

# GEOSTATS PTY LTD

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## *Certificate of Participation*

This is to certify that

*Zarazma Minerals Studies Company*

has participated in the April 2016  
Geostats Survey of International Laboratories

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Operations Manager

*P.J. Hayes*  
Managing Director

Geostats Laboratory Survey  
April 2016

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,

**Stuart Romero** BSc, BEng

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**Geostats Pty Ltd, O'Connor, Western Australia**  
**Listing of Participating Laboratories for Round Robin - April 2016**

<b>Western Australia</b>	ALS Minerals - Kalgoorlie	<b>Kvrazv Republic</b>	ALS KYZGYZSTAN	Stewart Assay and Environmental Laboratories LLC
ALSM KAL	Amrtec Laboratory	<b>Lao PDR</b>	ALS LAOS	ALS Minerals Vientiane (Laos)
ALSM METALLURGY	ALS Minerals - Perth	PHU BIA LAO	PHU BIA LAO	Ban Houayxat Laboratory Phu Bia Mining Limited
ALSM PERTH	Aurum Laboratories Pty Ltd	<b>Malaysia</b>	ITS PENJOM	Intertek Service - Penjom
AURUM BECK	Armdl Laboratory - Kalgoorlie	SGMM	SGMM	SGMM Assay Laboratory
BV KAL	Ultra Trace Pty Ltd	<b>Mali</b>	ALS TABAKOTO	ALS Tabakoto
BV ULTRA TRACE	Gekko Assay Laboratory	SAKOLA MALI	Sakola Mine Site Laboratory	
GEKKO VICTORIA	MMG Golden Grove	SGS BAMAKO	SGS Minerals Services (Bamako)	
GOLDEN GROVE	Granny Smith Gold Mine Laboratory	SGS LOULO	SGS Loulo	
GRANNYS	Genalysis Laboratory Services Pty Ltd	SGS MALI GCX	Analabs Morila Laboratory	
INT GEN PER	Kalassay Group (Perth Assay Laboratory)	SGS SYAMA	SGS Minerals Syama Laboratory	
KAL PER	Kalassay Group (Kalgoorlie Assay Laboratory)	<b>Mauritania</b>	ALS TASIAST	ALS Minerals - Tasiast
KALGOORLIE AL	LabWest	MCMSA	Mauritania Copper Mines SA	
LABWEST	MinAnalytical	OMRG	Office Mauritanien des Recherches Géologiques	
MINANALYTICAL	Newcrest Mining Limited - Telfer Gold Mine Lab	<b>Mexico</b>	ACTLABS MEXICO	Actlabs Mexico SA de CV
NEWCREST TELFER	Nifty Minesite Laboratory	BV MINERALS MEX	Inspectorate de México S.A. de C.V.	
NIFTY CU OP	Standard & Reference Laboratories	CUZCATLAN MEXICO	Compañía Minera Cuicatlan S. A. de C. V.	
SAR LAB	SGS Kalgoorlie	MCEWEN MEXICO	McEwen Mining Mexico	
SGS JUNDEE	SGS Kalgoorlie	MULTATOS SONORA	Alamos Gold - Multatos Mine	
SGS KALG	SGS Newburn	SANTA RITA	AuRico Gold - Minera Santa Rita	
SGS NEWBURN	Simulus Laboratories	SGM CHIHUAHUA	Centro Experimental Chihuahua	
SIMULUS		<b>Mongolia</b>	ALS MONGOLIA	ALS Group LLC
<b>New South Wales</b>	ALS Minerals - Orange	SGS ULAAN	SGS Mongolia LLC	
ALSM ORANGE	Newcrest Laboratory Services Orange	<b>Morocco</b>	MANAGEM REMINEX	Reminex Centre de Recherche
NEWCREST ORANGE	SGS Wyalong	<b>Namibia</b>	BV NAMIBIA	Bureau Veritas Mineral Laboratories - Namibia
SGS WYALONG		DUNDEE PMT	Namibia Custom Smelters	
<b>Northern Territory</b>	Granites Gold Mine	<b>New Zealand</b>	SGS NZ MACRAES	SGS New Zealand, Macraes Laboratory
GRANITES	Northern Territory Environmental Laboratories	SGS NZ WAHI	SGS New Zealand, Minerals Laboratory	
INT DARWIN		<b>Papua New Guinea</b>	INTERTEK HV	Intertek Hidden Valley
<b>Queensland</b>	ALS Minerals - Brisbane	ITS MOROBE	ITS (PNG) Limited	
ALSM BRIS	ALS Minerals - Mt Isa	LIHIR	Lihir Gold - Minesite Laboratory	
ALSM MT ISA	ALS Minerals - Townsville	<b>Peru</b>	ACT SKYLINE PERU	Actlabs Skyline Peru SAC
ALSM TVL	Mount Isa Mines Analytical Laboratory	AGO PERU	AGO Peru SAC	
CHEM LAB MIM	Freestop Indonesia	ALSM LIMA	ALS Peru SAC	
FREESTOP IND	Genalysis Testing Services, Townsville	CERTIMIN	Certimin S.A.	
GEN TOWNSVILLE	HRL Testing	CERTIMIN LA ARENA	Certimin S.A. - La Arena	
HRL TESTING	Porgera Gold Mine Laboratory	INSPECTORATE PERU	Inspectorate Services Peru SAC	
INT GEN ADEL	SGS Townsville	LAGUNAS MINE	Minera Barrick Misquichilca - Unidad Lagunas Norte	
<b>South Australia</b>	BHP Billiton	NEW PERU	Minera Yanacocha SRL - Newmont Lab (Peru)	
BHP OLYMPIC	Amrdel Laboratory - Adelaide	PIERINA MINE	Minera Barrick Misquichilca - Unidad Pierina	
BV ADL	Genalysis Laboratory Services - Adelaide	SGS LIMA	SGS del Peru SAC	
INT GEN ADEL		<b>Philippines</b>	ITS MCFAR	Intertek Testino Services Philippines
<b>Tasmania</b>	Burnie Research Laboratory	OSTREA MANILA	Ostrea Mineral Laboratories	
ALSM BURNIE		<b>Portugal</b>	SOMINCOR	Somincor, S.A.
<b>Argentina</b>	Alex Stewart Assayers Argentina SA - Mendoza	<b>Romania</b>	ALSM ROMANIA	ALS Romania
ASA MENDOZA	Alex Stewart Assayers Argentina SA - Perito Moreno	<b>Russia</b>	ALSM CHITA	ALS Minerals - Chita
ASA PERITO MORENO	Veladero Project Assay Lab	ALSM MOSCOW	Stewart Geochemical and Assay Ltd	
VELADERO MINE		DVOINOYE MINE	Dvoinoye Mine	
<b>Armenia</b>	Deno Gold Mining Company	IRGIREDMET RUSSIA	IRGIREDMET JSC	
DUNDEE ARMENIA		SGS CHITA	SGS Chita	
<b>Botswana</b>	Mupane Gold Project Lab	TOMS RUSSIA	TOMS-Irkutsk	
MUPANE BOTS		SGS RUSSIA	VSEGEI All-Russia Geological research Institute	
<b>Brazil</b>	Kinross Brasil Mineração SA	<b>Saudi Arabia</b>	ALAMRI JEDDAH	Al Amri Laboratory
PARACATU MINE	SGS Geosol Laboratórios Ltda	ALSM JEDDAH	ALS Minerals - Arabia	
SGS LF BELO HOR		<b>Serbia</b>	SGS BOR	SGS Bor
<b>Bulgaria</b>	Chelopech Mine Laboratory	<b>South Africa</b>	ALSM JOBURG	Anglo Research, Crown Mines - BMP
CHELOPECH MINE		RAPPA RESEARCH	Rappa Research Laboratory	
<b>Burkina Faso</b>	Abilab Burkina SARL	SCI SER	Scientific Services Pty Ltd	
ALSM OUAGADOUGOU	IMGOLD Essakane SA	SET POINT JHB	Set Point Laboratories	
IMGOLD BF	Semabo Burkina Faso	SET POINT MOK	Set Point Laboratories - Mokopane	
SEMAFO	SGS Burkina SA	SGS BARBERTON	Performance Laboratories Barberton	
SGS OUAGADOUGOU		SGS JOBURG	SGS South Africa Booysegs	
<b>Canada</b>	Accurassay Laboratories	SGS PLW	Performance Laboratories (PLW)	
ACCURASSAY	Bureau Veritas Commodities Canada Ltd	SIBANYE BEATRIX	Sibanyegold Beatrix Division	
ACME VAN	Activation Laboratories Ltd (Canada)	<b>Spain</b>	AGO SPAIN	AGO Mining & Bioenergy S.L
ACTLABS CAN	Activation Laboratories Ltd - Thunder Bay	<b>Suriname</b>	FLAB SURINAME	Filab Suriname
ACTLABS TB	ALS Minerals (Vul GOF)	<b>Tanzania</b>	BULYANHULLU TANZ	Bulyanhullu Mine Assay Lab
ALSM QUEBEC	ALS Minerals - Vancouver	BUZWAGI	Pangea Minerals Ltd	
ALSM VAN	AuTec Innovative Extractive Solutions Ltd	GEITA TANZ	Geita Gold Mine Laboratory	
AUTEC VAN	Becquerel Laboratories Inc	NORTH MARA	North Mara Minesite Laboratory	
BEQUEREL-NAA	Bureau Veritas Commodities Canada Ltd	SGS MWANZA	African Assay Laboratories (Tanzania) Ltd	
BVCC TIMM	Fin Flon Mine Laboratory	<b>Thailand</b>	CHATREE THAI	Chatree Gold Mine Laboratory
FLIN FLON MINE	Williams Operating Corporation	<b>Turkey</b>	ACME TURKEY	Acme Analytical Laboratories Ltd - Turkey
HEMLO MINE	Met-Solve Analytical Services	ALSM TURKEY	ALS Minerals - Turkey	
MET-SOLVE	Musselwhite Mine Laboratory	ANAGOLD TURK	Anagold Madencilik San Ve Tic.A.S.	
MUSSELWHITE	SGS Cochrane	CAYELI BAKIR TURKEY	Cayeli Bakir Isletmeleri A.S.	
SGS COCHRANE	SGS Lakefield (Ontario)	DEMIR ANKARA	Demir Export Ankara	
SGS LAKEFIELD	SGS Vancouver	DEMIR SIVAS	Demir Export Sivas	
SGS VANCOUVER	TSL Laboratories	GUMUSTAS TURKEY	Gumustas Mining and Trading Inc	
TSL SASKATCHEWAN	AuRico Gold - Young-Davidson	IAR TURKEY	Istanbul Gold Refinery Inc.	
YOUNG-DAVIDSON		KOZAGOLD KAYMAZ	Koza Gold Mine Kaymaz Laboratory	
<b>Chile</b>	AGQ Chile S.A	KOZAGOLD TURKEY	Koza Gold Mine Laboratory	
AGQ CHILE	Acme Analytical Laboratories Chile SA	MNG ORKO TURKEY	MNG Orko Madencilik	
BV ACME CHILE	Bureau Veritas Mineral Chemical Analysis - Geonaltica	ONSA TURKEY	Onsa Refinery	
BV ANTOFAGASTA	Bureau Veritas S.G. Calama	SGS TURKEY	SGS Turkey	
BV CALAMA	BV Mineral Chemical Analysis - Geonaltica Coquimbo	TUPRAG TURK	Tuprag Kisladiag Gold Mine	
BV COQUIMBO	Bureau Veritas Mining & Chemical Division - Cesmec	<b>United States of America</b>	AALLABS	American Assay Laboratories
BV SANTIAGO	Bureau Veritas Sierra Corda	ACZ COLORADO	ACZ Laboratories Inc	
BV SIERRA GORDA	Bureau Veritas Ventanas	ALSM RENO	ALS Minerals - Reno	
BV VENTANAS	Intertek Minerals Chile	BALD MOUNT	Bald Mountain Mine Assay Lab	
ITS CHILE	Maricunga Mine	GORTEZ MINE	Cortez JV Mine Assay Lab	
MARICUNGA MINE		FLORIN RENO	Florn Analytical Services	
<b>China</b>	ALS Minerals - Guangzhou (China)	FLSMIDTH USA	FLSmith Analytical Lab	
ALSM CHINA	Fujian Zijin Mining and Metallurgy Testing Technology Co., Ltd	FORT KNOX	Fort Knox Assay Lab	
ZIJIN CHINA		GOLD SUNLIGHT MINE	Golden Sunlight Mine Assay Lab	
<b>Colombia</b>	SGS Colombia	GOLDSTRIKE	Barrick Analytical Laboratory	
SGS COLOMBIA		INSPECTORATE NEV	Inspectorate Services Sparks	
<b>Cote d'Ivoire</b>	Bureau Veritas Mineral Laboratories Cote d'Ivoire	INTER-MOUNTAIN USA	Inter-Mountain Laboratories	
BV COTE	SGS Côte d'Ivoire S.A.	KETTLE RIVER	Kettle River Assay Lab	
SGS AGBAOU CI		KML KERSHAW	Kershaw Mineral Lab	
<b>Democratic Republic of Congo</b>	Frontier Mine	MCLELLAND NEV	McClelland Laboratories, Inc.	
FRONTIER DRC	AMC - Lawson West Kapulo Mine	NEW GC	Newmont Mining Corporation - Carlin Assay Lab	
SGS KAPULO	SGS Kibali	NEW LONE	Newmont - Lone Tree Mine	
SGS KIBALI	AMCK Mining SPRL	NEW MET SER	Newmont Metallurgical Services	
SGS KINSEVERE	SGS Laboratory - Kipoi	NEW TWIN CM	Newmont - Twin Creek Mine	
SGS KIPOI	SGS Twangiza	ROUND MOUNT MINE	Round Mountain Gold Assay Lab	
SGS TWANGIZA		SKYLINE ARIZONA	Skyline Assayers & Laboratories - Arizona	
<b>Dominican Republic</b>	Pueblo Viejo Laboratorio	TURO RIDGE MINE	Turquoise Ridge JV Mine Assay Lab	
PUEBLO VIEJO		<b>Uruguay</b>	OMI URUGUAY	Triselco SA Laboratory
<b>England</b>	Wardell Armstrong	<b>Zambia</b>	AKH KITWE	Alfred H Knight Zambia Ltd
WARDELL ENGLAND	Wheal Jane Laboratory	ALSM KANSANSHI	ALS Minerals - Kansanshi	
WHEAL JANE ENGLAND		KANSANSHI ZAMBIA	Kansanshi Mining PLC	
<b>Eritrea</b>	SGS Bisha	LUMWANA MINE	Lumwana Mine Site Lab	
SGS BISHA		SGS KALULUSHI	SGS Inspection Services Zambia	
<b>Finland</b>	Labrium Laboratories	<b>Zimbabwe</b>	ANTTECH	Antech Laboratories
LABRIUM FIN		BINDURA ZIM	Bindura Nickel Corporation Limited	
<b>Ghana</b>	ALS Minerals - Ghana	FREDA ZIM	Freda Rebecca Gold Mine	
ALSM GHANA	Gold Fields Ghana Ltd	SGS ZIMBABWE	Performance Laboratories Zimbabwe	
GOLD FIELDS GHANA	Intertek Minerals Ltd (Ghana)	<b>Commercial Laboratory</b>	Commercial Laboratory that reported some results after the database was closed.	
ITS GHANA	Ahafo Mine Site Laboratory	<b>Government Laboratory</b>	Government Laboratory	
NEW AHAFO GHANA	AngloGold Ashanti - Assay Lab			
SGS OBUASI	SGS Laboratories (Tarkwa)			
SGS TARKWA				
<b>Greece</b>	Hellas Gold			
HELLAS GREECE				
<b>Guinea</b>	SGS Mineral Services (Guine) SARL			
SGS SIGUIRI				
<b>Guyana</b>	Actlabs Guyana Inc			
ACTLABS GUYANA				
<b>India</b>	Shiva Analyticals (India) Ltd			
SHIVA INDIA				
<b>Indonesia</b>	PT Geoservices Ltd			
GEOSERVICES IND	Gosowong Gold Project Lab			
ITS GOSOWONG	Intertek Testing Services, Jakarta			
ITS INDO	ITS Lab - PT Newmont Nusa Tenggara			
ITS MATARAM	Intertek Utama Services Manado			
ITS UTAMA	KBK Mirah Site Laboratory			
MIRAH KBK INDO	Sucofindo Jakarta Laboratory			
SUCOFINDO CIBITUNG	Sucofindo Jakarta Laboratory			
SUCOFINDO DENPASAR	Sucofindo Timika Laboratory			
SUCOFINDO TIMIKA	PT Geoservices Ltd - Tembang			
TEMBANG	PT Geoservices Ltd - Way Linggo			
WAY LINGGO				
<b>Iran</b>	Iran Mineral Processing Research Center (IMPRC)			
IMPRC IRAN	Zarazma Mahan			
ZARAZMA MAHAN	Zarazma Minerals Studies Company			
ZARAZMA TEHRAN				
<b>Ireland</b>	Omac Laboratories - Ireland			
ALSM IRELAND				
<b>Kazakhstan</b>	ALS Minerals - Kazakhstan			
ALSM KAZAKHSTAN				

## REPORT ON LABORATORY SURVEY – April 2016

A round robin to measure the accuracy of gold, silver, sulphur and base metal analyses from 230 laboratories was conducted during April 2016. 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

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

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

### GOLD SAMPLES

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

## **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 25.6% and carbon values up to 0.46%.

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.

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

### READINGS

1A	1 Acid Digest	AAS	Atomic Absorption Spectroscopy
3A	3 Acid Digest	DIBK	DIBK Extraction
4A	4 Acid Digest	ES	ICP - Emission Spectroscopy
AD	Acid Digest	GRAV	Gravimetric
AR	Aqua Regia	ICP	Inductively Coupled Plasma - Unspecified
CSA	Carbon and Sulphur Analyser	IR	Infrared
DIBK	DIBK Extraction	MS	ICP - Mass Spectroscopy
FA	Fire Assay	TITR	Titration
FUS	Fusion	VOL	Volumetric
GF	Graphite Furnace	XRF	X-Ray Fluorescence
GRAV	Gravimetric		
IH	In House Method		
LW	Leach well		
MAD	Multi-Acid Digest		
MICR	Microwave		
NAA	Neutron Activation Analysis		
PR	Pre-Roast		
TITR	Titration		
VOL	Volumetric		

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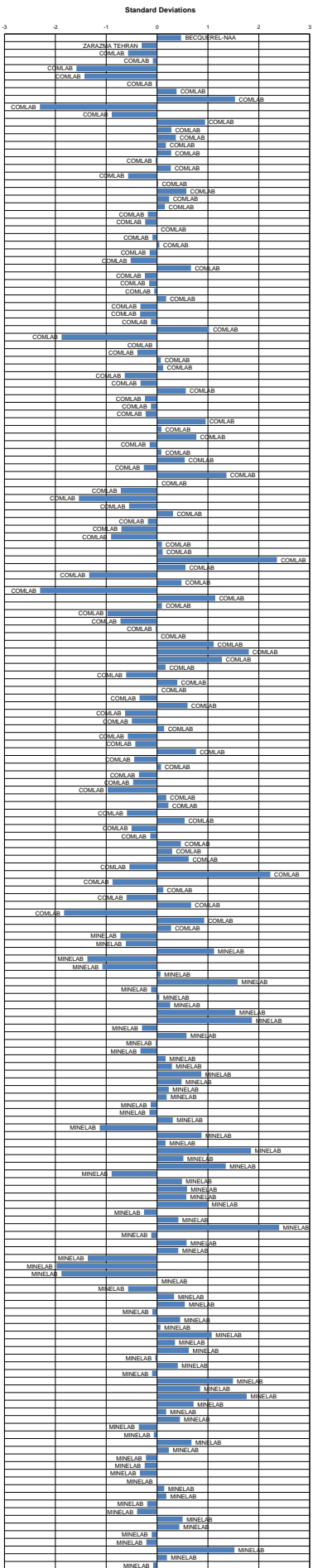
## RESULTS OF ANALYSES PRESENTED AS TABLES AND PLOTS

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Silver On Carbon	9 & 10
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Silver (Partial Digest)	13 & 14
Copper (Total Digest)	15 & 16
Copper (Partial Digest)	17 & 18
Lead (Total Digest)	19 & 20
Lead (Partial Digest)	21 & 22
Zinc (Total Digest)	23 & 24
Zinc (Partial Digest)	25 & 26
Nickel (Total Digest)	27 & 28
Nickel (Partial Digest)	29 & 30
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Arsenic (Partial Digest)	33 & 34
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FA50 Gold Road Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

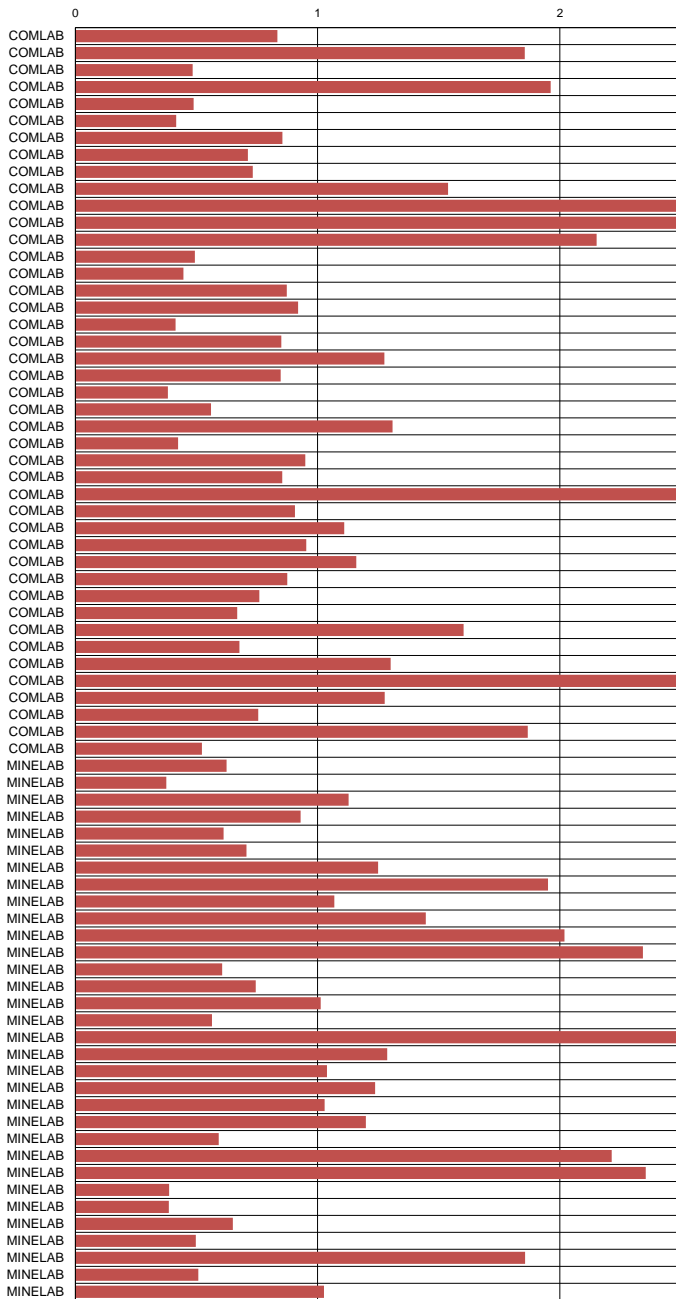
Table with columns: Standard Reference, G316-1, G316-2, G316-3, G316-4, G316-5, G316-6, G316-7, G316-8, G316-9, G316-10, Method, Reading. The table contains assay data for various elements across multiple samples and methods.

Highlighted values are outliers which are assigned a z-score of <math>\ge 3.00</math> or <math>\le -3.00</math> in the standardised values.

