	-0.22	106289	-1.26	3A	AAS
28000	0.95	23800	0.95	99800	-2.56	4A	ICP
26423	-0.71	22171	-0.88	114675	0.41	AR	AAS
26960	-0.14	22815	-0.16	104940	-1.53	4A	AAS

	GBM915-16	GBM910-11	GBM913-11
Target	9698	13372	35846
Std Dev	415	622	1541

GBM915-16		GBM910-11		GBM913-11			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
10600	2.17	13000	-0.60	34900	-0.61	FUS	ICP
9430	-0.65	12700	-1.08	34570	-0.83	4A	AAS
9650	-0.12	13200	-0.28	34800	-0.68	4A	ES
9370	-0.79	13400	0.04	35700	-0.10	FUS	ES
9640	-0.14	13050	-0.52	36700	0.55	4A	ES
9600	-0.24	12800	-0.92	35700	-0.10	FUS	ES
9675	-0.06	13601	0.37	36044	0.13	4A	ES
9880	0.44	13450	0.12	36400	0.36	4A	ES
9700	0.00	12800	-0.92	35200	-0.42	4A	ES
9400	-0.72	13400	0.04	35500	-0.22	3A	ES
10000	0.73	13500	0.21	37100	0.81	4A	AAS
nr	nr	nr	nr	3050	-3.00	4A	AAS
9780	0.20	13410	0.06	36020	0.11	4A	AAS
9846	0.36	13366	-0.01	35538	-0.20	4A	AAS
9863	0.40	13298	-0.12	34739	-0.72	4A	ES
10400	1.69	14100	1.17	38800	1.92	AR	MS
9177	-1.26	12240	-1.82	33100	-1.78	4A	AAS
10178	1.16	13752	0.61	36959	0.72	4A	AAS
9382	-0.76	13925	0.89	37788	1.26	AR	MS
9431	-0.64	13211	-0.26	34542	-0.85	4A	ICP,AAS
9700	0.00	13300	-0.12	37200	0.88	FUS	ES
9413	-0.69	13071	-0.48	34742	-0.72	4A	ES
9390	-0.74	13420	0.08	34852	-0.65	3A	ES
9657	-0.10	13077	-0.47	35315	-0.34	4A	AAS
8761	-2.26	11890	-2.38	32010	-2.49	4A	ES
9500	-0.48	13100	-0.44	33200	-1.72	FUS	XRF
9979	0.68	13698	0.52	175723	3.00	4A	AAS
9917	0.53	13512	0.22	35648	-0.13		ICP
9635	-0.15	13171	-0.32	34857	-0.64	3A	ES

	GBM306-12	GBM913-12	GBM310-16
Target	27095	22958	112603
Std Dev	949	891	5008

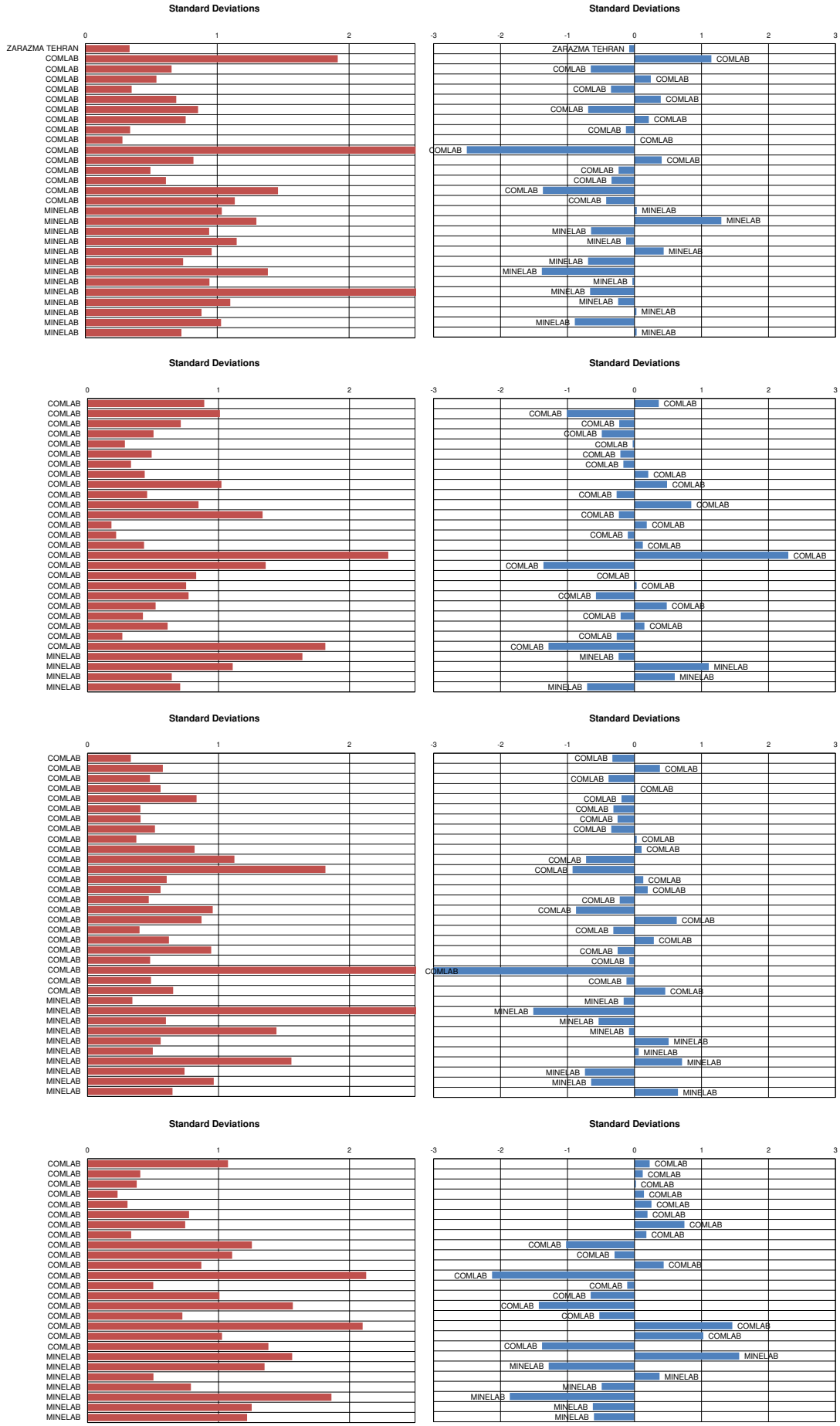
GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
26833	-0.28	22736	-0.25	108789	-0.76	4A	AAS
27254	0.17	23137	0.20	109664	-0.59	3A	ES
26900	-0.21	23000	0.05	105500	-1.42	4A	ES
27500	0.43	24100	1.28	109500	-0.62	4A	ES
26900	-0.21	24200	1.39	107000	-1.12	4A	ICP
27300	0.22	23000	0.05	107500	-1.02	AR	ES
26700	-0.42	23200	0.27	105500	-1.42	AR	AAS
27200	0.11	22650	-0.35	114560	0.39	AR	ES
27000	-0.10	23200	0.27	108000	-0.92	4A	MS
28600	1.58	24000	1.17	108200	-0.88	4A,TITR	ES
26000	-1.15	22300	-0.74	83200	-3.00	4A	AAS
25150	-2.05	22200	-0.85	97600	-3.00	4A	ES
27000	-0.10	23700	0.83	106000	-1.32	3A	AAS
27400	0.32	23050	0.10	113000	0.08	4A	ICP
26925	-0.18	23615	0.74	108700	-0.78	FUS,AR,4A	ES
27226	0.14	22450	-0.57	104325	-1.65	3A	ICP
27800	0.74	24100	1.28	109000	-0.72	4A,TITR	AAS
26692	-0.42	22927	-0.03	109928	-0.53	4A	AAS
27080	-0.02	22781	-0.20	108660	-0.79	FUS	XRF
28700	1.69	23300	0.38	103000	-1.92	4A	ES
27200	0.11	23100	0.16	108900	-0.74	4A	ES,AAS
3103	-3.00	2384	-3.00	7306	-3.00	4A	
26746	-0.37	21886	-1.20	111626	-0.20	4A	AAS
28195	1.16	24313	1.52	112825	0.04	4A	AAS
27088	-0.01	23189	0.26	108617	-0.80	AR	AAS,ICP
495	-3.00	27267	3.00	59	-3.00	3A	AAS
26439	-0.69	22653	-0.34	102586	-2.00	3A	AAS
28327	1.30	23397	0.49	122752	2.03		AAS
27400	0.32	23500	0.61	112000	-0.12	FUS	XRF
27598	0.53	23773	0.92	109580	-0.60	AR	MS
28000	0.95	23800	0.95	102000	-2.12	3A	AAS
26380	-0.75	22940	-0.02	106360	-1.25	3A	ES
25540	-1.64	23522	0.63	106598	-1.20	AR	ICP
28421	1.40	23925	1.09	116726	0.82	3A	AAS

	GBM315-13	GBM315-16	GBM310-13
Target	34311	188046	21439
Std Dev	966	6869	944

GBM315-13		GBM315-16		GBM310-13			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
33300	-1.05	177800	-1.49	21700	0.28	4A	ES
34400	0.09	192500	0.65	21700	0.28	AR	ES
34900	0.61	190000	0.28	21300	-0.15	4A	ES
35000	0.71	188500	0.07	21500	0.06	4A	ES
34200	-0.11	191000	0.43	21400	-0.04	4A	ES
34600	0.30	181900	-0.89	21700	0.28	4A	AAS
35167	0.89	190755	0.39	22377	0.99	4A	ES
34000	-0.32	191000	0.43	21300	-0.15	3A	ES
34591	0.29	71987	-3.00	21763	0.34	4A	AAS
36094	1.85	100767	-3.00	21480	0.04	4A	AAS
33400	-0.94	189400	0.20	21100	-0.36	AR	AAS
30420	-3.00	88970	-3.00	19810	-1.73	AR	ES
33400	-0.94	190800	0.40	21600	0.17	4A	ES
33200	1.15	180000	-1.17	20200	-1.31	4A	ICP
31145	-3.00	174562	-1.96	19483	-2.07	FUS	ES
34304	-0.01	188565	0.08	21642	0.21	3A	AAS
36660	2.43	199750	1.70	24029	2.74	4A	ES
35400	1.13	196700	1.26	22500	1.12	4A	ES
32231	-2.15	178125	-1.44	20160	-1.35	AR	AAS
34767	0.47	219360	3.00	21943	0.53	AR	AAS
31457	-2.95	189500	0.21	20181	-1.33	4A	AAS
33980	-0.34	189003	0.14	22574	1.20	4A	ES
32967	-1.39	181944	-0.89	20895	-0.58	AR	ES
32107	-2.28	25280	-3.00	21160	-0.30	AR	AAS
32025	-2.37	151157	-3.00	21696	0.27	3A	AAS
31923	-2.47	82725	-3.00	21973	0.57	FUS	ICP

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

Ore Grade Lead - Mean of Absolute Standardized Values - April 2017	Ore Grade Lead - Mean of Standardized Values - April 2017



Ore Grade Zinc Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	34916	5049	24779
STDEV (ppm)	1282	217	1031
95% CI (ppm)	246	42	196
95% CI (%)	0.71%	0.83%	0.79%
MIN (ppm)	31781	4429	22191
MEDIAN (ppm)	34900	5060	24700
MAX (ppm)	38570	5570	27125
IQR (ppm)	1250	241	1330
COUNT	105	103	107

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	35215	0.23	4987	-0.28	26465	1.64
COMLAB	34965	0.04	5046	-0.01	25310	0.51
COMLAB	34300	-0.48	5000	-0.22	24200	-0.56
COMLAB	36100	0.92	5070	0.10	26300	1.48
COMLAB	35400	0.38	5280	1.07	24900	0.12
COMLAB	34522	-0.31	5033	-0.07	24646	-0.13
COMLAB	37406	1.94	5255	0.95	26745	1.91
COMLAB	36300	1.08	5200	0.70	24700	-0.08
COMLAB	35359	0.35	5036	-0.06	25608	0.80
COMLAB	36034	0.87	4935	-0.52	25178	0.39
COMLAB	33000	-1.49	4620	-1.98	22800	-1.92
COMLAB	35826	0.71	5214	0.76	25360	0.56
COMLAB	35119	0.16	5018	-0.14	24858	0.08
COMLAB	33950	-0.75	5530	2.22	24180	-0.58
COMLAB	37017	1.64	**6189**	**3.00**	24502	-0.27
COMLAB	31781	-2.45	4582	-2.15	22242	-2.46
COMLAB	36040	0.88	5133	0.39	25650	0.84
MINELAB	35550	0.49	5044	-0.02	24129	-0.63
MINELAB	37028	1.65	5570	2.40	25654	0.85
MINELAB	33750	-0.91	4800	-1.15	23320	-1.42
MINELAB	37792	2.24	4962	-0.40	27125	2.28
MINELAB	34027	-0.69	4996	-0.24	23929	-0.82
MINELAB	36477	1.22	5081	0.15	25551	0.75
MINELAB	**29527**	**-3.00**	**4173**	**-3.00**	23068	-1.66
MINELAB	**30269**	**-3.00**	4429	-2.86	**21280**	**-3.00**
MINELAB	31920	-2.34	5060	0.05	26079	1.26
MINELAB	34722	-0.15	4951	-0.45	22191	-2.51
MINELAB	34000	-0.71	5200	0.70	24000	-0.76
MINELAB	34531	-0.30	4963	-0.39	25071	0.28
MINELAB	33638	-1.00	4915	-0.62	25287	0.49

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	34500	-0.32	5400	1.62	24200	-0.56
COMLAB	33907	-0.79	4597	-2.08	23648	-1.10
COMLAB	34400	-0.40	5140	0.42	24000	-0.76
COMLAB	34700	-0.17	5140	0.42	26100	1.28
COMLAB	35200	0.22	5350	1.39	25300	0.51
COMLAB	36200	1.00	4900	-0.69	24600	-0.17
COMLAB	34379	-0.42	5071	0.10	24214	-0.55
COMLAB	34900	-0.01	5190	0.65	25600	0.80
COMLAB	35600	0.53	5480	1.99	25900	1.09
COMLAB	36300	1.08	5100	0.24	25200	0.41
COMLAB	35300	0.30	5040	-0.04	24700	-0.08
COMLAB	35000	0.07	5100	0.24	24600	-0.17
COMLAB	38570	2.85	**5831**	**3.00**	25706	0.90
COMLAB	36160	0.97	5150	0.47	24850	0.07
COMLAB	34934	0.01	4973	-0.35	24984	0.20
COMLAB	36316	1.09	5067	0.08	25945	1.13
COMLAB	37500	2.02	**5800**	**3.00**	27000	2.15
COMLAB	33253	-1.30	4783	-1.22	23171	-1.56
COMLAB	33885	-0.80	5096	0.22	24175	-0.59
COMLAB	34752	-0.13	5086	0.17	25528	0.73
COMLAB	34363	-0.43	5095	0.21	25232	0.44
COMLAB	34400	-0.40	5300	1.16	24800	0.02
COMLAB	38736	2.98	4865	-0.85	24343	-0.42
COMLAB	33010	-1.49	4993	-0.26	23267	-1.47
COMLAB	34692	-0.17	4805	-1.12	24916	0.13
COMLAB	**30409**	**-3.00**	5050	0.01	**20412**	**-3.00**
MINELAB	36700	1.39	4600	-2.07	23400	-1.34
MINELAB	34613	-0.24	5179	0.60	24599	-0.17
MINELAB	34407	-0.40	4932	-0.54	23983	-0.77
MINELAB	**14690**	**-3.00**	**4157**	**-3.00**	**13132**	**-3.00**

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	36000	0.85	5450	1.85	25700	0.89
COMLAB	34404	-0.40	5022	-0.12	25699	0.89
COMLAB	36744	1.43	5251	0.93	25987	1.17
COMLAB	34700	-0.17	5160	0.51	24800	0.02
COMLAB	35500	0.46	5080	0.14	24500	-0.27
COMLAB	34700	-0.17	5400	1.62	24700	-0.08
COMLAB	34200	-0.56	5050	0.01	24600	-0.17
COMLAB	35200	0.22	4880	-0.78	25700	0.89
COMLAB	**39500**	**3.00**	5083	0.16	27010	2.16
COMLAB	35000	0.07	5140	0.42	24200	-0.56
COMLAB	36700	1.39	5020	-0.13	25200	0.41
COMLAB	32200	-2.12	**4170**	**-3.00**	22900	-1.82
COMLAB	32775	-1.67	4885	-0.75	23150	-1.58
COMLAB	33200	-1.34	4800	-1.15	23500	-1.24
COMLAB	34867	-0.04	5178	0.60	25750	0.94
COMLAB	34305	-0.48	4962	-0.40	24431	-0.34
COMLAB	33978	-0.73	5058	0.04	23933	-0.82
COMLAB	34300	-0.48	5020	-0.13	24100	-0.66
COMLAB	34937	0.02	5060	0.05	24885	0.10
COMLAB	35470	0.43	5260	0.97	25170	0.38
COMLAB	33700	-0.95	5210	0.74	25100	0.31
COMLAB	35100	0.14	4794	-1.17	23861	-0.89
COMLAB	**13951**	**-3.00**	**2107**	**-3.00**	**9039**	**-3.00**
COMLAB	34855	-0.05	5060	0.05	24456	-0.31
COMLAB	34216	-0.55	4993	-0.26	25107	0.32
MINELAB	34674	-0.19	4950	-0.45	24442	-0.33
MINELAB	32942	-1.54	**6826**	**3.00**	24488	-0.28
MINELAB	34940	0.02	5192	0.66	24290	-0.47
MINELAB	36434	1.18	4947	-0.47	24606	-0.17
MINELAB	33970	-0.74	**4140**	**-3.00**	22610	-2.10
MINELAB	33200	-1.34	5300	1.16	23100	-1.63
MINELAB	37063	1.68	5215	0.77	25159	0.37
MINELAB	37200	1.78	5300	1.16	26900	2.06
MINELAB	34135	-0.61	5045	-0.02	24780	0.00
MINELAB	nr	nr	nr	nr	24024	-0.73
MINELAB	34753	-0.13	4749	-1.38	25020	0.23

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	34700	-0.17	5270	1.02	24700	-0.08
COMLAB	35200	0.22	5000	-0.22	24200	-0.56
COMLAB	34400	-0.40	5160	0.51	24400	-0.37
COMLAB	35300	0.30	5230	0.84	24300	-0.47
COMLAB	35500	0.46	5350	1.39	25500	0.70
COMLAB	34900	-0.01	5100	0.24	25600	0.80
COMLAB	36549	1.27	5222	0.80	26503	1.67
COMLAB	35000	0.07	5100	0.24	24900	0.12
COMLAB	34303	-0.48	4980	-0.32	23797	-0.95
COMLAB	32911	-1.56	4468	-2.68	23917	-0.84
COMLAB	34900	-0.01	4800	-1.15	23300	-1.44
COMLAB	35580	0.52	4739	-1.43	24970	0.18
COMLAB	35300	0.30	5065	0.08	25200	0.41
COMLAB	35900	0.77	4950	-0.45	24300	-0.47
COMLAB	32136	-2.17	4662	-1.78	22763	-1.96
COMLAB	34826	-0.07	4959	-0.41	25232	0.44
COMLAB	35343	0.33	5269	1.02	25512	0.71
COMLAB	34800	-0.09	5200	0.70	25100	0.31
COMLAB	33217	-1.32	4711	-1.56	23680	-1.07
MINELAB	35321	0.32	4798	-1.16	26068	1.25
MINELAB	34095	-0.64	4626	-1.95	24519	-0.25
MINELAB	36380	1.14	5258	0.96	25742	0.93
MINELAB	32853	-1.61	5288	1.10	24234	-0.53
MINELAB	33200	-1.34	4933	-0.53	24400	-0.37
MINELAB	34467	-0.35	4791	-1.19	24110	-0.65
MINELAB	35705	0.62	4946	-0.47	24890	0.11

Existing Products

	GBM306-12	GBM913-12	GBM310-16
Target	20634	72593	170201
Std Dev	689	2272	6825

GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
21508	1.27	75314	1.20	165873	-0.63	AR	ES
20805	0.25	73785	0.52	167700	-0.37	4A	AAS
20600	-0.05	72100	-0.22	164000	-0.91	FUS	XRF
20500	-0.19	74200	0.71	168500	-0.25	4A	ES
20600	-0.05	73900	0.58	170500	0.04	4A	ES
20669	0.05	73283	0.30	164679	-0.81	4A	AAS
21910	1.85	78594	2.64	180005	1.44	4A	AAS
20900	0.39	74400	0.80	168400	-0.26	AR	ES
20710	0.11	75357	1.22	162697	-1.10	4A	ICP
20381	-0.37	74172	0.69	158315	-1.74	4A	ES
20100	-0.77	68500	-1.80	165000	-0.76	4A	ES
20374	-0.38	67893	-2.07	158761	-1.68	4A	ES
19789	-1.23	72026	-0.25	160354	-1.44	FUS,TITR	ICP
19400	-1.79	70300	-1.01	158500	-1.71	3A	AAS
19614	-1.48	74636	0.90	158739	-1.68	AR	AAS
20652	0.03	67906	-2.06	154021	-2.37	3A	AAS
21490	1.24	75370	1.22	165800	-0.64	1A	AAS
21910	1.85	66936	-2.49	168840	-0.20	AR	AAS
21611	1.42	78230	2.48	172421	0.33	FUS	XRF
20890	0.37	72850	0.11	168500	-0.25	AR	ES
21564	1.35	72824	0.10	159677	-1.54	AR	ES
21205	0.83	76173	1.58	171843	0.24	AD	ICP
20987	0.51	75119	1.11	161207	-1.32	AR	MS
19275	-1.97	**59903**	**-3.00**	**100010**	**-3.00**	4A	ES
17239	**-3.00**	**62622**	**-3.00**	**140413**	**-3.00**	FUS	XRF
20343	-0.42	**45293**	**-3.00**	**33394**	**-3.00**	AR	AAS
19147	-2.16	72230	-0.16	155483	-2.16	3A	AAS
20000	-0.92	72000	-0.26	170000	-0.03	4A	ICP
20398	-0.34	71850	-0.33	169885	-0.05	AR	AAS
20423	-0.31	73850	0.55	158313	-1.74	4A	AAS

	GBM915-16	GBM910-11	GBM913-11
Target	19551	39325	78969
Std Dev	676	1654	2849

GBM915-16		GBM910-11		GBM913-11			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
19500	-0.07	36600	-1.65	76600	-0.83	FUS	ICP
18044	-2.23	38814	-0.31	80213	0.44	4A	AAS
18700	-1.26	39400	0.05	75500	-1.22	4A	ES
19400	-0.22	39600	0.17	81500	0.89	FUS	ES
19750	0.30	38600	-0.44	82100	1.10	4A	ES
19700	0.22	38300	-0.62	81100	0.75	FUS	ES
19129	-0.62	38281	-0.63	79444	0.17	4A	ES
19850	0.44	38600	-0.44	78900	-0.02	4A	ES
19200	-0.52	37900	-0.86	76600	-0.83	4A	ES
19300	-0.37	37900	-0.86	79500	0.19	3A	ES
19600	0.07	38900	-0.26	79600	0.22	4A	AAS
19200	-0.52	38500	-0.50	79500	0.19	4A	AAS
18705	-1.25	**48470**	**3.00**	86264	2.56	4A	AAS
19530	-0.03	38620	-0.43	82250	1.15	4A	AAS
19303	-0.37	38493	-0.50	77493	-0.52	4A	AAS
19962	0.61	39686	0.22	78226	-0.26	4A	ES
21000	2.14	40600	0.77	83500	1.59	AR	MS
19040	-0.76	36400	-1.77	82000	1.06	4A	AAS
18964	-0.87	**33803**	**-3.00**	74096	-1.71	4A	AAS
19686	0.20	39394	0.04	79664	0.24	AR	MS
20394	1.25	40997	1.01	83560	1.61	4A	ICP,AAS
19100	-0.67	39100	-0.14	79400	0.15	FUS	ES
18685	-1.28	38216	-0.67	75074	-1.37	4A	ES
17893	-2.45	36345	-1.80	73671	-1.86	3A	ES
19584	0.05	38534	-0.48	79272	0.11	4A	AAS,TITR
16721	**-3.00**	**31529**	**-3.00**	**62105**	**-3.00**	4A	ES
19200	-0.52	39000	-0.20	81100	0.75	FUS	XRF
19197	-0.52	37072	-1.36	**157783**	**3.00**	4A	AAS
19208	-0.51	38595	-0.44	78325	-0.23		ICP
12400	**-3.00**	**15909**	**-3.00**	**18373**	**-3.00**	3A	ES

	GBM306-12	GBM913-12	GBM310-16
Target	20634	72593	170201
Std Dev	689	2272	6825

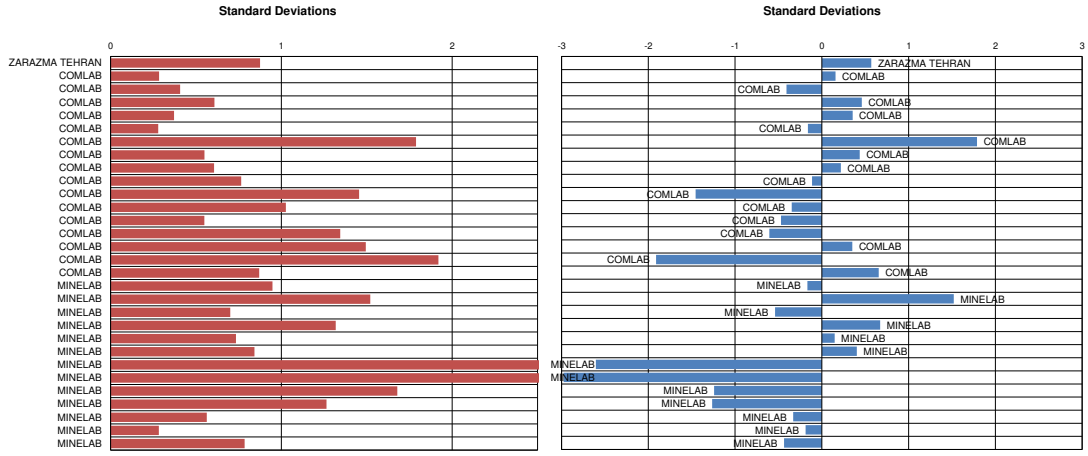
GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
21800	1.69	**79500**	**3.00**	165000	-0.76	NAA	
21458	1.19	76305	1.63	166711	-0.51	4A	AAS
20724	0.13	72681	0.04	173168	0.43	3A	ES
20800	0.24	73200	0.27	166000	-0.62	4A	ES
21000	0.53	76400	1.68	165000	-0.76	4A	ES
21100	0.68	74600	0.88	168500	-0.25	4A	ICP
20800	0.24	73000	0.18	166500	-0.54	AR	ES
20400	-0.34	74100	0.66	164500	-0.84	AR	AAS
22830	**3.00**	72450	-0.06	190200	2.93	AR	ES
20900	0.39	73600	0.44	165000	-0.76	4A	ES
22200	2.27	75000	1.06	162650	-1.11	4A,TITR	ES
18700	-2.81	**64000**	**-3.00**	**149000**	**-3.00**	4A	AAS
18700	-2.81	67100	-2.42	150500	-2.89	4A	ES
20300	-0.48	72500	-0.04	**146000**	**-3.00**	3A	AAS
21050	0.60	73283	0.30	163000	-1.06	4A	ICP
20999	0.53	74142	0.68	169281	-0.13	FUS,4A	ES
19760	-1.27	74698	0.93	188907	2.74	3A	ICP
19900	-1.06	73300	0.31	162500	-1.13	4A,TITR	AAS
20634	0.00	73916	0.58	163970	-0.91	4A	AAS
20580	-0.08	72800	0.09	164510	-0.83	FUS	XRF
21600	1.40	69900	-1.19	155000	-2.23	4A	ES
19010	-2.36	75000	1.06	161000	-1.35	4A	ES,AAS
8284	**-3.00**	**25500**	**-3.00**	**41559**	**-3.00**	4A	
20793	0.23	69012	-1.58	nr	nr	4A	AAS
20755	0.18	71841	-0.33	165400	-0.70	4A	AAS
20330	-0.44	72512	-0.04	157305	-1.89	AR	AAS,ICP
18741	-2.75	67450	-2.26	152306	-2.62	3A	AAS
20498	-0.20	72705	0.05	163092	-1.04	3A	AAS
21290	0.95	74638	0.90	181363	1.64		AAS
18680	-2.83	72590	0.00	157285	-1.89	AR	AAS
19100	-2.23	73200	0.27	164000	-0.91	FUS	XRF
20922	0.42	77744	2.27	165700	-0.66	AR	MS
19900	-1.06	74100	0.66	161000	-1.35	3A	AAS
20900	0.39	73145	0.24	165550	-0.68	3A	ES
19898	-1.07	65973	-2.91	**137645**	**-3.00**	AR	ICP
21569	1.36	75487	1.27	174238	0.59	3A	AAS

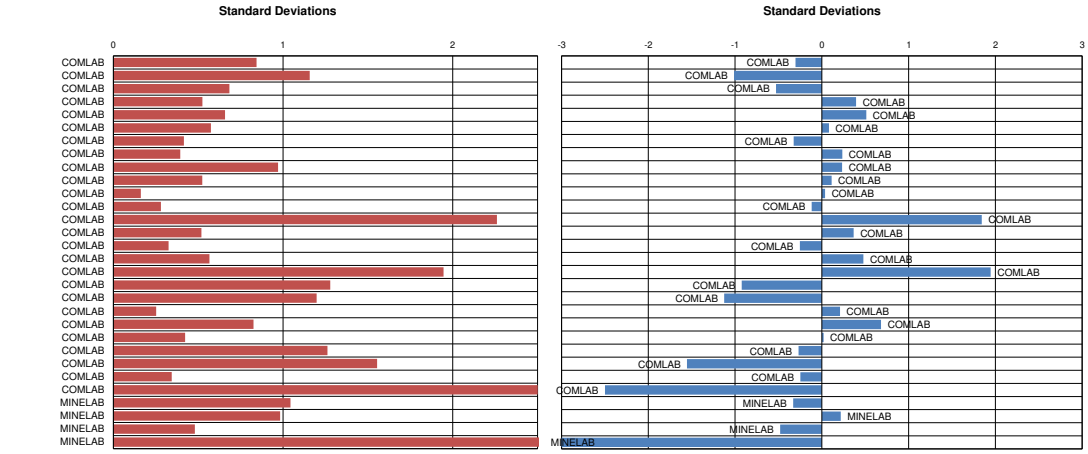
	GBM315-13	GBM315-16	GBM310-13
Target	37358	59724	108701
Std Dev	1136	1983	4558

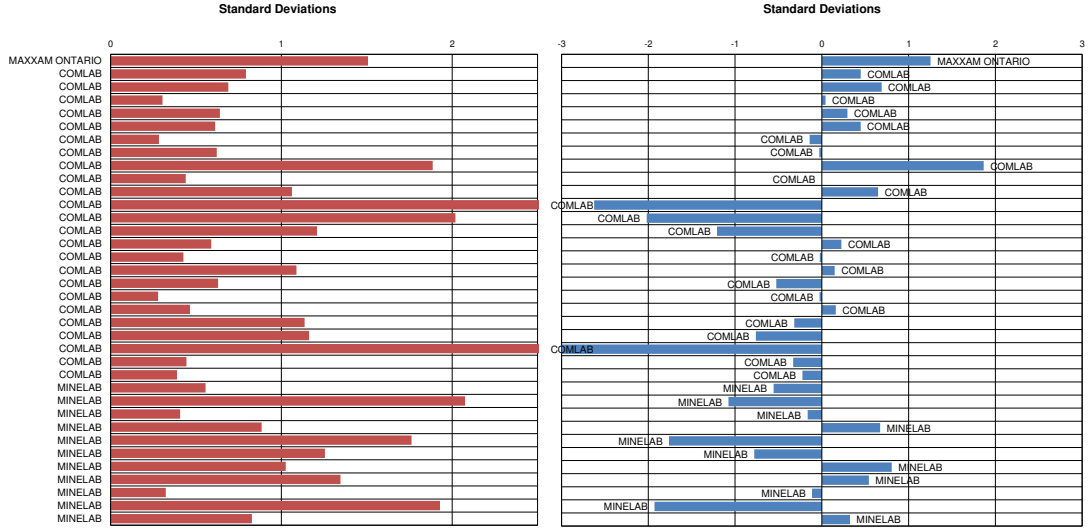
GBM315-13		GBM315-16		GBM310-13			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
35700	-1.46	59400	-0.16	108000	-0.15	4A	ES
37200	-0.14	60100	0.19	110500	0.39	AR	ES
36300	-0.93	59900	0.09	110500	0.39	4A	ES
37900	0.48	60100	0.19	108500	-0.04	4A	ES
37000	-0.32	60800	0.54	111000	0.50	4A	ES
36800	-0.49	63800	2.06	113300	1.01	4A	AAS
39295	1.71	64925	2.62	108373	-0.07	4A	ES
36800	-0.49	60400	0.34	109000	0.07	3A	ES
35904	-1.28	57777	-0.98	106455	-0.49	3A	AAS
36242	-0.98	57608	-1.07	104532	-0.91	4A	AAS
36400	-0.84	58800	-0.47	106500	-0.48	AR	AAS
35760	-1.41	55220	-2.27	107310	-0.31	AR	ES
37000	-0.32	61800	1.05	109600	0.20	4A	ES
36700	-0.58	57600	-1.07	104000	-1.03	4A	AAS
35046	-2.04	54889	-2.44	101563	-1.57	FUS	ES
37774	0.37	60122	0.20	112610	0.86	3A	AAS
38037	0.60	61950	1.12	105675	-0.66	4A	ES
37500	0.13	57800	-0.97	109800	0.24	4A	ES
34144	-2.83	56460	-1.65	103868	-1.06	AR	AAS
37953	0.52	58862	-0.43	112860	0.91	AR	AAS
35744	-1.42	58710	-0.51	104913	-0.83	4A	AAS
36147	-1.07	53908	-2.93	96273	-2.73	4A	ES
34674	-2.36	**53744**	**-3.00**	106707	-0.44	AR	ES
37200	-0.14	61333	0.81	111467	0.61	AR	AAS
23560	**-3.00**	58223	-0.76	110303	0.35	3A	AAS
34065	-2.90	59149	-0.29	109403	0.15	FUS	ICP

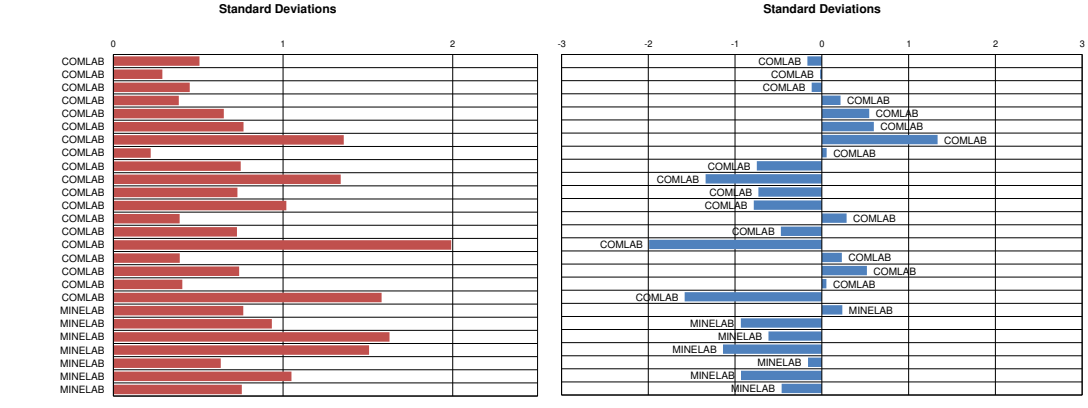
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

Ore Grade Zinc - Mean of Absolute Standardized Values - April 2017	Ore Grade Zinc - Mean of Standardized Values - April 2017









Ore Grade Nickel Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	3227	21	39436
STDEV (ppm)	114	6	1512
95% CI (ppm)	24	2	323
95% CI (%)	0.75%	7.41%	0.82%
MIN (ppm)	2950	10	36300
MEDIAN (ppm)	3220	20	39374
MAX (ppm)	3520	37	43100
IQR (ppm)	157	6	1800
COUNT	87	63	85

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	3015	-1.85	20	-0.11	38914	-0.35
COMLAB	3121	-0.92	50	3.00	38395	-0.69
COMLAB	3100	-1.11	<100	bld	38300	-0.75
COMLAB	3300	0.64	30	1.52	42500	2.03
COMLAB	3160	-0.58	20	-0.11	38600	-0.55
COMLAB	3149	-0.68	25	0.71	39755	0.21
COMLAB	3162	-0.56	12	-1.41	41260	1.21
COMLAB	3250	0.20	20	-0.11	36600	-1.88
COMLAB	3158	-0.60	21	0.06	38653	-0.52
COMLAB	3326	0.87	12	-1.41	38657	-0.52
COMLAB	3050	-1.54	21	0.03	36300	-2.07
COMLAB	3306	0.69	23	0.38	39522	0.06
COMLAB	3159	-0.59	18	-0.50	39374	-0.04
COMLAB	**2798**	**-3.00**	bld	bld	**45083**	**3.00**
COMLAB	**2877**	**-3.00**	29	1.36	**34200**	**-3.00**
COMLAB	**2774**	**-3.00**	<100	bld	38110	-0.88
MINELAB	**617**	**-3.00**	nr	nr	**7843**	**-3.00**
MINELAB	2970	-2.24	<100	bld	39400	-0.02
MINELAB	3401	1.52	20	-0.13	41600	1.43
MINELAB	3331	0.91	23	0.38	40122	0.45
MINELAB	3146	-0.70	42	3.00	41626	1.45
MINELAB	2945	-2.46	19	-0.27	**34337**	**-3.00**
MINELAB	3107	-1.05	97	3.00	37760	-1.11
MINELAB	3090	-1.19	4	-2.71	39200	-0.16
MINELAB	3017	-1.83	24	0.55	37669	-1.17

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	3410	1.60	<50	bld	40600	0.77
COMLAB	3243	0.14	36	2.50	39605	0.11
COMLAB	3260	0.29	50	3.00	40000	0.37
COMLAB	3370	1.25	30	1.52	40400	0.64
COMLAB	3160	-0.58	20	-0.11	39000	-0.29
COMLAB	3240	0.12	10	-1.73	38700	-0.49
COMLAB	3152	-0.65	21	0.06	38991	-0.29
COMLAB	3170	-0.49	10	-1.73	39300	-0.09
COMLAB	3300	0.64	nr	nr	41800	1.56
COMLAB	3270	0.38	30	1.52	40970	1.01
COMLAB	3200	-0.23	nr	nr	38200	-0.82
COMLAB	**3600**	**3.00**	<100	bld	40200	0.51
COMLAB	3316	0.78	11	-1.64	40183	0.49
COMLAB	3414	1.64	<20	bld	41084	1.09
COMLAB	3500	2.39	<10	bld	43100	2.42
COMLAB	3152	-0.65	37	2.61	38121	-0.87
COMLAB	3212	-0.13	16	-0.76	37421	-1.33
COMLAB	>1000	ald	19	-0.27	>1000	ald
COMLAB	3106	-1.06	25	0.64	40668	0.81
COMLAB	3200	-0.23	<100	bld	39500	0.04
COMLAB	3095	-1.15	17	-0.59	37222	-1.46
COMLAB	3241	0.13	21	0.01	39137	-0.20
COMLAB	3187	-0.35	20	-0.11	39267	-0.11
COMLAB	3185	-0.36	210	3.00	**32110**	**-3.00**
MINELAB	3200	-0.23	bld	bld	39000	-0.29
MINELAB	3301	0.65	51	3.00	39475	0.03
MINELAB	**2600**	**-3.00**	21	0.06	**31348**	**-3.00**

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
MAXXAM ONTARIO	3250	0.20	<20	bld	40000	0.37
COMLAB	2950	-2.42	<20	bld	36366	-2.03
COMLAB	3242	0.13	21	0.06	40198	0.50
COMLAB	3190	-0.32	20	-0.11	38500	-0.62
COMLAB	3230	0.03	20	-0.11	38100	-0.88
COMLAB	3300	0.64	20	-0.11	39300	-0.09
COMLAB	3140	-0.76	20	-0.11	38800	-0.42
COMLAB	3290	0.55	20	-0.11	40800	0.90
COMLAB	3520	2.56	18	-0.43	39650	0.14
COMLAB	3300	0.64	20	-0.11	39100	-0.22
COMLAB	3220	-0.06	19	-0.27	41700	1.50
COMLAB	**2520**	**-3.00**	23	0.38	**30300**	**-3.00**
COMLAB	3120	-0.93	16	-0.82	38900	-0.35
COMLAB	3000	-1.98	<100	bld	38000	-0.95
COMLAB	3200	-0.23	24	0.55	39950	0.34
COMLAB	3214	-0.11	<50	bld	39935	0.33
COMLAB	3085	-1.24	24	0.55	42100	1.76
COMLAB	3150	-0.67	<50	bld	38600	-0.55
COMLAB	3067	-1.39	10	-1.73	37937	-0.99
COMLAB	3367	1.23	<10	bld	37703	-1.15
COMLAB	3190	-0.32	25	0.71	40300	0.57
COMLAB	3223	-0.03	19	-0.27	38900	-0.35
COMLAB	3273	0.41	19	-0.22	37400	-1.35
COMLAB	3315	0.77	nr	nr	39627	0.13
COMLAB	3203	-0.21	14	-1.07	40671	0.82
MINELAB	3239	0.11	<25	bld	40459	0.68
MINELAB	3155	-0.63	12	-1.41	39782	0.23
MINELAB	3370	1.25	nr	nr	41944	1.66
MINELAB	3074	-1.33	<20	bld	37036	-1.59
MINELAB	3110	-1.02	32	1.84	40176	0.49
MINELAB	3020	-1.81	25	0.71	36335	-2.05
MINELAB	3410	1.60	172	3.00	nr	nr

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	3320	0.82	18	-0.43	41850	1.60
COMLAB	3110	-1.02	20	-0.11	38500	-0.62
COMLAB	3050	-1.54	10	-1.73	37900	-1.02
COMLAB	3030	-1.72	<10	bld	37300	-1.41
COMLAB	3280	0.47	30	1.52	40000	0.37
COMLAB	3220	-0.06	20	-0.11	38860	-0.38
COMLAB	3310	0.73	<20	bld	40300	0.57
COMLAB	3420	1.69	26	0.87	40084	0.43
COMLAB	3270	0.38	16	-0.81	37810	-1.08
COMLAB	3397	1.49	16	-0.76	41300	1.23
COMLAB	3340	0.99	19	-0.27	40900	0.97
COMLAB	3319	0.81	25	0.71	39300	-0.09
COMLAB	3330	0.91	nr	nr	39894	0.30
COMLAB	3338	0.97	<0.01	-3.00	42425	1.98
COMLAB	3300	0.64	<100	bld	40000	0.37
COMLAB	3146	-0.70	<20	bld	36647	-1.84
MINELAB	**3594**	**3.00**	15	-0.84	**47751**	**3.00**
MINELAB	3335	0.94	22	0.19	38720	-0.47
MINELAB	3213	-0.12	16	-0.75	36786	-1.75
MINELAB	3062	-1.44	33	2.01	**31400**	**-3.00**
MINELAB	3176	-0.44	21	0.06	37680	-1.16