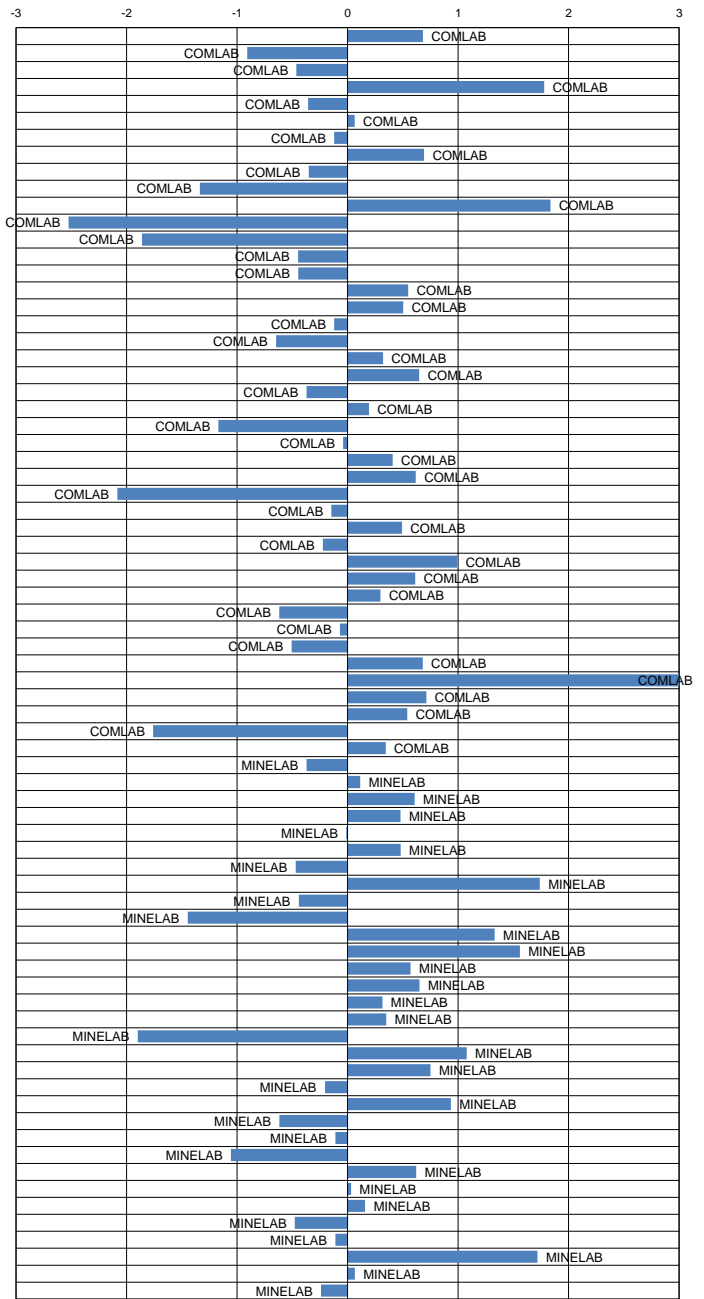




Standard Deviations

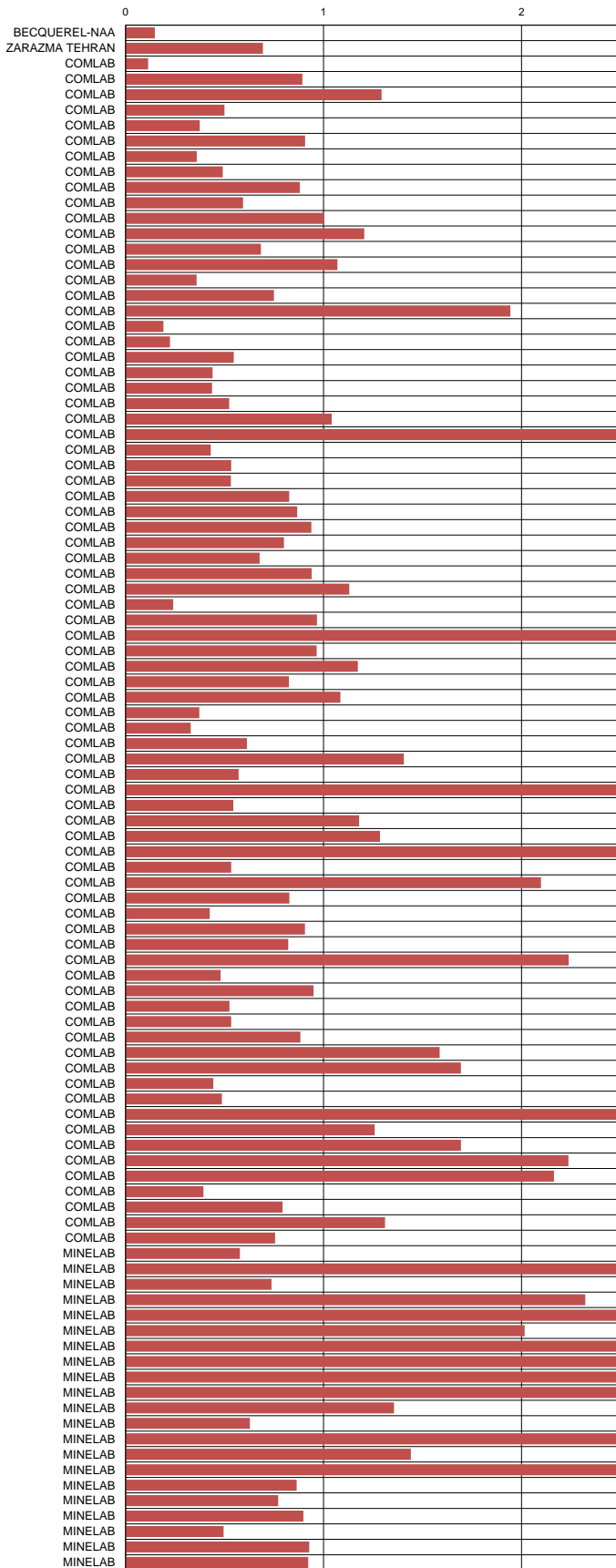


Standard Deviations

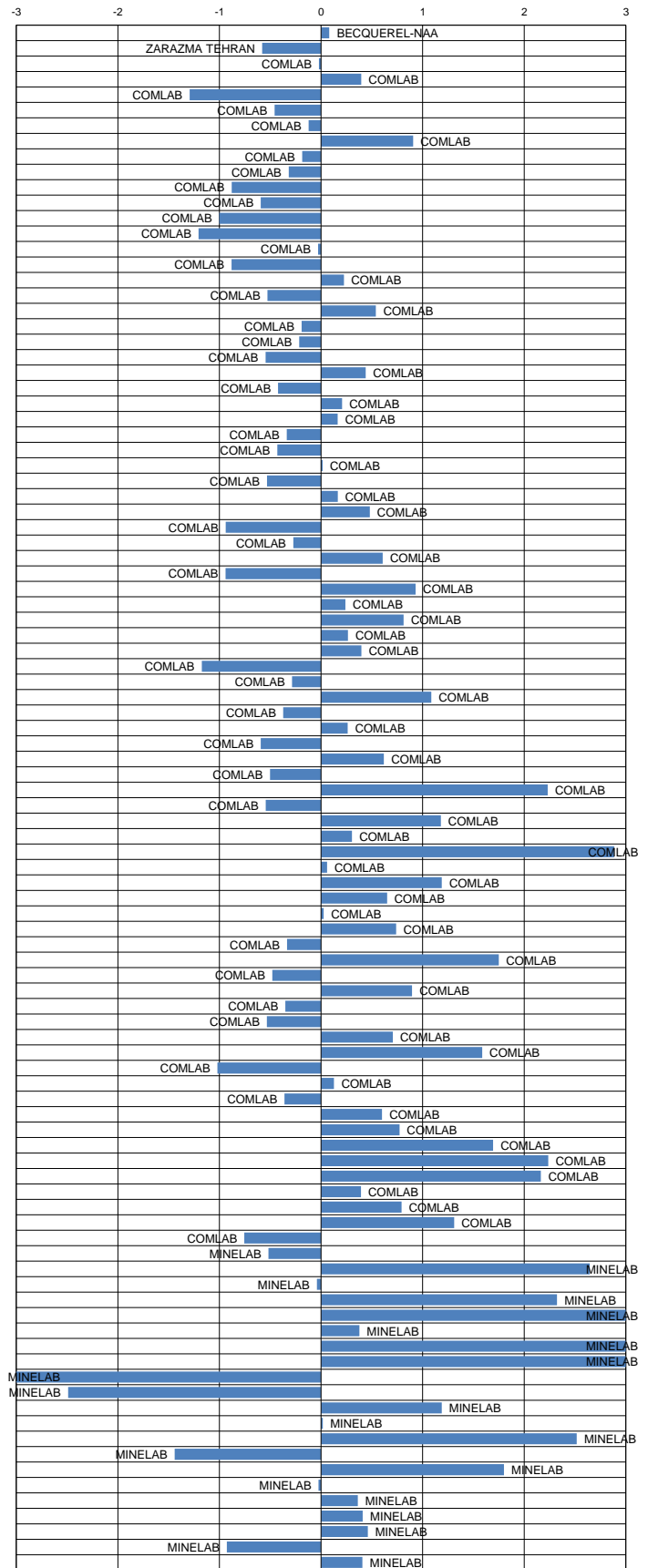




Standard Deviations



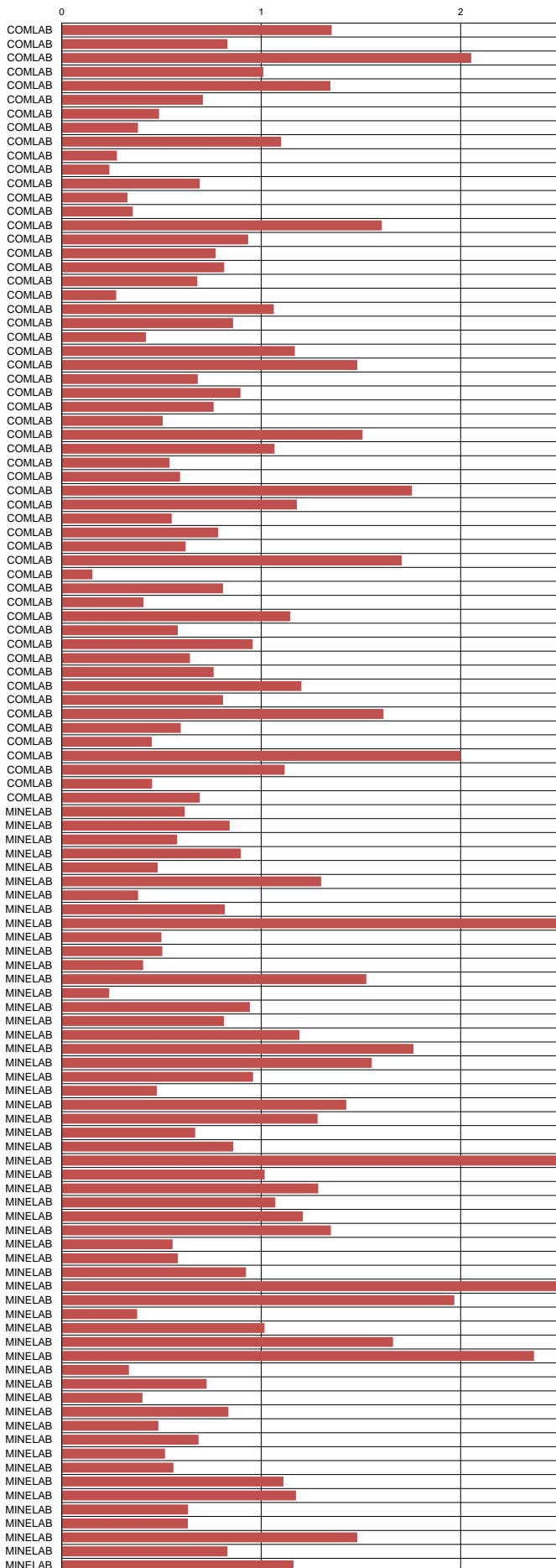
Standard Deviations



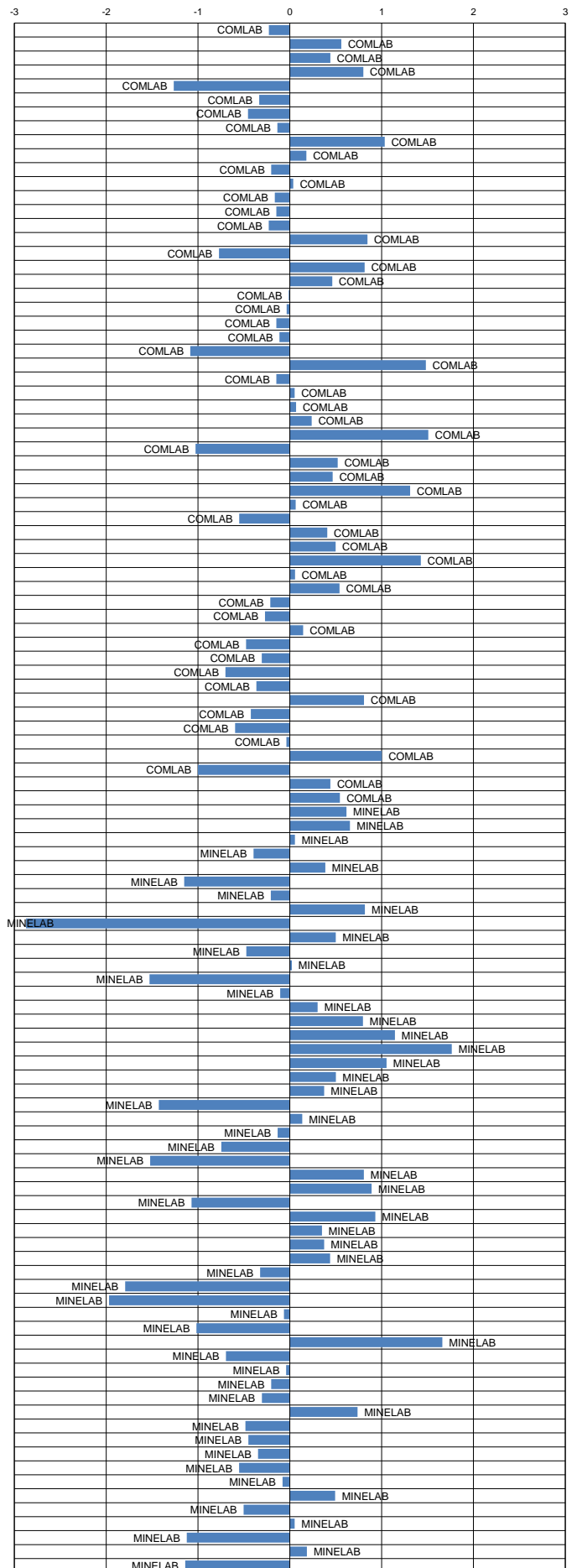




Standard Deviations



Standard Deviations



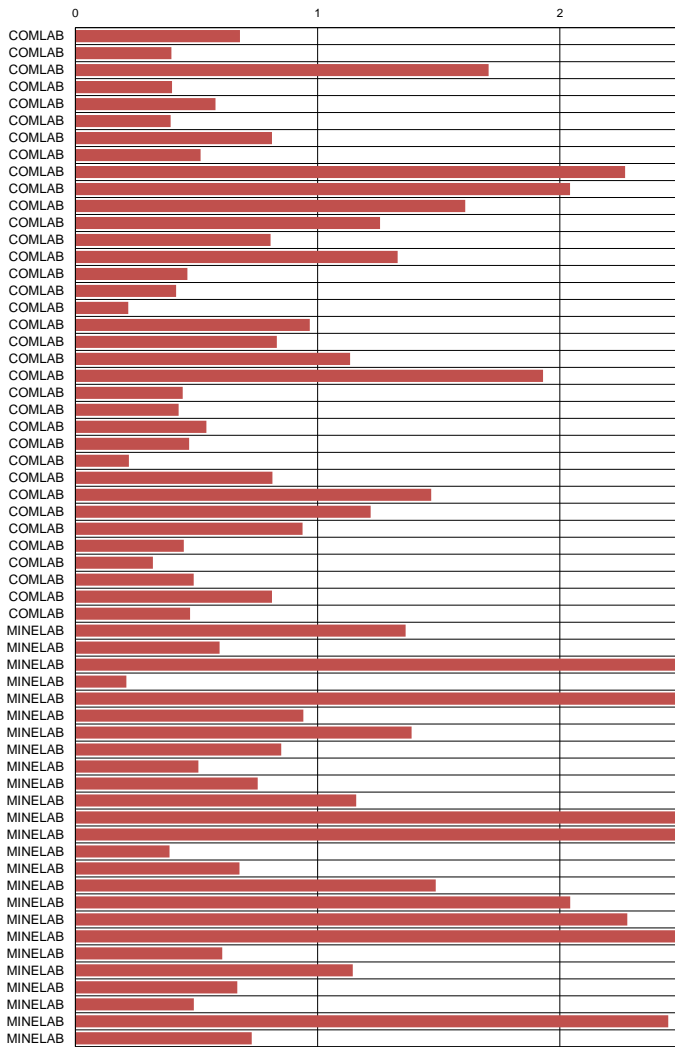
## Silver on Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

Standard Reference	GBC316-1	GBC316-2	GBC316-3	GBC316-4	GLC316-1	GLC316-2
MEAN (ppm)	191	508	21	74	1392	527
STDEV (ppm)	60	33	4	6	87	29
95% CI (ppm)	15	9	1	2	24	8
95% CI (%)	8.12%	1.77%	5.88%	2.26%	1.75%	1.50%
MIN (ppm)	46	425	10	62	1184	468
MEDIAN (ppm)	215	510	21	74	1395	525
MAX (ppm)	326	586	31	87	1583	599
IQR (ppm)	80	28	4	8	99	31
COUNT	59	53	48	48	50	51

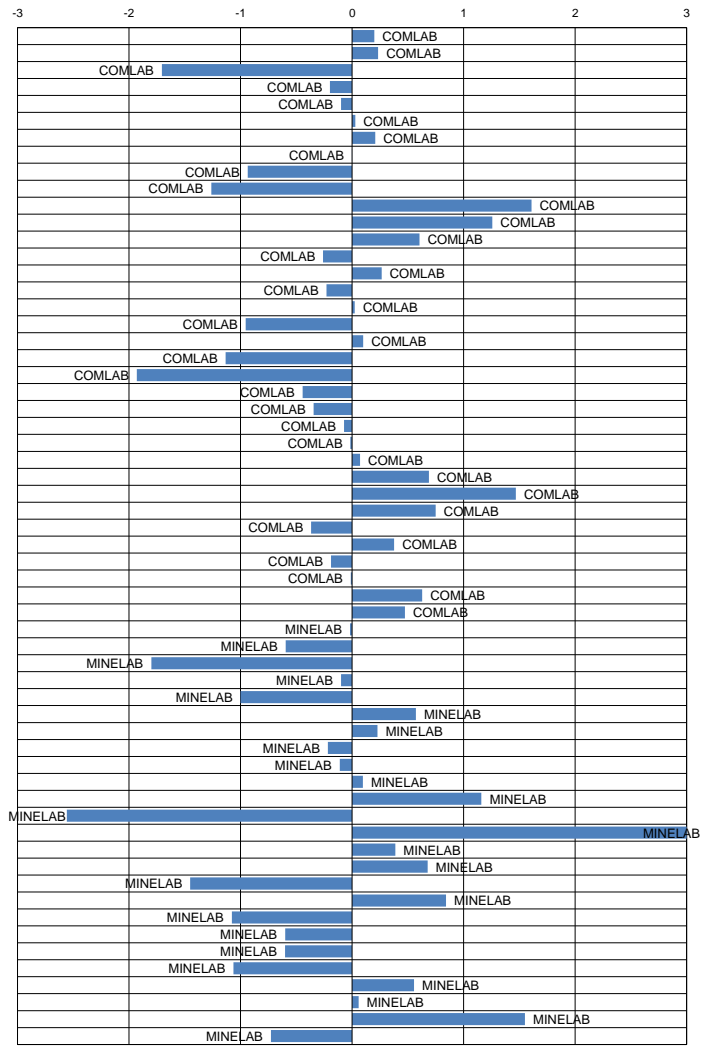
Standard Reference	GBC316-1		GBC316-2		GBC316-3		GBC316-4		GLC316-1		GLC316-2		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB 80	-1.84		503	-0.14	24	0.76	78	0.72	1300	-1.06	548	0.72	FA	GRAV
COMLAB 234	0.73		541	1.02	21	0.08	77	0.48	1378	-0.15	520	-0.25	4A	AAS
COMLAB 183	-0.13		<b>198</b>	<b>-3.00</b>	17	-0.88	69	-0.82	1320	-0.83	<b>384</b>	<b>-3.00</b>	FA	GRAV
COMLAB 243	0.88		518	0.32	20	-0.29	75	0.19	1350	-0.48	507	-0.72	FA	GRAV
COMLAB 230	0.66		505	-0.08	23	0.53	69	-0.82	1450	0.67	505	-0.79	PR,AR	AAS
COMLAB 201	0.17		519	0.34	23	0.53	69	-0.82	1408	0.19	525	-0.09	PR,AR	AAS
COMLAB 262	1.19		526	0.55	26	1.23	65	-1.51	1405	0.15	545	0.61	FA	GRAV
COMLAB 243	0.88		518	0.31	19	-0.39	69	-0.91	1461	0.79	533	0.19	FA	GRAV
COMLAB 147	-0.72		425	-2.49	10	-2.52	<b>12</b>	<b>-3.00</b>	<b>2047</b>	<b>3.00</b>	537	0.33	FA	GRAV
COMLAB 133	-0.96		<b>378</b>	<b>-3.00</b>	<10	bld	<10	<b>-3.00</b>	1339	-0.61	572	1.56	FA	GRAV
COMLAB 235	0.74		575	2.03	23	0.53	82	1.40	1529	1.58	599	2.51	FA	GRAV
COMLAB 259	1.14		535	0.82	21	0.06	nr	nr	1583	2.20	583	1.95	FA	GRAV
COMLAB 221	0.51		514	0.19	<60	bld	86	2.09	1439	0.55	516	-0.40	FA	GRAV
COMLAB 236	0.76		491	-0.50	24	0.76	85	1.92	<b>144</b>	<b>-3.00</b>	514	-0.47	FA	GRAV
COMLAB 222	0.52		504	-0.10	23	0.51	74	0.02	1503	1.29	516	-0.39	FA	GRAV
COMLAB 230	0.66		520	0.37	20	-0.18	69	-0.82	1400	0.10	510	-0.61	PR,AR	DIBK
COMLAB 222	0.53		522	0.42	20	-0.09	72	-0.39	1397	0.06	531	0.12	AR	AAS
COMLAB 127	-1.06		505	-0.08	19	-0.41	74	0.03	<b>528</b>	<b>-3.00</b>	490	-1.31	PR,AR	ES
COMLAB 150	-0.68		472	-1.08	25	1.00	77	0.55	1460	0.79	506	-0.75	FA	GRAV
COMLAB 203	0.21		507	-0.02	<50	bld	<50	<b>-3.00</b>	1356	-0.41	496	-1.10	FA	GRAV
COMLAB 46	-2.40		448	-1.80	12	-2.05	63	-1.85	1184	-2.39	483	-1.56		
COMLAB 223	0.53		508	0.00	20	-0.16	71	-0.54	1324	-0.78	506	-0.74	AR	AAS
COMLAB 217	0.44		501	-0.19	19	-0.48	75	0.20	1378	-0.16	496	-1.10	AD	ES
COMLAB 225	0.57		488	-0.59	21	-0.01	77	0.61	1440	0.56	501	-0.93	FA	AAS
COMLAB 212	0.36		489	-0.56	26	1.14	71	-0.45	1388	-0.04	523	-0.16	FA,PR	AAS
COMLAB 224	0.56		501	-0.20	21	0.06	76	0.37	1377	-0.17	536	0.30	AR	AAS
COMLAB 141	-0.82		512	0.13	22	0.29	72	-0.31	1570	2.05	564	1.28	AR	AAS
COMLAB 234	0.72		514	0.19	<b>142</b>	<b>3.00</b>	<b>118</b>	<b>3.00</b>	1460	0.79	538	0.37	PR,AR	AAS
COMLAB 121	-1.16		519	0.34	<b>46</b>	<b>3.00</b>	77	0.55	1290	-1.17	557	1.03	AR	AAS
COMLAB 195	0.08		446	-1.86	23	0.60	66	-1.41	1452	0.70	531	0.13	PR,AR	AAS
COMLAB 160	-0.51		525	0.52	20	-0.18	75	0.20	1500	1.25	530	0.09	PR,AR	AAS
COMLAB 223	0.54		497	-0.32	20	-0.18	70	-0.65	1420	0.33	524	-0.12	FA	GRAV
COMLAB 192	0.02		488	-0.59	20	-0.11	71	-0.55	1460	0.79	539	0.40	PR,FUS	ES
COMLAB 151	-0.66		556	1.46	21	0.06	82	1.40	1352	-0.46	547	0.68	PR,AR	AAS
COMLAB 230	0.66		545	1.12	22	0.29	76	0.37	1440	0.56	528	0.02	AD	AAS
MINELAB 21	-2.82		525	0.52	12	-2.05	77	0.55	1270	-1.40	593	2.30	PR,AR	AAS
MINELAB 170	-0.34		503	-0.13	20	-0.10	68	-1.03	1292	-1.15	511	-0.57	PR,AR	AAS
MINELAB 285	1.57		<b>211</b>	<b>-3.00</b>	<b>56</b>	<b>3.00</b>	<b>40</b>	<b>-3.00</b>	<b>802</b>	<b>-3.00</b>	<b>242</b>	<b>-3.00</b>		GRAV
MINELAB 230	0.66		514	0.19	21	-0.06	71	-0.43	1367	-0.28	530	0.09	AR	AAS
MINELAB 100	-1.51		<b>299</b>	<b>-3.00</b>	bld	bld	bld	bld	<b>2676</b>	<b>3.00</b>	<b>190</b>	<b>-3.00</b>	FA	GRAV
MINELAB 234	0.73		558	1.52	24	0.73	83	1.53	1357	-0.40	513	-0.52	FA	GRAV
MINELAB 215	0.40		476	-0.96	<b>131</b>	<b>3.00</b>	79	0.92	1402	0.12	472	-1.94	FA	GRAV
MINELAB 234	0.72		533	0.76	18	-0.64	62	-2.02	1449	0.66	532	0.16	FA	GRAV
MINELAB 225	0.57		494	-0.41	25	1.00	70	-0.65	1382	-0.11	517	-0.37	FA	GRAV
MINELAB 101	-1.49		521	0.40	18	-0.64	68	-0.99	1497	1.21	542	0.51	AR	AAS
MINELAB 163	-0.46		586	2.36	24	0.76	74	0.03	1434	0.49	589	2.16	PR,AR	AAS
MINELAB 93	-1.62		432	-2.28	11	-2.28	<b>56</b>	<b>-3.00</b>	1199	-2.22	<b>406</b>	<b>-3.00</b>	PR,AR	AAS
MINELAB 309	1.97		<b>1207</b>	<b>3.00</b>	nr	nr	<b>2320</b>	<b>3.00</b>	nr	nr	<b>1450</b>	<b>3.00</b>	FA	GRAV
MINELAB 160	-0.51		522	0.43	<100	bld	<100	bld	1429	0.43	536	0.30	AR	AAS
MINELAB 165	-0.42		539	0.95	23	0.43	79	0.85	1450	0.67	541	0.48	AR	AAS
MINELAB 86	-1.74		463	-1.35	21	0.06	74	0.03	<b>1071</b>	<b>-3.00</b>	<b>385</b>	<b>-3.00</b>	AR	AAS
MINELAB 244	0.89		557	1.49	31	2.40	87	2.26	<b>864</b>	<b>-3.00</b>	558	1.07	PR,AR	AAS
MINELAB 99	-1.52		433	-2.25	<b>35</b>	<b>3.00</b>	73	-0.14	<b>839</b>	<b>-3.00</b>	<b>343</b>	<b>-3.00</b>	PR,AR	AAS
MINELAB 84	-1.78		<b>193</b>	<b>-3.00</b>	<b>63</b>	<b>3.00</b>	<b>30</b>	<b>-3.00</b>	<b>198</b>	<b>-3.00</b>	<b>677</b>	<b>3.00</b>	FA	GRAV
MINELAB 215	0.41		496	-0.35	18	-0.64	66	-1.34	1393	0.01	508	-0.68	FA	GRAV
MINELAB 118	-1.21		505	-0.08	13	-1.82	75	0.20	1258	-1.54	468	-2.08	PR,AR	
MINELAB 162	-0.48		510	0.07	29	1.93	80	1.06	1390	-0.02	520	-0.26	AR	AAS
MINELAB 155	-0.60		510	0.07	23	0.57	78	0.73	1346	-0.53	512	-0.55	AR	AAS
MINELAB 326	2.25		<b>642</b>	<b>3.00</b>	25	1.00	<b>127</b>	<b>3.00</b>	1197	-2.24	<b>959</b>	<b>3.00</b>	FA	GRAV
MINELAB 215	0.41		493	-0.44	16	-1.11	69	-0.82	1360	-0.37	502	-0.89	3A	AAS

Highlighted values are outliers which are assigned a z-score of -3.00 or 3.00 in the standardised values. Insufficient reliable results were received for the highlighted material. These results do not contribute to the error charts.

Standard Deviations



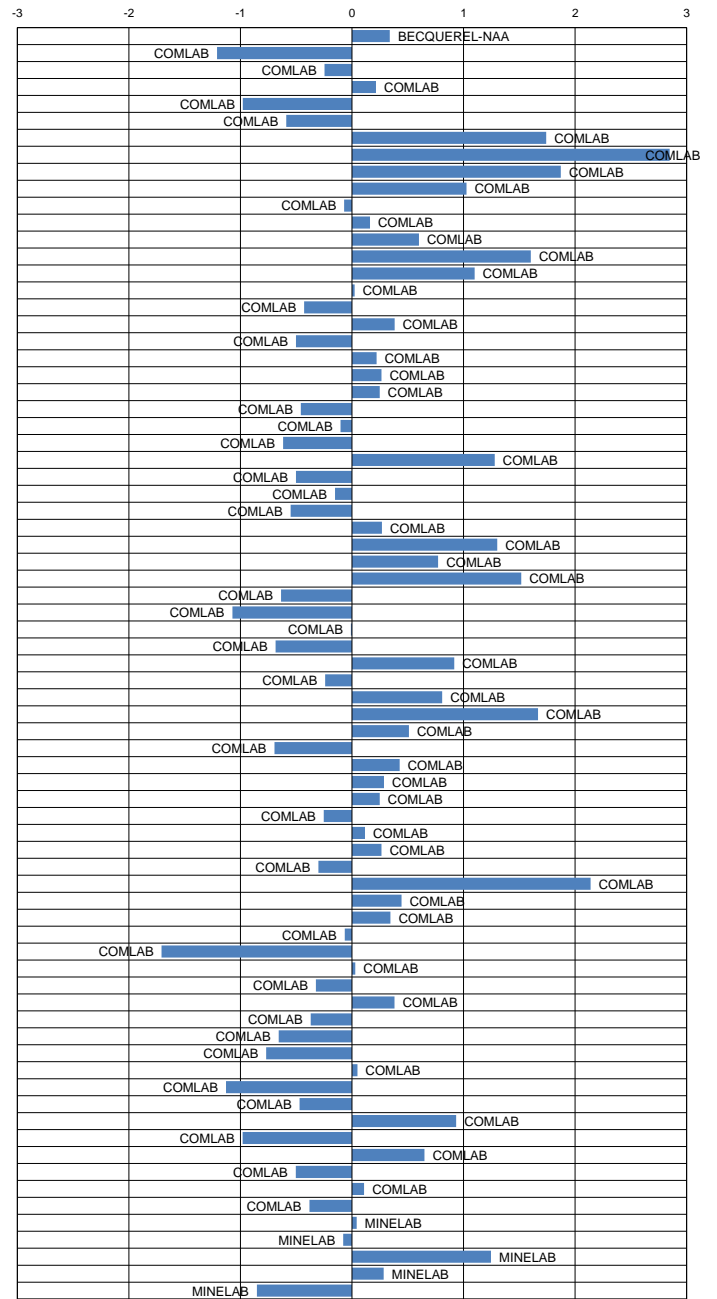
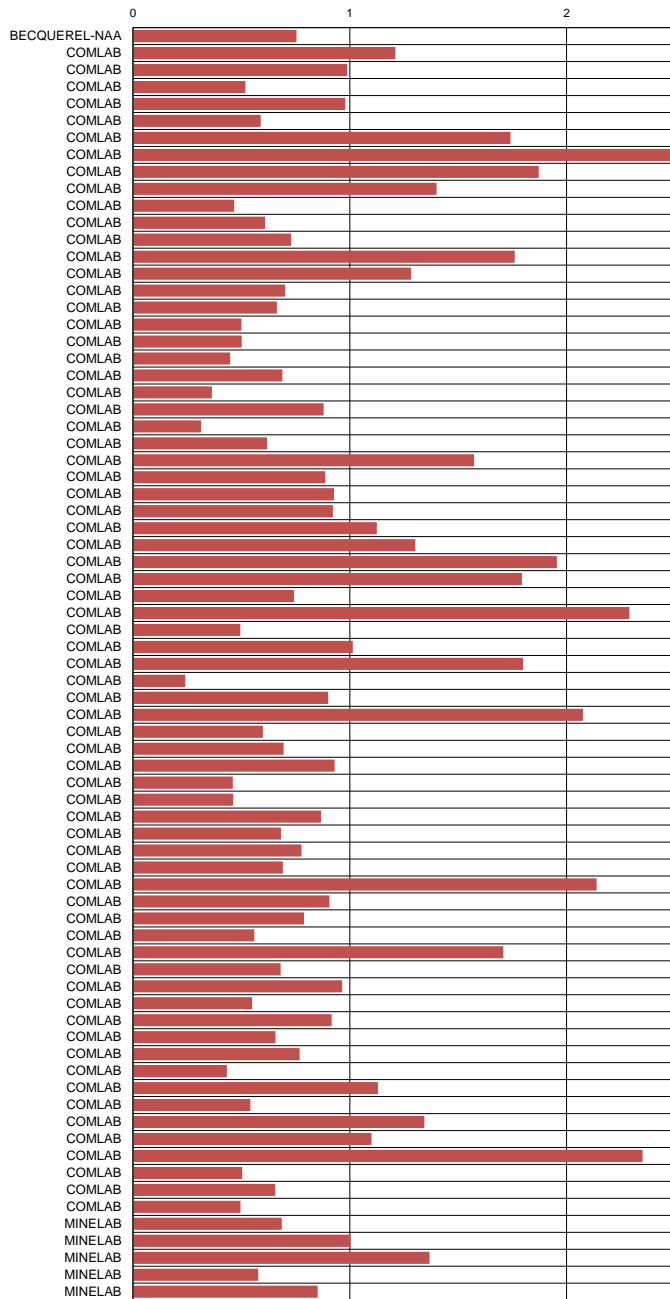
Standard Deviations





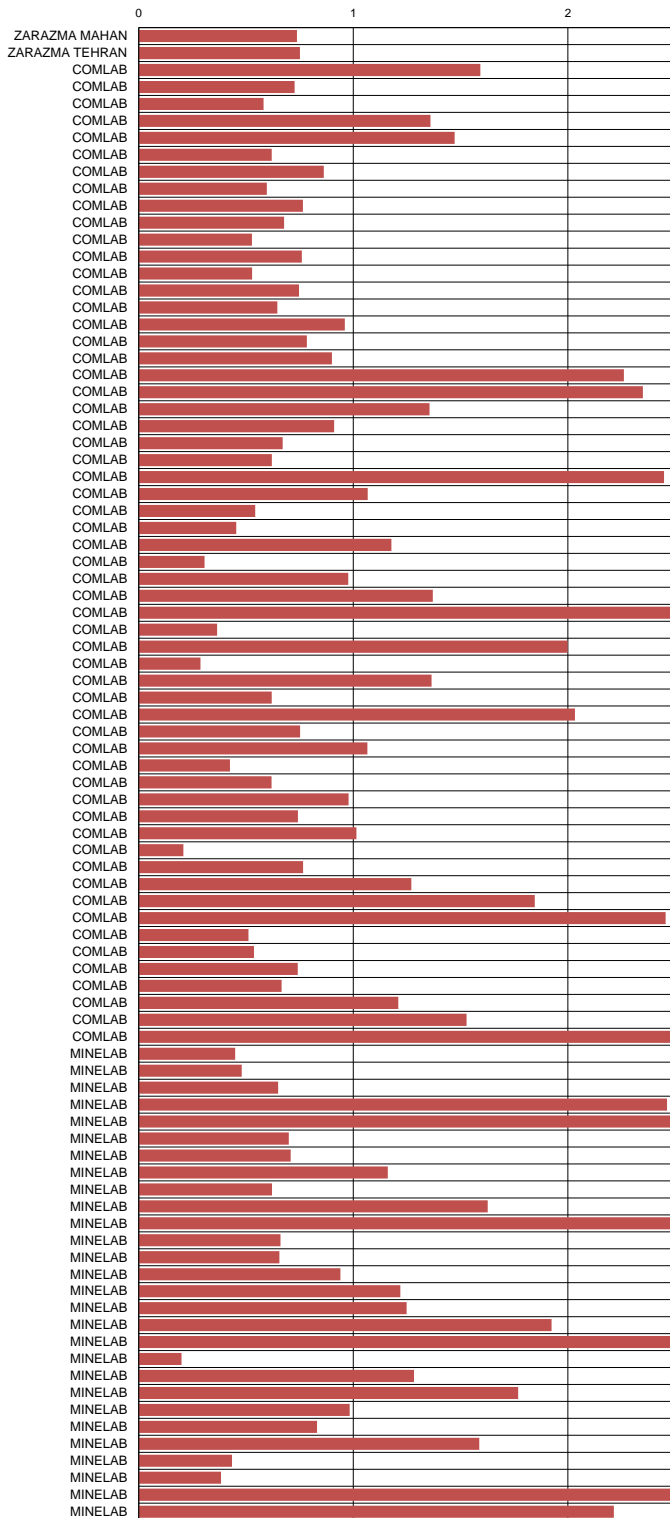
Standard Deviations

Standard Deviations

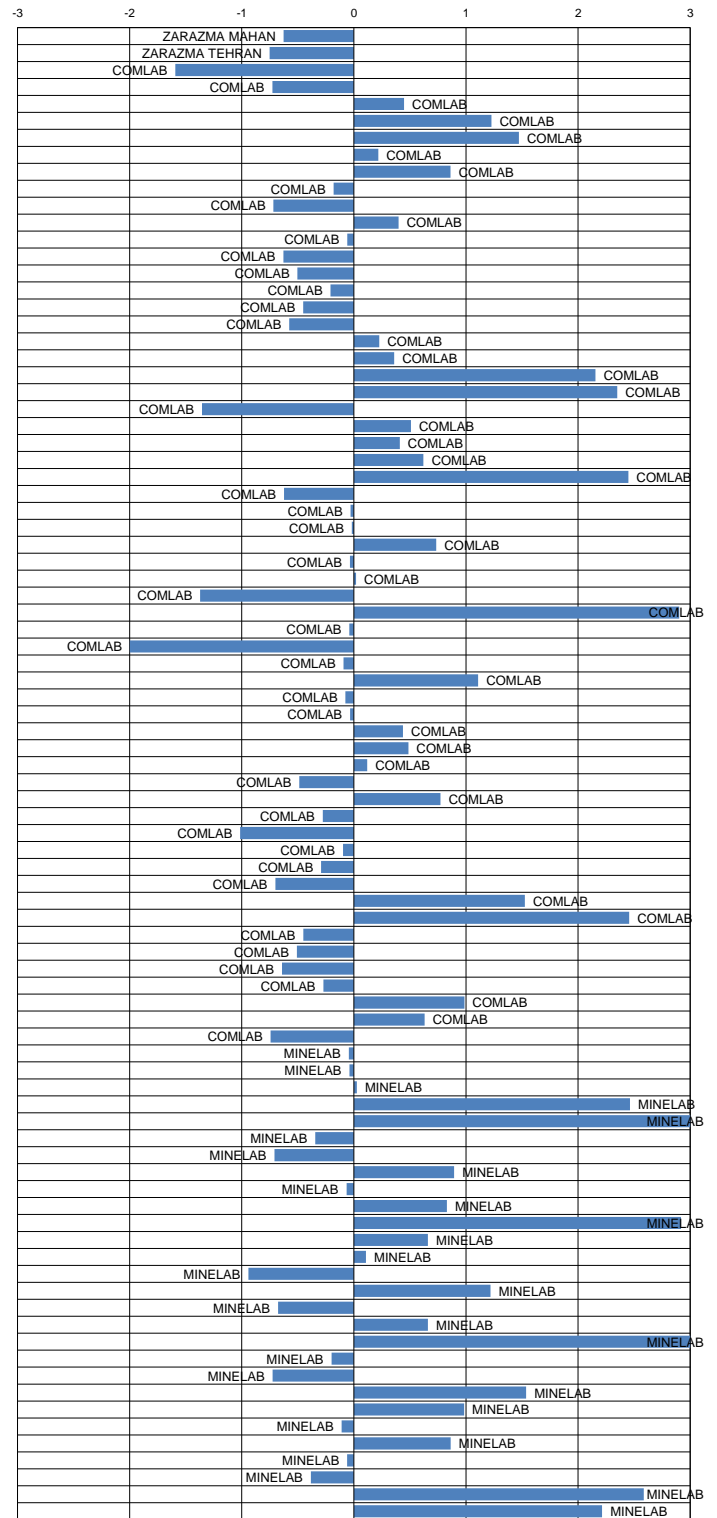




Standard Deviations



Standard Deviations

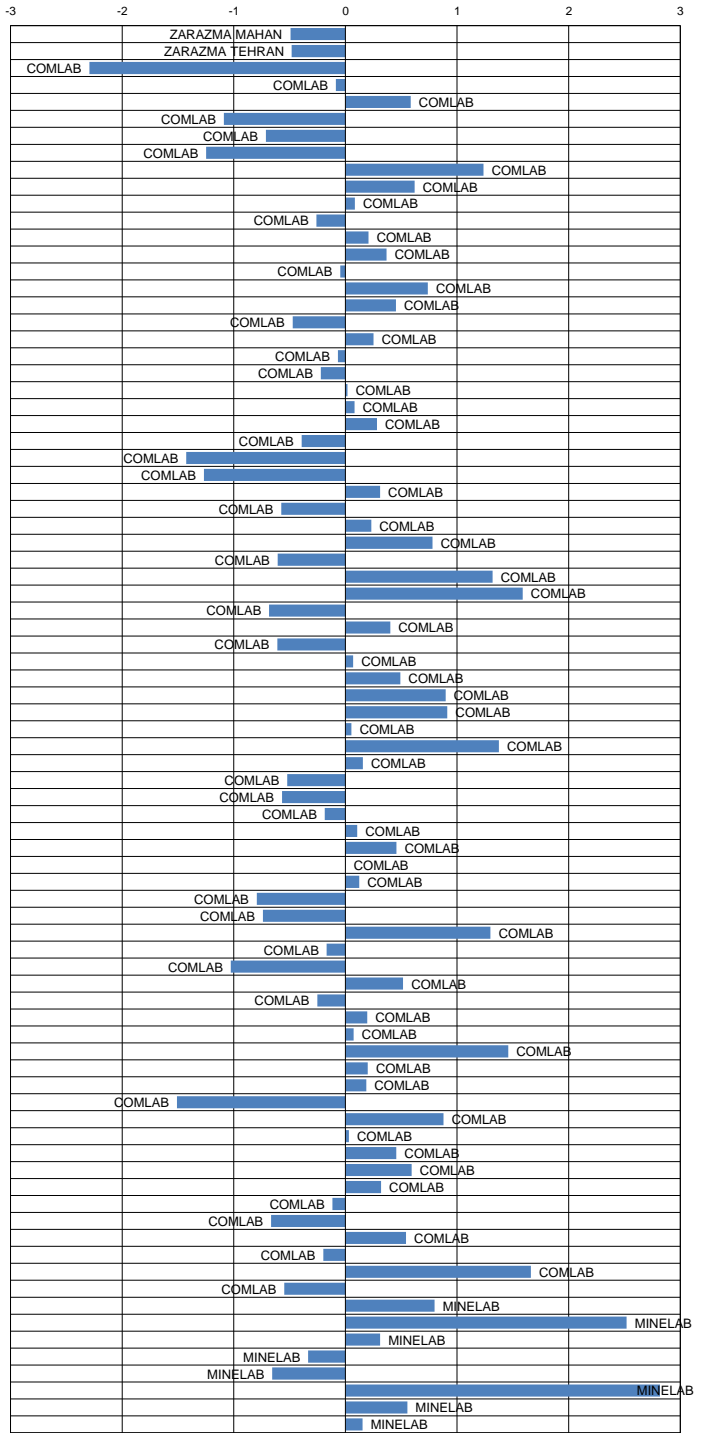
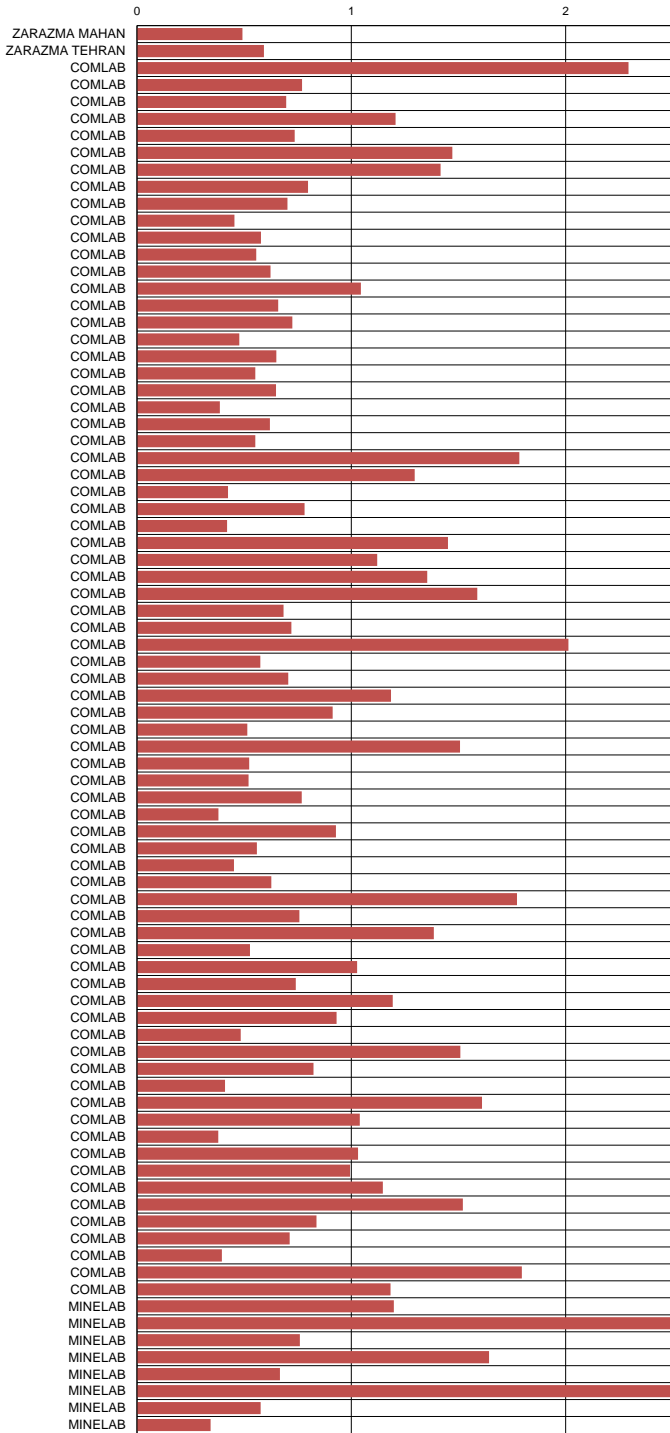