Existing Products

	GBM306-12	GBM913-12	GBM310-16
Target	9513	28	32
Std Dev	424	6	8

GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
9512	0.00	22	-1.06	32	-0.01	AR	ES
9379	-0.32	73	3.00	57	3.00	4A	AAS
9600	0.20	100	3.00	100	3.00	FUS	XRF
10200	1.62	60	3.00	50	2.21	4A	ES
9330	-0.43	30	0.28	30	-0.26	4A	ES
9767	0.60	34	0.95	29	-0.38	4A	AAS
9493	-0.05	28	-0.05	30	-0.26	4A	AAS
9390	-0.29	20	-1.40	40	0.98	AR	ES
9233	-0.66	31	0.45	33	0.11	4A	ICP
9739	0.53	31	0.45	32	-0.01	4A	ES
9370	-0.34	20	-1.38	35	0.32	4A	ES
9432	-0.19	33	0.78	37	0.61	4A	ES
9433	-0.19	28	-0.11	32	-0.04	FUS,4A	ICP
8360	-2.72	bld	bld	14	-2.24	AR	AAS
9513	0.00	34	0.95	44	1.47	3A	AAS
9724	0.50	<100	bld	<100	bld	1A	AAS
1885	**-3.00**	nr	nr	nr	nr	FUS	XRF
9700	0.44	<100	bld	<100	bld	AR	ES
10371	2.03	20	-1.40	31	-0.19	AR	ES
9538	0.06	32	0.62	43	1.35	AD	ICP
9571	0.14	38	1.62	42	1.24	AR	MS
9216	-0.70	31	0.45	33	0.11	4A	ES
8773	-1.75	101	3.00	31	-0.14	FUS	XRF
9260	-0.60	28	-0.05	42	1.22	4A	ICP
8825	-1.62	23	-0.89	34	0.24	AR	AAS

	GBM915-16	GBM910-11	GBM913-11
Target	199	20	28
Std Dev	18	3	11

GBM915-16		GBM910-11		GBM913-11			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
210	0.62	<50	bld	<50	bld	FUS	ICP
166	-1.76	10	-3.00	5	-2.11	4A	AAS
240	2.24	30	3.00	<30	bld	4A	ES
210	0.62	20	-0.04	20	-0.73	FUS	ES
200	0.08	20	-0.04	10	-1.65	4A	ES
210	0.62	20	-0.04	30	0.18	FUS	ES
196	-0.14	19	-0.44	21	-0.64	4A	ES
230	1.70	20	-0.04	20	-0.73	4A	ES
nr	nr	nr	nr	nr	nr	4A	ES
200	0.08	20	-0.04	30	0.18	3A	ES
300	3.00	nr	nr	nr	nr	4A	AAS
200	0.08	<100	bld	<100	bld	4A	AAS
194	-0.24	19	-0.40	23	-0.43	4A	AAS
204	0.30	<20	bld	<20	bld	4A	ES
183	-0.84	21	0.40	27	-0.12	AR	MS
182	-0.88	22	0.71	52	2.19	4A	AAS
<500	bld	16	-1.62	22	-0.55	4A	AAS
189	-0.52	16	-1.62	21	-0.64	AR	MS
222	1.28	25	1.79	31	0.29	4A	ICP
200	0.08	<100	bld	<100	bld	FUS	ES
147	-2.79	13	-2.81	17	-1.01	4A	ES
194	-0.24	24	1.42	29	0.10	3A	ES
212	0.73	17	-1.23	23	-0.46	4A	AAS,MS
160	-2.08	64	3.00	42	1.28	4A	ES
200	0.08	bld	bld	bld	bld	AD	ES
206	0.40	33	3.00	38	0.91		ICP
198	-0.03	20	-0.04	19	-0.83	3A	ES

	GBM306-12	GBM913-12	GBM310-16
Target	9513	28	32
Std Dev	424	6	8

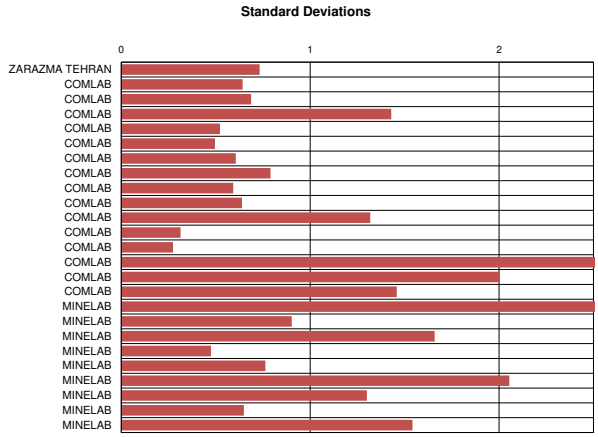
GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
10200	1.62	<50	bld	<100	bld	NAA	
9375	-0.33	<20	bld	<20	bld	4A	AAS
9502	-0.03	27	-0.22	45	1.59	3A	ES
9460	-0.13	30	0.28	30	-0.26	4A	ES
9600	0.20	30	0.28	30	-0.26	4A	ES
9700	0.44	40	1.96	30	-0.26	4A	ICP
9630	0.28	20	-1.40	20	-1.49	AR	ES
9460	-0.13	10	-3.00	20	-1.49	AR	AAS
10550	2.45	25	-0.56	33	0.11	AR	ES
9810	0.70	30	0.28	30	-0.26	4A	ES
9450	-0.15	26	-0.39	25	-0.88	4A,FUS	ES
7220	**-3.00**	28	-0.05	32	-0.01	4A	AAS
8905	-1.44	23	-0.89	30	-0.31	4A	ES
8800	-1.68	<100	bld	<100	bld	3A	AAS
9485	-0.07	39	1.79	37	0.61	4A	ICP
9587	0.17	<50	bld	<50	bld	FUS	ES
9489	-0.06	29	0.11	35	0.36	3A	ICP
9310	-0.48	<50	bld	<50	bld	4A	AAS
9895	0.90	25	-0.56	23	-1.12	4A	AAS
8920	-1.40	<10	bld	<10	bld	FUS	XRF
9850	0.79	30	0.28	40	0.98	4A	ES
10530	2.40	31	0.45	32	-0.01	4A	ES,AAS
9800	0.68	40	1.93	27	-0.60	4A	
9562	0.12	nr	nr	nr	nr	4A	AAS
10150	1.50	26	-0.42	26	-0.75	4A	AAS
9641	0.30	<25	bld	<25	bld	AR	AAS,ICP
9694	0.43	15	-2.24	25	-0.88	3A	AAS
10896	**3.00**	nr	nr	nr	nr		AAS
9240	-0.64	<20	bld	<20	bld	AR	AAS
9775	0.62	26	-0.31	34	0.26	AR	MS
9375	-0.33	30	0.28	45	1.59	3A	ES
nr	nr	nr	nr	nr	nr	AR	ICP

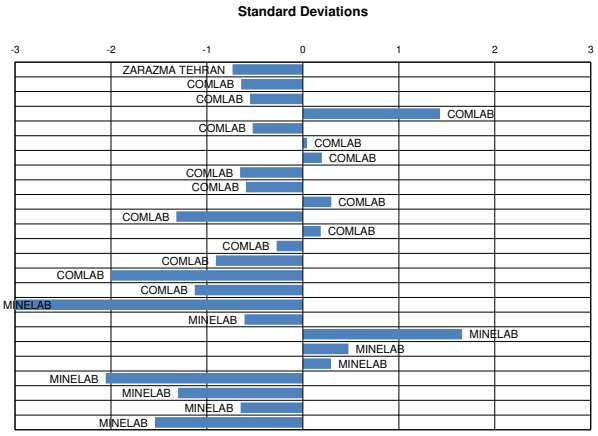
	GBM315-13	GBM315-16	GBM310-13
Target	189	11	62
Std Dev	27	5	11

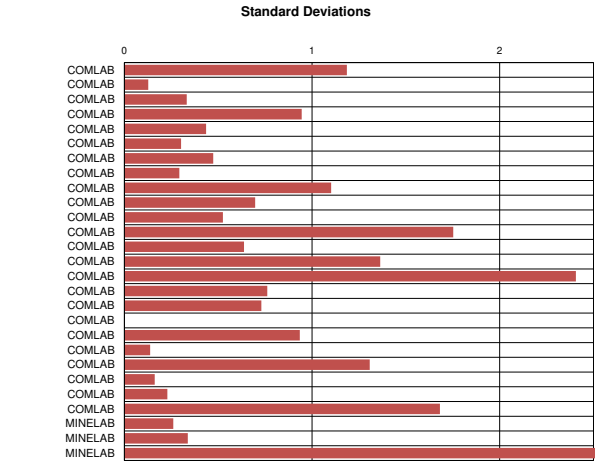
GBM315-13		GBM315-16		GBM310-13			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
215	0.95	13	0.40	66	0.38	4A	ES
170	-0.70	<10	bld	50	-1.12	AR	ES
200	0.40	<10	bld	50	-1.12	4A	ES
210	0.77	<10	bld	90	2.62	AR	AAS
200	0.40	10	-0.26	60	-0.18	4A	ES
200	0.40	<10	bld	60	-0.18	4A	AAS
191	0.07	<20	bld	63	0.10	3A	ES
208	0.69	7	-0.92	56	-0.56	4A	AAS
141	-1.78	<10	bld	53	-0.88	AR	ES
198	0.32	<5	bld	50	-1.12	4A	ES
215	0.95	12	0.18	64	0.19	4A	ICP
204	0.55	<10	bld	52	-0.93	FUS	ES
nr	nr	nr	nr	nr	nr	3A	AAS
148	-1.50	<0.01	-3.00	55	-0.62	4A	ES
300	3.00	<100	bld	<100	bld	4A	ES
141	-1.77	<20	bld	55	-0.65	AR	AAS
146	-1.58	8	-0.77	54	-0.71	AR	AAS
196	0.25	<20	bld	60	-0.18	4A	ES
153	-1.35	<5	bld	52	-0.92	AR	ES
180	-0.34	47	3.00	57	-0.46	AR	AAS
230	1.50	12	0.18	60	-0.18	AR	ICP

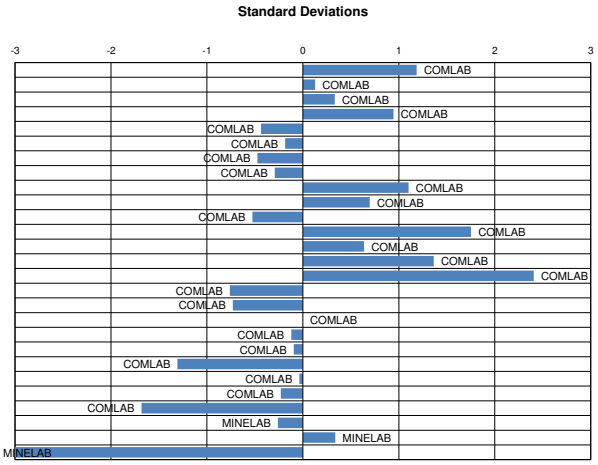
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

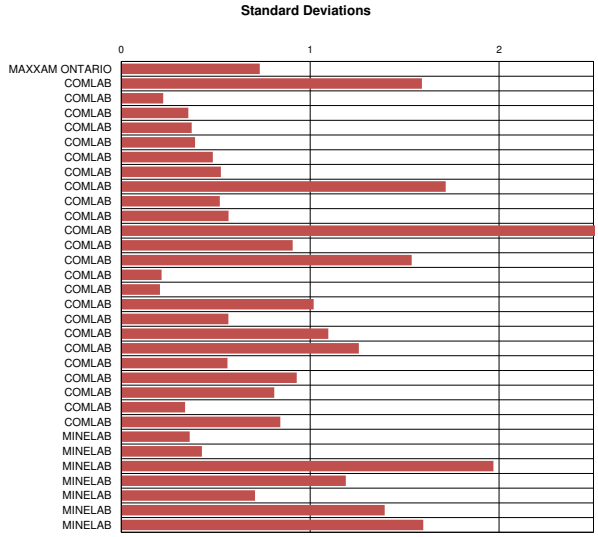
Ore Grade Nickel - Mean of Absolute Standardized Values - April 2017	Ore Grade Nickel - Mean of Standardized Values - April 2017

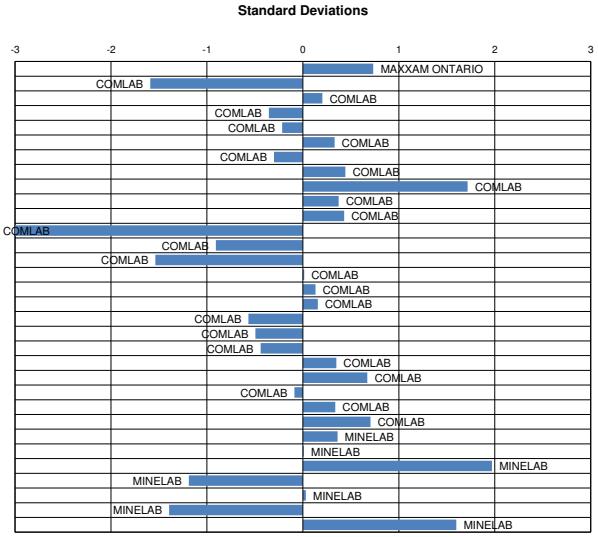


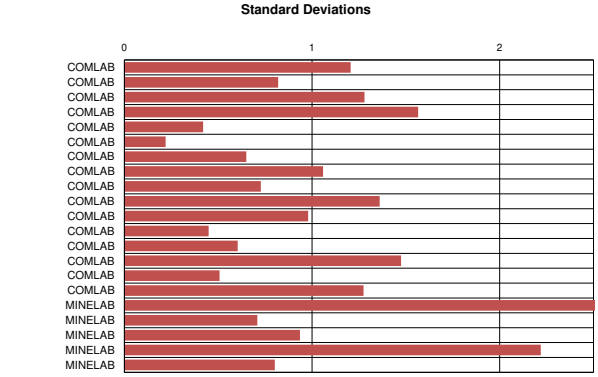


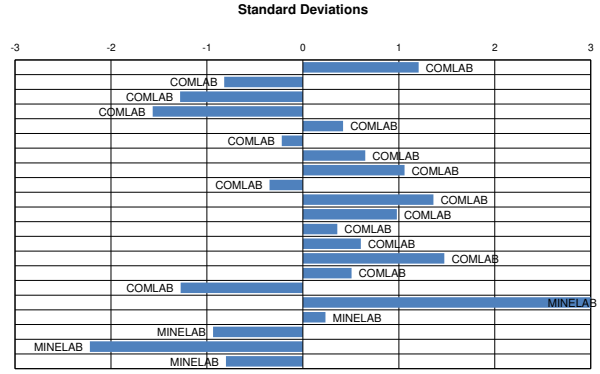












Ore Grade Silver Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	225.6	16.3	19.0
STDEV (ppm)	9.9	1.3	1.9
95% CI (ppm)	1.9	0.3	0.4
95% CI (%)	0.84%	1.62%	1.90%
MIN (ppm)	204.0	13.6	15.0
MEDIAN (ppm)	226.0	16.0	19.0
MAX (ppm)	249.4	20.0	24.0
IQR (ppm)	13.2	1.6	2.2
COUNT	105	101	103

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
ZARAZMA TEHRAN	212.3	-1.34	14.9	-1.05	17.8	-0.66
COMLAB	242.0	1.66	18.0	1.25	21.0	1.06
COMLAB	229.0	0.35	17.0	0.51	20.0	0.52
COMLAB	240.0	1.46	17.0	0.51	21.0	1.06
COMLAB	232.0	0.65	16.0	-0.24	20.0	0.52
COMLAB	230.0	0.45	17.0	0.51	20.0	0.52
COMLAB	215.0	-1.06	17.0	0.51	17.0	-1.09
COMLAB	214.0	-1.17	15.0	-0.98	16.0	-1.63
COMLAB	218.5	-0.72	15.0	-0.99	17.4	-0.86
COMLAB	228.0	0.25	17.0	0.51	21.0	1.06
COMLAB	214.0	-1.17	16.6	0.21	20.5	0.79
COMLAB	235.9	1.04	**12.0**	**-3.00**	17.8	-0.66
COMLAB	235.7	1.02	14.7	-1.24	18.0	-0.56
COMLAB	214.0	-1.17	17.4	0.80	18.8	-0.12
COMLAB	205.7	-2.00	15.4	-0.68	17.5	-0.82
COMLAB	240.9	1.55	17.0	0.51	23.6	2.45
MINELAB	nr	nr	15.7	-0.46	18.6	-0.23
MINELAB	235.6	1.01	19.5	2.36	21.9	1.54
MINELAB	**22.9**	**-3.00**	13.6	-2.02	16.0	-1.63
MINELAB	227.5	0.20	15.4	-0.69	18.4	-0.33
MINELAB	**67.0**	**-3.00**	16.0	-0.24	15.0	-2.16
MINELAB	225.9	0.04	**30.2**	**3.00**	16.6	-1.33
MINELAB	233.0	0.75	14.0	-1.72	**27.0**	**3.00**
MINELAB	**185.3**	**-3.00**	16.5	0.12	19.4	0.19
MINELAB	249.0	2.37	17.2	0.65	20.1	0.58
MINELAB	**173.0**	**-3.00**	**9.0**	**-3.00**	**11.0**	**-3.00**
MINELAB	215.4	-1.03	**23.1**	**3.00**	**32.8**	**3.00**
MINELAB	217.9	-0.77	18.5	1.62	22.1	1.65
MINELAB	248.0	2.26	17.0	0.51	23.0	2.13
MINELAB	223.0	-0.26	18.0	1.25	21.0	1.06
MINELAB	222.5	-0.31	18.0	1.25	21.0	1.06

Existing Products

	GBM306-12	GBM913-12	GBM310-16
Target	5.3	21.8	314.3
Std Dev	0.7	1.5	14.9

GBM306-12		GBM913-12		GBM310-16			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
6.2	1.18	21.1	-0.47	297.0	-1.16	AR	ES
6.0	0.91	23.0	0.80	318.0	0.25	4A	AAS
5.0	-0.44	22.0	0.13	306.0	-0.56	3A	AAS
5.0	-0.44	23.0	0.80	310.0	-0.29	4A	ES
6.0	0.91	22.0	0.13	311.0	-0.22	4A	ES
6.0	0.91	23.0	0.80	312.0	-0.15	4A	AAS
<10.0	bld	23.0	0.80	296.0	-1.23	4A	AAS
5.0	-0.44	21.0	-0.53	314.0	-0.02	AR	ES
4.6	-1.03	19.9	-1.27	303.8	-0.70	4A	ICP
6.0	0.91	21.0	-0.53	314.0	-0.02	4A	ES
4.4	-1.19	19.6	-1.47	300.0	-0.96	4A	ES
5.7	0.50	21.2	-0.40	306.2	-0.54	4A	ES
5.1	-0.34	21.8	0.02	303.8	-0.70	AR,GRAV	AAS
5.3	-0.03	22.5	0.47	293.9	-1.37	3A	AAS
5.8	0.64	21.4	-0.27	**268.9**	**-3.00**	3A	AAS
5.0	-0.44	21.6	-0.13	325.9	0.78	AR	AAS
4.3	-1.38	22.1	0.20	nr	nr	4A	AAS
5.3	-0.03	22.5	0.47	321.2	0.46	AR	AAS
4.1	-1.65	20.1	-1.13	**30.3**	**-3.00**	AR	AAS
5.6	0.42	21.9	0.09	316.1	0.12	AR	ES
107.0	**3.00**	**1.0**	**-3.00**	**99.0**	**-3.00**	AR	
12.1	**3.00**	22.3	0.35	316.8	0.16	AR	ES
9.0	**3.00**	23.0	0.80	**253.0**	**-3.00**	AD	ICP
4.8	-0.71	20.4	-0.94	292.1	-1.49	AR	MS
5.9	0.77	22.7	0.60	284.1	-2.02	4A	MS
4.0	-1.78	**16.0**	**-3.00**	**105.0**	**-3.00**	AD	
6.3	1.31	23.9	1.42	**174.0**	**-3.00**	AR	AAS
6.2	1.18	23.1	0.87	301.3	-0.87	3A	AAS
6.0	0.91	22.0	0.13	290.0	-1.63	FA	ICP
7.0	2.25	23.0	0.80	296.0	-1.23	AR	AAS
5.2	-0.17	23.5	1.14	295.0	-1.29	4A	AAS

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	226.0	0.05	15.0	-0.98	19.0	-0.02
COMLAB	224.3	-0.13	15.4	-0.68	18.4	-0.34
COMLAB	240.0	1.46	16.0	-0.24	17.0	-1.09
COMLAB	227.0	0.15	16.0	-0.24	19.0	-0.02
COMLAB	231.0	0.55	16.0	-0.24	19.0	-0.02
COMLAB	228.5	0.30	17.5	0.88	19.5	0.25
COMLAB	225.0	-0.06	17.0	0.51	19.0	-0.02
COMLAB	226.0	0.05	16.0	-0.24	22.0	1.60
COMLAB	222.0	-0.36	15.0	-0.98	**11.0**	**-3.00**
COMLAB	226.0	0.05	16.0	-0.24	20.0	0.52
COMLAB	226.9	0.14	16.2	-0.09	19.0	-0.02
COMLAB	220.4	-0.52	19.0	1.99	18.9	-0.07
COMLAB	221.0	-0.46	15.0	-0.98	18.0	-0.55
COMLAB	225.0	-0.06	15.3	-0.76	15.0	-2.16
COMLAB	230.0	0.45	17.0	0.51	21.0	1.06
COMLAB	**175.0**	**-3.00**	**10.7**	**-3.00**	**10.6**	**-3.00**
COMLAB	212.5	-1.32	17.9	1.14	20.1	0.55
COMLAB	231.0	0.55	16.0	-0.24	18.0	-0.55
COMLAB	223.0	-0.26	15.0	-0.98	17.0	-1.09
COMLAB	208.0	-1.77	15.2	-0.86	19.6	0.29
COMLAB	220.0	-0.56	15.4	-0.68	17.6	-0.77
COMLAB	215.0	-1.06	16.0	-0.24	19.0	-0.02
COMLAB	220.0	-0.56	18.2	1.40	21.3	1.22
COMLAB	216.0	-0.96	14.0	-1.72	17.0	-1.09
COMLAB	218.0	-0.76	15.0	-0.98	17.5	-0.82
MINELAB	231.0	0.55	**9.0**	**-3.00**	**10.0**	**-3.00**
MINELAB	232.9	0.74	17.0	0.51	16.3	-1.49
MINELAB	239.0	1.36	18.0	1.25	21.0	1.06
MINELAB	247.3	2.19	17.8	1.10	18.5	-0.30
MINELAB	**173.4**	**-3.00**	16.4	0.06	19.1	0.04
MINELAB	221.0	-0.46	15.1	-0.91	18.2	-0.45