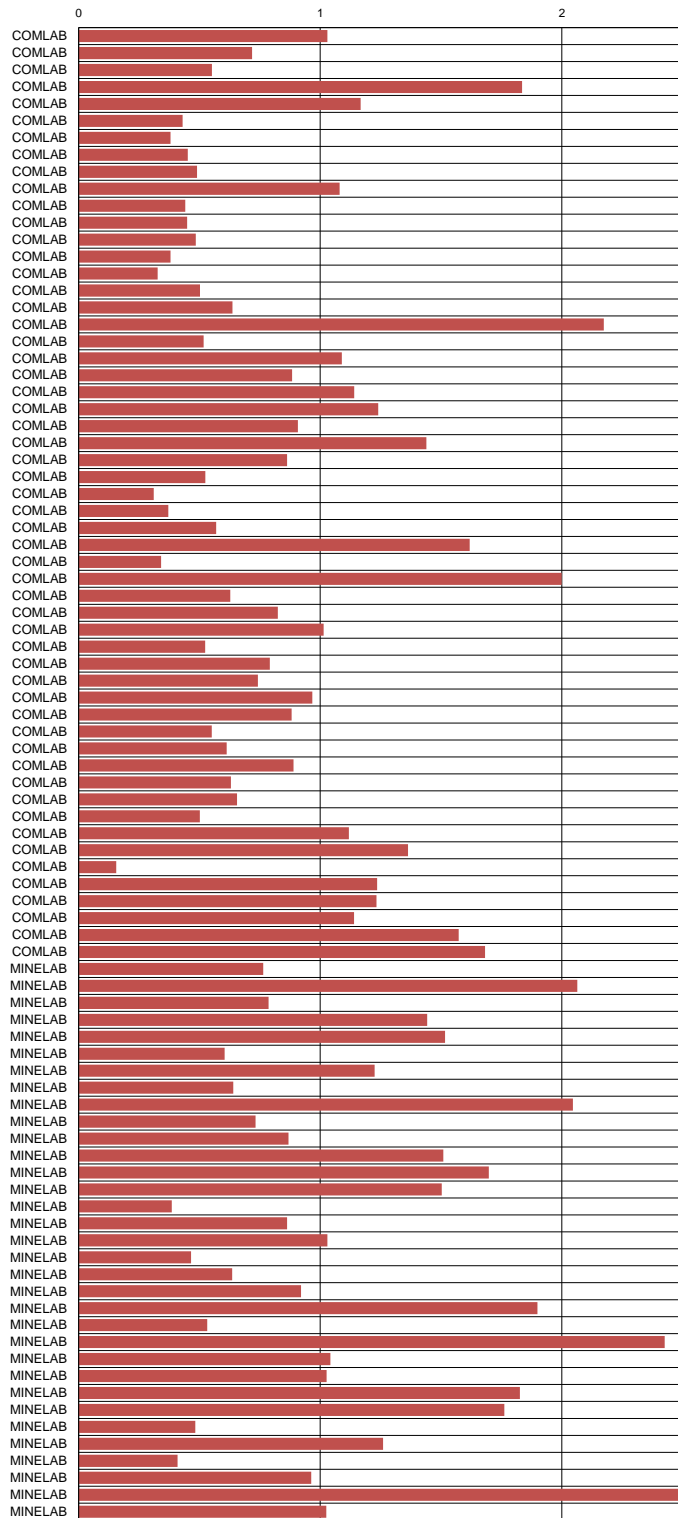
Standard Deviations

Standard Deviations

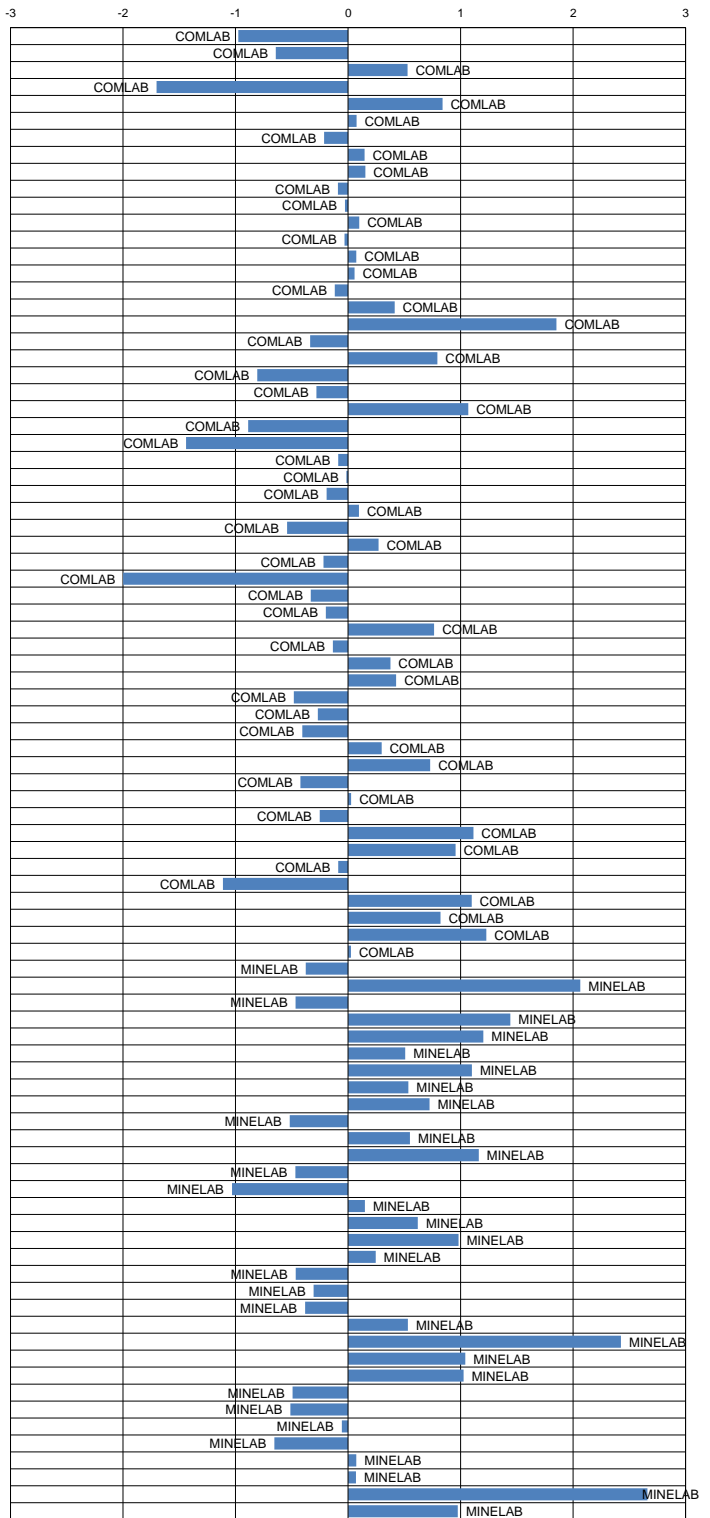




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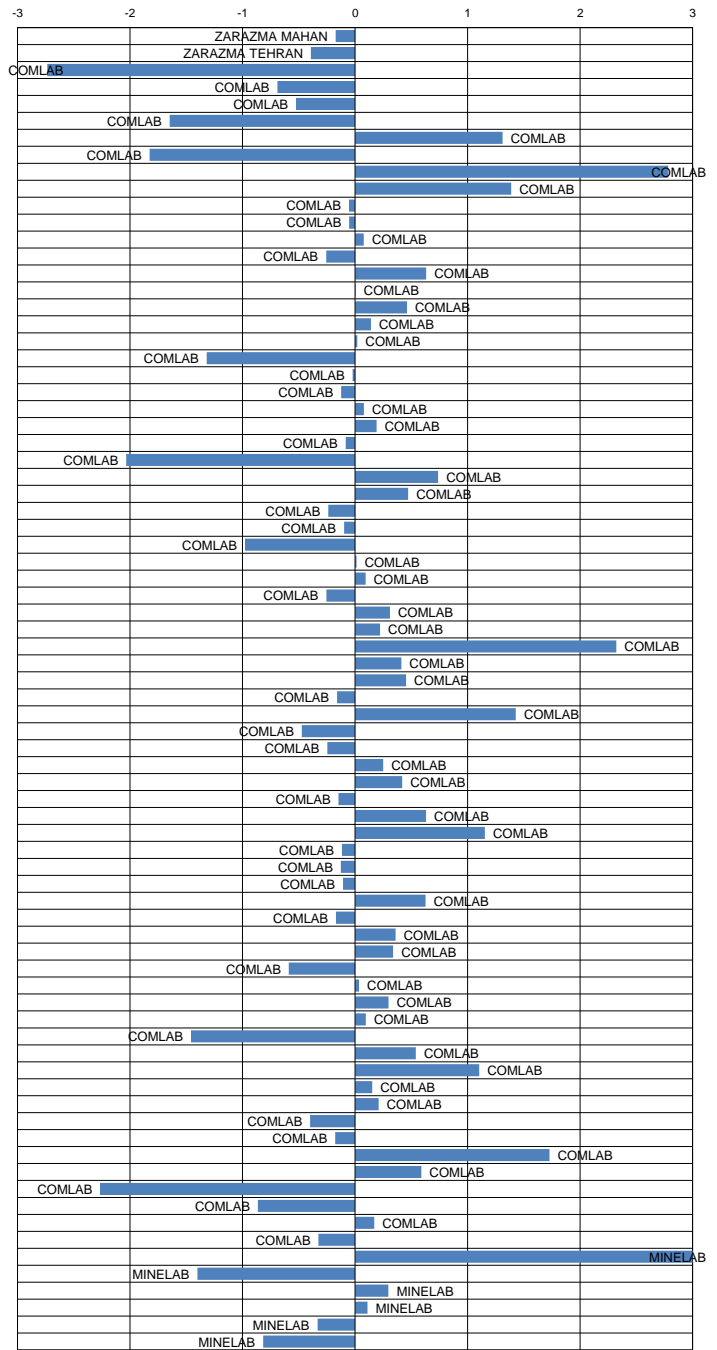
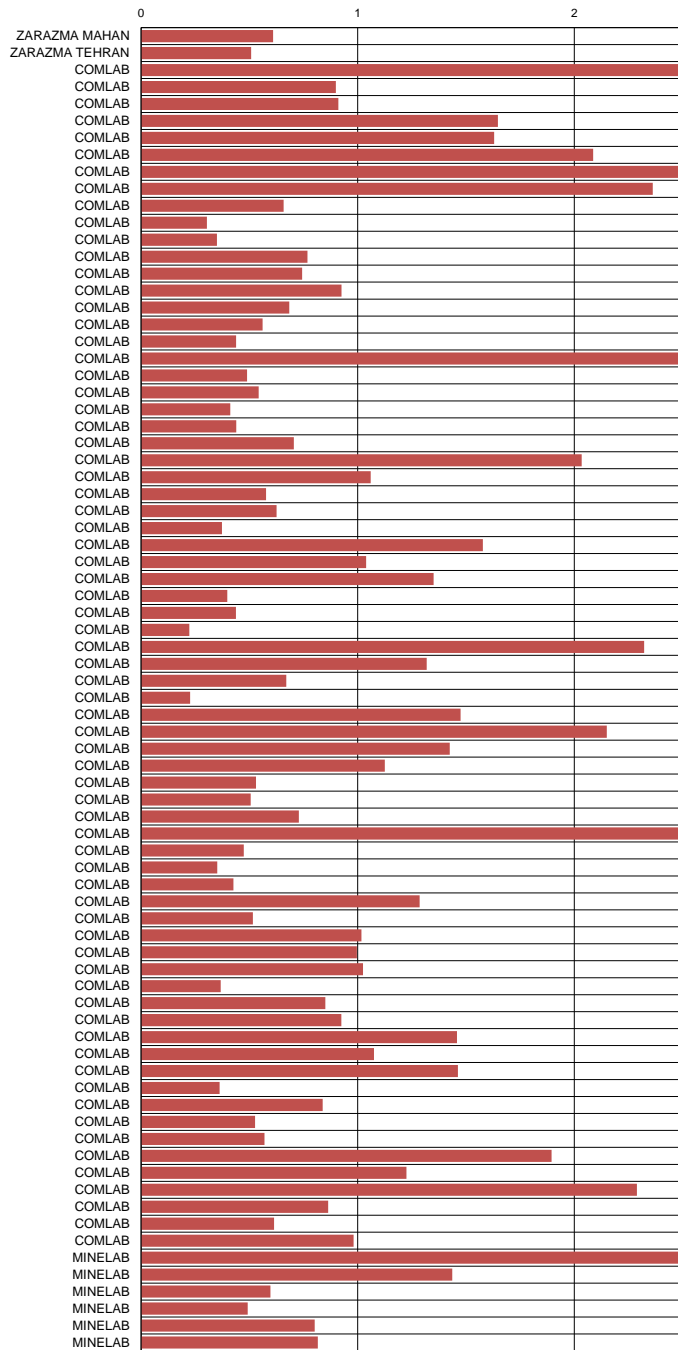
Standard Deviations





Standard Deviations

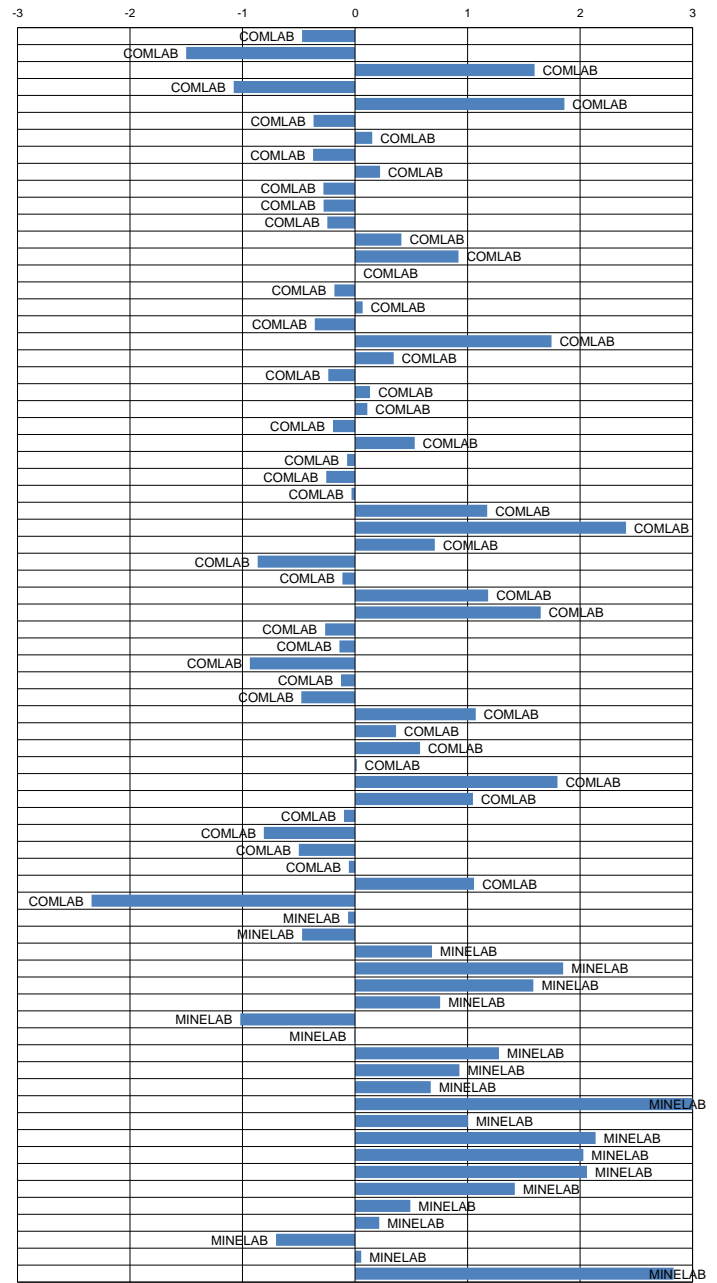
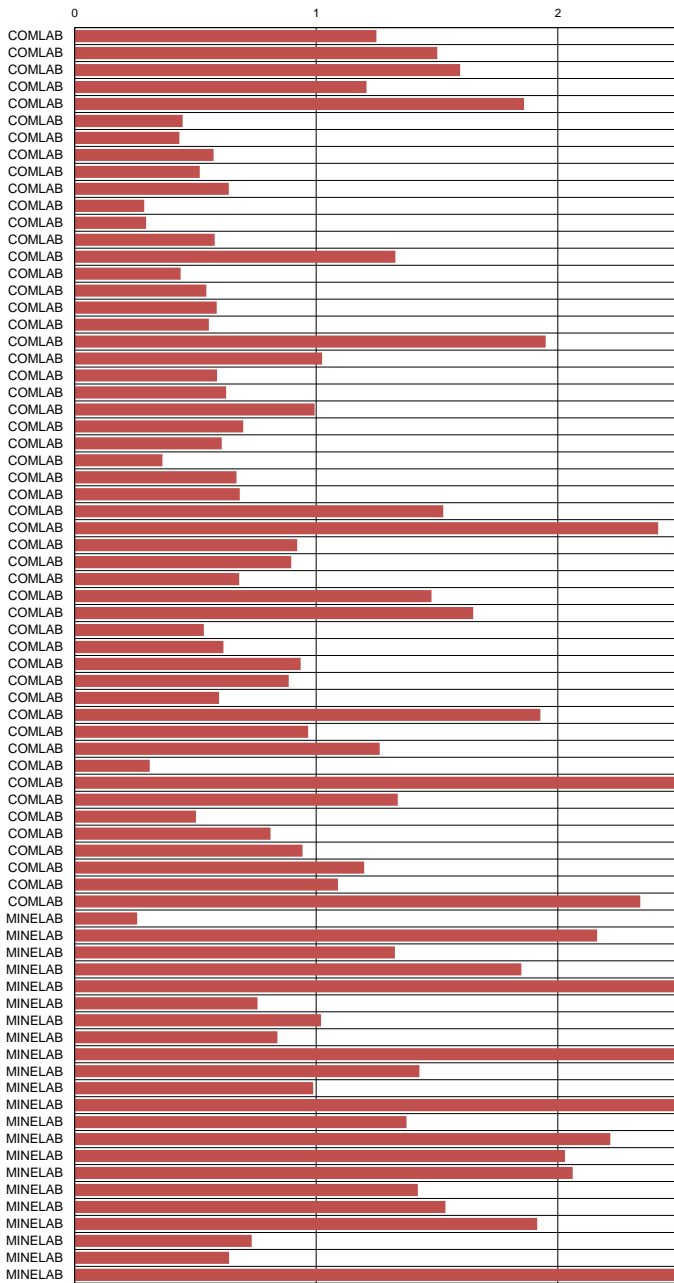
Standard Deviations





Standard Deviations

Standard Deviations





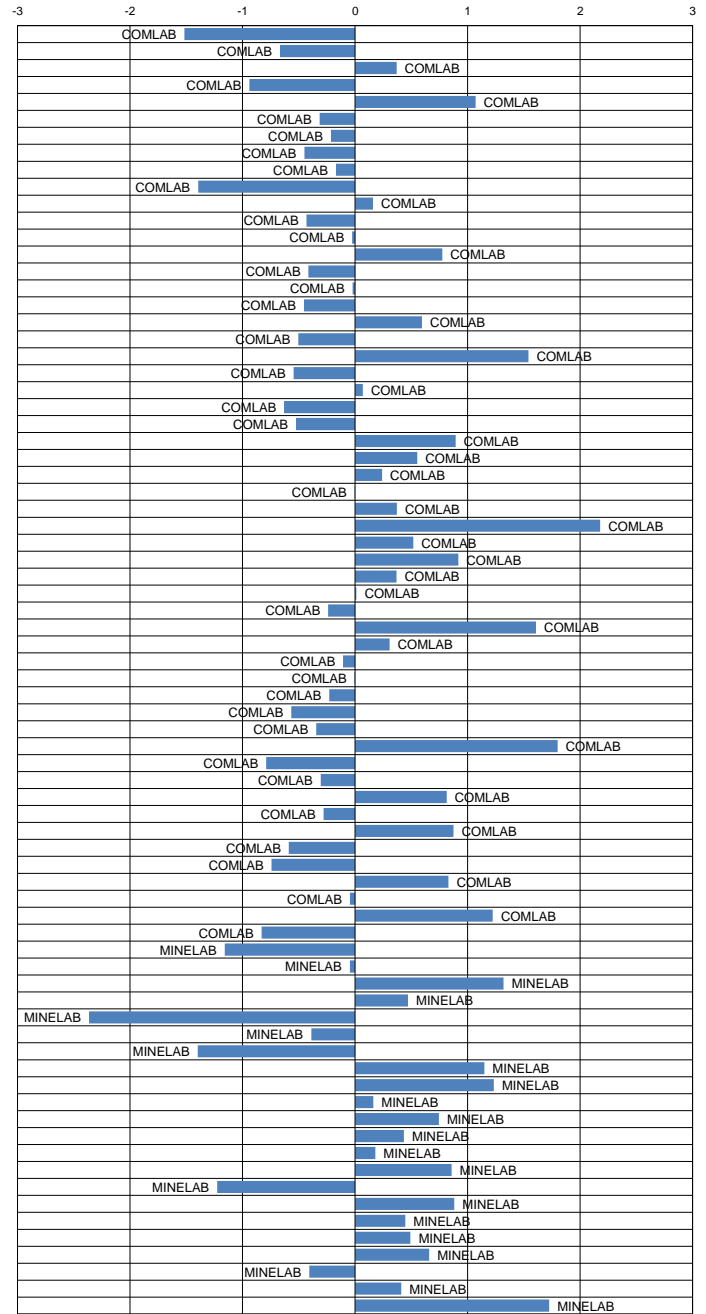
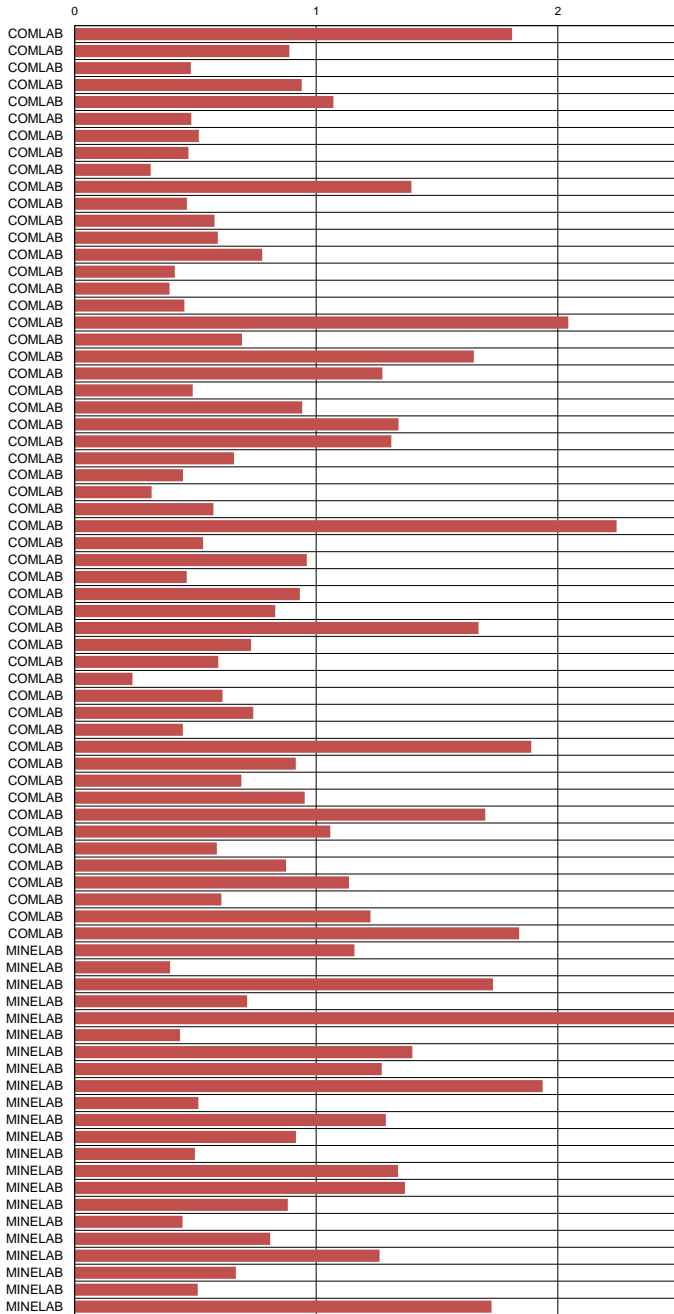






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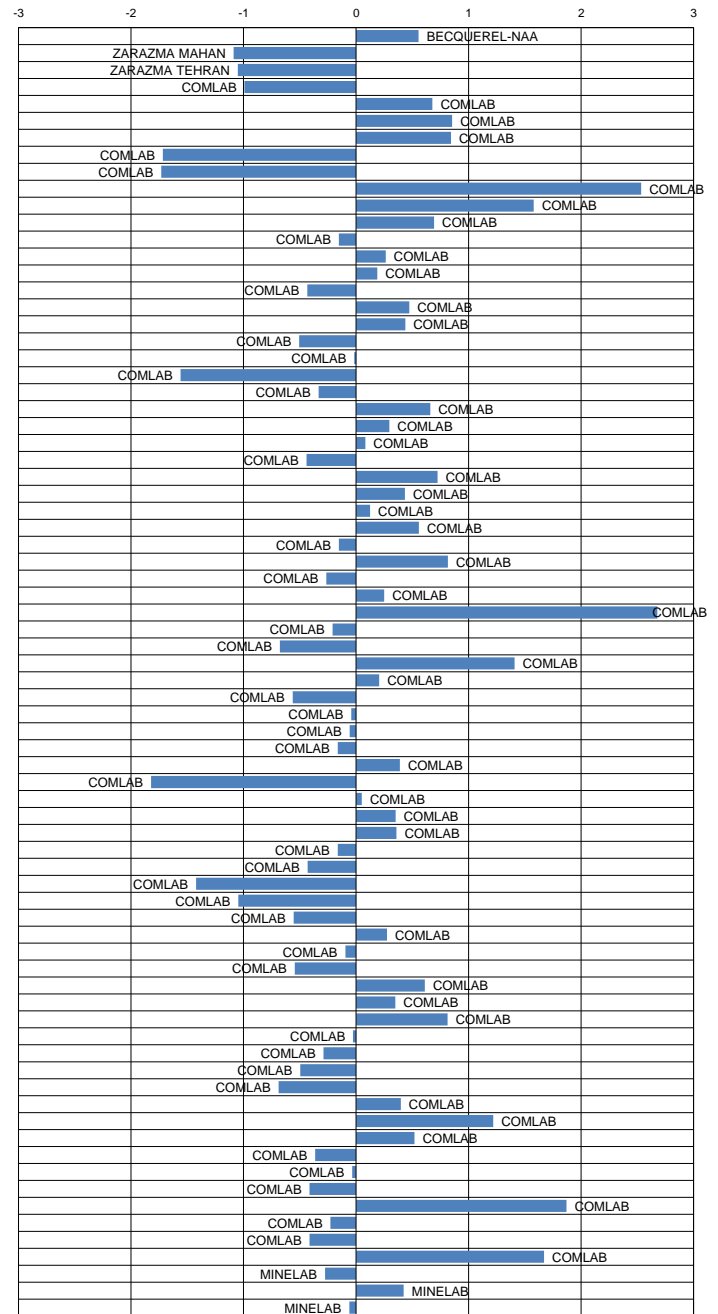
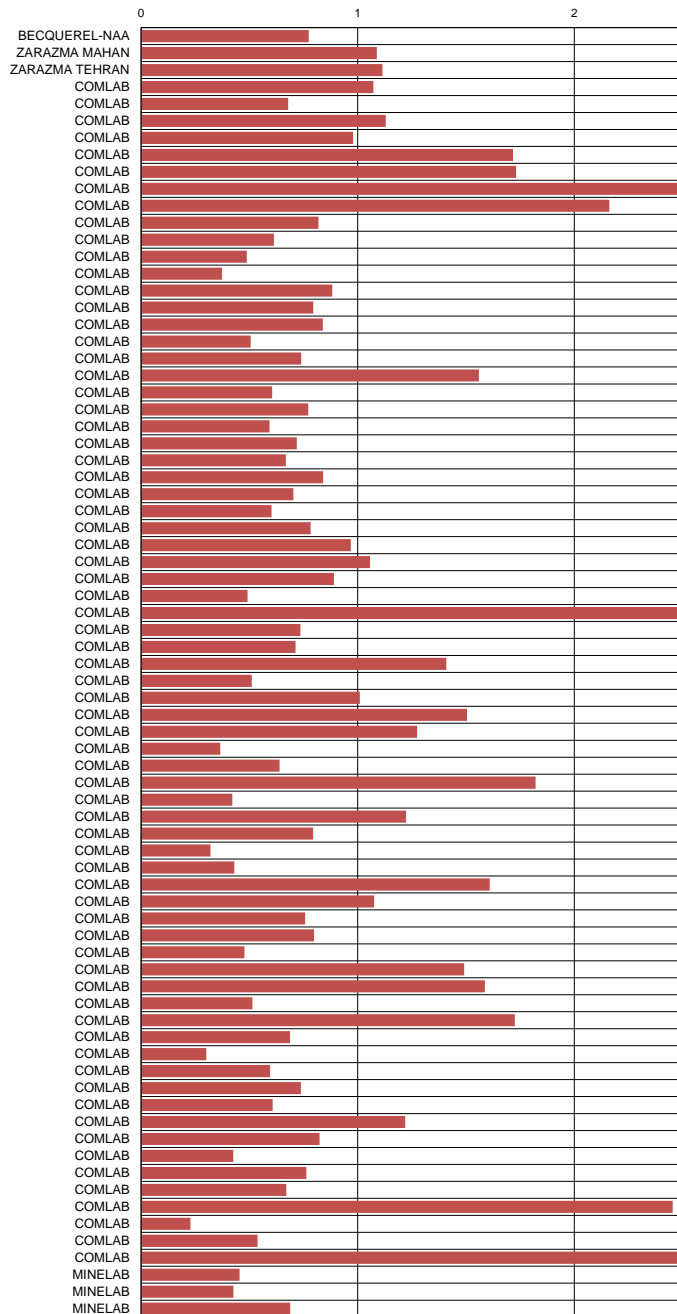
Standard Deviations





Standard Deviations

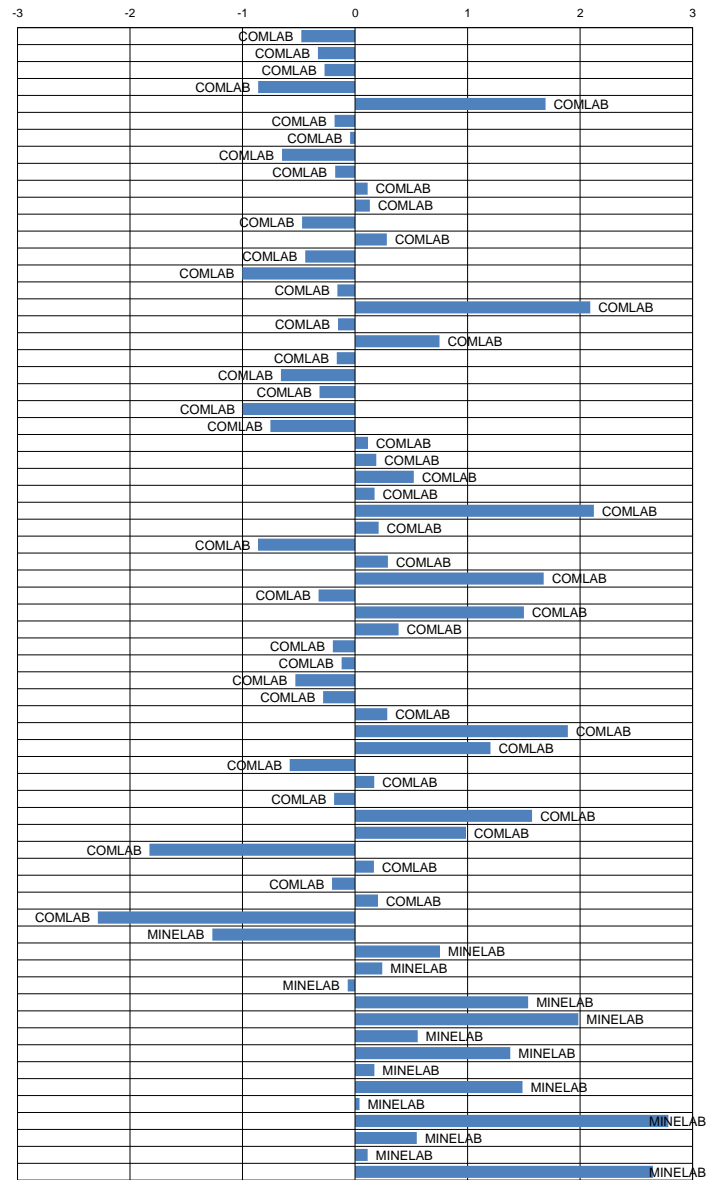
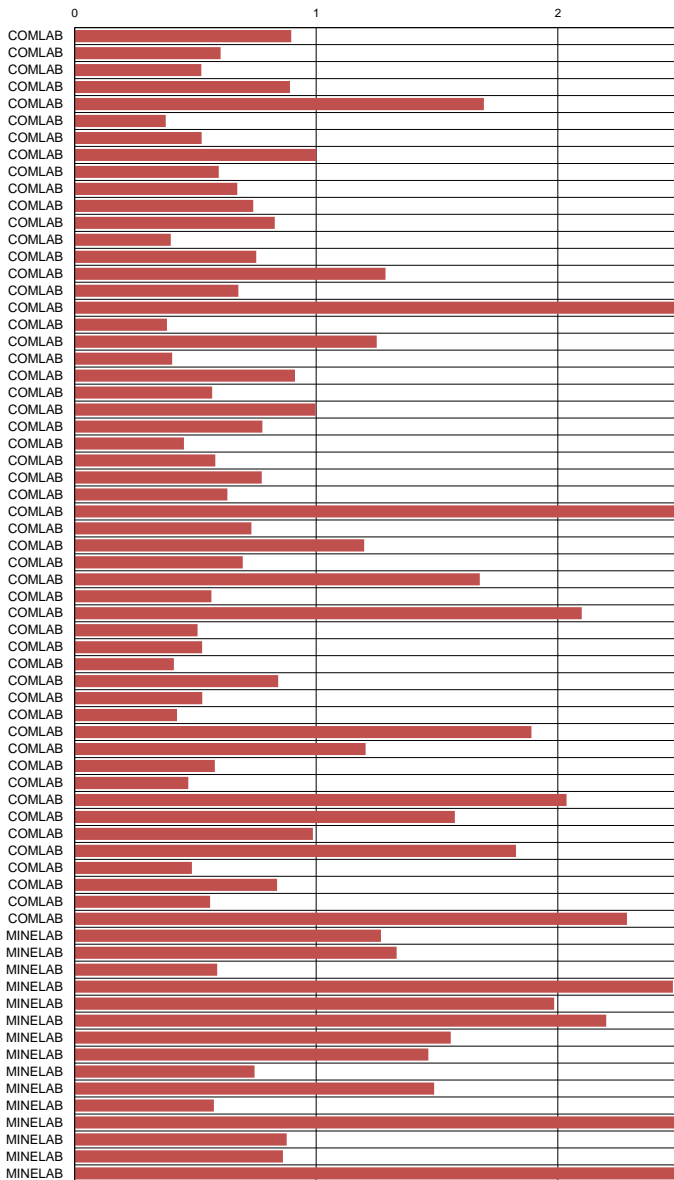
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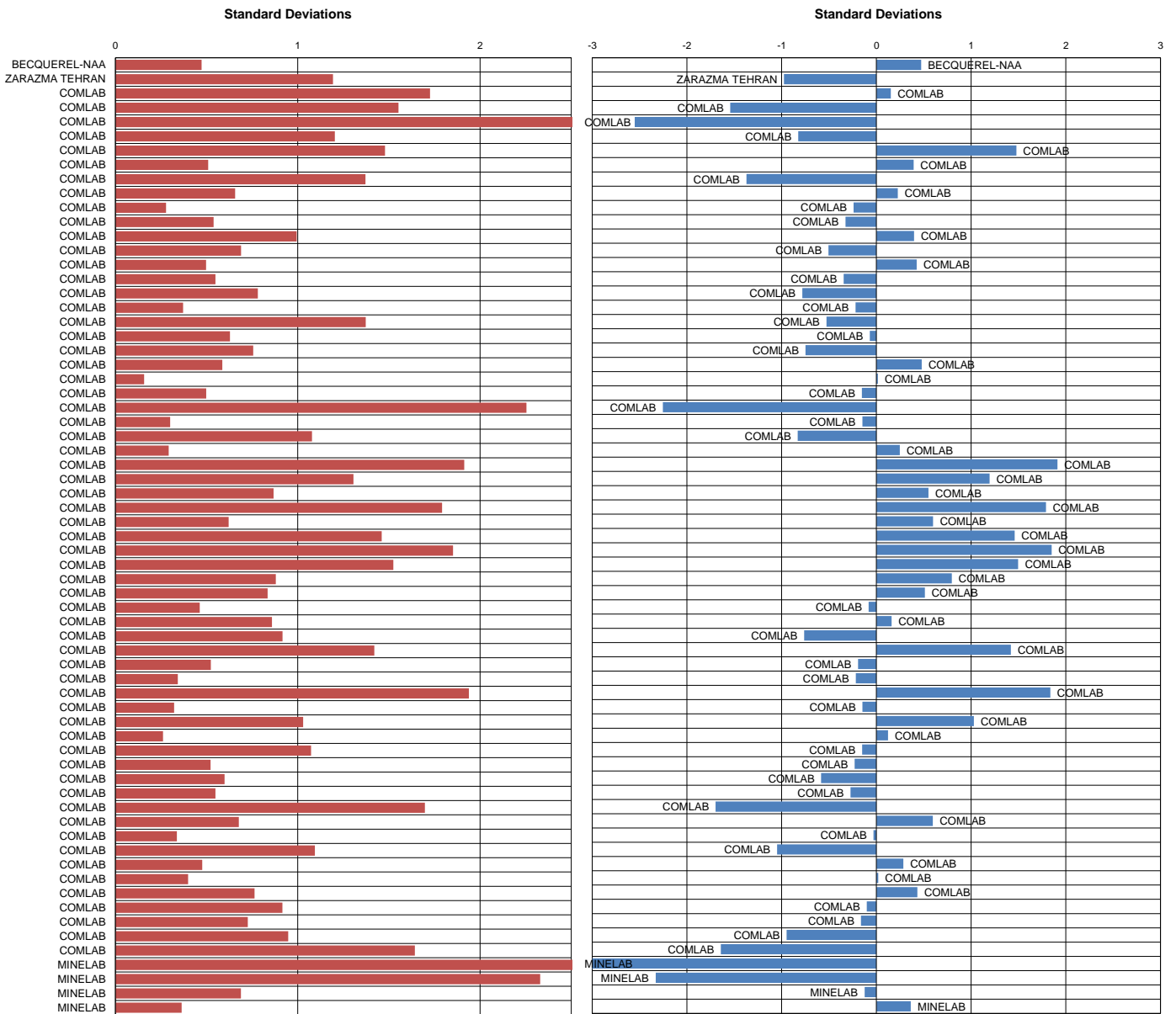
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Standard Deviations





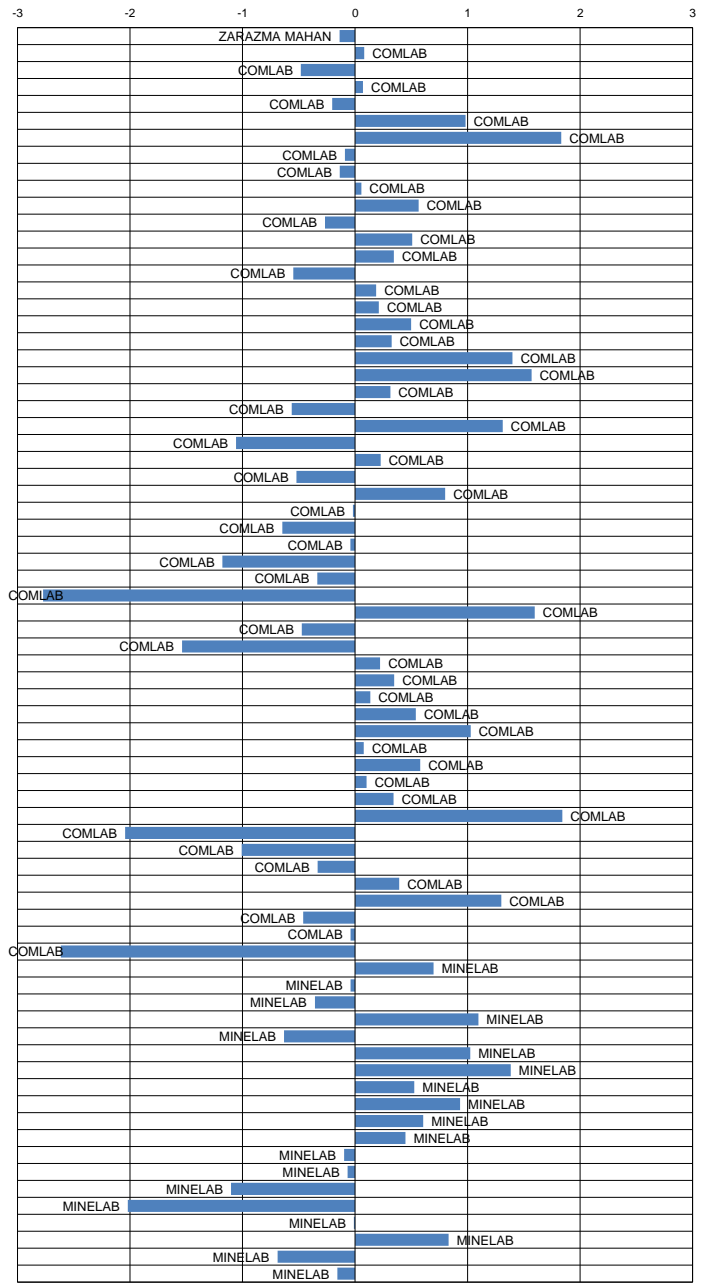
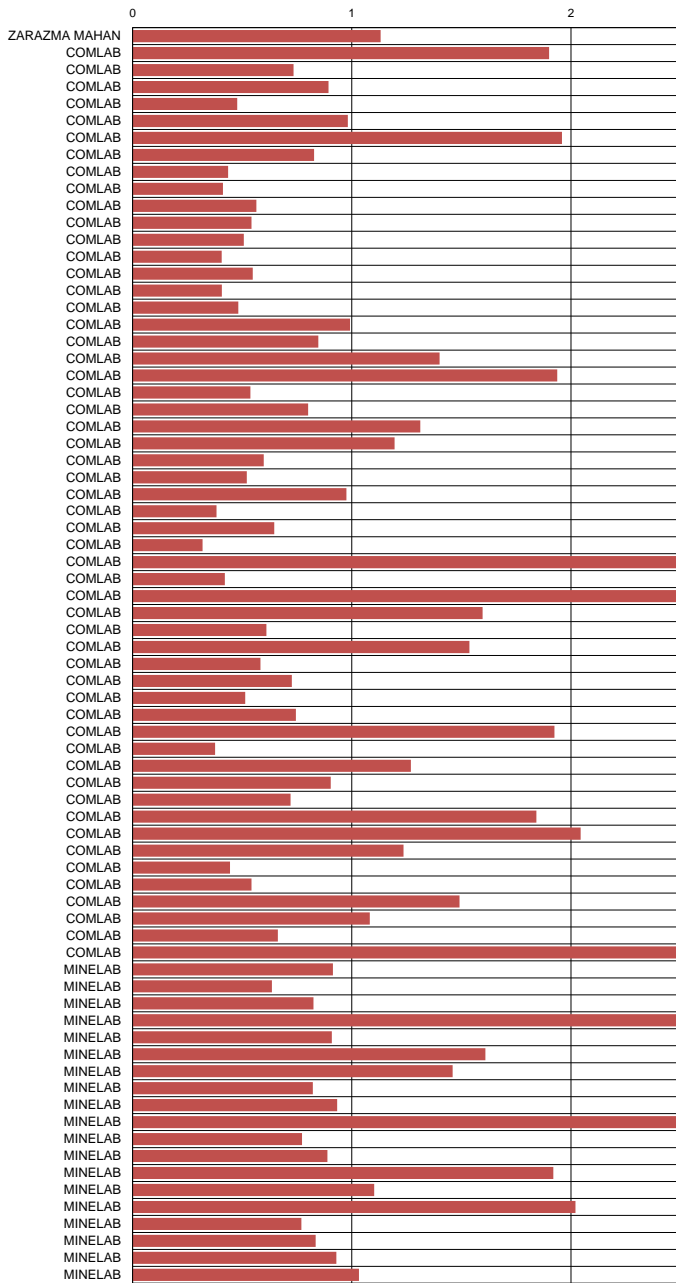






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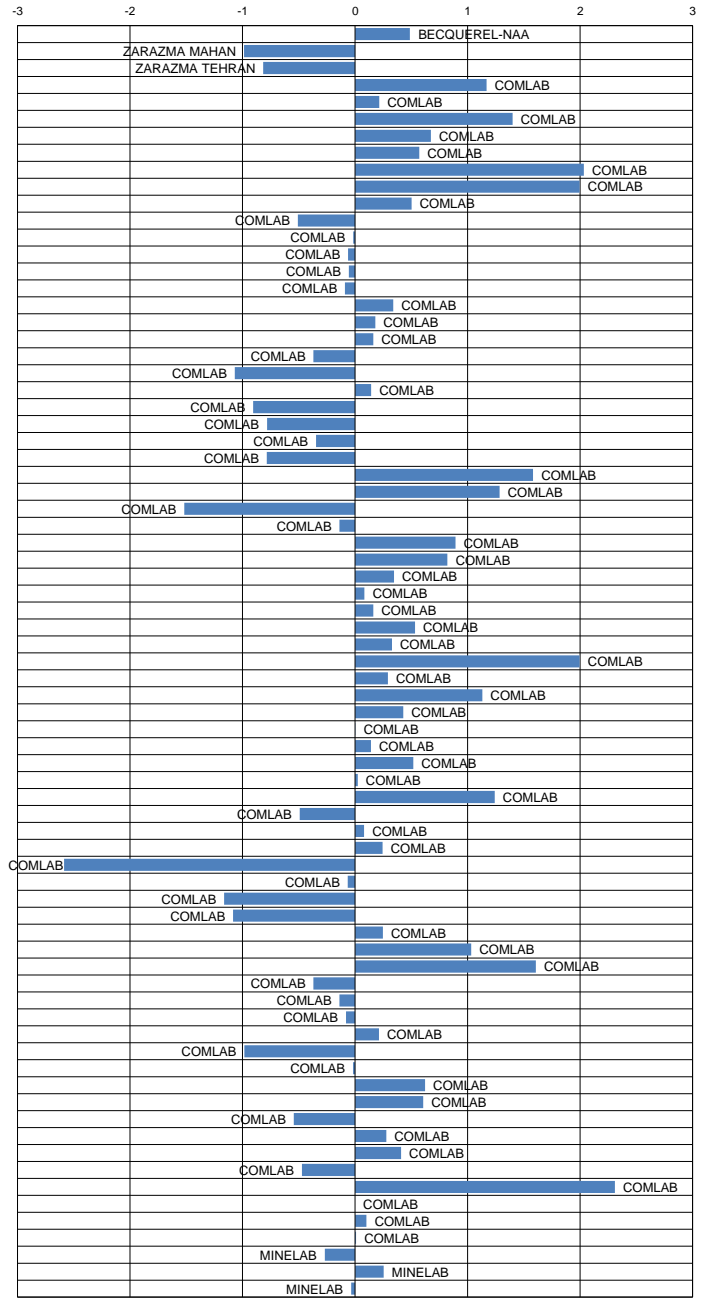
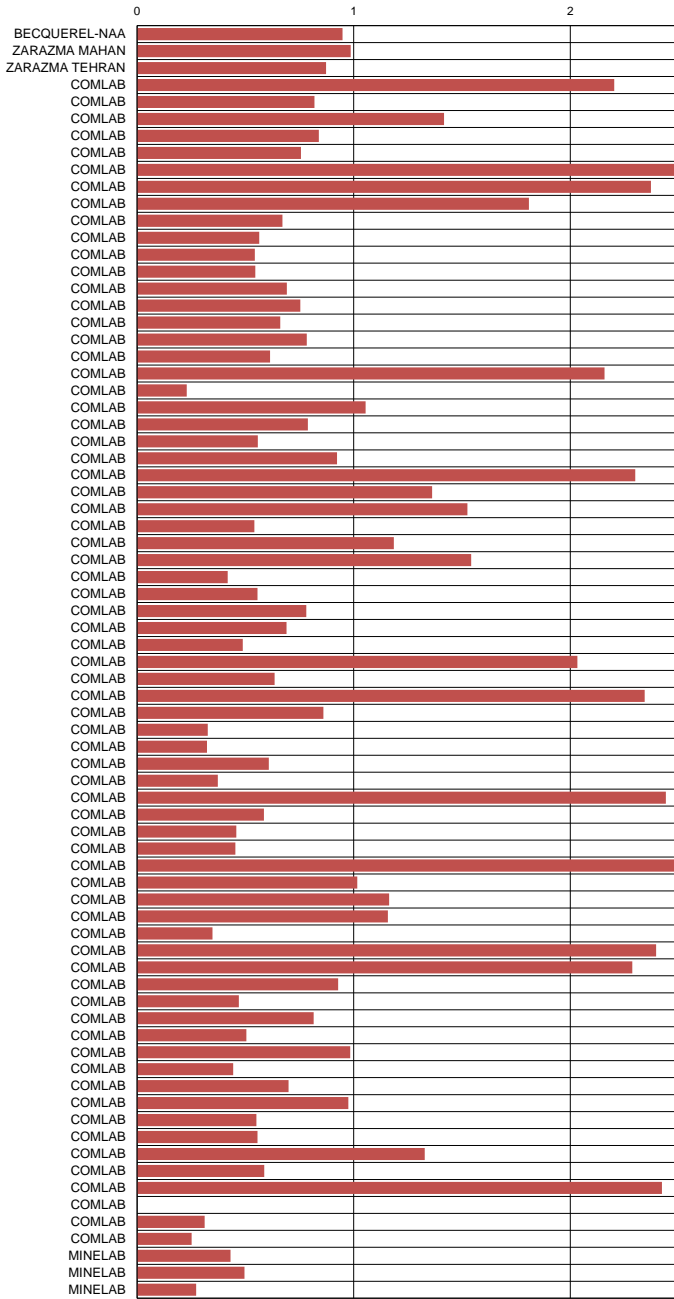
Standard Deviations





Standard Deviations

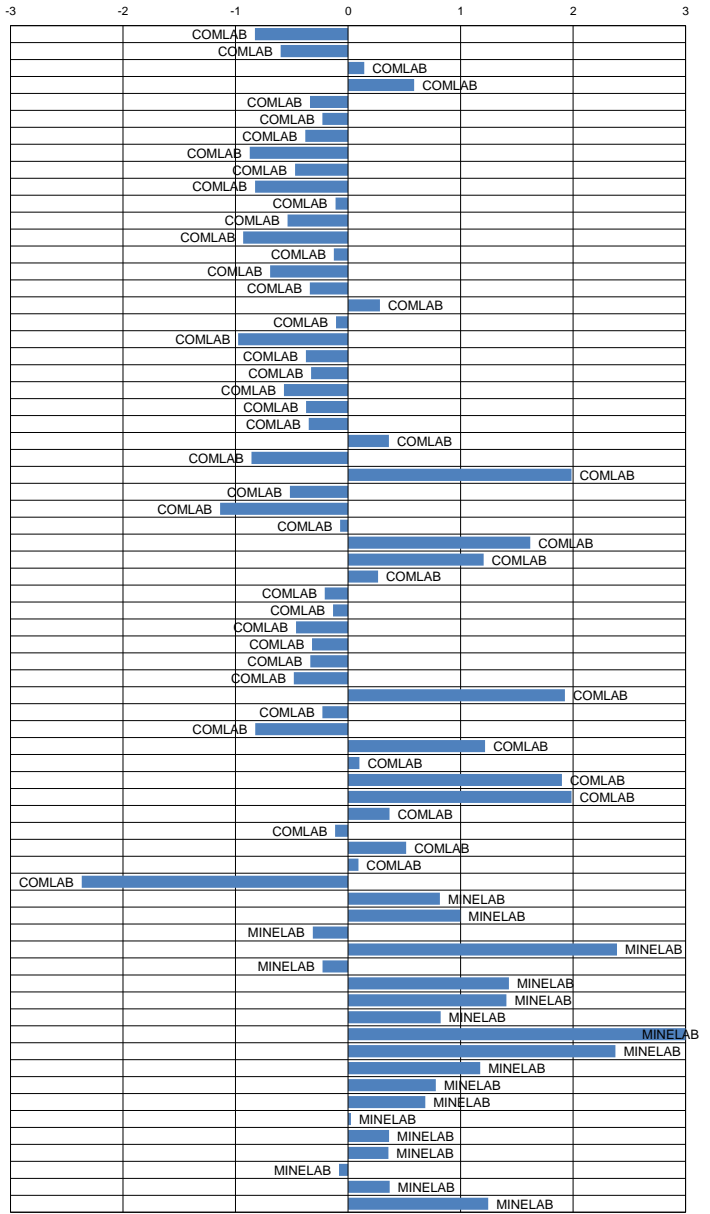
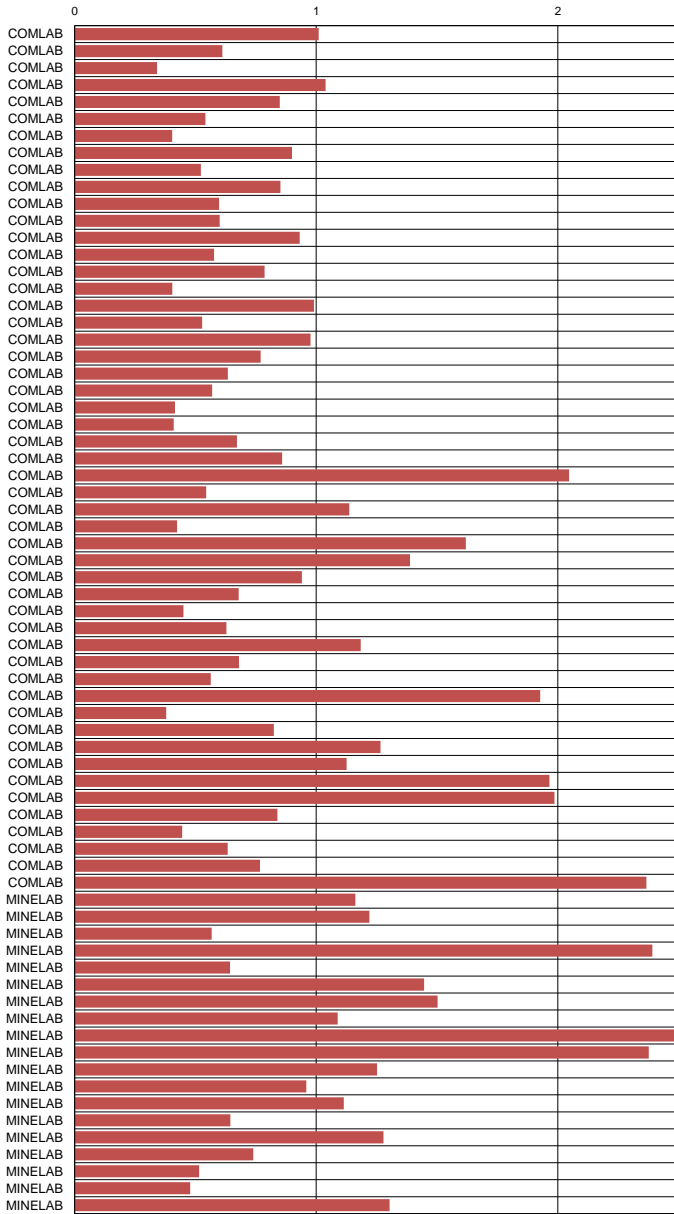
Standard Deviations