	GBM915-16	GBM910-11	GBM913-11
Target	51.2	19.2	32.5
Std Dev	3.4	1.2	2.3

GBM915-16		GBM910-11		GBM913-11			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
42.0	-2.71	18.0	-1.00	37.0	1.95	4A	ES
52.2	0.30	19.4	0.16	33.0	0.21	4A	AAS
49.0	-0.64	18.0	-1.00	30.0	-1.10	4A	ES
48.0	-0.94	19.0	-0.17	33.0	0.21	4A	ES
49.0	-0.64	18.0	-1.00	32.0	-0.23	FUS	ES
48.0	-0.94	18.7	-0.42	31.8	-0.32	4A	ES
47.0	-1.23	20.0	0.66	33.0	0.21	4A	ES
42.0	-2.71	18.0	-1.00	32.0	-0.23	4A	ES
52.0	0.24	21.0	1.49	35.0	1.08	3A	ES
45.0	-1.83	21.0	1.49	33.0	0.21	4A	AAS
47.3	-1.15	18.7	-0.42	31.0	-0.66	FA	GRAV
48.1	-0.91	19.7	0.41	31.2	-0.58	4A	AAS
53.0	0.54	18.0	-1.00	32.0	-0.23	4A	AAS
nr	nr	18.3	-0.75	32.9	0.16	4A	AAS
47.0	-1.23	19.0	-0.17	32.0	-0.23	4A	ES
31.7	**-3.00**	**12.7**	**-3.00**	**19.5**	**-3.00**	AR	MS
47.6	-1.06	20.6	1.17	36.1	1.55	4A	AAS
48.0	-0.94	19.0	-0.17	31.0	-0.66	4A	AAS
48.0	-0.94	18.0	-1.00	29.0	-1.54	AR	MS
48.0	-0.94	19.9	0.57	32.8	0.11	4A	ICP,AAS
46.8	-1.29	18.8	-0.34	32.6	0.03	4A	AAS
46.0	-1.53	18.0	-1.00	31.0	-0.66	4A	ES
49.8	-0.41	20.2	0.83	33.2	0.29	3A	ES
45.0	-1.83	17.0	-1.84	29.0	-1.54	4A	AAS
46.0	-1.53	18.0	-1.00	31.0	-0.66	4A	ES
48.0	-0.94	18.0	-1.00	31.0	-0.66	AS	AAS
46.3	-1.45	21.5	1.91	30.3	-0.98	4A	AAS
54.0	0.84	21.0	1.49	34.0	0.64		AAS
58.0	2.01	19.9	0.54	33.5	0.40	AR	AAS
28.8	**-3.00**	18.4	-0.67	31.0	-0.66	3A	ES
49.0	-0.64	18.4	-0.67	31.5	-0.45	AR	AAS

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
MAXXAM ONTARIO	230.0	0.45	16.0	-0.24	22.0	1.60
COMLAB	224.0	-0.16	<20.0	bld	21.0	1.06
COMLAB	235.9	1.04	17.1	0.58	19.9	0.47
COMLAB	226.0	0.05	16.0	-0.24	20.0	0.52
COMLAB	223.0	-0.26	16.0	-0.24	19.0	-0.02
COMLAB	232.0	0.65	19.0	1.99	22.0	1.60
COMLAB	225.0	-0.06	16.0	-0.24	19.0	-0.02
COMLAB	226.0	0.05	16.0	-0.24	20.0	0.52
COMLAB	223.0	-0.26	19.0	1.99	21.0	1.06
COMLAB	227.0	0.15	16.5	0.13	19.0	-0.02
COMLAB	227.0	0.15	15.6	-0.53	15.4	-1.95
COMLAB	222.0	-0.36	**25.6**	**3.00**	19.5	0.25
COMLAB	206.7	-1.90	**21.0**	**3.00**	**12.9**	**-3.00**
COMLAB	218.0	-0.76	16.0	-0.24	20.0	0.52
COMLAB	230.0	0.45	16.5	0.13	20.4	0.74
COMLAB	227.0	0.15	16.0	-0.24	20.0	0.52
COMLAB	228.2	0.27	16.8	0.36	18.8	-0.12
COMLAB	231.0	0.55	15.6	-0.53	18.4	-0.34
COMLAB	218.9	-0.67	15.2	-0.83	17.7	-0.71
COMLAB	207.0	-1.87	14.0	-1.72	16.0	-1.63
COMLAB	**258.0**	**3.00**	20.0	2.73	**38.0**	**3.00**
COMLAB	223.0	-0.26	16.0	-0.24	19.0	-0.02
COMLAB	**192.1**	**-3.00**	bld	bld	bld	bld
COMLAB	222.7	-0.29	15.9	-0.31	18.8	-0.12
COMLAB	220.4	-0.52	16.3	-0.01	17.5	-0.82
MINELAB	222.0	-0.36	15.9	-0.31	19.3	0.15
MINELAB	**67.7**	**-3.00**	16.8	0.36	**12.5**	**-3.00**
MINELAB	219.0	-0.66	15.0	-0.98	18.0	-0.55
MINELAB	232.2	0.67	16.3	-0.01	19.6	0.31
MINELAB	249.4	2.40	**43.2**	**3.00**	**41.4**	**3.00**
MINELAB	234.0	0.85	19.0	1.99	22.0	1.60
MINELAB	233.7	0.82	16.5	0.16	19.5	0.27
MINELAB	215.0	-1.06	20.0	2.73	22.0	1.60
MINELAB	218.0	-0.76	16.0	-0.24	21.0	1.06
MINELAB	238.6	1.31	**21.7**	**3.00**	**25.8**	**3.00**
MINELAB	232.0	0.65	16.0	-0.24	19.0	-0.02
MINELAB	215.0	-1.06	15.0	-0.98	16.4	-1.41
MINELAB	215.0	-1.06	16.0	-0.24	15.0	-2.16

	GBM306-12	GBM913-12	GBM310-16
Target	5.3	21.8	314.3
Std Dev	0.7	1.5	14.9

GBM306-12		GBM913-12		GBM310-16			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
<5.0	bld	26.0	2.80	310.0	-0.29	NAA	
<20.0	bld	25.4	2.40	289.5	-1.66	AR	AAS
5.3	-0.03	21.8	0.00	313.5	-0.05	3A	ES
3.0	**-3.00**	22.0	0.13	307.0	-0.49	4A	ES
4.0	-1.78	22.0	0.13	305.0	-0.62	4A	ES
6.0	0.91	25.0	2.14	312.0	-0.15	4A	ICP
4.0	-1.78	22.0	0.13	305.0	-0.62	AR	ES
4.0	-1.78	21.0	-0.53	308.0	-0.42	AR	AAS
9.0	**3.00**	23.0	0.80	314.0	-0.02	AR	ES
5.2	-0.17	21.5	-0.20	300.0	-0.96	4A	MS
7.2	2.52	22.1	0.20	309.0	-0.35	4A	ES
5.0	-0.44	21.6	-0.13	284.0	-2.03	4A	AAS
9.5	**3.00**	21.8	0.00	**268.0**	**-3.00**	4A	ES
5.0	-0.44	22.0	0.13	311.0	-0.22	3A	AAS
5.2	-0.17	21.6	-0.13	310.0	-0.29	4A	ICP
5.0	-0.44	23.0	0.80	307.0	-0.49	AR	ES
5.4	0.10	22.0	0.13	326.6	0.83	1A	ICP
5.0	-0.44	21.0	-0.53	303.0	-0.76	4A	AAS
5.1	-0.30	21.0	-0.53	313.9	-0.03	4A	AAS
5.0	-0.44	19.0	-1.87	292.0	-1.49	3A	ICP
8.0	**3.00**	19.0	-1.87	301.0	-0.89	4A	ES
7.0	2.25	20.0	-1.20	339.0	1.66	4A	ES,AAS
2.7	**-3.00**	**8.4**	**-3.00**	**258.4**	**-3.00**	4A	
5.7	0.50	19.7	-1.40	301.5	-0.86	4A	AAS
5.7	0.49	21.0	-0.53	320.2	0.40	4A	AAS
4.9	-0.57	22.0	0.13	302.0	-0.82	AR	AAS,ICP
27.3	**3.00**	**5.1**	**-3.00**	<2.0	bld	3A	AAS
4.8	-0.71	**17.0**	**-3.00**	301.0	-0.89	3A	AAS
7.0	2.25	22.2	0.27	321.6	0.49		AAS
22.2	**3.00**	**40.3**	**3.00**	316.8	0.17	AR	AAS
5.0	-0.44	23.0	0.80	303.0	-0.76	AR	AAS
4.8	-0.76	20.6	-0.79	315.7	0.09	AR	MS
5.0	-0.44	21.0	-0.53	277.0	-2.50	3A	AAS
6.0	0.91	23.0	0.80	301.0	-0.89	3A	ES
7.0	2.25	22.8	0.65	310.6	-0.25	AR	ICP
5.0	-0.44	21.0	-0.53	301.0	-0.89	3A	AAS
5.2	-0.17	20.4	-0.93	286.9	-1.84	3A	AAS
6.0	0.91	20.0	-1.20	301.0	-0.89	3A	AAS

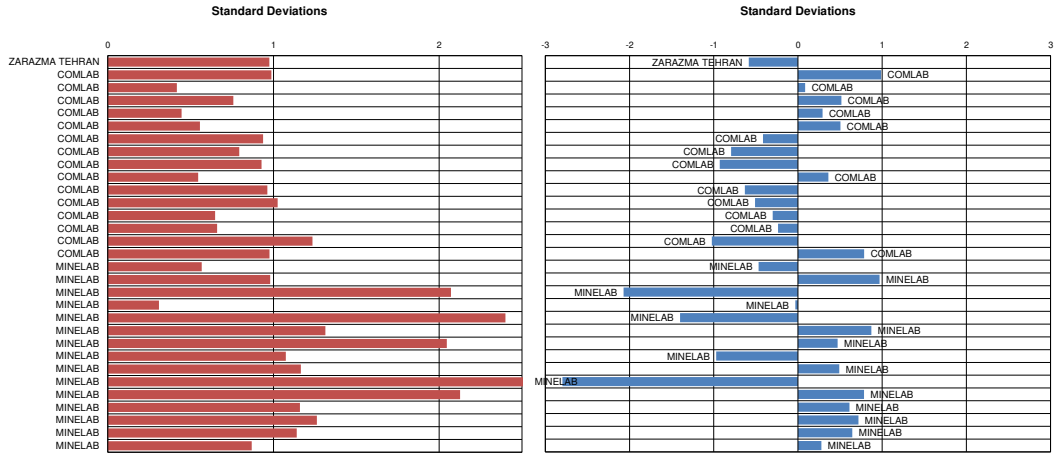
Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	**assay**	**z-score**	**assay**	**z-score**	**assay**	**z-score**
COMLAB	229.0	0.35	15.6	-0.53	18.9	-0.07
COMLAB	226.0	0.05	16.0	-0.24	19.0	-0.02
COMLAB	231.0	0.55	16.0	-0.24	19.0	-0.02
COMLAB	228.0	0.25	18.0	1.25	20.0	0.52
COMLAB	233.0	0.75	17.0	0.51	20.0	0.52
COMLAB	235.0	0.95	19.0	1.99	**30.0**	**3.00**
COMLAB	215.0	-1.06	16.0	-0.24	18.0	-0.55
COMLAB	229.0	0.35	16.6	0.21	20.0	0.52
COMLAB	241.0	1.56	<30.0	bld	<30.0	bld
COMLAB	209.0	-1.67	**24.0**	**3.00**	19.0	-0.02
COMLAB	209.0	-1.67	15.0	-0.98	19.0	-0.02
COMLAB	**357.8**	**3.00**	**20.5**	**3.00**	**114.9**	**3.00**
COMLAB	227.6	0.21	16.6	0.21	19.7	0.36
COMLAB	233.0	0.75	16.0	-0.24	20.0	0.52
COMLAB	246.0	2.06	17.0	0.51	23.0	2.13
COMLAB	215.4	-1.02	15.0	-0.98	16.9	-1.14
COMLAB	215.3	-1.03	15.0	-1.01	17.9	-0.63
COMLAB	**192.0**	**-3.00**	14.6	-1.28	17.5	-0.82
COMLAB	254.0	2.87	15.5	-0.61	18.9	-0.07
COMLAB	236.0	1.05	15.1	-0.91	18.2	-0.45
MINELAB	240.2	1.48	14.3	-1.53	16.9	-1.17
MINELAB	205.2	-2.06	14.2	-1.59	24.0	2.66
MINELAB	225.0	-0.06	17.6	0.95	19.3	0.16
MINELAB	**328.5**	**3.00**	**20.7**	**3.00**	**27.6**	**3.00**
MINELAB	247.9	2.25	**11.6**	**-3.00**	15.7	-1.78
MINELAB	204.0	-2.17	16.7	0.28	19.0	-0.02
MINELAB	218.8	-0.68	16.8	0.33	18.0	-0.54
MINELAB	236.0	1.05	18.0	1.25	22.0	1.60

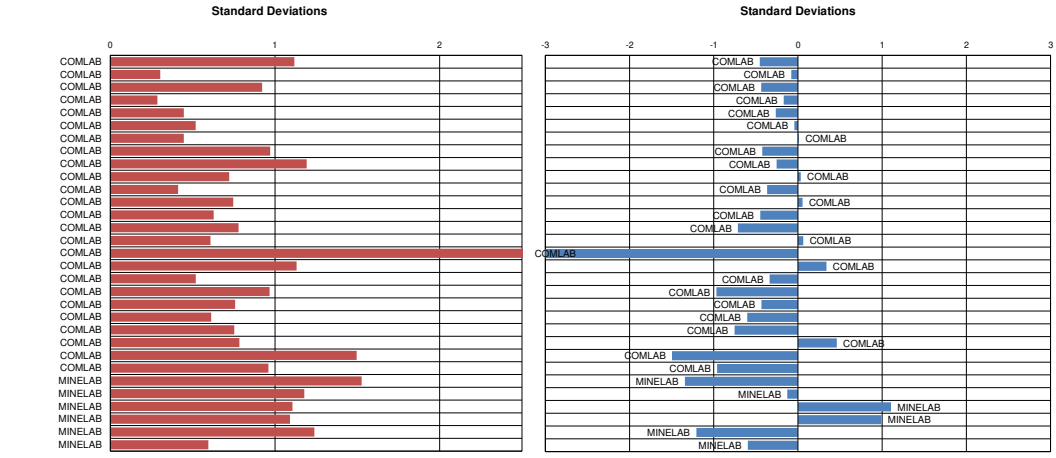
	GBM315-13	GBM315-16	GBM310-13
Target	41.5	577.4	30.7
Std Dev	1.7	24.3	1.7

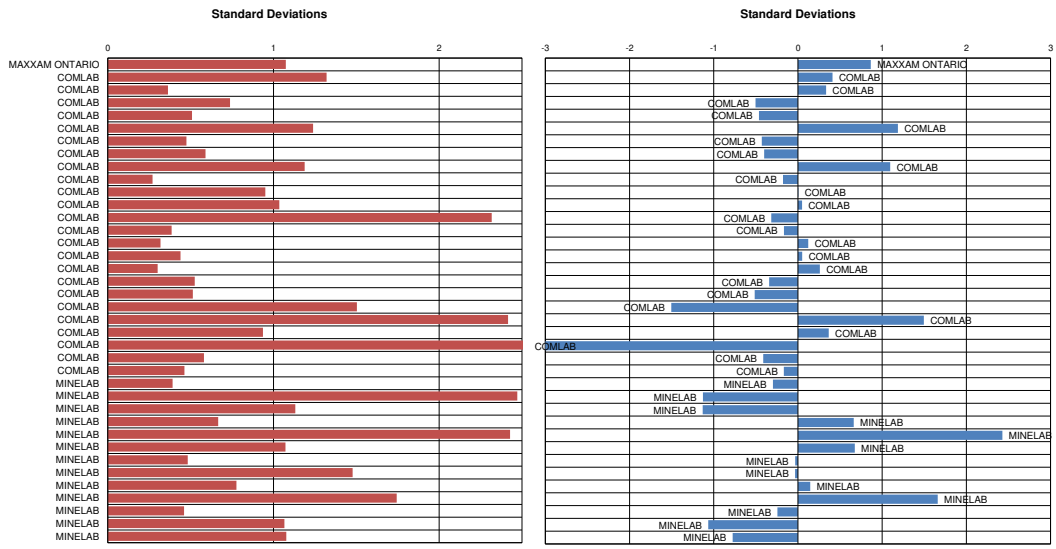
GBM315-13		GBM315-16		GBM310-13			
assay	**z-score**	**assay**	**z-score**	**assay**	**z-score**	**Method**	**Reading**
39.5	-1.19	553.0	-1.00	**35.9**	**3.00**	4A	ES
42.0	0.32	569.0	-0.34	32.0	0.74	AR	ES
40.0	-0.89	575.0	-0.10	31.0	0.15	4A	ES
41.0	-0.28	573.0	-0.18	32.0	0.74	4A	ES
42.0	0.32	580.0	0.11	32.0	0.74	4A	ES
41.0	-0.28	614.0	1.51	31.0	0.15	4A	AAS
43.0	0.93	567.0	-0.43	31.0	0.15	4A	ES
41.2	-0.16	556.0	-0.88	31.6	0.50	3A	MS
41.0	-0.28	576.0	-0.06	33.0	1.32	4A	AAS
43.0	0.93	560.0	-0.71	31.0	0.15	AR	AAS
34.0	**-3.00**	508.0	-2.85	**22.0**	**-3.00**	AR	AAS
49.3	**3.00**	**652.8**	**3.00**	**37.8**	**3.00**	AR	ES
41.3	-0.10	561.8	-0.64	31.2	0.27	4A	MS
42.0	0.32	596.0	0.77	32.0	0.74	4A	AAS
39.0	-1.49	595.0	0.73	35.0	2.49	4A	ES
42.7	0.75	622.9	1.87	31.5	0.45	3A	AAS
41.2	-0.15	**470.2**	**-3.00**	30.1	-0.36	4A	ES
42.2	0.44	587.0	0.40	31.1	0.21		AAS
43.8	1.41	559.0	-0.76	32.5	1.03	FA,AR	GRAV,AAS
41.5	0.02	613.0	1.47	31.0	0.15	AR	AAS
41.6	0.08	632.8	2.28	31.7	0.55	AR	AAS
37.2	-2.60	**277.6**	**-3.00**	28.8	-1.11	4A	AAS
40.3	-0.69	565.7	-0.48	29.3	-0.82	4A	AAS
47.5	**3.00**	520.4	-2.34	**42.3**	**3.00**	4A	ES
45.4	2.39	592.6	0.63	33.2	1.43	AR	ES
41.7	0.14	**171.0**	**-3.00**	31.0	0.15	AR	AAS
41.1	-0.22	**352.7**	**-3.00**	30.1	-0.40	1A,AR	AAS
48.0	**3.00**	**352.0**	**-3.00**	**36.0**	**3.00**	AR	ICP

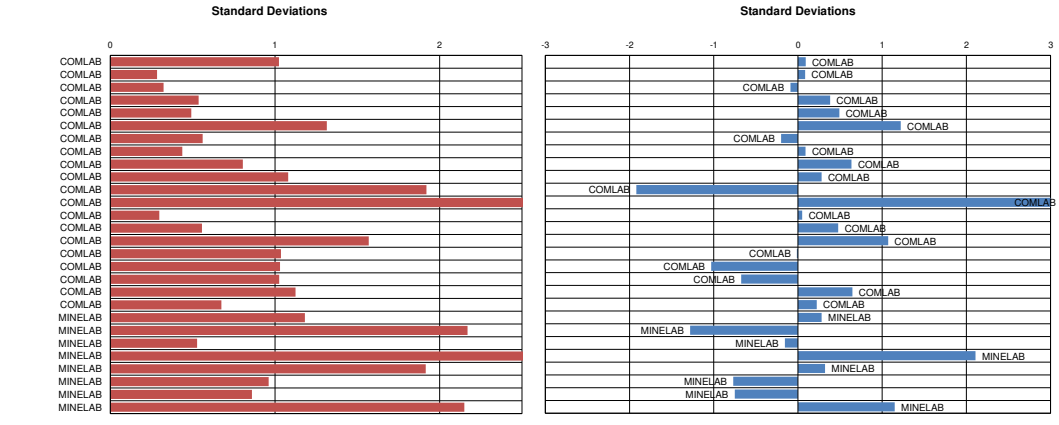
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

Ore Grade Silver - Mean of Absolute Standardized Values - April 2017	Ore Grade Silver - Mean of Standardized Values - April 2017









Ore Grade Sulphur Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

New Products

Standard Reference	GBM317-11	GBM317-12	GBM317-13
MEAN (ppm)	24.41	18.72	15.52
STDEV (ppm)	0.79	0.46	0.45
95% CI (ppm)	0.17	0.10	0.10
95% CI (%)	0.68%	0.52%	0.62%
MIN (ppm)	22.20	17.59	14.40
MEDIAN (ppm)	24.37	18.70	15.50
MAX (ppm)	26.54	19.90	16.73
IQR (ppm)	0.79	0.53	0.55
COUNT	88	86	86

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
ZARAZMA TEHRAN	25.40	1.24	18.90	0.39	15.90	0.84
COMLAB	**27.70**	**3.00**	**21.50**	**3.00**	**18.54**	**3.00**
COMLAB	25.00	0.74	18.40	-0.70	15.20	-0.71
COMLAB	23.50	-1.15	17.70	-2.24	15.25	-0.60
COMLAB	23.30	-1.41	18.95	0.50	14.95	-1.26
COMLAB	22.20	-2.79	**17.10**	**-3.00**	14.40	-2.48
COMLAB	**27.40**	**3.00**	18.94	0.48	15.38	-0.31
COMLAB	22.91	-1.90	18.00	-1.58	14.46	-2.35
COMLAB	26.54	2.68	18.76	0.09	15.85	0.72
COMLAB	24.61	0.25	18.37	-0.77	15.39	-0.29
COMLAB	24.24	-0.22	**17.10**	**-3.00**	15.13	-0.87
COMLAB	25.47	1.33	18.90	0.39	15.83	0.68
COMLAB	23.65	-0.96	18.35	-0.81	15.40	-0.27
COMLAB	23.45	-1.22	18.49	-0.51	15.42	-0.22
COMLAB	24.59	0.22	18.58	-0.31	15.76	0.53
MINELAB	24.52	0.13	18.95	0.50	15.54	0.04
MINELAB	23.54	-1.10	17.59	-2.48	15.32	-0.45
MINELAB	24.17	-0.31	18.37	-0.76	15.25	-0.59
MINELAB	23.90	-0.65	18.30	-0.92	**17.60**	**3.00**
MINELAB	24.78	0.46	18.62	-0.22	15.44	-0.18
MINELAB	23.64	-0.98	18.41	-0.68	15.26	-0.58
MINELAB	24.57	0.20	18.60	-0.26	15.40	-0.27
MINELAB	25.98	1.98	19.56	1.84	16.45	2.05
MINELAB	24.31	-0.13	18.70	-0.04	15.26	-0.58
MINELAB	25.20	0.99	**20.30**	**3.00**	16.70	2.60
MINELAB	25.50	1.37	19.61	1.95	16.06	1.19
MINELAB	24.17	-0.31	18.67	-0.11	15.40	-0.27