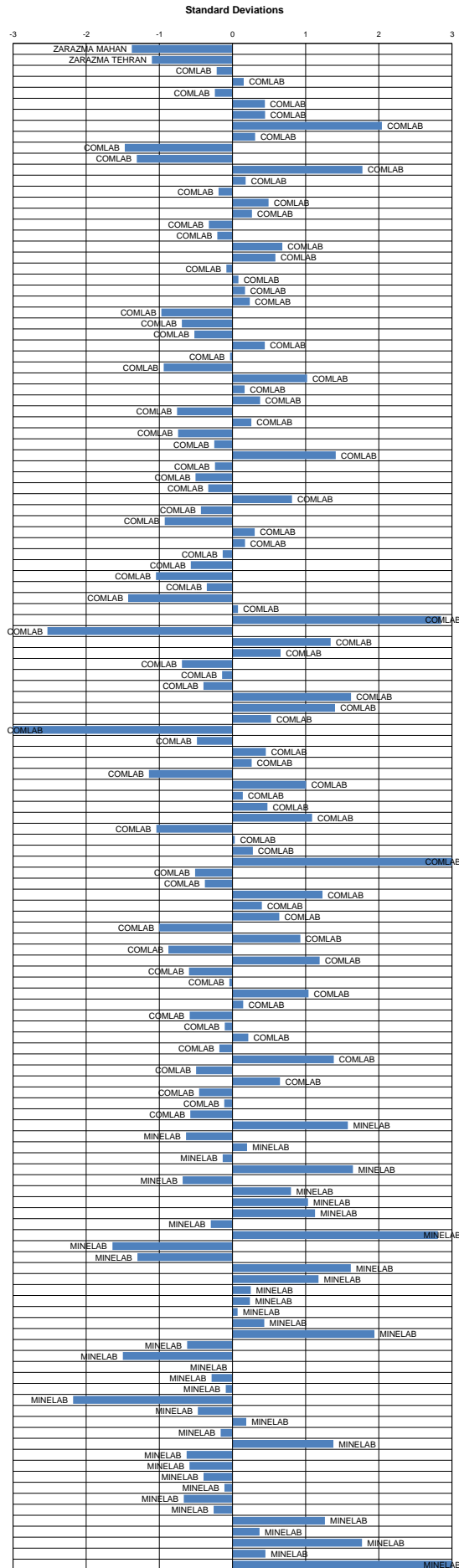
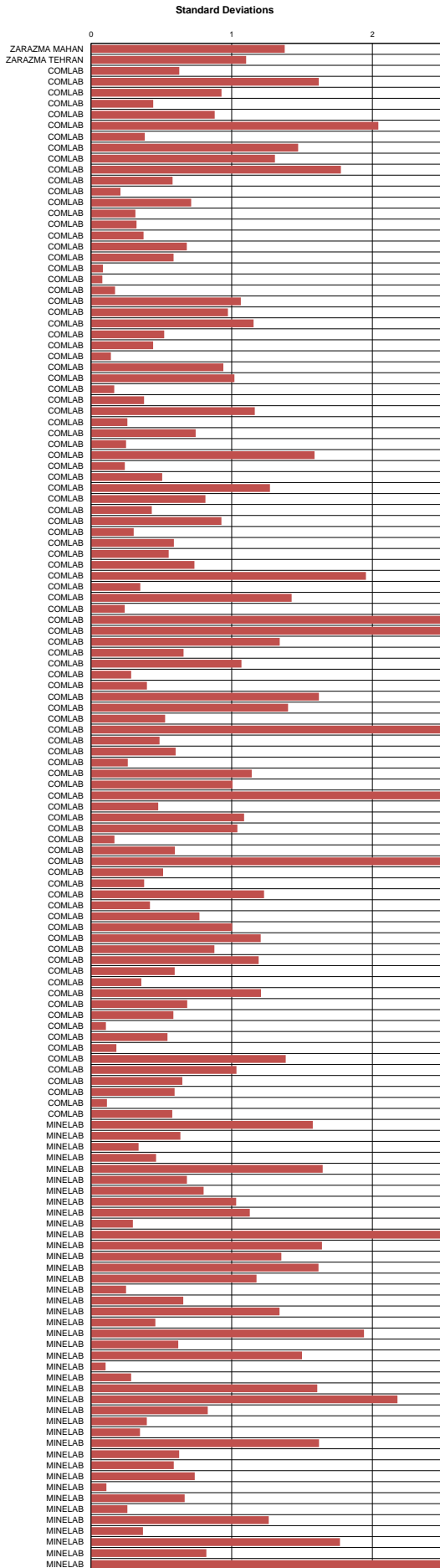
Standard Deviations

Standard Deviations

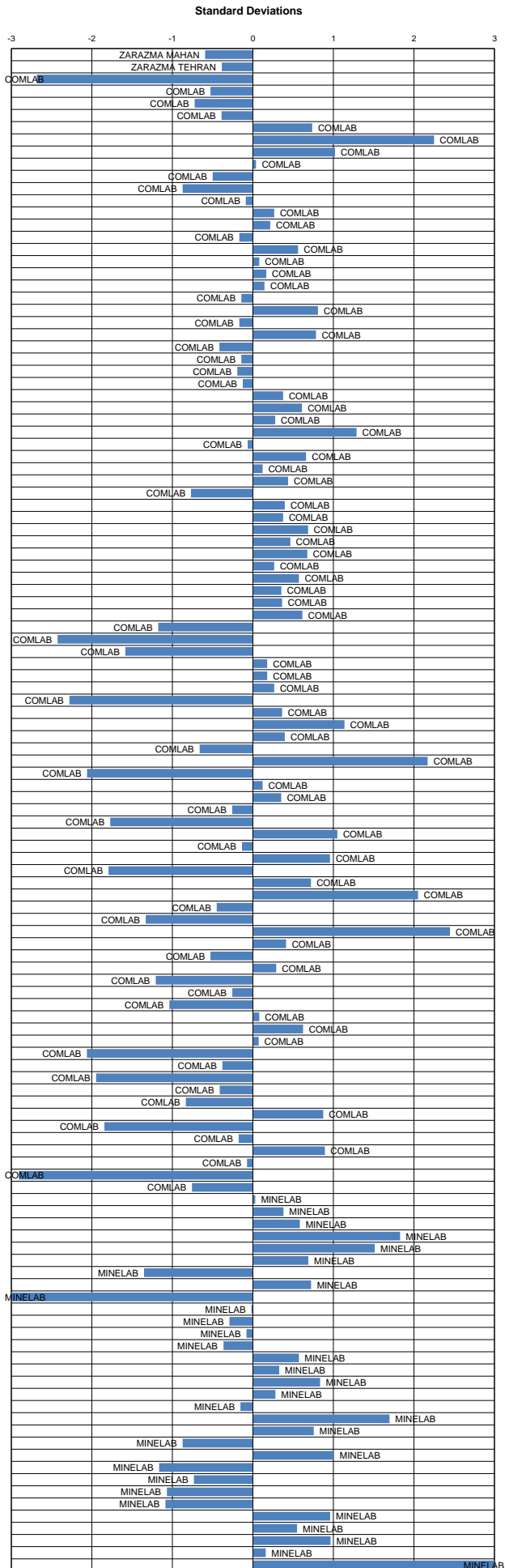
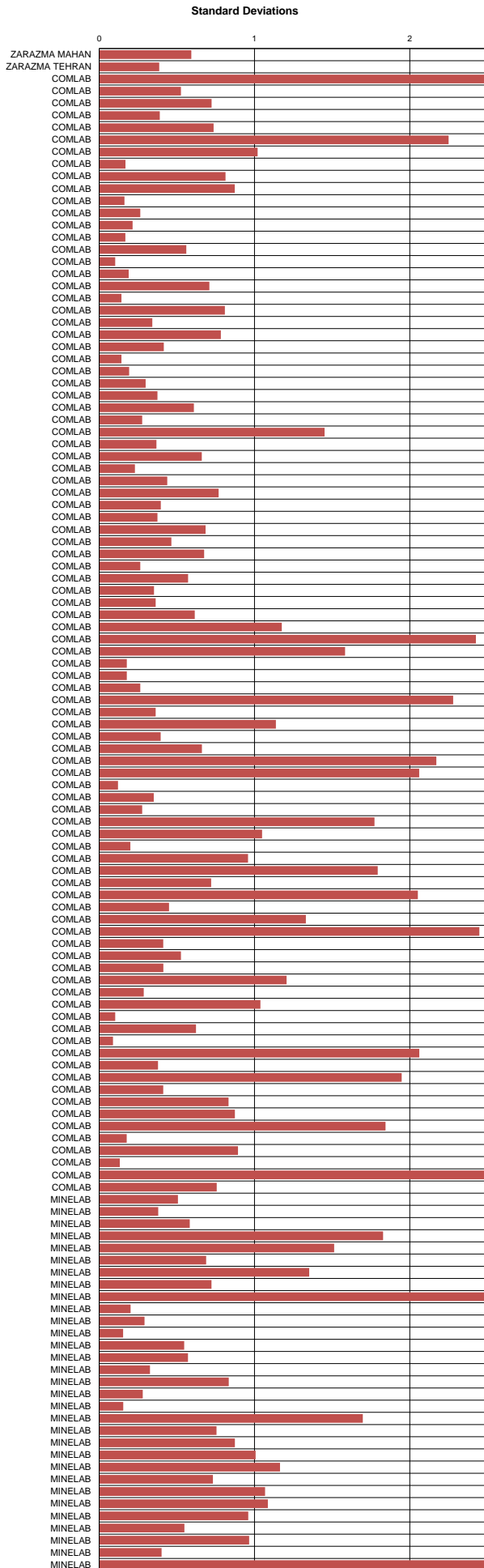




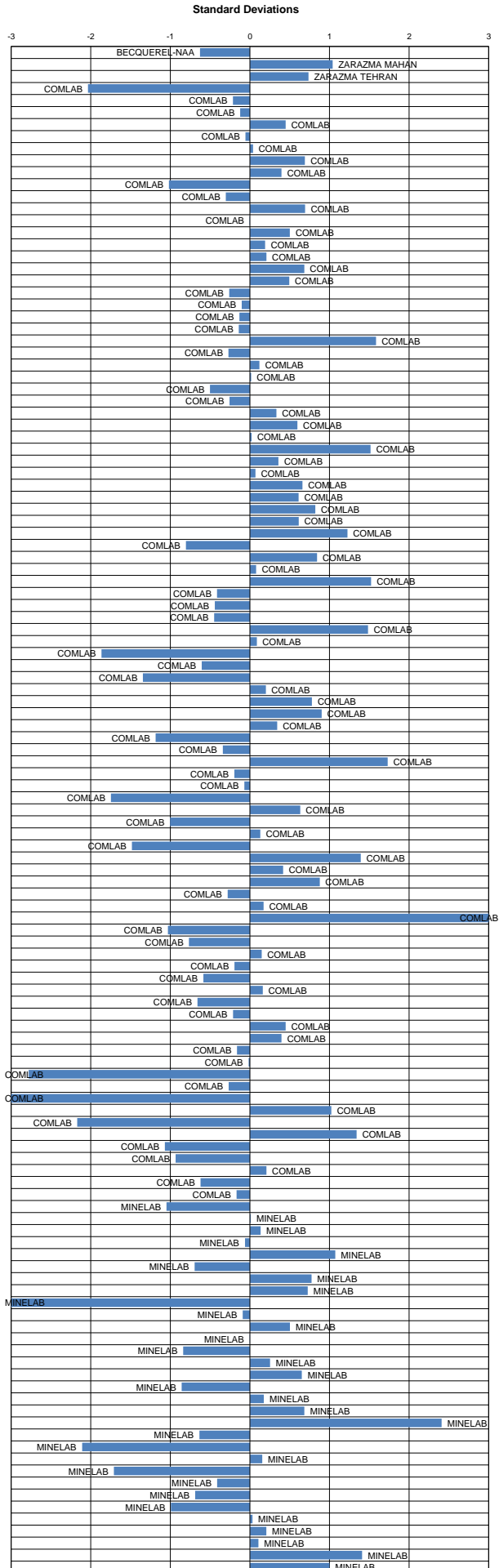
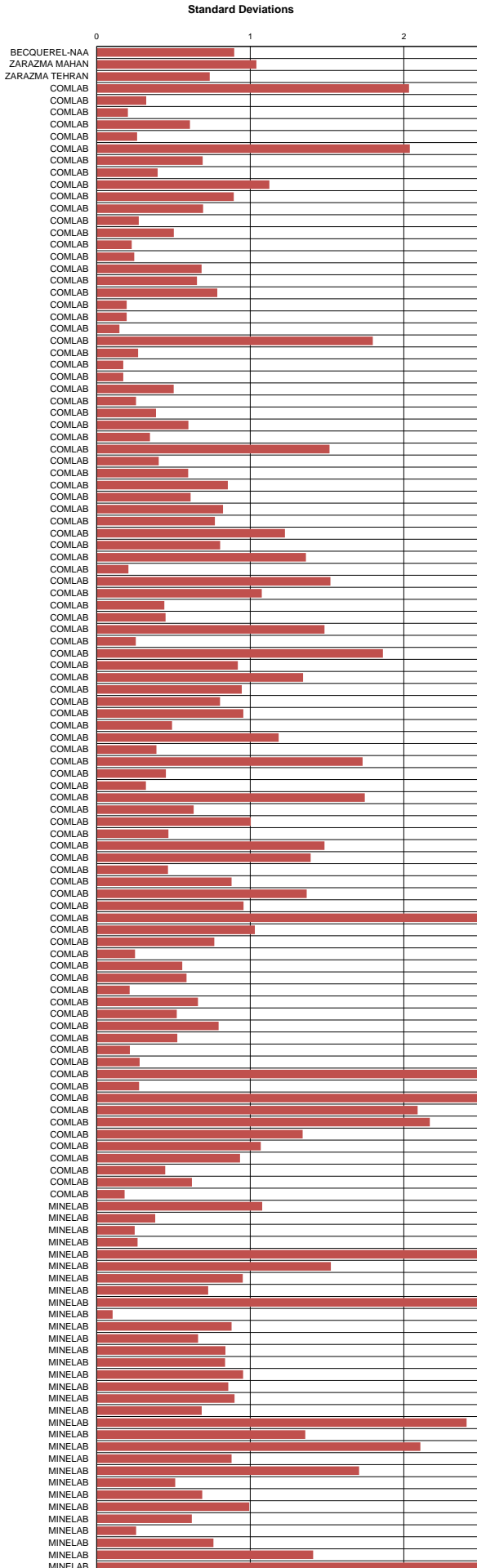






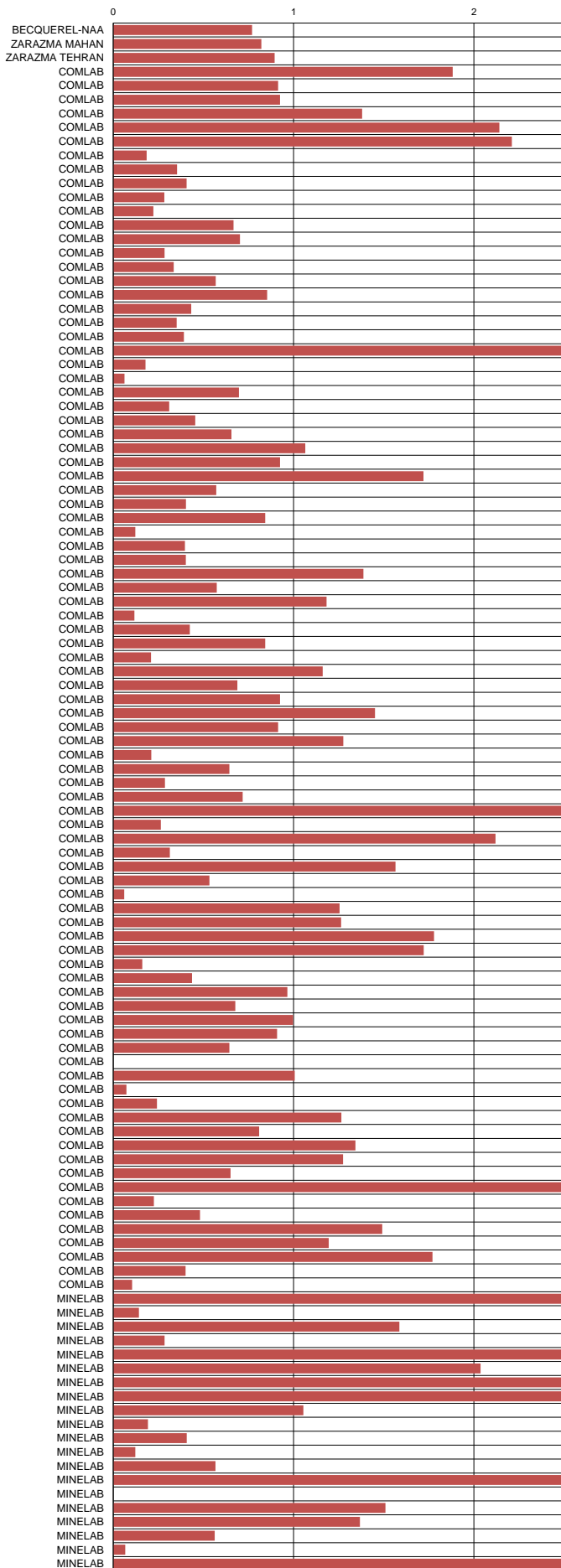




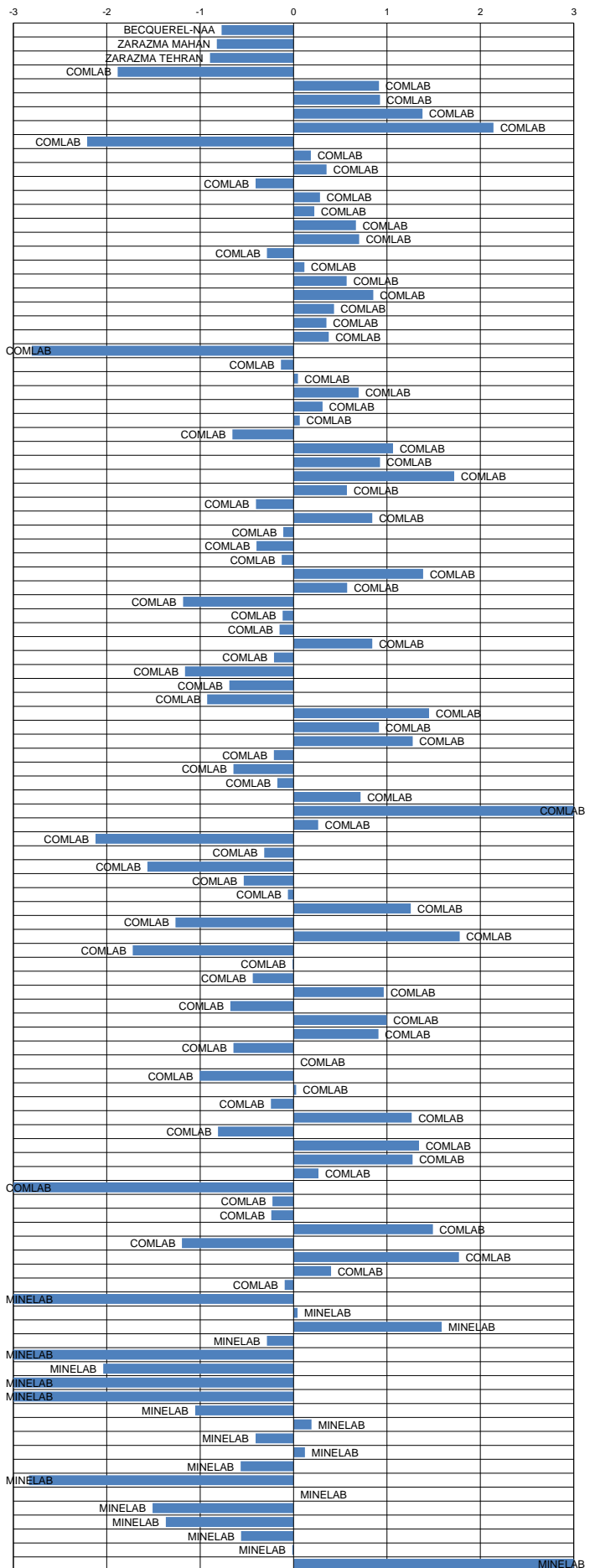




Standard Deviations



Standard Deviations

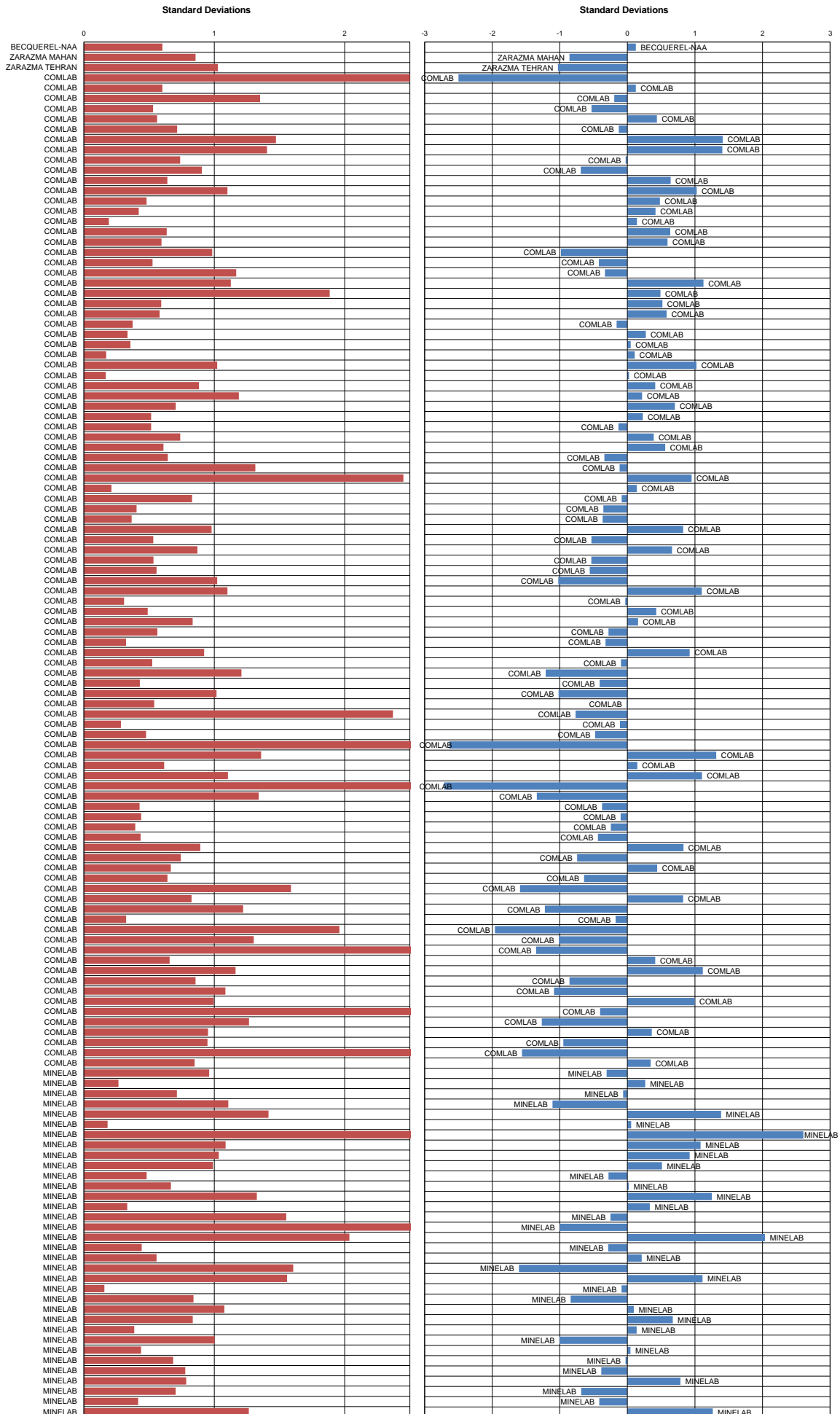




Ore Grade Silver Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

Standard Reference	GBM316-11	GBM316-12	GBM316-13	GBM316-14	GBM316-15	GBM316-16
MEAN (ppm)	21.7	86.0	30.7	19.1	1.0	2.2
STDEV (ppm)	1.5	4.6	1.6	1.2	0.9	1.0
95% CI (ppm)	0.3	0.8	0.3	0.2	0.3	0.3
95% CI (%)	1.21%	0.96%	0.93%	1.13%	28.44%	26.20%
MIN (ppm)	18.4	74.0	26.7	16.0	0.0	0.0
MEDIAN (ppm)	21.6	86.2	31.0	19.0	0.5	0.9
MAX (ppm)	25.3	96.0	35.0	22.0	3.0	3.0
IGR (ppm)	1.8	6.0	2.3	1.8	1.2	1.7
COUNT	122	119	124	119	40	41

Standard Reference	GBM316-11		GBM316-12		GBM316-13		GBM316-14		GBM316-15		GBM316-16		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
BECCOUEREL-NAA	23.0	0.86	88.0	0.43	31.0	0.17	18.0	-0.95	<0.0	bid	<5.0	bid	NAA	AR
ZARAZMA MAHAN	20.3	-0.96	80.2	-1.28	30.0	-0.45	18.1	-0.87	0.3	-0.76	0.4	-0.81	AR	ES
ZARAZMA TEHRAN	20.6	-0.76	78.0	-1.76	29.0	-1.07	17.9	-1.04	0.3	-0.76	0.4	-0.78	AR	ES
COMLAB	6.0	-3.00	88.0	-3.00	29.1	-1.00	10.6	-3.00	<0.0	bid	<3.0	bid	4A	ES
COMLAB	23.0	0.86	88.0	0.43	31.0	0.17	18.0	-0.95	<3.0	bid	<3.0	bid	4A	ES
COMLAB	19.0	-1.84	91.0	1.09	29.0	-1.07	18.0	-0.95	<3.0	bid	3.0	1.81	4A	ES
COMLAB	21.0	-0.49	85.0	-0.23	30.0	-0.45	18.0	-0.95	<3.0	bid	<3.0	bid	4A	ES
COMLAB	21.8	0.05	84.9	-0.25	31.4	0.41	21.0	1.54	<20.0	bid	<20.0	bid	AR	AAS
COMLAB	20.9	-0.56	86.9	0.19	32.0	0.78	20.1	0.79	0.1	-0.99	0.2	-0.98	3A	AAS
COMLAB	24.0	1.53	99.0	2.83	33.0	1.40	19.0	-0.12	<5.0	bid	<5.0	bid	AR	AAS,ES
COMLAB	25.0	2.21	88.0	0.43	33.0	1.40	22.0	2.37	2.0	1.21	2.0	0.81	4A	AAS
COMLAB	21.6	-0.09	81.6	-0.97	29.6	-0.70	18.5	-0.54	2.1	1.33	2.0	0.81	4A	ES
COMLAB	20.0	-1.17	88.0	0.43	29.0	-1.07	18.0	-0.95	<5.0	bid	<5.0	bid	3A	ES
COMLAB	23.0	0.86	87.0	0.21	32.0	0.78	20.0	0.71	<1.0	bid	<1.0	bid	4A	ES
COMLAB	23.0	0.86	93.0	1.52	33.0	1.40	21.0	1.54	<1.0	bid	1.0	-0.19	3A	AAS
COMLAB	22.0	0.18	90.0	0.87	31.0	0.17	20.0	0.71	<1.0	bid	<1.0	bid	4A	ES
COMLAB	22.0	0.18	86.0	-0.01	32.0	0.78	20.0	0.71	<1.0	bid	<1.0	bid	4A	ES
COMLAB	22.0	0.18	88.0	0.43	31.0	0.17	19.0	-0.12	1.0	0.05	<1.0	bid	FUS	ES
COMLAB	22.0	0.18	90.0	0.87	32.0	0.78	20.0	0.71	<1.0	bid	<1.0	bid	4A	ES
COMLAB	23.0	0.86	89.0	0.65	31.0	0.17	20.0	0.71	<1.0	bid	<1.0	bid	4A	ICP
COMLAB	20.1	-1.10	92.0	1.79	29.1	-1.01	17.9	-1.04	<1.0	bid	<1.0	bid	4A	ES
COMLAB	21.0	-0.49	87.0	0.21	30.0	-0.45	18.0	-0.95	<1.0	bid	<1.0	bid	4A	ES
COMLAB	22.0	0.18	68.0	-3.00	32.0	0.78	20.0	0.71	<2.0	bid	<2.0	bid	4A	AAS
COMLAB	24.0	1.53	90.0	0.87	33.0	1.40	20.0	0.71	<1.0	bid	<1.0	bid	FUS	ES
COMLAB	21.0	-0.49	66.0	-3.00	30.0	1.40	21.0	1.54	6.0	3.00	<5.0	bid	3A	ES
COMLAB	23.0	0.86	88.0	0.43	32.0	0.78	20.0	0.71	<1.0	bid	1.0	-0.19	AR	ES
COMLAB	22.0	0.18	89.0	0.65	32.0	0.78	20.0	0.71	<1.0	bid	<1.0	bid	AR	ES
COMLAB	21.0	-0.49	88.0	0.43	30.0	-0.45	18.0	-0.12	<1.0	bid	<1.0	bid	4A	ES
COMLAB	22.0	0.18	90.0	0.87	31.0	0.17	19.0	-0.12	nr	nr	nr	nr	4A	AAS
COMLAB	21.0	-0.49	89.0	0.65	31.0	0.17	19.0	-0.12	<1.0	bid	<1.0	bid	AR	AAS
COMLAB	22.0	0.18	87.0	0.21	31.0	0.17	19.0	-0.12	<1.0	bid	<1.0	bid	4A	ES
COMLAB	23.0	0.86	94.0	1.74	32.0	0.78	20.0	0.71	<1.0	bid	<1.0	bid	4A	ES
COMLAB	22.3	0.39	85.0	-0.23	30.7	-0.02	19.1	-0.04	<0.7	bid	<0.7	bid	FA	GRAV
COMLAB	21.8	0.05	92.6	1.44	32.8	1.28	20.5	1.12	0.5	-0.53	0.3	-0.88	4A	ES
COMLAB	22.0	0.18	93.0	1.52	27.0	-2.30	19.0	-0.12	<2.0	bid	3.0	1.81	AR	AAS
COMLAB	23.0	0.86	91.0	1.09	31.0	0.17	20.0	0.71	<2.0	bid	<2.0	bid	4A	ES
COMLAB	22.0	0.18	92.0	1.30	30.0	-0.45	19.0	-0.12	<2.0	bid	<2.0	bid	4A	ES
COMLAB	21.6	-0.09	86.4	0.08	32.4	1.03	19.2	0.04	0.2	-0.87	0.2	-0.98	3A	MS
COMLAB	23.5	1.20	87.5	0.32	29.6	-0.70	21.4	1.87	0.9	-0.06	0.9	-0.29	4A	AAS
COMLAB	22.0	0.18	87.0	0.21	31.0	0.17	19.0	-0.12	3.0	2.37	<2.0	bid	AR	AAS
COMLAB	22.1	0.25	82.2	-0.84	31.8	0.66	18.7	-0.37	0.3	-0.76	0.2	-0.98	4A	AAS
COMLAB	21.0	-0.49	84.0	-0.44	28.0	-1.68	18.0	-0.95	<1.0	bid	5.0	3.00	AR	AAS
COMLAB	25.0	2.21	95.0	1.96	35.0	2.63	15.0	-3.00	<5.0	bid	<5.0	bid	4A	ES
COMLAB	22.0	0.32	87.6	0.34	30.5	-0.14	19.2	0.04	<1.0	bid	<1.0	bid	4A	AAS
COMLAB	20.0	-1.17	83.0	-0.66	32.0	0.78	20.0	0.71	<0.5	bid	<0.5	bid	3A	AAS
COMLAB	21.6	-0.09	86.7	0.15	30.2	-0.33	19.0	-0.12	0.3	-0.76	0.2	-0.98	4A	MS
COMLAB	21.6	-0.09	85.5	-0.12	30.1	-0.39	18.1	-0.87	<0.5	bid	<0.5	bid	4A	ES
COMLAB	25.3	2.41	87.7	0.36	32.4	1.03	20.0	0.71	<0.2	bid	0.8	-0.39	4A	ES
COMLAB	21.0	-0.49	85.0	-0.23	30.0	-0.45	18.4	-0.62	0.2	-0.87	<0.05	bid	4A	MS
COMLAB	23.4	1.13	92.8	1.48	32.1	0.84	19.6	0.37	0.5	-0.53	<0.5	bid	4A	ES
COMLAB	20.8	-0.63	83.2	-0.62	30.3	-0.27	18.4	-0.62	<0.5	bid	<0.5	bid	4A	AAS
COMLAB	20.6	-0.74	82.9	-0.69	30.5	-0.16	18.2	-0.77	0.5	-0.53	0.7	-0.46	4A	AAS
COMLAB	20.7	-0.69	75.3	-2.35	28.6	-1.31	17.7	-1.20	0.9	-0.12	0.7	-0.45	4A	MS,ES
COMLAB	24.6	1.33	86.7	0.13	31.3	0.33	20.1	1.73	2.5	1.73	2.9	1.72	AR	ES
COMLAB	21.3	-0.29	88.0	0.43	30.1	-0.39	19.3	0.13	<3.0	bid	<3.0	bid	4A	ICP
COMLAB	22.0	0.18	90.0	0.87	32.0	0.78	19.0	-0.12	<5.0	bid	<5.0	bid	4A	ES
COMLAB	24.5	1.87	90.9	1.06	29.3	-0.88	19.2	0.04	0.3	-0.76	0.8	-0.39	4A	MS
COMLAB	21.1	-0.42	83.9	-0.47	31.1	0.23	19.9	0.62	0.3	-0.76	0.3	-0.88	4A	ICP
COMLAB	21.0	-0.49	85.0	-0.23	30.0	-0.45	19.0	-0.12	<5.0	bid	<5.0	bid	3A	AAS
COMLAB	22.8	0.72	90.8	1.04	32.3	0.97	20.3	0.96	<0.5	bid	<0.5	bid	4A	VOL
COMLAB	23.0	0.86	83.0	-0.66	30.0	-0.45	19.0	-0.12	<5.0	bid	<5.0	bid	4A	ES
COMLAB	19.2	-1.71	76.0	-2.19	28.0	-1.68	18.2	-0.79	0.7	-0.29	0.6	-0.58	AR	ES
COMLAB	20.4	-0.90	86.2	0.04	30.2	-0.33	18.6	-0.46	<1.0	bid	<1.0	bid	AR	AAS
COMLAB	20.0	-1.17	82.0	-0.88	29.0	-1.07	18.0	-0.95	<1.0	bid	<1.0	bid	AR	ES
COMLAB	22.0	0.18	81.0	-1.10	31.0	0.17	20.0	0.71	<0.5	bid	<0.5	bid	4A	ICP
COMLAB	20.0	-1.17	74.0	-2.63	25.0	-3.00	16.0	-2.61	4.0	3.00	3.0	1.81	AR	AAS
COMLAB	22.0	0.18	83.0	-0.66	31.0	0.17	19.0	-0.12	<2.0	bid	<2.0	bid	4A	AAS
COMLAB	21.0	-0.49	85.0	-0.23	29.0	-1.07	19.0	-0.12	<1.0	bid	<1.0	bid	4A	ES
COMLAB	17.0	-3.00	79.0	-1.54	20.0	-3.00	13.0	-3.00	<5.0	bid	<5.0	bid	4A	ES
COMLAB	21.6	-0.09	87.0	0.21	34.2	2.14	24.3	3.00	<0.5	bid	<0.5	bid	3A	AAS
COMLAB	22.7	0.86	85.6	-0.09	32.1	0.84	20.1	0.79	0.5	-0.53	0.4	-0.78	3A	ICP
COMLAB	22.6	0.59	102.9	3.00	31.6	0.54	19.5	0.29	bid	bid	bid	bid	4A	ES
COMLAB	19.0	-1.84	71.0	-3.00	24.0	-3.00	15.0	-3.00	<3.0	bid	<3.0	bid	4A	ES
COMLAB	20.0	-1.16	77.3	-1.91	28.9	-1.16	17.8	-1.14	<0.3	bid	<0.3	bid	AR	AAS
COMLAB	20.8	-0.63	82.5	-0.77	30.9	0.10	18.9	-0.21	<0.5	bid	<0.5	bid	AR	AAS
COMLAB	21.3	-0.29	83.6	-0.53	31.5	0.47	19.6	0.37	0.5	-0.53	<0.3	bid	4A	AAS
COMLAB	22.0	0.20	84.7	-0.29	30.4	-0.22	1							

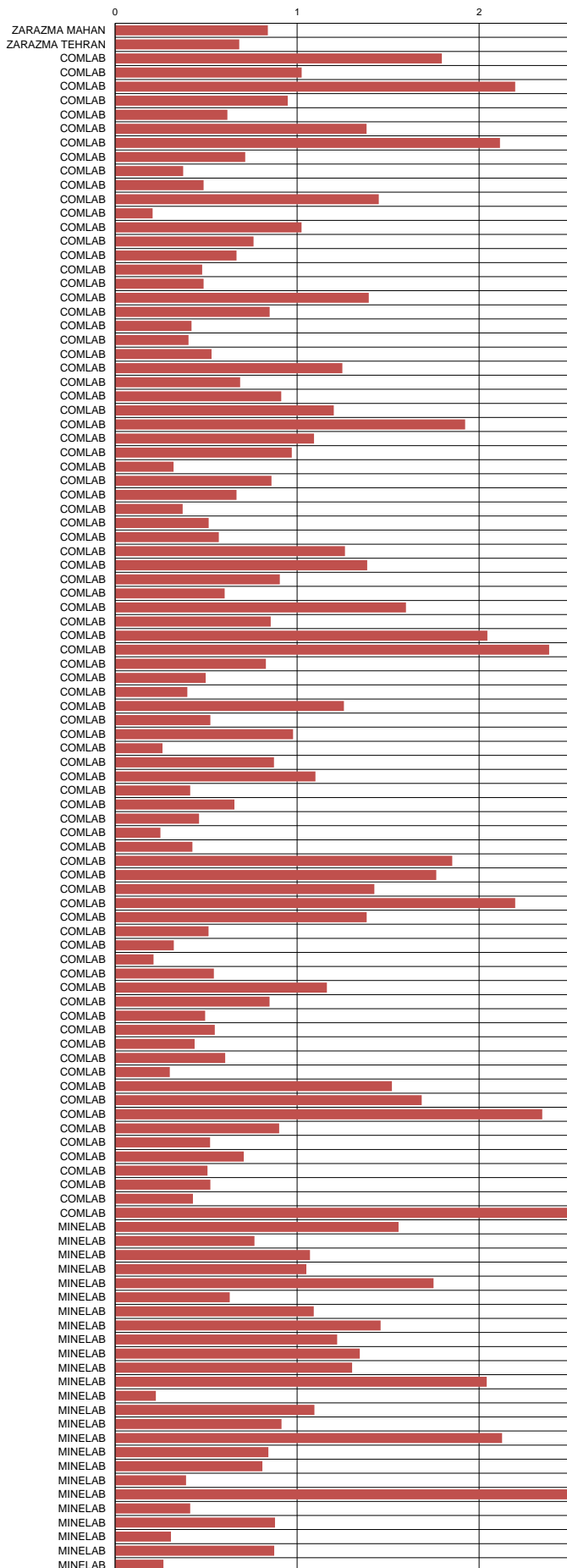


Ore Grade Sulphur Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

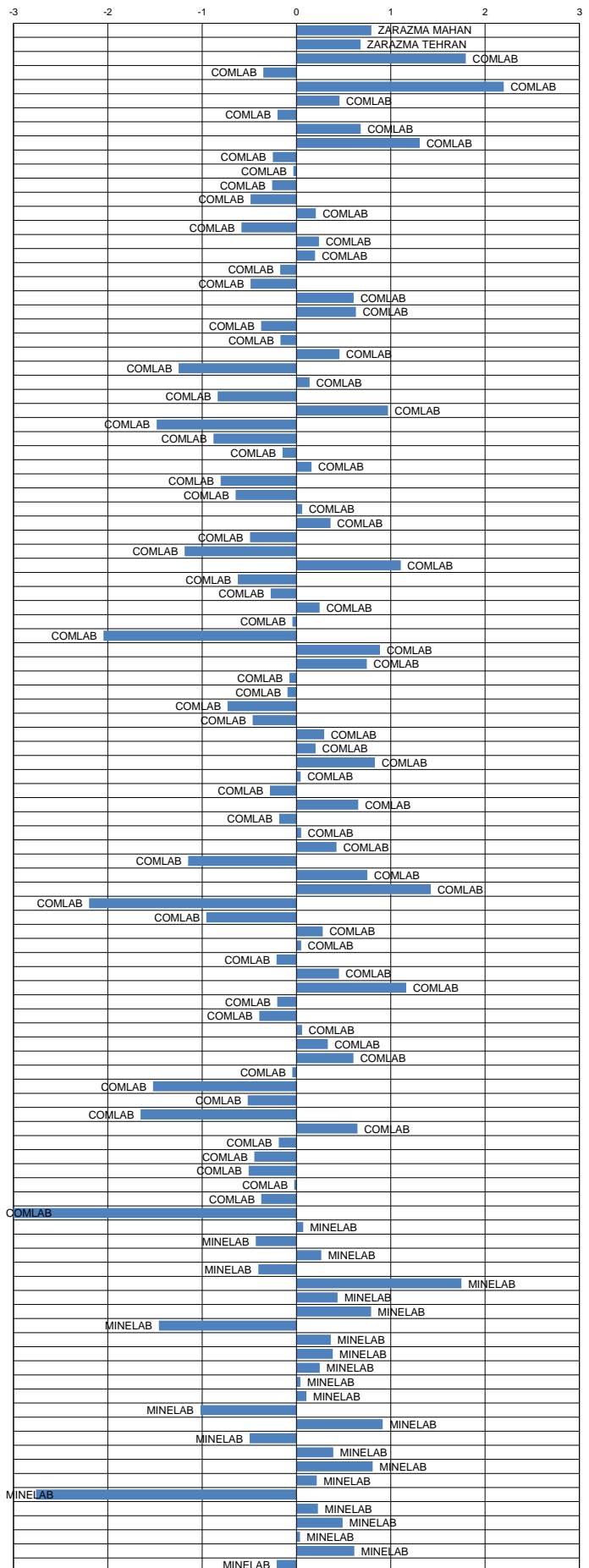
Standard Reference	GBM316-11	GBM316-12	GBM316-13	GBM316-14	GBM316-15	GBM316-16
MEAN (%)	18.11	25.43	6.00	12.68	0.10	0.10
STDEV (%)	0.52	1.05	0.21	0.38	0.02	0.02
95% CI (%)	0.11	0.22	0.04	0.08	0.00	0.00
95% CI (rel %)	0.60%	0.86%	0.69%	0.61%	4.38%	3.33%
MIN (%)	16.88	22.54	5.51	11.91	0.04	0.06
MEDIAN (%)	18.10	25.46	5.98	12.70	0.10	0.10
MAX (%)	19.54	28.30	6.58	13.72	0.15	0.14
IQR (%)	0.53	1.12	0.24	0.42	0.03	0.02
COUNT	90	91	101	92	97	94

Standard Reference	GBM316-11		GBM316-12		GBM316-13		GBM316-14		GBM316-15		GBM316-16		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
ZARAZMA MAHAN	18.04	-0.13	25.83	0.38	6.31	1.49	13.10	1.08	0.10	0.38	0.12	1.57	AR	ES
ZARAZMA TEHRAN	18.11	-0.01	25.49	0.06	6.23	1.09	13.02	0.89	0.11	0.62	0.12	1.42	AR	ES
COMLAB	21.67	3.00	28.96	3.00	6.32	1.54	15.11	3.00	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	18.30	0.36	25.90	0.45	6.13	0.64	12.90	0.57	0.06	-1.73	0.06	-2.40	CSA	IR
COMLAB	19.90	3.00	26.30	0.83	6.41	1.97	13.90	3.00	nr	nr	nr	nr	4A	ICP
COMLAB	18.80	1.32	26.20	0.73	6.22	1.06	13.10	1.10	0.09	-0.31	0.08	-1.17	CSA	IR
COMLAB	17.20	-1.74	25.00	-0.41	6.18	0.87	12.80	0.31	0.09	-0.31	0.10	0.07	CSA	IR
COMLAB	18.00	-0.22	24.05	-1.31	5.88	-0.57	12.76	0.19	0.71	3.00	0.75	3.00	AR	AAS,ES
COMLAB	22.47	3.00	27.00	1.49	6.58	2.77	15.48	3.00	0.07	-1.25	0.08	-1.17	CSA	IR
COMLAB	17.53	-1.11	26.65	1.16	5.91	-0.41	12.16	-1.38	0.10	0.17	0.10	0.07	3A	ES
COMLAB	18.20	0.17	25.20	-0.22	5.97	-0.12	12.35	-0.88	0.10	0.17	0.11	0.68	CSA	IR
COMLAB	17.75	-0.69	25.10	-0.31	5.82	-0.84	12.65	-0.09	0.09	-0.31	0.11	0.68	FUS	XRF
COMLAB	17.25	-1.64	23.20	-0.12	5.89	-0.50	12.10	-1.54	0.13	1.58	0.12	1.30	4A	ES
COMLAB	18.25	0.27	25.50	0.07	6.10	0.49	12.75	0.17	0.10	0.17	0.10	0.07	FUS	ES
COMLAB	17.55	-1.07	20.90	-3.00	5.94	-0.27	12.50	-0.48	0.11	0.64	0.11	0.68	4A	ES
COMLAB	18.05	-0.11	23.90	-1.45	6.03	0.16	12.90	0.57	0.13	1.58	0.11	0.68	CSA	IR
COMLAB	18.07	-0.08	27.10	1.59	6.11	0.54	12.86	0.46	0.08	-0.78	0.09	-0.55	CSA	IR
COMLAB	18.20	0.17	25.80	0.35	6.07	0.35	12.70	0.04	0.08	-0.78	0.08	-1.17	CSA	IR
COMLAB	17.70	-0.78	25.40	-0.03	5.88	-0.55	12.60	-0.22	0.08	-0.78	0.09	-0.55	CSA	IR
COMLAB	17.85	-0.50	24.80	-0.60	5.97	-0.12	12.25	-1.14	0.18	3.00	0.19	3.00	FUS	ES
COMLAB	17.88	-0.44	25.20	-0.22	6.41	1.97	13.30	1.62	0.10	0.17	0.11	0.68	3A	ES
COMLAB	>10.00	ald	>10.00	ald	5.81	-0.89	>10.00	ald	0.09	-0.31	0.10	0.07	AR	ES
COMLAB	>10.00	ald	>10.00	ald	6.07	0.35	>10.00	ald	0.09	-0.31	0.09	-0.55	AR	ES
COMLAB	18.20	0.17	25.50	0.07	6.06	0.30	12.60	-0.22	0.12	1.11	0.12	1.30	CSA	IR
COMLAB	17.45	-1.26	24.40	-0.98	5.68	-1.50	12.00	-1.80	0.08	-0.78	0.08	-1.17	CSA	IR
COMLAB	18.40	0.56	23.70	-1.64	6.16	0.78	12.85	0.44	0.11	0.64	0.10	0.07	4A	ES
COMLAB	17.55	-1.07	24.80	-0.60	5.54	-2.17	12.15	-1.41	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	18.70	1.13	24.70	-0.69	6.35	1.68	14.50	3.00	0.11	0.64	0.10	0.07	CSA	IR
COMLAB	15.65	-3.00	19.70	-3.00	5.51	-2.31	11.96	-1.91	0.11	0.64	0.11	0.68	AR	AAS
COMLAB	17.62	-0.94	18.27	-3.00	5.83	-0.79	12.44	-0.64	0.11	0.64	0.09	-0.55	AR	ES
COMLAB	17.99	-0.23	17.13	-3.00	5.97	-0.12	13.12	1.15	0.11	0.64	0.11	0.68	4A	ES
COMLAB	18.40	0.56	26.10	0.64	6.00	0.02	12.50	-0.48	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	17.35	-1.45	25.25	-0.17	5.70	-1.41	12.15	-1.41	0.10	0.17	0.09	-0.55	CSA	IR
COMLAB	17.70	-0.78	24.70	-0.69	5.80	-0.93	12.40	-0.75	0.08	-0.78	0.10	0.07	CSA	IR
COMLAB	18.00	-0.21	25.00	-0.41	5.93	-0.31	12.70	0.04	0.12	0.88	0.11	0.37	4A	ES
COMLAB	18.12	0.02	26.40	0.92	5.90	-0.46	12.82	0.36	0.11	0.64	0.11	0.68	CSA,GRAV	IR
COMLAB	17.70	-0.78	25.40	-0.03	5.82	-0.84	12.10	-1.54	0.10	0.17	0.10	0.07	4A	ES
COMLAB	17.57	-1.03	17.68	-3.00	5.93	-0.31	11.20	-3.00	0.10	0.17	0.10	0.07	AR	ES
COMLAB	18.22	0.21	25.60	0.16	5.82	-0.84	13.10	1.10	0.25	3.00	0.25	3.00	CSA	IR
COMLAB	17.40	-1.36	23.70	-1.64	5.76	-1.12	12.51	-0.46	0.10	0.17	0.11	0.68	4A	ES
COMLAB	17.72	-0.74	24.91	-0.49	5.99	-0.03	12.36	-0.85	0.12	0.99	0.09	-0.50	4A	ES
COMLAB	17.90	-0.40	25.42	-0.01	5.58	-1.98	12.05	-1.67	0.15	2.53	0.15	3.00	CSA	IR
COMLAB	17.72	-0.74	26.60	1.11	6.21	1.02	12.80	0.31	0.08	-0.78	0.08	-1.17	CSA	IR
COMLAB	17.13	-1.87	25.20	-0.22	5.34	-3.00	11.97	-1.89	0.05	-2.30	0.05	-3.00	4A	MS,ES
COMLAB	39.06	3.00	55.94	3.00	6.11	0.54	10.93	-3.00	<0.10	bid	<0.10	bid	CSA	IR
COMLAB	18.80	1.32	25.40	-0.03	7.12	3.00	12.60	-0.22	0.10	0.21	0.10	0.19	CSA	IR
COMLAB	18.14	0.06	25.90	0.45	6.07	0.35	12.84	0.41	0.08	-0.58	0.08	-1.14	4A	ES
COMLAB	17.85	-0.50	24.73	-0.66	5.93	-0.31	12.94	0.68	0.10	0.17	0.10	0.07	4A	ES
COMLAB	15.99	-3.00	22.69	-2.60	5.92	-0.36	12.96	0.73	0.10	0.17	0.11	0.68	ICP	
COMLAB	18.20	0.17	25.40	-0.03	5.86	-0.65	12.50	-0.48	0.07	-1.25	0.09	-0.55	CSA	IR
COMLAB	17.98	-0.25	27.22	1.70	6.16	0.78	13.19	1.33	0.07	-1.25	0.09	-0.55	CSA	IR
COMLAB	18.36	0.48	25.43	0.00	5.96	-0.17	12.94	0.68	0.10	0.17	0.10	0.07	4A	ES
COMLAB	18.50	0.75	25.90	0.45	5.97	-0.12	13.20	1.36	0.11	0.64	0.13	1.92	CSA	IR
COMLAB	18.20	0.17	28.30	2.73	6.10	0.49	12.70	0.04	0.07	-1.44	0.07	-1.72	AR	ES
COMLAB	17.90	-0.40	25.60	0.16	5.80	-0.93	12.40	-0.75	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	18.20	0.17	25.75	0.30	6.13	0.64	12.80	0.31	0.12	0.88	0.13	1.63	4A	ICP
COMLAB	18.05	-0.12	25.00	-0.41	5.92	-0.34	12.28	-1.06	0.11	0.83	0.10	0.00	CSA	IR
COMLAB	18.30	0.36	24.80	-0.60	6.05	0.26	12.70	0.04	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	18.60	0.94	25.91	0.46	6.12	0.59	12.81	0.33	0.10	0.17	0.10	0.07	CSA	IR
COMLAB	18.20	0.17	22.17	-3.00	5.28	-3.00	10.84	-3.00	0.11	0.64	0.12	1.30	FUS	ES
COMLAB	21.28	3.00	26.14	0.68	6.18	0.87	14.63	3.00	0.07	-1.25	0.07	-1.79	3A	AAS
COMLAB	19.52	2.70	25.46	0.03	6.54	2.58	13.92	3.00	0.10	0.17	0.10	0.07	3A	ICP
COMLAB	16.22	-3.00	22.54	-2.74	5.57	-2.03	11.30	-3.00	0.07	-1.25	0.08	-1.17	CSA	IR
COMLAB	16.00	-3.00	18.90	-3.00	6.23	1.11	12.30	-1.01	0.10	0.17	0.10	0.00	CSA	IR
COMLAB	18.30	0.36	25.20	-0.22	5.99	-0.03	12.51	-0.46	0.12	1.02	0.12	0.99	CSA	IR
COMLAB	18.20	0.17	26.20	0.73	5.94	-0.27	12.70	0.04	0.10	0.17	0.09	-0.55	CSA	IR
COMLAB	18.10	-0.02	25.20	-0.22	5.97	-0.12	12.60	-0.22	0.10	-0.07	0.09	-0.61	CSA	IR
COMLAB	18.40	0.56	25.20	-0.22	6.05	0.26	13.30	1.62	0.11	0.54	0.10	-0.06	CSA	IR
COMLAB	19.42	2.51	26.85	1.35	6.00	0.02	13.36	1.78	0.11	0.64	0.11	0.68	CSA	IR
COMLAB	17.80	-0.59	23.90	-1.45	6.02	0.11	12.40	-0.75	0.14	1.82	0.09	-0.37	CSA	IR
COMLAB	17.90	-0.40	25.70	0.26	5.83	-0.79	12.70	0.04	0.09	-0.31	0.08	-1.17	CSA	IR
COMLAB	17.79	-0.61	25.40	-0.03	5.93	-0.31	12.49	-0.51	0.11	0.83	0.12	0.99	CSA,AR	IR,ES
COMLAB	18.51	0.77	26.40	0.92	5.93	-0.31	12.83	0.39	0.10	0.17	0.10	0.07	4A	ICP
COMLAB	18.40	0.56												