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	24.70	0.36	19.30	1.27	15.80	0.61
COMLAB	25.12	0.89	19.17	0.99	16.11	1.30
COMLAB	24.50	0.11	18.80	0.18	15.90	0.84
COMLAB	**11.00**	**-3.00**	**3.25**	**-3.00**	**8.87**	**-3.00**
COMLAB	24.50	0.11	19.00	0.61	15.40	-0.27
COMLAB	25.20	0.99	18.35	-0.81	15.65	0.28
COMLAB	25.83	1.79	18.71	-0.02	16.28	1.67
COMLAB	25.00	0.74	18.90	0.39	15.60	0.17
COMLAB	24.10	-0.40	19.10	0.83	15.50	-0.05
COMLAB	24.53	0.15	18.53	-0.42	15.66	0.31
COMLAB	24.00	-0.52	18.30	-0.92	14.90	-1.37
COMLAB	24.17	-0.31	18.27	-0.99	14.81	-1.57
COMLAB	24.31	-0.13	18.33	-0.86	14.88	-1.42
COMLAB	24.48	0.08	18.86	0.31	15.56	0.08
COMLAB	24.61	0.25	18.81	0.20	15.56	0.08
COMLAB	25.10	0.87	19.80	2.37	**17.10**	**3.00**
COMLAB	23.60	-1.03	18.40	-0.70	15.13	-0.87
COMLAB	25.30	1.12	19.10	0.83	16.00	1.06
COMLAB	24.11	-0.39	18.61	-0.24	15.64	0.25
COMLAB	24.20	-0.27	18.60	-0.26	15.20	-0.71
COMLAB	25.50	1.37	19.20	1.05	15.90	0.84
COMLAB	24.42	0.01	18.43	-0.64	15.72	0.44
COMLAB	23.28	-1.43	**12.75**	**-3.00**	14.93	-1.31
MINELAB	23.89	-0.66	18.71	-0.02	16.28	1.67
MINELAB	24.50	0.11	18.60	-0.26	15.50	-0.05
MINELAB	**27.06**	**3.00**	**21.00**	**3.00**	**17.11**	**3.00**
MINELAB	24.56	0.18	18.91	0.42	15.99	1.03

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	25.18	0.97	19.12	0.88	16.10	1.28
COMLAB	23.80	-0.78	18.00	-1.58	**13.95**	**-3.00**
COMLAB	24.70	0.36	19.10	0.83	15.50	-0.05
COMLAB	>10.00	ald	>10.00	ald	>10.00	ald
COMLAB	24.20	-0.27	19.20	1.05	15.90	0.84
COMLAB	24.00	-0.52	18.20	-1.14	14.80	-1.59
COMLAB	24.06	-0.45	18.62	-0.22	15.79	0.59
COMLAB	24.50	0.11	18.60	-0.26	15.30	-0.49
COMLAB	23.80	-0.78	17.85	-1.91	15.25	-0.60
COMLAB	25.40	1.24	18.50	-0.48	15.30	-0.49
COMLAB	26.22	2.27	19.06	0.75	16.73	2.68
COMLAB	24.01	-0.51	18.92	0.44	15.52	0.00
COMLAB	26.11	2.14	19.51	1.73	16.39	1.92
COMLAB	23.30	-1.41	18.40	-0.70	15.20	-0.71
COMLAB	25.36	1.19	19.85	2.48	16.23	1.56
COMLAB	23.30	-1.41	19.10	0.83	16.00	1.06
COMLAB	24.10	-0.40	18.80	0.18	15.20	-0.71
COMLAB	24.49	0.10	18.69	-0.07	15.73	0.46
COMLAB	24.51	0.13	18.88	0.36	**13.28**	**-3.00**
COMLAB	24.20	-0.27	18.60	-0.26	15.40	-0.27
MINELAB	24.00	-0.52	18.50	-0.48	15.20	-0.71
MINELAB	23.17	-1.57	17.78	-2.06	14.76	-1.68
MINELAB	25.70	1.62	19.41	1.51	15.71	0.42
MINELAB	23.85	-0.71	18.55	-0.37	15.35	-0.38
MINELAB	24.55	0.17	18.26	-1.01	15.71	0.42
MINELAB	24.50	0.11	19.20	1.05	15.70	0.39
MINELAB	24.24	-0.22	18.81	0.20	16.03	1.12
MINELAB	**21.52**	**-3.00**	**16.91**	**-3.00**	14.78	-1.64
MINELAB	24.62	0.26	18.78	0.13	15.38	-0.31

Standard Reference	GBM317-11		GBM317-12		GBM317-13	
Lab Reference	assay	z-score	assay	z-score	assay	z-score
COMLAB	24.20	-0.27	18.70	-0.04	15.20	-0.71
COMLAB	>10.00	ald	>10.00	ald	>10.00	ald
COMLAB	24.80	0.49	18.70	-0.04	15.25	-0.60
COMLAB	24.20	-0.27	18.30	-0.92	15.00	-1.15
COMLAB	24.30	-0.14	18.90	0.39	15.50	-0.05
COMLAB	24.19	-0.28	18.61	-0.24	15.07	-1.00
COMLAB	24.20	-0.27	18.50	-0.48	15.70	0.39
COMLAB	24.18	-0.30	18.42	-0.66	15.47	-0.11
COMLAB	23.50	-1.15	18.70	-0.04	15.90	0.84
COMLAB	25.36	1.19	19.54	1.80	16.16	1.41
COMLAB	25.60	1.50	19.90	2.59	15.57	0.11
COMLAB	25.16	0.94	19.16	0.97	15.53	0.02
COMLAB	24.70	0.36	19.00	0.61	15.30	-0.49
COMLAB	22.22	-2.77	17.49	-2.70	14.95	-1.26
COMLAB	24.30	-0.14	18.40	-0.70	15.30	-0.49
COMLAB	24.65	0.30	18.79	0.15	15.54	0.04
MINELAB	22.80	-2.04	18.43	-0.64	16.42	1.98
MINELAB	23.70	-0.90	17.90	-1.80	14.83	-1.53
MINELAB	24.10	-0.40	18.90	0.39	16.20	1.50
MINELAB	25.00	0.74	19.10	0.83	15.70	0.39

Existing Products

	GBM306-12	GBM913-12	GBM310-16
Target	2.92	7.98	21.44
Std Dev	0.13	0.26	0.64

GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
3.00	0.63	8.10	0.48	20.90	-0.84	AR	ES
2.84	-0.61	**9.51**	**3.00**	**24.21**	**3.00**	CSA	IR
2.95	0.24	7.79	-0.72	20.80	-1.00	FUS	XRF
3.03	0.86	8.35	1.44	20.45	-1.54	4A	ES
2.97	0.40	8.27	1.13	20.40	-1.62	4A	ES
2.78	-1.07	7.90	-0.29	20.30	-1.77	CSA	IR
3.03	0.86	8.58	2.32	21.69	0.39	CSA	IR
3.01	0.70	8.25	1.05	20.11	-2.07	AR	ES
2.60	-2.46	7.82	-0.60	21.41	-0.05	CSA	IR
3.00	0.63	8.14	0.63	21.10	-0.53	4A	ES
2.86	-0.45	8.04	0.25	20.60	-1.31	CSA	IR
2.89	-0.22	7.91	-0.25	20.83	-0.95	4A	ES
2.88	-0.30	8.01	0.13	20.48	-1.49	CSA	IR
3.25	2.56	8.54	2.17	20.51	-1.45	AR,IH	GRAV
3.00	0.63	8.29	1.21	20.95	-0.76	CSA	IR
2.75	-1.30	8.23	0.98	20.81	-0.98	CSA	IR
2.74	-1.38	7.89	-0.33	20.18	-1.96	CSA	IR
3.06	1.05	7.95	-0.09	20.37	-1.66	CSA	IR
8.30	**3.00**	**4.80**	**-3.00**	**17.10**	**-3.00**		
2.88	-0.30	8.24	1.01	20.91	-0.83	CSA	IR
3.06	1.09	8.49	1.97	20.68	-1.18	AD	ICP
3.05	1.01	7.76	-0.83	20.82	-0.97	CSA	IR
3.12	1.55	8.56	2.24	22.04	0.93	CSA	IR
3.17	1.94	**9.23**	**3.00**	20.83	-0.95	GRAV	
3.41	**3.00**	**9.07**	**3.00**	22.20	1.18	CSA	IR
2.76	-1.23	8.34	1.40	21.56	0.18	AR	AAS
2.92	0.01	7.91	-0.25	20.59	-1.32	CSA	IR

	GBM915-16	GBM910-11	GBM913-11
Target	3.88	12.78	11.18
Std Dev	0.13	0.46	0.32

GBM915-16		GBM910-11		GBM913-11			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
4.06	1.35	12.70	-0.17	11.40	0.70	CSA	IR
3.84	-0.33	12.82	0.09	11.50	1.02	CSA	IR
3.99	0.81	12.90	0.26	11.60	1.33	CSA	IR
2.16	**-3.00**	**3.52**	**-3.00**	**4.74**	**-3.00**	FUS	ES
3.86	-0.18	12.60	-0.39	11.25	0.23	CSA	IR
3.95	0.51	12.50	-0.61	11.40	0.70	FUS	ES
3.92	0.28	12.67	-0.24	11.32	0.45	CSA	IR
3.81	-0.56	12.60	-0.39	11.70	1.65	CSA	IR
3.72	-1.24	12.10	-1.48	10.90	-0.88	CSA	IR
3.88	-0.03	12.36	-0.92	11.26	0.26	3A	ES
3.68	-1.55	12.35	-0.94	10.95	-0.72	CSA	IR
3.78	-0.79	12.68	-0.22	11.06	-0.38	4A	GRAV
3.95	0.51	12.35	-0.94	10.95	-0.72	CSA	IR
3.92	0.28	12.75	-0.07	11.41	0.73	CSA	IR
4.00	0.89	12.52	-0.57	11.48	0.95	4A	ES
4.03	1.12	13.70	2.00	**12.20**	**3.00**	CSA	IR
nr	nr	12.19	-1.29	11.10	-0.25	CSA	IR
3.98	0.74	12.90	0.26	11.70	1.65	CSA	IR
4.11	1.70	13.99	2.63	**12.18**	**3.00**	4A	ICP
3.84	-0.33	12.50	-0.61	11.50	1.02	CSA	IR
3.85	-0.25	12.70	-0.17	11.10	-0.25	CSA	IR
3.86	-0.18	12.65	-0.28	11.05	-0.41	FUS	GRAV
3.77	-0.86	**10.33**	**-3.00**	**9.74**	**-3.00**	GRAV	
4.05	1.27	13.45	1.46	11.99	2.57	CSA	IR
3.80	-0.64	12.50	-0.61	11.10	-0.25	CSA	IR
4.22	2.57	13.81	2.24	**12.31**	**3.00**	CSA	IR
3.75	-1.02	12.61	-0.37	10.83	-1.10	CSA	IR

	GBM306-12	GBM913-12	GBM310-16
Target	2.92	7.98	21.44
Std Dev	0.13	0.26	0.64

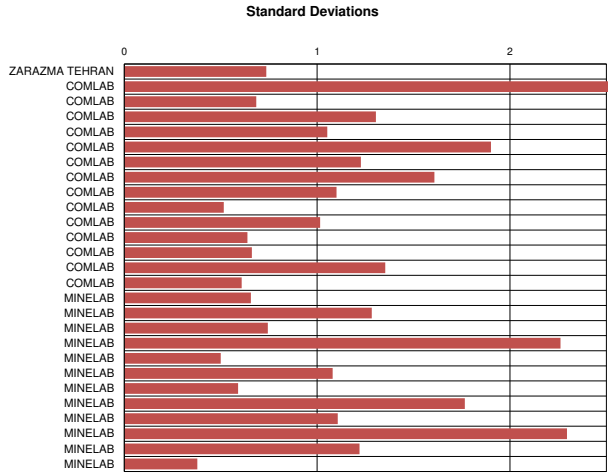
GBM306-12		GBM913-12		GBM310-16			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
2.94	0.16	8.00	0.09	21.53	0.14	3A	ES
3.01	0.70	8.25	1.05	20.50	-1.46	4A	ES
2.97	0.40	8.19	0.82	20.50	-1.46	CSA	IR
3.02	0.78	8.22	0.94	>10.00	ald	AR	ES
3.12	1.55	8.45	1.82	22.10	1.02	CSA	IR
3.02	0.78	8.16	0.71	20.30	-1.77	4A	ES
3.08	1.24	8.18	0.78	20.18	-1.96	FUS	ES
2.87	-0.38	7.73	-0.95	20.50	-1.46	CSA	IR
2.98	0.47	8.43	1.74	20.60	-1.31	CSA	IR
2.74	-1.38	7.79	-0.72	20.60	-1.31	CSA	IR
2.97	0.36	8.16	0.71	21.93	0.76	4A	ICP
2.90	-0.14	7.79	-0.72	21.02	-0.65	CSA	IR
2.91	-0.07	8.10	0.48	**18.67**	**-3.00**	1A	ICP
2.99	0.55	8.10	0.48	20.30	-1.77	CSA	IR
2.94	0.16	8.14	0.63	22.11	1.04	CSA	IR
3.17	1.94	**15.50**	**3.00**	20.10	-2.08	CSA	IR
3.09	1.32	8.05	0.28	**18.10**	**-3.00**	4A	ES
3.04	0.94	8.00	0.09	21.52	0.12	CSA	IR
3.08	1.23	7.99	0.06	**17.99**	**-3.00**	4A	
2.89	-0.22	7.70	-1.06	21.30	-0.22	AR	ES
2.74	-1.38	7.99	0.05	20.50	-1.46	CSA	IR
<4.00	bld	7.78	-0.75	19.75	-2.63	3A	AAS
3.10	1.40	8.06	0.32	21.91	0.73	CSA	IR
2.93	0.09	8.22	0.94	20.90	-0.84	FUS	XRF
2.89	-0.22	8.13	0.59	21.43	-0.02	CSA	IR
2.82	-0.76	8.22	0.94	20.80	-1.00	CSA	IR
3.13	1.63	8.29	1.21	21.69	0.39	3A	ES
2.91	-0.07	**8.94**	**3.00**	**19.23**	**-3.00**	CSA	IR
2.82	-0.76	8.02	0.17	20.98	-0.72	CSA	IR

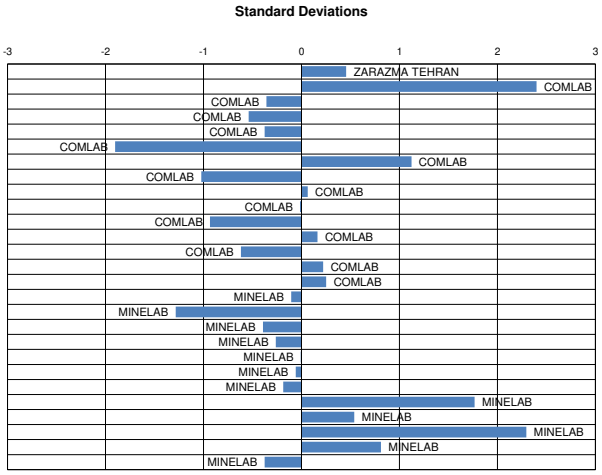
	GBM315-13	GBM315-16	GBM310-13
Target	5.34	8.40	5.96
Std Dev	0.15	0.29	0.22

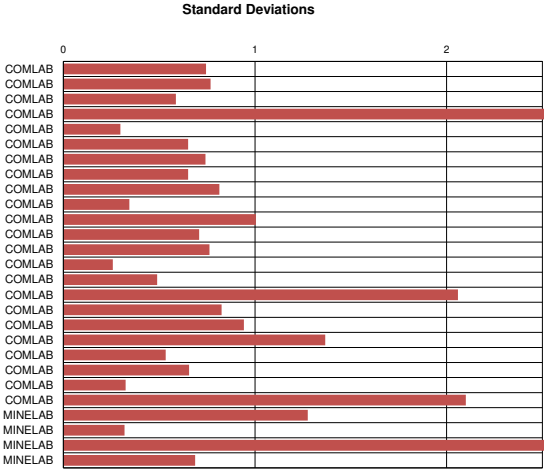
GBM315-13		GBM315-16		GBM310-13			
assay	z-score	assay	z-score	assay	z-score	Method	Reading
4.60	**-3.00**	7.67	-2.48	6.02	0.25	4A	ICP
5.30	-0.29	8.03	-1.26	5.90	-0.30	AR	ES
5.34	-0.01	8.65	0.85	6.23	1.21	CSA	IR
5.42	0.53	8.50	0.34	5.95	-0.07	CSA	IR
5.35	0.05	8.46	0.20	5.90	-0.30	4A	ES
5.39	0.33	8.02	-1.29	6.01	0.20	AR	ES
5.32	-0.15	8.60	0.68	5.84	-0.57	CSA	IR
5.36	0.12	8.30	-0.34	5.71	-1.16	4A	MS
5.48	0.95	8.32	-0.27	6.03	0.30	CSA	IR
5.55	1.43	8.73	1.12	5.92	-0.20	FUS	ES
5.67	2.25	9.00	2.04	6.42	2.07	3A	AAS
5.57	1.56	9.01	2.05	6.28	1.44	4A	ES
5.42	0.53	8.59	0.64	6.16	0.89	CSA	IR
5.05	-2.00	7.86	-1.83	5.74	-1.02	CSA	IR
5.38	0.26	8.42	0.07	5.89	-0.34	CSA	IR
5.23	-0.77	8.37	-0.10	5.89	-0.34	CSA	IR
5.81	**3.00**	8.80	1.36	6.23	1.21	CSA	IR
5.10	-1.66	7.92	-1.63	5.76	-0.93	CSA	IR
3.51	**-3.00**	8.48	0.27	**8.01**	**3.00**	CSA	IR
5.33	-0.08	8.65	0.85	6.00	0.16	CSA	IR

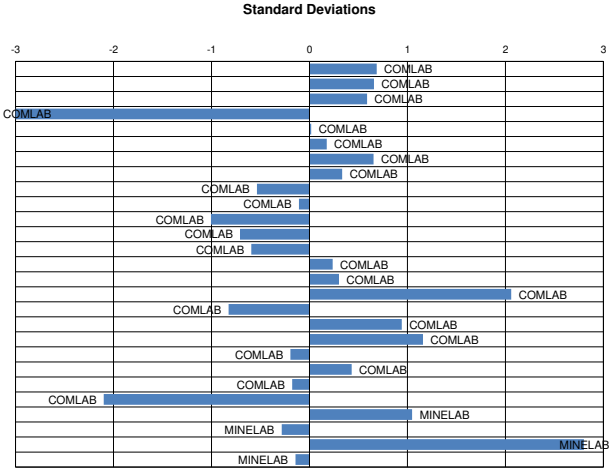
Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values.

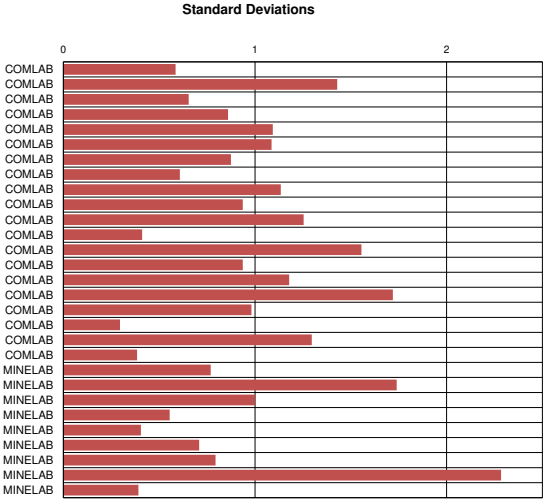
Ore Grade Sulphur - Mean of Absolute Standardized Values - April 2017	Ore Grade Sulphur - Mean of Standardized Values - April 2017

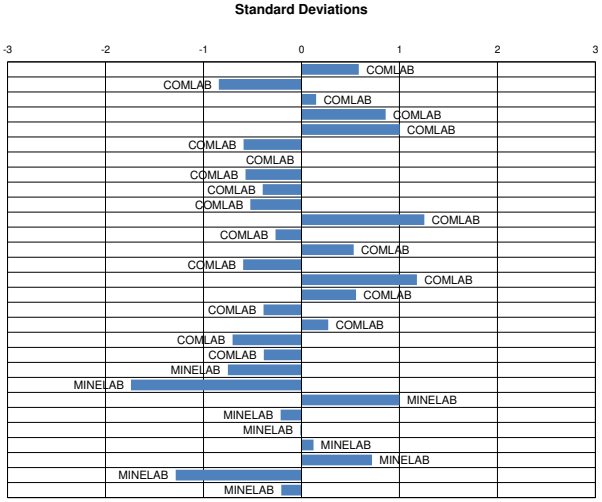


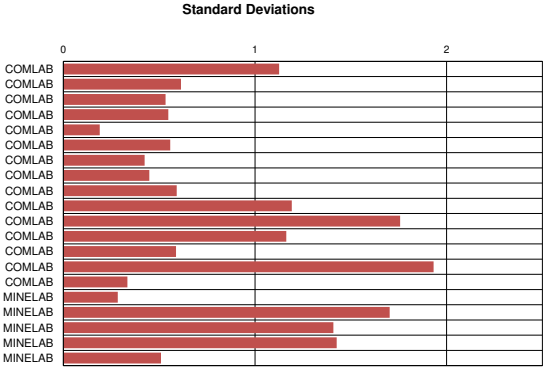


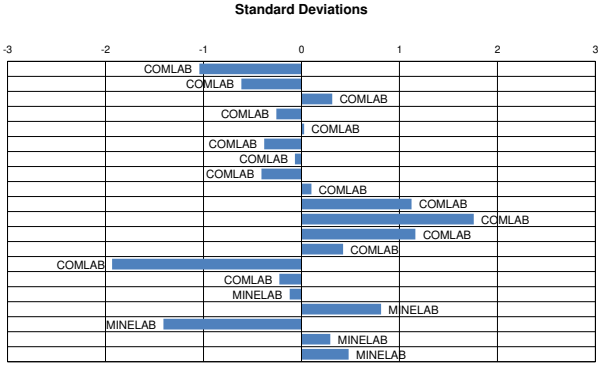












Sulphur Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

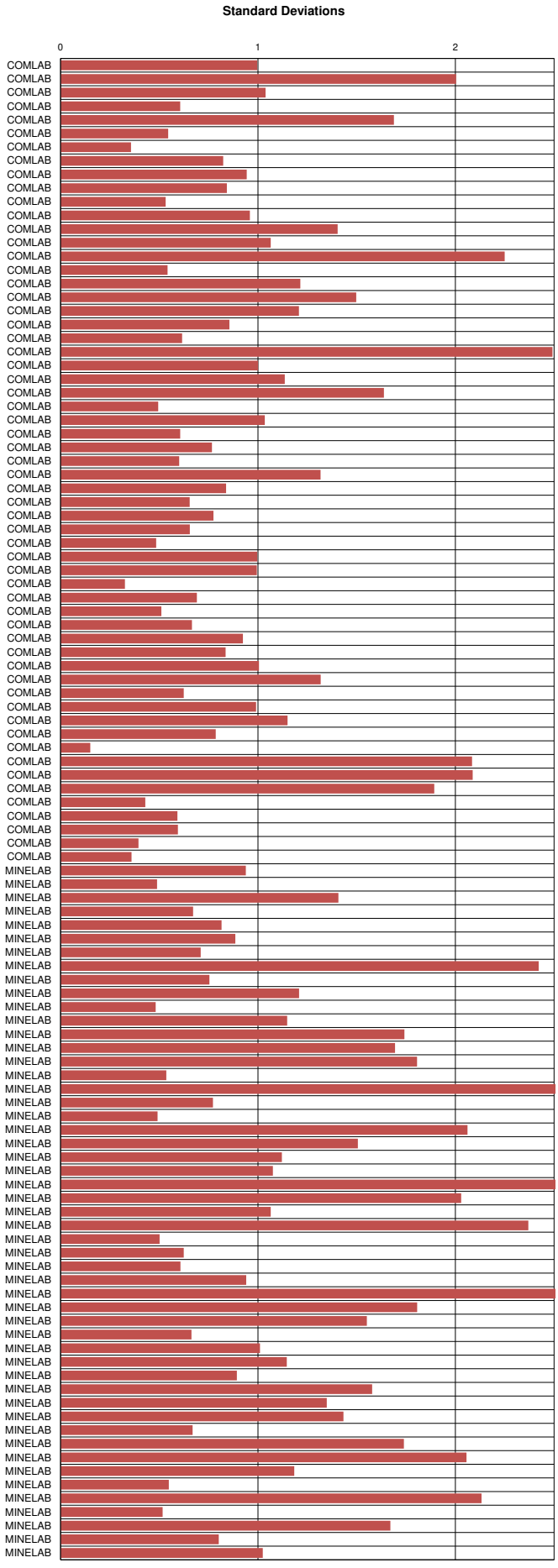
New Products

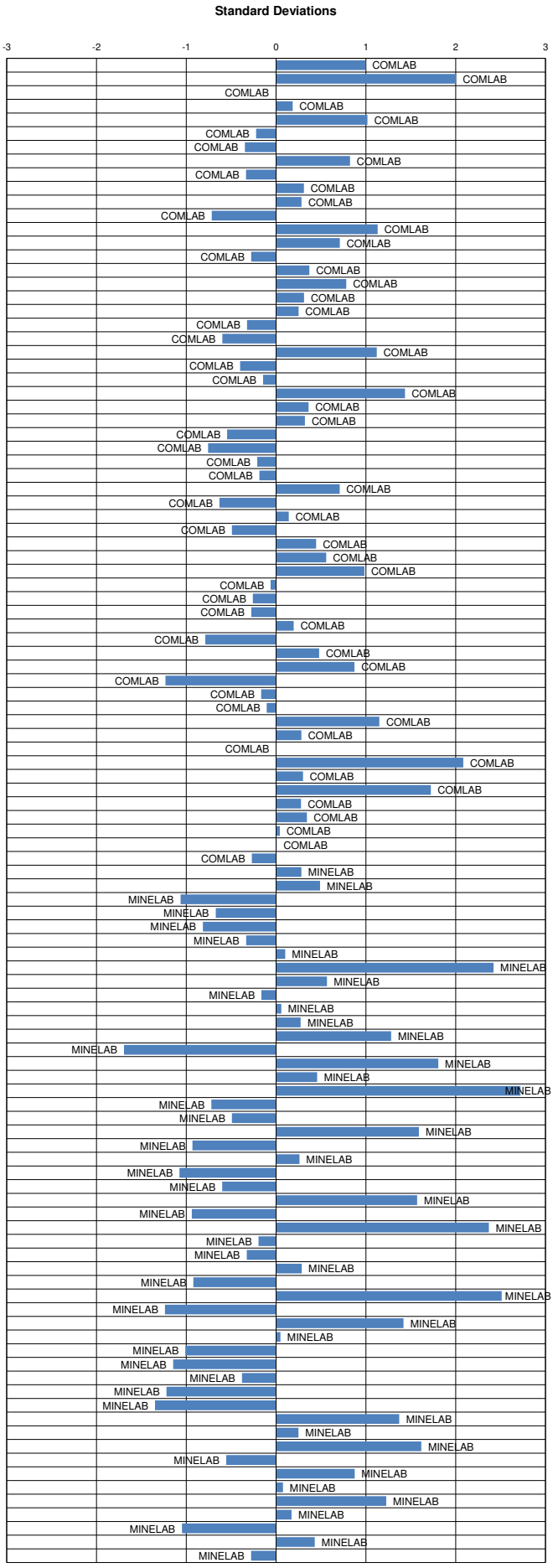
Standard Reference	GS317-1	GS317-2	GS317-3	GS317-4	GS317-5	GS317-6	GS317-7	GS317-8	GS317-9	GS317-10
MEAN (ppm)	0.21	18.66	16.76	24.43	15.53	0.05	0.03	0.06	0.03	0.04
STDEV (ppm)	0.01	0.44	0.46	0.65	0.43	0.01	0.01	0.01	0.01	0.01
95% CI (ppm)	0.00	0.09	0.10	0.14	0.09	0.00	0.00	0.00	0.00	0.00
95% CI (%)	1.48%	0.50%	0.57%	0.56%	0.57%	4.00%	5.10%	2.77%	4.69%	4.90%
MIN (ppm)	0.18	17.68	15.53	22.96	14.51	0.03	0.02	0.05	0.02	0.02
MEDIAN (ppm)	0.21	18.70	16.79	24.46	15.52	0.05	0.03	0.06	0.03	0.04
MAX (ppm)	0.25	19.78	17.99	26.27	16.64	0.06	0.05	0.08	0.05	0.07
IQR (ppm)	0.02	0.46	0.55	0.73	0.58	0.01	0.01	0.01	0.01	0.00
COUNT	85	86	91	88	89	76	75	76	74	80

Standard Reference	GS317-1		GS317-2		GS317-3		GS317-4		GS317-5		GS317-6		GS317-7		GS317-8		GS317-9		GS317-10			
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	Method	Reading
COMLAB	0.22	0.74	19.40	1.67	17.50	1.59	25.10	1.04	16.00	1.10	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.05	1.06	CSA	IR
COMLAB	**0.28**	**3.00**	**20.71**	**3.00**	17.16	0.86	25.24	1.25	16.08	1.29	0.06	1.83	0.05	1.96	**0.09**	**3.00**	0.04	0.85	**0.08**	**3.00**	CSA	IR
COMLAB	0.23	1.43	18.20	-1.05	16.00	-1.65	24.90	0.73	**18.00**	**3.00**	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05		
COMLAB	0.21	0.19	18.60	-0.14	16.30	-1.00	24.00	-0.65	15.40	-0.31	0.05	0.33	0.04	0.68	0.07	0.14	0.04	1.00	0.06	1.62	CSA	IR
COMLAB	0.18	-2.03	**21.73**	**3.00**	**19.70**	**3.00**	**27.33**	**3.00**	**18.18**	**3.00**	0.04	-0.67	0.04	0.68	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.19	-1.34	19.00	0.76	16.75	-0.03	24.20	-0.35	15.45	-0.19	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.65	-0.03	16.65	-0.24	24.00	-0.65	15.50	-0.07	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.22	0.74	18.70	0.08	17.00	0.51	25.20	1.19	15.80	0.63	0.05	0.58	0.04	0.68	0.08	1.91	0.04	0.85	0.05	1.06	CSA	IR
COMLAB	0.22	0.74	18.70	0.08	17.10	0.73	25.40	1.50	14.95	-1.36	0.03	-1.91	0.03	-0.61	0.05	-1.87	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.19	-1.34	18.70	0.08	16.80	0.08	25.90	2.26	16.30	1.80	0.04	-0.67	0.04	0.68	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	19.00	0.76	17.10	0.73	25.00	0.88	15.70	0.40	0.05	0.58	0.04	0.68	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.18	-2.03	18.90	0.54	17.00	0.51	23.70	-1.11	15.60	0.16	0.04	-0.67	0.02	-1.89	0.06	-0.61	0.02	-2.02	0.04	-0.05	CSA	IR
COMLAB	0.20	-0.64	**20.40**	**3.00**	**18.65**	**3.00**	25.40	1.50	**17.70**	**3.00**	0.04	-0.67	0.04	0.68	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.22	0.74	18.46	-0.46	16.18	-1.26	25.06	0.97	15.79	0.61	0.06	1.83	0.05	1.96	0.08	1.91	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	**0.06**	**-3.00**	**25.10**	**3.00**	**0.04**	**-3.00**	**17.55**	**-3.00**	15.90	0.87	**19.15**	**3.00**	**0.20**	**3.00**	**0.04**	**-3.00**	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	19.40	1.67	16.80	0.08	24.10	-0.50	15.40	-0.31	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.80	0.31	16.50	-0.57	24.80	0.58	14.85	-1.59	0.06	1.83	0.05	1.96	0.08	1.91	0.05	2.29	0.05	1.06	CSA	IR
COMLAB	0.21	0.05	**20.55**	**3.00**	**18.17**	**3.00**	**26.42**	**3.00**	14.55	-2.30	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.03	-1.16	CSA	IR
COMLAB	0.23	1.43	18.72	0.13	16.90	0.30	23.88	-0.84	15.33	-0.47	**0.01**	**-3.00**	bld	bld	0.07	0.65	**0.06**	**3.00**	0.05	1.06	CSA	IR
COMLAB	0.23	1.43	17.99	-1.53	16.20	-1.22	23.63	-1.22	15.24	-0.68	0.05	0.58	0.03	-0.61	0.07	0.65	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.19	-1.34	18.50	-0.37	16.49	-0.59	24.48	0.08	15.47	-0.14	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.03	-1.16	CSA	IR
COMLAB	0.25	2.81	17.69	-2.21	16.88	0.25	22.96	-2.25	14.51	-2.39	**0.13**	**3.00**	**0.12**	**3.00**	**0.13**	**3.00**	**0.16**	**3.00**	**0.10**	**3.00**		
COMLAB	0.20	-0.64	18.25	-0.94	16.07	-1.50	**27.79**	**3.00**	14.93	-1.41	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.19	-1.34	19.40	1.67	17.30	1.16	25.70	1.96	15.60	0.16	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.02	-2.02	0.03	-1.16	CSA	IR
COMLAB	0.22	0.74	18.88	0.49	16.87	0.23	24.01	-0.64	15.37	-0.38	**0.08**	**3.00**	**0.07**	**3.00**	0.08	1.91	**0.06**	**3.00**	**0.07**	**3.00**	CSA	IR
COMLAB	0.21	0.05	18.96	0.67	17.08	0.68	24.68	0.39	15.69	0.37	0.05	0.58	0.04	0.68	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.20	-0.50	18.81	0.34	16.94	0.39	**0.04**	**-3.00**	15.50	-0.07	0.05	1.00	**23.94**	**3.00**	0.07	0.84	0.04	0.57	0.05	0.64		
COMLAB	0.20	-0.64	18.61	-0.12	16.27	-1.07	23.51	-1.40	15.66	0.30	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.15	-1.17	16.20	-1.22	23.75	-1.04	15.35	-0.42	0.04	-0.67	0.03	-0.61	0.05	-1.87	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.10	-1.28	16.50	-0.57	23.60	-1.27	15.40	-0.31	0.05	0.58	0.04	0.68	0.07	0.65	0.03	-0.58	0.04	-0.05		
COMLAB	0.22	0.74	17.78	-2.01	16.14	-1.35	23.25	-1.80	16.10	1.34	0.05	0.58	0.03	-0.61	**0.09**	**3.00**	0.03	-0.58	0.03	-1.16	CSA	IR
COMLAB	0.22	0.74	18.66	-0.01	16.99	0.49	24.16	-0.41	15.43	-0.23	0.06	1.83	0.04	0.68	0.07	0.65	0.05	2.29	0.05	1.06	CSA	IR
COMLAB	0.20	-0.64	18.50	-0.37	16.70	-0.14	24.50	0.11	15.50	-0.07	0.03	-1.91	0.03	-0.61	0.06	-0.61	0.02	-2.02	0.04	-0.05	CSA	IR
COMLAB	0.20	-0.64	18.77	0.24	16.76	-0.01	**27.29**	**3.00**	16.10	1.34	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.18	-2.03	18.60	-0.14	16.60	-0.35	24.30	-0.19	15.60	0.16	0.04	-0.67	0.03	-0.61	0.07	0.65	0.03	-0.58	0.03	-1.16	CSA	IR
COMLAB	0.21	0.05	18.90	0.54	16.80	0.08	24.30	-0.19	15.60	0.16	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.05	1.06	CSA	IR
COMLAB	**0.26**	**3.00**	18.75	0.20	16.83	0.14	24.07	-0.55	15.35	-0.42	0.05	0.58	0.03	-0.61	0.06	-0.61	0.04	0.85	**0.07**	**3.00**	CSA	IR
COMLAB	**0.30**	**3.00**	18.70	0.08	17.60	1.81	24.50	0.11	15.90	0.87	0.05	0.58	0.04	0.68	0.08	1.91	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.70	0.08	16.88	0.25	24.62	0.30	15.52	-0.02	0.04	-0.67	0.03	-0.61	0.07	0.65	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.20	-0.64	18.95	0.65	16.99	0.49	24.71	0.44	15.52	-0.02	0.05	0.58	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.02	-2.28	CSA	IR
COMLAB	0.20	-0.64	18.70	0.08	17.00	0.51	24.30	-0.19	15.00	-1.24	0.05	0.58	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	19.10	0.99	17.20	0.94	24.70	0.42	14.80	-1.71	0.05	0.58	0.04	0.68	0.07	0.65	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.19	-1.34	18.10	-1.28	16.20	-1.22	23.40	-1.57	15.00	-1.24	0.04	-0.67	0.04	0.68	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	-0.09	19.41	1.70	17.42	1.42	24.97	0.84	14.81	-1.69	0.05	0.95	0.04	1.06	0.07	0.02	0.04	0.42	0.04	0.17	CSA	IR
COMLAB	0.21	0.05	19.78	2.54	17.72	2.07	24.98	0.85	15.77	0.56	0.06	1.83	0.03	-0.61	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.18	-1.75	18.50	-0.37	16.70	-0.14	24.60	0.27	15.60	0.16	0.03	-1.79	0.02	-2.41	0.05	-2.25	0.02	-1.87	0.02	-2.17	CSA	IR
COMLAB	0.21	0.05	18.60	-0.14	17.10	0.73	25.00	0.88	15.80	0.63	0.04	-0.67	0.02	-1.89	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.23	1.43	**20.30**	**3.00**	16.20	-1.22	23.80	-0.96	15.20	-0.77	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	0.12	18.90	0.54	17.20	0.94	24.60	0.27	15.70	0.40	0.06	1.80	0.05	1.87	0.08	1.48	0.05	2.17	0.06	1.91	CSA	IR
COMLAB	0.24	2.12	18.80	0.31	17.43	1.44	24.59	0.25	16.05	1.22	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
COMLAB	0.21	-0.09	18.70	0.08	16.80	0.08	24.40	-0.04	15.50	-0.07	0.04	-0.42	0.03	-0.09	0.07	0.02	0.04	0.57	0.04	-0.05	CSA	IR
COMLAB	0.22	0.39	19.00	0.76	17.60	1.81	25.30	1.34	16.30	1.80	**0.07**	**3.00**	**0.06**	**3.00**	**0.09**	**3.00**	**0.06**	**3.00**	0.07	2.73	CSA	IR
COMLAB	0.22	0.74	18.24	-0.96	15.62	-2.47	**21.82**	**-3.00**	14.46	-2.51	0.06	1.83	**0.06**	**3.00**	0.08	1.91	0.05	2.29	0.06	2.17	CSA	IR
COMLAB	**0.63**	**3.00**	18.70	0.08	16.75	-0.03	24.38	-0.07	15.21	-0.75	**0.67**	**3.00**	**0.65**	**3.00**	**0.55**	**3.00**	**0.55**	**3.00**	**0.56**	**3.00**	AR,IH	GRAV
COMLAB	0.22	0.74	18.70	0.08	16.50	-0.57	24.30	-0.19	15.60	0.16	0.05	0.21	0.04	0.68	0.07	0.02	0.04	1.14	0.05	0.51	CSA	IR
COMLAB	0.22	0.74	18.50	-0.37	16.50	-0.57	24.50	0.11	15.40	-0.31	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.05	1.06	CSA	IR
COMLAB	0.22	0.74	18.42	-0.55	16.65	-0.24	24.49	0.10	15.60	0.16	0.03	-1.91	0.04	0.68	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
COMLAB	0.21	0.05	18.70	0.08	16.79	0.06	24.75	0.50	15.73	0.47	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA,FUS	IR,GRAV
COMLAB	0.20	-0.85	18.60	-0.14	16.60	-0.35	24.60	0.27	15.40	-0.31	<0.05	bld	<0.05	bld	0.06	-0.23	<0.05	bld	<0.05	bld	AR	GRAV
MINELAB	0.22	0.74	18.09	-1.30	16.13	-1.37	24.06	-0.56	16.64	2.60	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
MINELAB	0.21	0.05	18.73	0.15	16.90	0.30	25.01	0.90	15.98	1.05	bld	bld	bld	bld	bld	bld	bld	bld	bld	bld		
MINELAB	0.19	-1.34	18.08	-1.33	16.23	-1.15	24.60	0.27	16.15	1.45	0.03	-1.91	0.02	-1.89	0.05	-1.87	0.03	-0.58	0.02	-2.28	CSA	IR
MINELAB	0.19	-1.34	18.40	-0.60	16.52	-0.53	23.80	-0.96	15.20	-0.77	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.20	-0.64	17.89	-1.76	16.41	-0.76	23.49	-1.44	15.09	-1.03	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.20	-0.64	18.00	-1.51	16.25	-1.11	23.50	-1.42	14.95	-1.36	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.04	-0.05	CSA	IR
MINELAB	0.22	0.74	18.62	-0.10	17.13	0.79	23.32	-1.70	16.07	1.26	0.05	0.58	0.04	0.68	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	**0.50**	**3.00**	19.46	1.81	17.54	1.68	25.23	1.23	16.17	1.50	**0.37**	**3.00**	**0.33**	**3.00**	**0.32**	**3.00**	**0.38**	**3.00**	**0.28**	**3.00**	CSA	IR
MINELAB	0.23	1.43	18.92	0.58	17.00	0.51	24.59	0.25	15.13	-0.94	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.05	1.06	CSA	IR
MINELAB	0.19	-1.34	19.20	1.22	17.23	1.01	**28.44**	**3.00**	**13.50**	**-3.00**	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.20	-0.64	18.95	0.65	16.99	0.49	24.64	0.33	15.43	-0.23	0.05	0.58	0.03	-0.61	0.07	0.65	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.22	0.74	18.22	-1.01	16.22	-1.17	23.61	-1.25	15.13	-0.94	0.05	0.58	0.05	1.96	0.08	1.91	0.04	0.85	0.05	1.06	CSA	IR
MINELAB	0.18	-2.30	19.41	1.71	17.84	2.32	25.72	1.99	**17.61**	**3.00**	0.05	0.58	0.04	0.55	0.07	1.03	**0.06**	**3.00**	0.05	0.95	CSA	IR
MINELAB	<4.00	bld	17.68	-2.24	16.39	-0.81	23.29	-1.74	14.68	-1.99	<4.00	bld	<4.00	bld	<4.00	bld	<4.00	bld	<4.00	bld	GRAV	
MINELAB	0.22	0.74	**19.99**	**3.00**	17.17	0.88	24.54	0.18	16.05	1.22	**0.07**	**3.00**	0.05	1.96	0.08	1.91	**0.06**	**3.00**	0.06	2.17	CSA	IR
MINELAB	0.22	0.74	18.64	-0.05	16.76	-0.01	24.69	0.41	15.39	-0.33	0.05	0.58	0.04	0.68	0.07	0.65	0.04	0.85	0.05	1.06	CSA	IR
MINELAB	0.23	1.43	19.68	2.31	17.99	2.65	26.27	2.83	**16.84**	**3.00**	**0.10**	**3.00**	**0.09**	**3.00**	**0.12**	**3.00**	**0.09**	**3.00**	**0.09**	**3.00**	CSA	IR
MINELAB	**<0.10**	**-3.00**	18.70	0.08	16.55	-0.46	24.25	-0.27	15.55	0.05	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	FUS	XRF
MINELAB	0.21	-0.23	18.38	-0.65	16.53	-0.51	24.04	-0.59	15.33	-0.48	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
MINELAB	0.23	1.43	**21.15**	**3.00**	**19.22**	**3.00**	**28.44**	**3.00**	**19.22**	**3.00**	0.06	1.83	0.03	-0.61	**0.11**	**3.00**	0.03	-0.58	0.03	-1.16	CSA	IR
MINELAB	0.21	0.05	19.00	0.76	16.80	0.08	25.00	0.88	16.00	1.10	**0.02**	**-3.00**	0.02	-1.89	**0.01**	**-3.00**	0.02	-2.02	0.02	-2.28		
MINELAB	0.23	1.43	18.66	-0.01	17.61	1.83	24.39	-0.05	**13.97**	**-3.00**	**0.07**	**3.00**	0.03	-0.61	0.07	0.65	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	**0.16**	**-3.00**	18.60	-0.14	16.33	-0.94	24.13	-0.45	15.17	-0.84	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
MINELAB	**0.13**	**-3.00**	**22.20**	**3.00**	**20.35**	**3.00**	**27.97**	**3.00**	**18.68**	**3.00**	**<0.01**	**-3.00**	**<0.01**	**-3.00**	**<0.01**	**-3.00**	**<0.01**	**-3.00**	**<0.01**	**-3.00**	CSA	IR
MINELAB	**0.28**	**3.00**	18.26	-0.92	16.66	-0.22	23.81	-0.94	15.44	-0.21	**0.71**	**3.00**	**0.26**	**3.00**	**0.72**	**3.00**	**0.72**	**3.00**	**0.29**	**3.00**		
MINELAB	0.21	0.05	17.74	-2.10	15.53	-2.66	23.08	-2.06	14.96	-1.34	0.05	0.58	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.22	0.74	**20.70**	**3.00**	17.40	1.37	**28.40**	**3.00**	**17.30**	**3.00**	0.05	0.58	**0.09**	**3.00**	**0.15**	**3.00**	**0.31**	**3.00**	**0.43**	**3.00**	CSA	IR
MINELAB	0.20	-0.64	18.44	-0.51	16.53	-0.50	24.10	-0.50	15.53	0.00	0.04	-0.67	0.04	0.68	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
MINELAB	0.20	-0.64	19.01	0.79	16.43	-0.72	23.86	-0.87	15.83	0.70	0.04	-0.67	0.03	-0.61	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.22	0.74	19.00	0.76	17.10	0.73	24.10	-0.50	15.40	-0.31	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
MINELAB	0.21	0.05	17.97	-1.58	16.29	-1.02	24.05	-0.58	14.90	-1.48	<0.09	bld	<0.09	bld	<0.09	bld	<0.09	bld	<0.09	bld	CSA	IR
MINELAB	**0.56**	**3.00**	19.30	1.45	**18.80**	**3.00**	25.30	1.34	16.10	1.34	**0.40**	**3.00**	**0.36**	**3.00**	**0.38**	**3.00**	**0.32**	**3.00**	**0.34**	**3.00**	CSA	IR
MINELAB	0.18	-2.03	18.93	0.61	17.09	0.71	24.77	0.53	15.96	1.01	0.03	-1.91	**<0.01**	**-3.00**	**0.03**	**-3.00**	**<0.01**	**-3.00**	0.02	-2.28	CSA	IR
MINELAB	0.22	0.74	**21.03**	**3.00**	**18.66**	**3.00**	**26.98**	**3.00**	**17.41**	**3.00**	0.05	0.58	0.04	0.68	0.06	-0.61	0.04	0.85	0.04	-0.05	CSA	IR
MINELAB	0.20	-0.64	18.44	-0.51	16.76	-0.01	25.80	2.11	15.86	0.77	0.04	-0.67	0.04	0.68	0.06	-0.61	0.03	-0.58	0.04	-0.05	CSA	IR
MINELAB	0.21	-0.30	**17.33**	**-3.00**	15.88	-1.92	23.66	-1.18	15.04	-1.15	0.04	-0.54	0.03	-0.48	0.06	-0.49	0.03	-0.44	0.04	-0.61	CSA	IR
MINELAB	0.19	-1.34	**16.74**	**-3.00**	16.30	-1.00	24.39	-0.05	15.04	-1.15	0.04	-0.67	0.02	-1.89	0.06	-0.61	0.03	-0.58	0.03	-1.16	CSA	IR
MINELAB	**0.15**	**-3.00**	18.93	0.61	16.69	-0.16	24.41	-0.02	15.82	0.68	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA,FUS	IR
MINELAB	**0.14**	**-3.00**	**16.13**	**-3.00**	15.87	-1.93	24.44	0.02	16.13	1.41	0.04	-1.17	0.02	-1.38	bld	bld	bld	bld	0.03	-0.72	CSA	IR
MINELAB	0.20	-0.64	18.62	-0.10	16.58	-0.40	24.13	-0.45	15.13	-0.94	0.03	-1.91	0.02	-1.89	0.05	-1.87	**0.01**	**-3.00**	0.02	-2.28	CSA	IR
MINELAB	0.21	0.05	18.73	0.15	16.87	0.23	24.76	0.51	15.40	-0.31	**0.08**	**3.00**	**0.06**	**3.00**	0.08	1.91	**0.06**	**3.00**	0.06	2.17	CSA	IR
MINELAB	0.21	0.19	18.75	0.20	16.49	-0.60	23.92	-0.77	15.22	-0.73	0.05	0.46	0.04	0.81	0.07	1.15	0.04	1.28	0.05	0.51		
MINELAB	0.24	2.12	**20.50**	**3.00**	**18.20**	**3.00**	25.40	1.50	16.70	2.74	0.06	1.83	0.04	0.68	0.06	-0.61	0.04	0.85	0.05	1.06	CSA	IR
MINELAB	0.23	1.36	**16.20**	**-3.00**	**14.70**	**-3.00**	**19.00**	**-3.00**	**14.20**	**-3.00**	**0.42**	**3.00**	**0.38**	**3.00**	0.07	0.14	0.03	-0.01	0.03	-1.05	CSA	IR
MINELAB	0.19	-1.54	19.50	1.90	16.80	0.08	24.60	0.27	16.00	1.10	0.06	1.33	0.04	0.16	0.08	1.28	**0.06**	**3.00**	0.05	1.17	CSA	IR
MINELAB	0.23	1.43	18.67	0.01	16.83	0.14	24.50	0.11	15.60	0.16	0.05	0.58	0.04	0.68	0.06	-0.61	0.03	-0.58	0.03	-1.16	CSA	IR
MINELAB	0.17	-2.72	19.60	2.13	17.70	2.02	25.34	1.40	16.18	1.52	<0.05	bld	**0.08**	**3.00**	<0.05	bld	<0.05	bld	<0.05	bld	CSA	IR
MINELAB	0.20	-0.64	18.60	-0.14	16.98	0.47	24.24	-0.28	15.40	-0.31	0.05	0.58	<0.05	bld	0.07	0.65	<0.05	bld	0.05	1.06	CSA	IR
MINELAB	0.18	-2.03	18.45	-0.49	17.41	1.40	25.30	1.34	15.69	0.37	0.03	-1.91	**0.01**	**-3.00**	0.05	-1.87	0.02	-2.02	0.02	-2.28	CSA	IR
MINELAB	0.21	0.05	19.10	0.99	17.15	0.83	25.10	1.04	15.65	0.28	0.04	-0.67	0.03	-0.61	0.08	1.91	0.03	-0.58	0.05	1.06	CSA	IR
MINELAB	0.22	0.74	17.82	-1.92	16.31	-0.98	24.19	-0.36	16.01	1.12	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	

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

Sulphur - Mean of Absolute Standardized Values - April 2017	Sulphur - Mean of Standardized Values - April 2017





Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2017

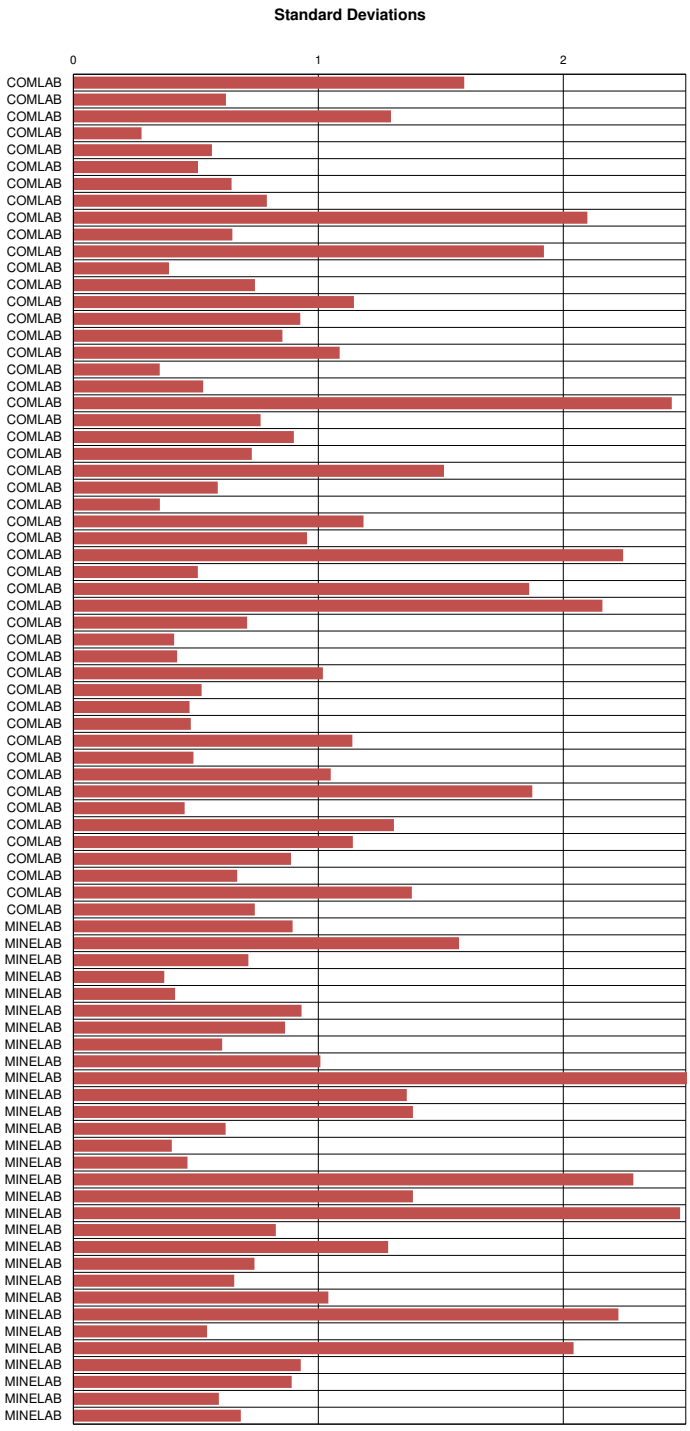
New Products

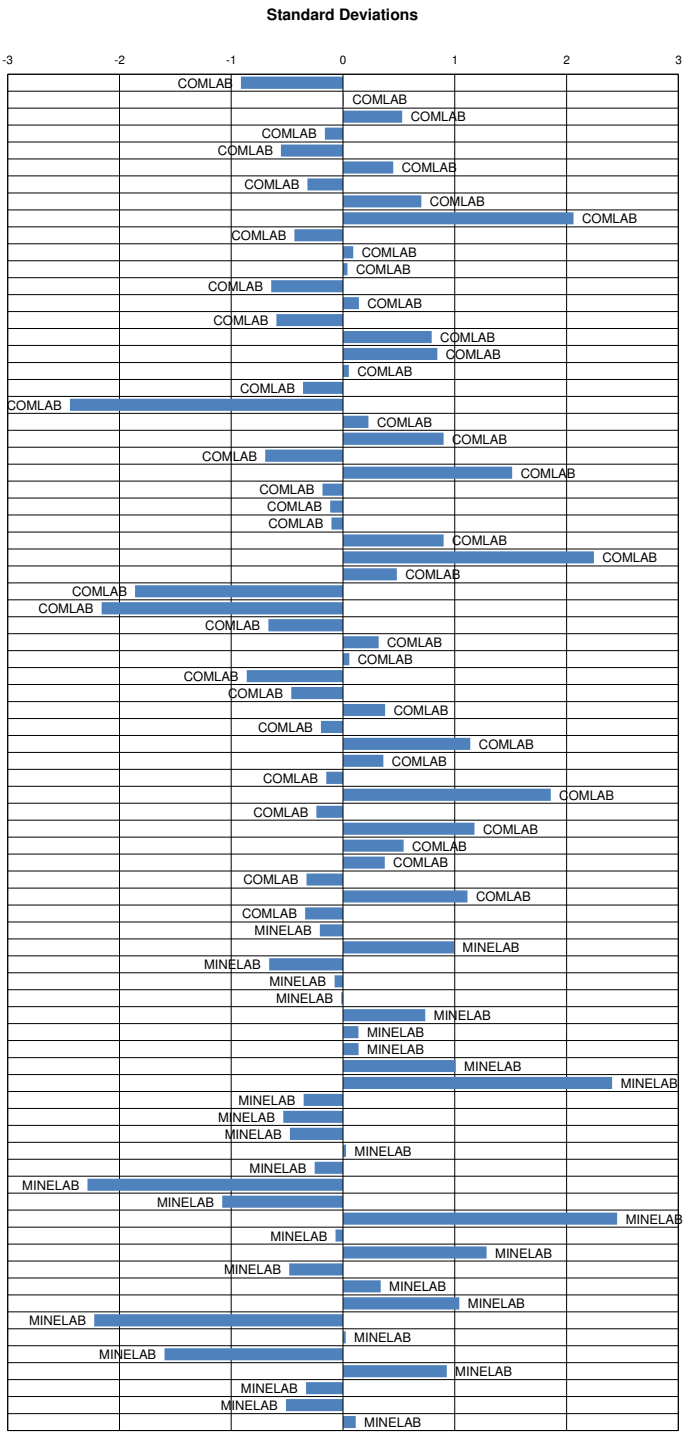
Standard Reference	GS317-1	GS317-2	GS317-3	GS317-4	GS317-5	GS317-6	GS317-7	GS317-8	GS317-9	GS317-10
MEAN (ppm)	0.15	0.48	0.67	0.25	8.46	0.05	0.05	0.04	0.05	0.04
STDEV (ppm)	0.01	0.03	0.04	0.03	0.34	0.01	0.01	0.01	0.02	0.01
95% CI (ppm)	0.00	0.01	0.01	0.01	0.08	0.00	0.00	0.00	0.00	0.00
95% CI (%)	2.43%	1.34%	1.33%	2.52%	0.97%	5.91%	7.83%	7.62%	9.25%	8.52%
MIN (ppm)	0.12	0.43	0.58	0.20	7.61	0.02	0.02	0.01	0.01	0.01
MEDIAN (ppm)	0.15	0.48	0.67	0.25	8.46	0.05	0.04	0.04	0.05	0.04
MAX (ppm)	0.18	0.55	0.76	0.32	9.21	0.08	0.08	0.07	0.09	0.08
IQR (ppm)	0.02	0.04	0.04	0.02	0.41	0.01	0.02	0.01	0.02	0.02
COUNT	64	63	65	64	67	57	58	61	62	59

Standard Reference	GS317-1		GS317-2		GS317-3		GS317-4		GS317-5		GS317-6		GS317-7		GS317-8		GS317-9		GS317-10			
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	Method	Reading
COMLAB	0.12	-1.95	0.46	-0.72	0.66	-0.38	**0.35**	**3.00**	8.60	0.41	0.03	-1.85	0.02	-1.87	0.01	-2.57	0.02	-1.58	0.02	-1.62	CSA	IR
COMLAB	0.14	-0.58	0.46	-0.72	0.65	-0.66	0.24	-0.47	9.14	2.01	0.05	-0.13	0.06	1.02	0.04	-0.30	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.14	-0.58	0.44	-1.50	0.61	-1.75	0.26	0.31	8.68	0.65	0.06	0.73	0.08	2.47	0.07	1.97	0.08	1.82	0.06	1.18	CSA	IR
COMLAB	0.15	0.10	0.48	0.05	0.66	-0.38	0.25	-0.08	8.09	-1.09	0.05	-0.13	0.05	0.30	0.04	-0.30	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.13	-1.27	0.48	0.05	0.67	-0.11	0.22	-1.24	8.40	-0.18	0.05	-0.13	0.03	-1.15	0.04	-0.30	0.03	-1.01	0.04	-0.22	CSA	IR
COMLAB	0.17	1.47	0.48	0.05	0.68	0.16	0.26	0.31	8.36	-0.30	0.06	0.73	0.05	0.30	0.05	0.46	0.05	0.12	0.06	1.18	CSA	IR
COMLAB	0.15	0.10	0.51	1.22	0.67	-0.11	0.26	0.31	8.39	-0.21	0.03	-1.85	0.04	-0.42	0.04	-0.30	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	0.17	1.47	0.51	1.22	0.69	0.44	0.29	1.48	8.31	-0.44	0.06	0.73	0.05	0.30	0.06	1.21	0.05	0.12	0.05	0.48	CSA	IR
COMLAB	**0.21**	**3.00**	**0.66**	**3.00**	**0.84**	**3.00**	**0.48**	**3.00**	8.40	-0.18	**0.09**	**3.00**	0.06	1.02	0.06	1.21	0.09	2.39	0.06	1.18	CSA	IR
COMLAB	0.14	-0.58	0.48	0.05	0.68	0.16	0.24	-0.47	8.75	0.85	0.04	-0.99	0.03	-1.15	0.04	-0.30	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	**0.06**	**-3.00**	**0.25**	**-3.00**	**0.06**	**-3.00**	**0.68**	**3.00**	8.41	-0.15	**0.47**	**3.00**	**0.16**	**3.00**	0.05	0.46	0.05	0.12	0.05	0.48	CSA	IR
COMLAB	0.16	0.78	0.48	0.05	0.67	-0.11	0.24	-0.47	8.28	-0.53	0.06	0.73	0.04	-0.42	0.05	0.46	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.14	-0.58	0.48	0.05	0.69	0.44	0.25	-0.08	7.83	-1.86	0.04	-0.99	0.04	-0.42	0.03	-1.05	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	0.13	-1.27	0.48	0.05	0.68	0.16	0.22	-1.24	**10.20**	**3.00**	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
COMLAB	0.13	-1.27	0.46	-0.72	0.63	-1.20	0.21	-1.63	9.02	1.65	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	0.16	0.78	0.50	0.83	0.70	0.71	0.30	1.87	8.60	0.41	0.06	0.73	0.06	1.02	0.04	-0.30	0.06	0.69	0.06	1.18	CSA	IR
COMLAB	0.15	0.10	0.55	2.78	**0.83**	**3.00**	0.26	0.31	**13.03**	**3.00**	0.05	-0.13	0.04	-0.42	0.05	0.46	0.04	-0.44	0.04	-0.22	CSA	IR
COMLAB	0.15	0.10	0.47	-0.33	0.66	-0.38	0.26	0.31	8.27	-0.56	0.06	0.73	0.05	0.30	0.05	0.46	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.14	-0.58	0.45	-1.11	0.63	-1.20	0.24	-0.47	8.52	0.18	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.06	0.69	0.04	-0.22	CSA	IR
COMLAB	**0.10**	**-3.00**	**0.32**	**-3.00**	**0.45**	**-3.00**	**0.17**	**-3.00**	**7.11**	**-3.00**	0.03	-1.85	0.02	-1.87	0.02	-1.81	0.02	-1.58	0.01	-2.32	CSA	IR
COMLAB	0.15	0.10	0.46	-0.72	0.65	-0.66	0.25	-0.08	8.09	-1.09	0.05	-0.13	0.06	1.02	0.07	1.97	0.06	0.69	0.06	1.18	CSA	IR
COMLAB	0.16	0.78	0.48	0.05	0.72	1.26	0.31	2.26	8.75	0.85	0.06	0.73	0.05	0.30	0.05	0.46	0.08	1.82	0.05	0.48	CSA	IR
COMLAB	0.14	-0.58	0.47	-0.33	0.68	0.16	0.25	-0.08	8.12	-1.01	0.04	-0.99	0.03	-1.15	0.03	-1.05	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	0.18	2.15	0.50	0.83	0.72	1.26	0.28	1.09	8.76	0.88	0.08	2.45	0.06	1.02	**0.12**	**3.00**	0.07	1.26	0.06	1.18		
COMLAB	0.15	0.10	0.51	1.22	0.65	-0.66	0.27	0.70	8.38	-0.24	0.05	-0.13	0.04	-0.42	0.03	-1.05	0.04	-0.44	0.03	-0.92	CSA	IR
COMLAB	0.14	-0.58	0.49	0.44	0.69	0.44	0.26	0.31	8.38	-0.24	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
COMLAB	0.13	-1.27	0.44	-1.50	0.64	-0.93	0.23	-0.86	7.82	-1.89	0.06	0.73	0.06	1.02	0.06	1.21	0.07	1.26	0.06	1.18	CSA	IR
COMLAB	0.15	0.10	0.51	1.22	0.68	0.16	0.32	2.65	8.37	-0.27	0.07	1.59	0.06	1.02	0.06	1.21	0.05	0.12	0.06	1.18	CSA	IR
COMLAB	**0.22**	**3.00**	0.53	2.00	0.74	1.80	**0.34**	**3.00**	8.74	0.83	**0.09**	**3.00**	0.07	1.75	<0.05	bld	0.08	1.82	**0.09**	**3.00**	CSA	IR
COMLAB	0.15	0.10	0.51	1.22	0.70	0.71	0.27	0.70	8.75	0.85	0.05	-0.13	0.05	0.30	0.05	0.46	0.05	0.12	0.05	0.48	CSA	IR
COMLAB	**0.07**	**-3.00**	0.43	-1.89	0.63	-1.20	0.21	-1.63	8.41	-0.15	**<0.01**	**-3.00**	<0.01	bld	<0.01	bld	0.01	-2.14	<0.01	bld	CSA	IR
COMLAB	**0.10**	**-3.00**	**<0.01**	**-3.00**	0.64	-0.93	0.20	-2.02	8.12	-1.01	**<0.01**	**-3.00**	<0.01	bld	<0.01	bld	<0.01	bld	<0.01	bld	CSA	IR
COMLAB	0.14	-0.58	0.47	-0.33	0.66	-0.38	0.24	-0.47	8.53	0.21	0.04	-0.99	0.03	-1.15	0.03	-1.05	0.03	-1.01	0.03	-0.92	CSA	IR
COMLAB	0.16	0.78	0.48	0.05	0.66	-0.38	0.25	-0.08	8.46	0.00	0.06	0.73	0.06	1.02	0.05	0.46	0.05	0.12	0.05	0.48	CSA	IR
COMLAB	0.15	0.10	0.46	-0.72	0.70	0.71	0.24	-0.47	8.61	0.44	0.05	-0.13	0.06	1.02	0.04	-0.30	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.16	0.78	0.45	-1.11	0.66	-0.38	0.23	-0.86	8.41	-0.15	0.03	-1.85	0.02	-1.87	0.02	-1.81	0.04	-0.44	0.03	-0.92	CSA	IR
COMLAB	0.14	-0.58	0.46	-0.72	0.66	-0.38	0.24	-0.47	7.89	-1.68	0.05	-0.13	0.05	0.30	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
COMLAB	0.15	-0.04	0.49	0.56	0.68	0.25	0.24	-0.35	8.52	0.18	0.06	1.08	0.06	0.66	0.06	0.99	0.05	-0.10	0.05	0.55	CSA	IR
COMLAB	0.15	0.10	0.47	-0.33	0.67	-0.11	0.23	-0.86	8.21	-0.74	0.06	0.73	0.04	-0.42	0.05	0.46	0.05	0.12	0.03	-0.92	CSA	IR
COMLAB	0.15	0.31	0.51	1.07	0.72	1.28	0.27	0.55	8.69	0.68	bld	bld	**0.09**	**3.00**	0.06	0.99	0.05	0.29	0.07	2.09	CSA	IR
COMLAB	0.16	0.78	0.48	0.05	0.73	1.53	0.26	0.31	8.55	0.26	0.06	0.73	0.04	-0.42	0.05	0.46	0.05	0.12	0.04	-0.22	CSA	IR
COMLAB	0.15	0.31	0.51	1.34	0.73	1.50	0.26	0.47	8.76	0.88	0.05	-0.56	0.02	-1.58	0.02	-1.51	0.03	-1.29	0.03	-1.06	CSA	IR
COMLAB	0.17	1.47	0.49	0.44	0.71	0.98	0.25	-0.08	8.72	0.77	**0.10**	**3.00**	**0.10**	**3.00**	**0.10**	**3.00**	**0.13**	**3.00**	**0.12**	**3.00**	CSA	IR
COMLAB	0.14	-0.65	0.45	-1.31	0.63	-1.20	0.26	0.12	8.64	0.53	0.06	0.30	0.05	0.01	0.04	-0.15	0.05	0.12	0.04	-0.15	CSA	IR
COMLAB	0.16	0.78	**0.58**	**3.00**	0.65	-0.66	0.28	1.09	8.64	0.53	0.07	1.59	0.06	1.02	0.07	1.97	0.07	1.26	0.06	1.18	CSA	IR
COMLAB	0.18	2.15	0.47	-0.33	0.66	-0.38	0.25	-0.08	8.55	0.26	**0.11**	**3.00**	0.03	-0.93	0.04	-0.60	0.04	-0.67	**0.09**	**3.00**	CSA	IR
COMLAB	0.14	-0.58	0.47	-0.33	0.63	-1.20	0.26	0.31	8.35	-0.33	0.05	-0.13	0.06	1.02	0.07	1.97	0.08	1.82	0.06	1.18	CSA	IR
COMLAB	0.15	0.10	0.43	-1.89	0.65	-0.66	0.23	-0.86	8.61	0.44	0.05	-0.13	0.03	-1.15	0.04	-0.30	0.06	0.69	0.05	0.48	CSA	IR
COMLAB	0.15	0.10	0.47	-0.33	0.64	-0.93	0.25	-0.08	8.46	0.00	**0.09**	**3.00**	**0.09**	**3.00**	0.07	1.97	0.08	1.82	0.08	2.58	CSA	IR
COMLAB	0.14	-0.58	0.46	-0.72	0.64	-0.93	0.24	-0.47	8.80	1.00	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
MINELAB	0.13	-1.27	**0.60**	**3.00**	0.69	0.44	0.21	-1.63	8.09	-1.09	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
MINELAB	0.18	2.15	0.48	0.05	0.68	0.16	0.29	1.48	8.88	1.24	0.03	-1.85	0.07	1.75	0.03	-1.05	**0.14**	**3.00**	**0.16**	**3.00**	CSA	IR
MINELAB	0.13	-1.27	0.44	-1.50	0.64	-0.93	0.22	-1.24	8.51	0.15	0.04	-0.99	0.04	-0.42	0.04	-0.30	0.05	0.12	0.04	-0.22	CSA	IR
MINELAB	0.15	0.10	0.47	-0.33	0.66	-0.38	0.26	0.31	8.82	1.06	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
MINELAB	0.15	0.10	0.46	-0.72	0.65	-0.66	0.26	0.31	8.80	1.00	0.05	-0.13	0.04	-0.42	0.05	0.46	0.05	0.12	0.04	-0.22	CSA	IR
MINELAB	0.16	0.78	0.51	1.22	0.74	1.80	0.30	1.87	8.13	-0.98	0.06	0.73	0.05	0.30	0.05	0.46	0.06	0.69	0.05	0.48	CSA	IR
MINELAB	0.15	0.10	0.50	0.83	**0.39**	**-3.00**	0.25	-0.08	8.63	0.50	0.05	-0.13	0.04	-0.42	0.05	0.46	0.05	0.12	**4.00**	**3.00**	CSA	IR
MINELAB	0.17	1.47	0.49	0.44	0.67	-0.11	0.28	1.09	8.42	-0.12	0.06	0.73	0.03	-1.15	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
MINELAB	0.15	0.10	0.51	1.22	0.76	2.35	0.26	0.31	9.09	1.86	0.07	1.59	0.06	1.02	0.05	0.46	0.06	0.69	0.05	0.48	CSA	IR
MINELAB	**0.24**	**3.00**	0.54	2.35	0.73	1.39	**0.34**	**3.00**	8.24	-0.67	**0.16**	**3.00**	**0.15**	**3.00**	**0.14**	**3.00**	**0.16**	**3.00**	**0.14**	**3.00**	CSA	IR
MINELAB	0.15	0.10	**0.25**	**-3.00**	0.58	-2.57	**0.15**	**-3.00**	8.46	0.00	0.07	1.59	0.06	1.02	0.05	0.46	0.06	0.69	0.06	1.18	CSA	IR
MINELAB	0.12	-1.95	0.47	-0.33	0.72	1.26	0.21	-1.63	**10.41**	**3.00**	0.05	-0.13	0.02	-1.87	0.03	-1.05	0.03	-1.01	0.02	-1.62	CSA	IR
MINELAB	0.14	-0.58	0.47	-0.33	0.67	-0.11	0.24	-0.47	7.77	-2.04	0.06	0.73	0.04	-0.42	0.04	-0.30	0.03	-1.01	0.04	-0.22	CSA	IR
MINELAB	0.16	0.78	0.46	-0.72	0.66	-0.38	0.25	-0.08	8.27	-0.56	0.05	-0.13	0.05	0.30	0.05	0.46	0.05	0.12	0.05	0.48	CSA	IR
MINELAB	0.13	-1.27	0.48	0.05	0.68	0.16	0.26	0.31	8.28	-0.53	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA	IR
MINELAB	<0.20	bld	**0.35**	**-3.00**	**0.55**	**-3.00**	<0.20	bld	8.17	-0.86	<0.20	bld	<0.20	bld	<0.20	bld	<0.20	bld	<0.20	bld	CSA	IR
MINELAB	0.12	-1.95	0.51	1.22	0.60	-2.02	0.21	-1.63	8.46	0.00	0.05	-0.13	<0.01	bld	0.02	-1.81	<0.01	bld	0.01	-2.32	CSA	IR
MINELAB	**0.27**	**3.00**	0.54	2.39	0.72	1.26	**0.37**	**3.00**	8.42	-0.12	**0.25**	**3.00**	**0.18**	**3.00**	**0.18**	**3.00**	**0.19**	**3.00**	**0.16**	**3.00**	CSA	IR
MINELAB	0.15	0.10	0.46	-0.72	0.75	2.08	0.25	-0.08	9.01	1.62	0.04	-0.99	0.03	-1.15	0.04	-0.30	0.03	-1.01	0.04	-0.22	CSA	IR
MINELAB	0.17	1.33	0.52	1.57	0.70	0.82	0.31	2.18	8.54	0.23	0.07	1.42	0.07	1.89	0.06	0.83	0.08	1.60	0.06	0.97	CSA	IR
MINELAB	0.15	0.10	0.44	-1.50	0.68	0.16	0.24	-0.47	8.56	0.29	0.06	0.73	0.03	-1.15	0.03	-1.05	0.03	-1.01	0.03	-0.92	CSA	IR
MINELAB	0.16	0.78	0.51	1.22	0.68	0.16	0.26	0.31	8.19	-0.80	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	<0.10	bld	CSA,FUS	IR
MINELAB	0.17	1.54	**0.57**	**3.00**	0.74	1.86	0.27	0.63	9.02	1.65	0.05	0.21	0.05	0.23	0.05	0.53	0.05	0.35	0.05	0.41	CSA	IR
MINELAB	**0.07**	**-3.00**	**0.22**	**-3.00**	**0.30**	**-3.00**	**0.12**	**-3.00**	**4.64**	**-3.00**	0.03	-1.85	0.03	-1.15	0.03	-1.05	0.02	-1.58	0.02	-1.62	CSA	IR
MINELAB	0.14	-0.58	0.48	0.05	0.67	-0.11	0.27	0.70	7.81	-1.92	0.06	0.73	0.05	0.30	0.05	0.46	0.05	0.12	0.05	0.48	CSA	IR
MINELAB	0.12	-1.74	0.44	-1.66	0.66	-0.33	0.22	-1.21	9.21	2.22	0.02	-2.71	**0.00**	**-3.00**	0.01	-2.64	0.01	-2.37	0.01	-2.53		
MINELAB	0.16	0.78	0.49	0.44	0.69	0.44	0.26	0.31	9.26	2.36	0.07	1.59	0.06	1.02	0.05	0.46	0.06	0.69	0.06	1.18	CSA	IR
MINELAB	0.13	-0.99	0.46	-0.88	0.65	-0.66	0.25	-0.19	9.41	2.80	0.04	-0.82	0.03	-0.93	0.04	-0.53	0.04	-0.33	0.03	-0.78	CSA	IR
MINELAB	0.15	0.10	0.45	-1.11	0.66	-0.38	0.26	0.31	7.61	-2.51	0.05	-0.13	0.04	-0.42	0.04	-0.30	0.04	-0.44	0.04	-0.22	CSA	IR
MINELAB	0.15	0.10	0.46	-0.72	0.62	-1.48	0.26	0.31	8.24	-0.65	0.06	0.73	0.06	1.02	0.06	1.21	0.05	0.12	0.05	0.48	CSA	IR

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

Carbon - Mean of Absolute Standardized Values - April 2017	Carbon - Mean of Standardized Values - April 2017





MAXXAM ONTARIO - NEUTRON ACTIVATION ANALYSIS REPORT

NAA Results - Gold and Base Metals

		G317-1	G317-2	G317-3	G317-4	G317-5	G315-7	G316-2	G912-3	G316-8	G915-3	GLG317-1	GLG317-2	GLG317-3	GLG913-3	GLG316-1	GBM317-1	GBM317-2	GBM317-3	GBM317-4	GBM317-5	GBM397-1	GBM310-5	GBM311-1	GBM314-6	GBM915-10	GBM317-11	GBM317-12	GBM317-13	GBM306-12	GBM913-12	GBM310-16
Sb	**ppm**	<0.2	<0.2	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	456	<0.2	<0.2	0.5	0.3	0.4	4.4	8.5	1.3	12.3	9.3	0.7	1	14.9	0.3	21.9	209	11.1	85.5	6	38.5	732
As	**ppm**	0.5	<0.5	8.6	0.8	0.8	<0.5	<0.5	2	<0.5	658	<0.5	<0.5	4.9	25	4.9	103	180	19	1880	2550	510	13.5	390	14	530	1200	226	116	6.3	878	1810
Ba	**ppm**	292	380	249	465	352	587	481	508	297	<350	374	387	350	50	302	213	<50	196	<50	1030	93	153	120	483	277	<171	<50	<50	<50	158	<50
Br	**ppm**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<3	<2	<2	<2	5	<2	<2	<2	<2	<2	<2	9	3	<2	<2	<2	<2	<2	<2	<2	1.99	<2
Cd	**ppm**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<33	<10	<10	<10	<10	<10	<10	<10	<10	<10	14.2	<10	<10	<10	<10	<10	132	16	108	<10	170	506
Ce	**ppm**	<19	44	<10	<37	24	55	23	48	<15	<102	36	32	37	32	32	40	23	39	36	<10	59	26	20	94	34	<10	13	25	<10	38	46
Cs	**ppm**	2	2	2	2	2	4	3	3	<2	<3	2	2	2	<2	<2	4	<2	4	<2	2	<2	<2	12	2	<2	<2	<2	<2	25	5	<2
Cr	**ppm**	116	93	144	119	146	75	103	83	58	<289	122	121	145	196	116	97	<20	105	152	<20	6600	5150	154	116	85	152	<20	94	5270	77	<76
Co	**ppm**	25	26	22	21	25	14	17	24	36	69	24	25	17	<2	40	22	425	18	1180	55	64	275	37	215	160	633	494	1810	21	42	8
Eu	**ppm**	<2.2	<2.4	<2.6	<3.7	<1.9	<1.8	<1.1	<1.1	<2.1	<8.5	<1.8	<1.7	<0.9	<0.5	2.6	1.1	1.2	0.6	<0.5	1.1	0.8	0.7	0.9	1.3	1.4	<2.2	1.6	<0.6	<0.5	1.2	<2.3
Au	**ppb**	11800	13800	18100	25600	4550	320	1150	2250	6450	8500	170	200	95	<2	82	392	285	409	394	4560	4110	76	5620	108	9900	76600	439	1350	181	19	3780
Hf	**ppm**	4.62	<5	<5	<5	<5	5	<5	<5	<5	<9	<5	<5	7	16	<5	<5	<5	<5	12	21	<5	<5	<5	6	<5	<5	<5	<5	6	<5	<5
Ir	**ppb**	<50	<50	<50	<60.1	<50	<50	<50	<50	<50	<220	<50	<50	<50	<50	<50	<50	<50	<50	200	<50	<50	<50	<50	<50	<50	<100	<50	<50	<50	<50	<70
Fe	**%**	5.5	4.9	5.8	5.5	5.8	3.4	4	5.3	9	9.7	5.5	5.4	8	19.9	9.1	5	28.8	4	21.1	3.2	2.07	14.7	7.3	4.2	16.5	32.2	29.3	31	3.6	8.3	10.8
La	**ppm**	19	20	18	21	20	28	26	24	20	25	21	21	21	7	20	20	11	18	6	6	15	11	10	43	17	26	12	7	2	18	19
Lu	**ppm**	0.8	0.8	0.5	0.6	0.6	0.4	0.6	0.6	0.6	1.6	0.5	0.4	0.5	0.4	0.6	0.2	0.4	0.2	0.2	0.3	0.5	0.2	0.3	0.5	0.4	<0.4	0.4	0.2	0.1	0.3	0.5
Mo	**ppm**	<10	<10	<10	<10	<10	<10	<10	24	<10	38	<10	<10	17	<10	<10	<10	<10	<10	<10	35	<10	<10	<10	<10	<10	1170	<10	<10	<10	<10	<10
Ni	**ppm**	21	<20	36	<20	<20	27	22	29	45	96	40	42	<20	<20	59	70	<20	70	4350	26	770	3900	230	80	350	3250	<20	40000	10200	<50	<100
Rb	**ppm**	95	89	96	88	92	162	135	121	50	78	114	94	91	<20	62	71	<50	104	<20	<20	27	<20	217	153	45	<20	<20	<20	741	73	<20
Sm	**ppm**	4.4	4.2	4.2	4.3	4.7	4.8	4.8	4.8	6	5.4	4.6	4.6	3.8	0.5	6	4	2.7	4.1	0.4	2.5	3.9	2.3	2.7	8.1	4.6	2.9	3	1	0.8	3.8	1.8
Sc	**ppm**	19.7	19.4	19.5	20.7	20.3	11.3	15.1	19.1	30.7	27.6	21.5	20.3	19.6	16.2	32.3	17.3	6.9	14.1	22.5	5.1	91.1	20.1	16.7	18	25.6	<0.5	7.5	2.9	4.3	15.5	<0.5
Se	**ppm**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<27	<10	<10	<10	<10	<10	<10	17	<10	25	<10	<10	<10	<10	<10	<10	130	31	15	<10	<10	<10
Ag	**ppm**	8	<5	8	9	<5	<5	<5	<5	<5	<19	<5	<5	<5	<5	<5	<5	7	<5	7	<5	<5	<5	6	<5	14	230	16	22	<5	26	310
Na	**%**	2.36	2.35	2.34	2.5	2.48	2.43	2.5	2.61	2.4	2.45	2.78	2.41	2.22	0.13	2.45	2.17	0.12	2.54	0.11	0.04	0.35	0.52	0.67	1.14	1.79	0.81	0.1	0.1	1.4	0.84	0.11
Ta	**ppm**	<2	<2	<2	2	<2	2	1.65	2	<2	<2	<2	<2	2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Te	**ppm**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<93	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tb	**ppm**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Th	**ppm**	10.8	12.1	10.3	12	12.1	23.4	19.2	16.1	7.8	8.7	13.1	12.8	30.7	117	7.6	6.8	1.8	7.8	84.8	4	19.3	2.5	4.2	13.3	19.8	7.6	1.9	2.9	0.4	5.3	5.2
Sn	**ppm**	<200	<200	<200	<200	<200	<200	<200	<200	<200	<1200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<500	<200	<200	<200	<200	<400
W	**ppm**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	15	5	21	<5	5	7	<5	13	<2	<5	69	5	<5	<5	<5	<5
U	**ppm**	8	9	9	8	9	12	11	9	4	5	9	8	8	13	4	2	<1	2	10	2	10	1	2	14	5	4	<1	2	<1	2	4
Yb	**ppm**	2.8	3	<1.8	<4.5	2.8	1.4	<1.8	2.9	3.4	<10.1	3	2.7	1.5	<1	3.4	1.5	1.3	1.1	<0.6	1.3	1.7	1.5	1.3	3	2.1	<2.9	0.5	<0.7	<0.5	1.3	<2.5
Zn	**ppm**	<200	<200	258	<200	<200	<200	156	<200	305	11600	<200	<200	<200	<200	<200	<200	2700	<200	<200	3750	<200	520	680	<200	1040	36000	5450	25700	21800	79500	165000
Zr	**ppm**	<500	<500	<500	<500	<500	<500	<500	<500	<500	<1560	<500	<500	<500	678	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500

SUMMARY REPORT OF INDIVIDUAL LABORATORY PERFORMANCE
Zarazma Minerals Studies Company

GOLD SAMPLES

Analysis	Samples Sent	Reported	Number of Outliers
Fire Assay	Yes (10)	Yes	0
Aqua Regia	Yes (10)	No	-
Low Level	Yes (5)	Yes	0

Au & Ag IN CARBON SAMPLES

The laboratory were not sent any samples for Au & Ag in carbon analysis.

Analysis	Reported	Number of Outliers
Gold	-	-
Silver	-	-

BASE METAL SAMPLES

10 Base Metal samples were sent to the laboratory for analysis by Total and / or Partial methods.

	Total Digest		Partial Digest	
Analysis	Reported	Number of Outliers	Reported	Number of Outliers
Silver	Yes	0	No	-
Copper	Yes	0	No	-
Lead	Yes	0	No	-
Zinc	Yes	1	No	-
Nickel	Yes	0	No	-
Arsenic	No	-	Yes	0
Cobalt	Yes	1	No	-

ORE GRADE BASE METAL SAMPLES

6 Ore Grade Base Metal samples were sent to the laboratory for analysis.

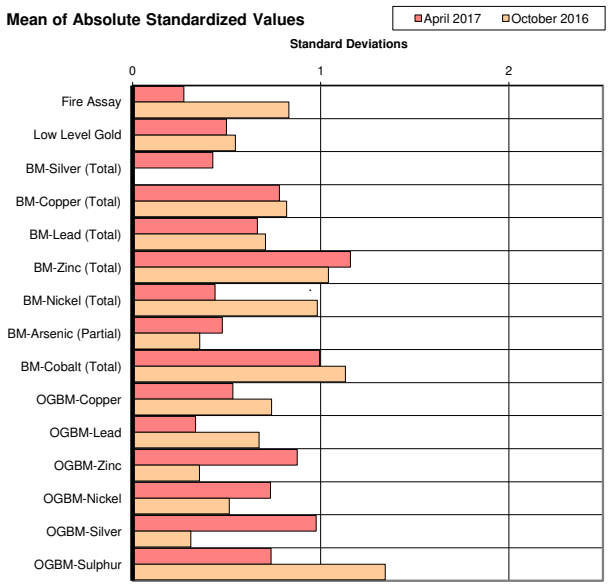
Analysis	Reported	Number of Outliers
Copper	Yes	0
Lead	Yes	0
Zinc	Yes	0
Nickel	Yes	0
Silver	Yes	0
Sulphur	Yes	0

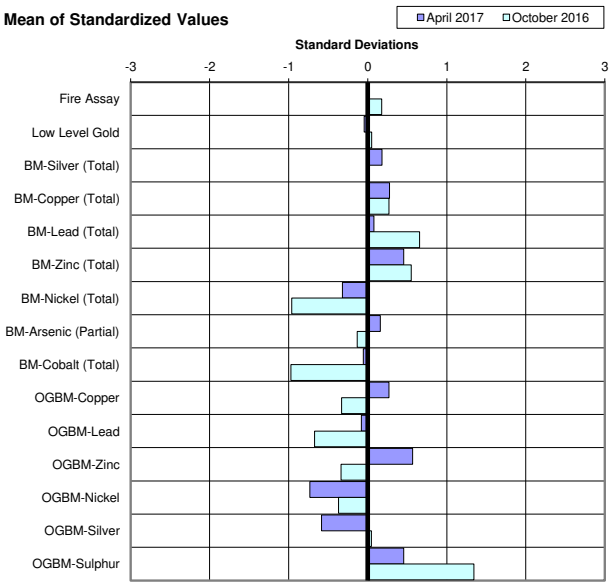
SULPHUR SAMPLES

The laboratory were not sent any Sulphur samples for analysis.

Analysis	Reported	Number of Outliers
Sulphur	-	-
Carbon	-	-

ERROR GRAPHS





FURTHER INFORMATION

The samples analysed in this survey are available for purchase. Please contact us or visit 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