Standard Deviations



Standard Deviations

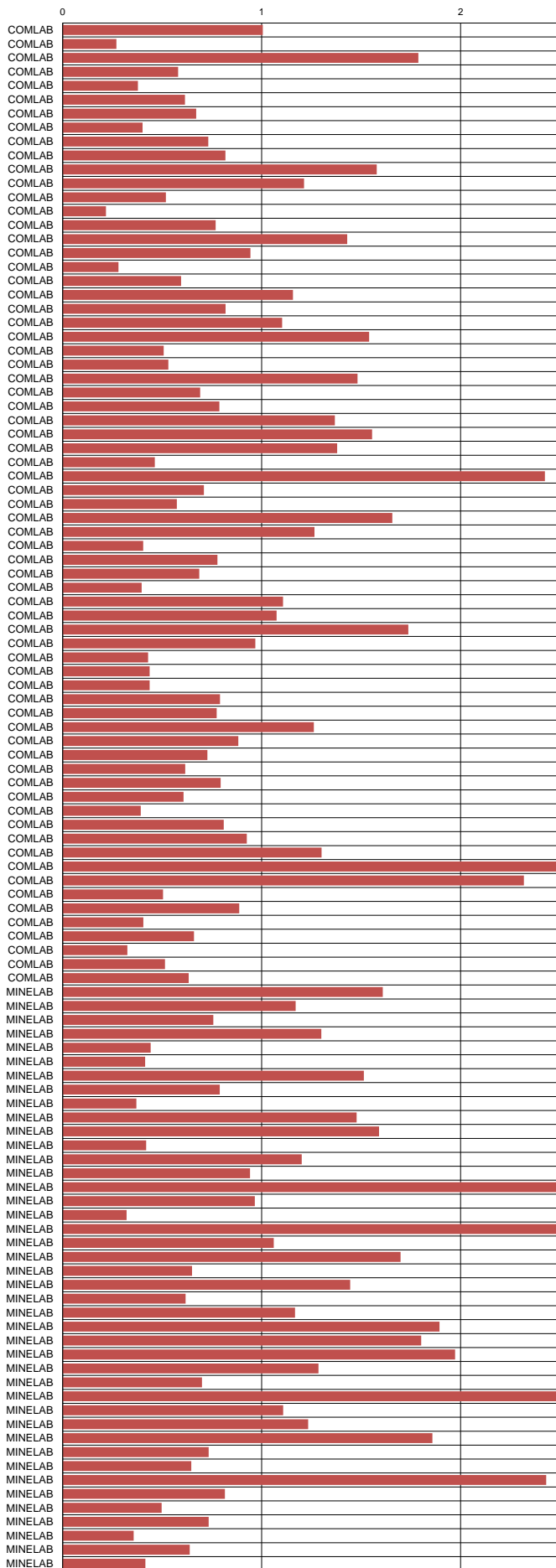


Sulphur Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

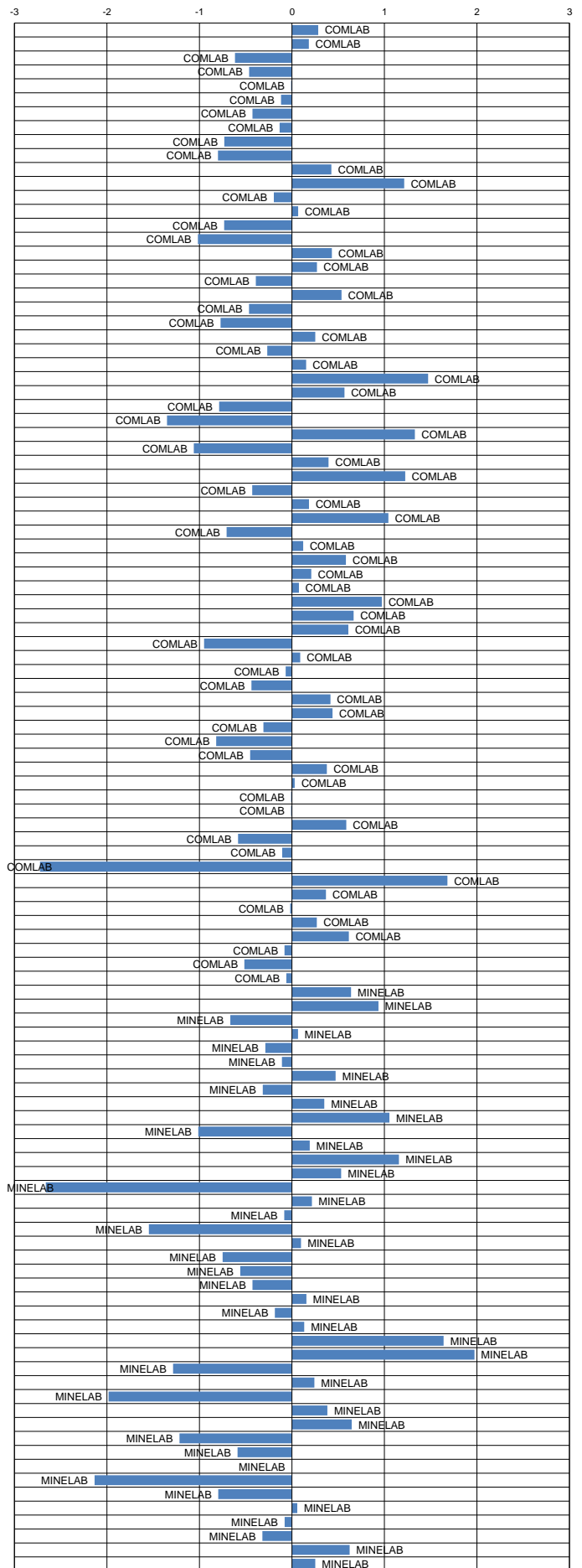
Standard Reference	GS316-1	GS316-2	GS316-3	GS316-4	GS316-5	GS316-6	GS316-7	GS316-8	GS316-9	GS316-10
MEAN (%)	0.36	0.56	0.34	0.58	0.05	0.05	18.13	25.59	0.08	0.08
STDEV (%)	0.02	0.03	0.02	0.03	0.01	0.01	0.55	1.12	0.02	0.01
95% CI (%)	0.00	0.01	0.00	0.01	0.00	0.00	0.11	0.22	0.00	0.00
95% CI (rel %)	1.06%	0.98%	1.02%	1.06%	5.58%	5.13%	0.62%	0.87%	3.70%	3.04%
MIN (%)	0.32	0.49	0.30	0.51	0.01	0.02	16.90	22.80	0.04	0.05
MEDIAN (%)	0.36	0.56	0.34	0.58	0.05	0.05	18.10	25.55	0.08	0.08
MAX (%)	0.41	0.63	0.39	0.65	0.09	0.07	19.60	28.60	0.12	0.11
IQR (%)	0.02	0.03	0.02	0.04	0.01	0.02	0.68	1.34	0.02	0.02
COUNT	96	97	95	99	94	91	94	98	100	91

Standard Reference Lab Reference	GS316-1		GS316-2		GS316-3		GS316-4		GS316-5		GS316-6		GS316-7		GS316-8		GS316-9		GS316-10		Method	Reading
	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB	0.35	-0.40	0.53	-0.85	0.33	-0.77	0.56	-0.68	0.05	-0.26	0.05	0.00	21.79	3.00	29.12	3.00	0.07	-0.65	0.09	0.45	CSA	IR
COMLAB	0.36	-0.07	0.56	0.09	0.35	0.44	0.58	-0.05	0.06	0.59	0.06	1.03	18.20	-0.12	25.30	-0.26	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	<b>0.30</b>	<b>-3.00</b>	<b>0.04</b>	<b>-3.00</b>	<b>0.28</b>	<b>-3.00</b>	<b>0.48</b>	<b>-3.00</b>	0.06	0.59	0.06	1.03	<b>20.39</b>	<b>3.00</b>	26.08	0.44	0.08	-0.02	0.09	0.81	CSA	IR
COMLAB	0.35	-0.60	0.55	-0.28	0.33	-0.71	0.57	-0.37	0.06	0.59	0.04	-0.66	18.05	-0.15	24.60	-0.88	0.07	-0.68	0.07	-0.88	CSA	IR
COMLAB	0.36	-0.07	0.56	0.09	0.33	-0.71	0.55	-1.02	0.05	-0.12	0.05	0.18	18.45	0.57	25.80	0.19	0.08	-0.02	0.09	0.81	CSA	IR
COMLAB	0.36	-0.07	0.55	-0.28	0.32	-1.29	0.58	-0.05	0.05	-0.12	0.06	1.03	17.30	-1.51	25.20	-0.35	0.09	0.65	0.09	0.81	CSA	IR
COMLAB	0.33	-1.65	0.55	-0.28	0.34	-0.13	0.54	-1.34	0.05	-0.12	0.03	-1.50	18.45	0.57	25.10	-0.44	0.09	0.65	0.08	-0.03	CSA	IR
COMLAB	0.35	-0.60	0.56	0.09	0.34	-0.13	0.58	-0.05	0.04	-0.82	0.04	-1.66	17.94	-0.35	27.00	1.26	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.35	-0.60	0.55	-0.28	0.33	-0.71	0.58	-0.05	0.04	-0.82	0.03	-1.50	17.90	-0.42	24.80	-0.70	0.06	-1.35	0.07	-0.88	CSA	IR
COMLAB	0.35	-0.60	0.56	0.09	0.33	-0.71	0.56	-0.70	0.05	-0.12	0.02	-2.34	17.80	-0.60	24.70	-0.79	0.06	-1.35	0.07	-0.88	CSA	IR
COMLAB	0.38	0.98	0.55	-0.28	0.36	1.02	0.62	1.23	0.07	1.29	0.07	1.87	<b>16.30</b>	<b>-3.00</b>	22.80	-2.48	0.11	1.97	0.10	1.66	CSA	IR
COMLAB	0.40	2.04	0.61	1.92	0.37	1.60	0.63	1.55	0.06	0.59	0.05	0.18	18.76	1.13	26.72	1.01	0.10	1.31	0.09	0.81	CSA	IR
COMLAB	0.36	-0.07	0.53	-1.01	0.34	-0.13	0.57	-0.37	0.06	0.59	0.06	1.03	17.70	-0.78	24.30	-1.15	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.36	-0.07	0.56	0.09	0.35	0.44	0.57	-0.37	0.06	0.59	0.05	0.18	18.20	0.12	25.30	-0.26	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.35	-0.60	0.54	-0.64	0.33	-0.71	0.55	-1.02	0.04	-0.82	0.05	0.18	17.60	-0.96	25.00	-0.52	0.06	-1.35	0.07	-0.88	CSA	IR
COMLAB	0.33	-1.65	0.52	-1.38	0.32	-1.29	0.53	-1.66	0.03	-1.53	<b>0.01</b>	<b>-3.00</b>	18.04	-0.17	27.91	2.07	0.07	-0.68	0.07	-0.88	CSA	IR
COMLAB	0.35	-0.60	0.56	0.09	0.33	-0.71	0.57	-0.37	0.06	0.59	0.05	0.18	19.60	2.65	27.90	2.06	0.10	1.31	0.07	-0.88	CSA	IR
COMLAB	0.37	0.45	0.56	0.09	0.35	0.44	0.60	0.59	0.06	0.59	0.05	0.18	18.34	0.37	25.63	0.04	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.33	-1.65	0.55	-0.28	0.32	-1.29	0.56	-0.70	0.05	-0.12	0.05	0.18	18.20	0.12	26.40	0.72	0.08	-0.02	0.07	-0.88	CSA	IR
COMLAB	0.37	0.45	0.56	0.09	0.36	1.02	0.60	0.59	0.07	1.29	0.07	1.87	16.90	-2.23	24.60	-0.88	0.09	0.65	0.11	2.50	CSA	IR
COMLAB	0.35	-0.60	0.52	-1.38	0.35	0.44	0.56	-0.70	0.03	-1.53	0.03	-1.50	18.42	0.52	26.50	0.81	0.07	-0.68	0.08	-0.03	CSA, GRAV	IR
COMLAB	<b>0.30</b>	<b>-3.00</b>	0.52	-1.38	0.33	-0.71	0.54	-1.34	0.02	-2.23	0.05	0.18	18.50	0.66	26.50	0.81	0.07	-0.68	0.08	-0.03	CSA	IR
COMLAB	0.34	-1.13	0.50	-2.11	0.31	-1.86	0.54	-1.34	0.07	1.29	0.07	1.87	18.22	1.15	28.60	2.68	0.10	1.31	0.10	1.66	CSA	IR
COMLAB	0.33	-1.65	0.54	-0.64	0.33	-0.71	0.56	-0.70	0.05	-0.12	0.05	0.18	18.30	0.30	26.40	0.72	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.36	-0.07	0.55	-0.28	0.33	-0.71	0.59	0.27	0.05	-0.12	0.05	0.18	17.76	-0.68	25.55	-0.03	0.10	1.31	0.10	1.66	CSA	IR
COMLAB	<b>0.45</b>	<b>3.00</b>	0.63	2.66	0.39	2.75	0.61	0.91	0.06	0.59	<b>0.10</b>	<b>3.00</b>	18.75	1.11	26.44	0.76	0.08	-0.02	0.08	-0.03		
COMLAB	0.37	0.45	0.59	1.19	0.34	-0.13	0.59	0.27	0.05	-0.12	0.05	0.18	18.80	1.20	25.20	-0.35	0.08	-0.02	<b>0.37</b>	<b>3.00</b>	CSA	IR
COMLAB	0.36	-0.07	0.54	-0.53	0.32	-1.06	0.58	-0.18	0.04	-1.11	0.04	-0.83	17.20	-1.69	24.40	-1.06	0.08	-0.22	0.07	-1.13	CSA	IR
COMLAB	0.35	-0.60	0.56	0.09	0.34	-0.13	0.58	-0.05	0.02	-2.23	0.03	-1.50	<b>14.54</b>	<b>-3.00</b>	<b>20.26</b>	<b>-3.00</b>	0.06	-1.35	0.06	-1.73	CSA	IR
COMLAB	0.38	0.98	0.58	0.82	<b>0.45</b>	<b>3.00</b>	<b>0.75</b>	<b>3.00</b>	0.07	1.12	0.05	0.39	17.70	-0.78	25.20	-0.35	0.11	2.11	<b>0.13</b>	<b>3.00</b>	CSA	IR
COMLAB	0.34	-1.13	0.58	0.82	0.32	-1.29	0.58	-0.05	0.06	0.59	0.05	0.18	<b>12.55</b>	<b>-3.00</b>	<b>18.90</b>	<b>-3.00</b>	0.05	-2.01	0.06	-1.73	CSA	IR
COMLAB	0.38	0.98	0.57	0.46	0.34	-0.13	0.60	0.59	0.06	0.59	0.06	1.03	18.14	0.01	25.40	-0.17	0.09	0.65	0.08	-0.03	CSA	IR
COMLAB	0.39	1.51	<b>0.76</b>	<b>3.00</b>	0.35	0.44	<b>0.71</b>	<b>3.00</b>	0.07	1.29	<b>0.09</b>	<b>3.00</b>	<b>16.34</b>	<b>-3.00</b>	<b>16.90</b>	<b>-3.00</b>	<b>0.24</b>	<b>3.00</b>	<b>0.20</b>	<b>3.00</b>	CSA	IR
COMLAB	0.36	-0.07	0.58	0.82	0.34	-0.13	0.58	-0.05	0.03	-1.53	0.03	-1.50	18.40	0.48	25.70	1.00	0.07	-0.68	0.06	-1.73	CSA	IR
COMLAB	0.35	-0.60	0.57	0.46	0.34	-0.13	0.63	1.55	0.05	-0.12	0.04	-0.66	17.92	-0.39	27.59	1.78	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.36	-0.07	0.57	0.46	<b>0.03</b>	<b>-3.00</b>	0.60	0.59	0.09	<b>2.70</b>	<b>0.09</b>	<b>3.00</b>	18.40	0.48	26.30	0.63	0.12	2.64	<b>0.12</b>	<b>3.00</b>	CSA	IR
COMLAB	0.35	-0.55	0.49	-2.51	0.33	-0.65	0.52	-1.98	<0.05	bid	<0.05	bid	18.10	-0.06	28.10	2.24	0.07	-0.75	0.06	-1.39	AR	GRAV
COMLAB	0.37	0.45	0.58	0.82	0.35	0.44	0.61	0.91	0.05	-0.12	0.04	-0.66	17.90	-0.42	25.40	-0.17	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.39	1.51	0.56	0.09	0.35	0.44	0.58	-0.05	0.06	0.59	0.06	1.03	18.02	-0.21	24.79	-0.71	0.09	0.65	0.11	2.50	CSA, FUS	IR, ES
COMLAB	0.38	0.98	0.57	0.46	0.34	-0.13	0.60	0.59	0.06	0.59	0.07	1.87	17.70	-0.78	24.00	-1.41	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.38	0.98	0.54	-0.64	0.34	-0.13	0.59	0.27	0.05	-0.12	0.04	-0.66	18.69	1.00	25.71	0.11	0.08	-0.02	0.08	-0.03	CSA	IR
COMLAB	0.38	0.98	0.62	2.29	0.37	1.60	0.65	2.19	0.05	-0.12	0.06	1.03	18.24	1.19	24.96	-0.56	0.10	1.31	0.09	0.81	CSA	IR
COMLAB	0.36	-0.07	0.53	-1.01	0.33	-0.71	0.57	-0.25	0.07	1.29	0.05	0.18	<b>21.77</b>	<b>3.00</b>	26.81	1.09	0.09	0.65	0.11	2.50	CSA	IR
COMLAB	0.38	0.98	0.55	-0.28	0.35	0.44	0.53	-1.66	<b>0.10</b>	<b>3.00</b>	<b>0.09</b>	<b>3.00</b>	<b>15.50</b>	<b>-3.00</b>	24.80	-0.70	0.10	1.31	<b>0.13</b>	<b>3.00</b>	CSA	IR
COMLAB	0.34	-1.13	0.54	-0.64	0.32	-1.29	0.54	-1.34	0.05	0.09	0.04	-0.66	17.60	-0.96	<b>18.50</b>	<b>-3.00</b>	0.08	-0.28	0.08	-0.2		

Standard Deviations



Standard Deviations



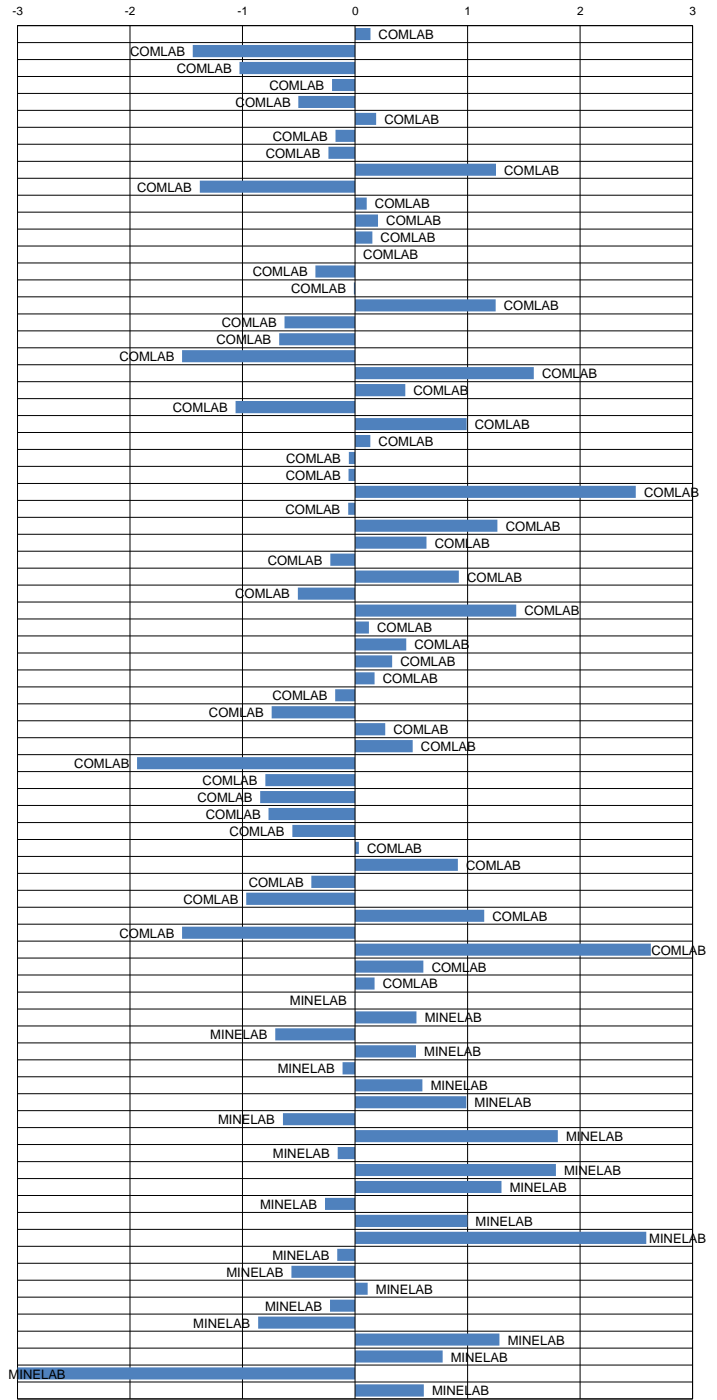
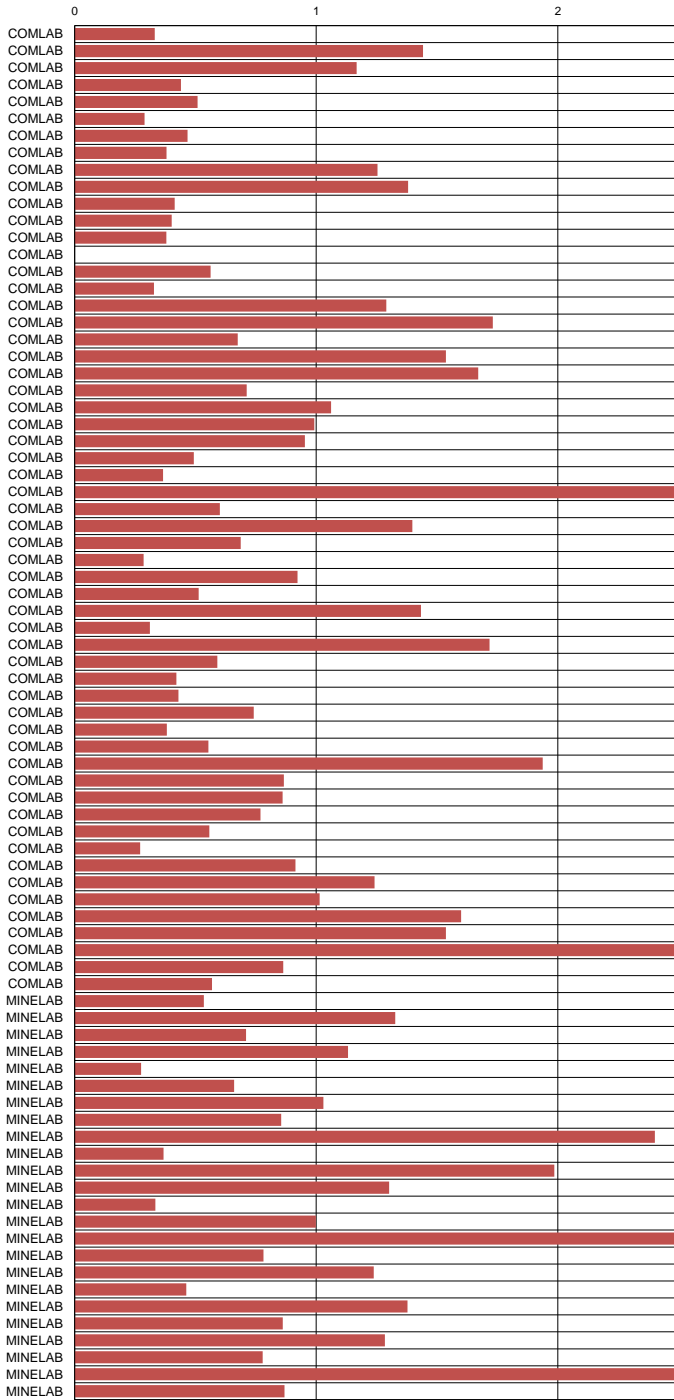
## Carbon Round Robin - Summary Statistics, Assays, Standardised Values and Graphs - April 2016

Standard Reference	GS316-1	GS316-2	GS316-3	GS316-4	GS316-5	GS316-6	GS316-7	GS316-8	GS316-9	GS316-10
MEAN (%)	0.04	0.08	0.06	0.09	0.46	0.45	0.41	0.07	0.06	0.03
STDEV (%)	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.01
95% CI (%)	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
95% CI (rel %)	9.71%	5.18%	6.53%	5.07%	1.57%	1.58%	1.67%	9.98%	5.94%	9.45%
MIN (%)	0.01	0.04	0.02	0.04	0.37	0.37	0.34	0.01	0.02	0.01
MEDIAN (%)	0.03	0.08	0.06	0.09	0.46	0.45	0.41	0.06	0.06	0.03
MAX (%)	0.07	0.12	0.09	0.14	0.53	0.51	0.49	0.14	0.09	0.06
IQR (%)	0.01	0.02	0.02	0.02	0.04	0.03	0.04	0.03	0.02	0.02
COUNT	62	68	66	71	75	73	71	69	68	62

Standard Reference	GS316-1		GS316-2		GS316-3		GS316-4		GS316-5		GS316-6		GS316-7		GS316-8		GS316-9		GS316-10		Method	Reading
Lab Reference	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score	assay	z-score		
COMLAB	0.03	-0.32	0.07	-0.13	0.06	0.11	0.09	0.03	0.47	0.43	0.46	0.28	0.45	1.31	0.05	-0.44	0.06	-0.09	0.04	0.18	CSA	IR
COMLAB	0.02	-1.18	0.04	-2.20	0.03	-1.86	0.05	-2.00	0.40	-1.81	0.43	-0.73	0.40	-0.32	0.04	-0.93	0.03	-1.94	<0.01	blid	CSA	IR
COMLAB	0.04	0.22	0.05	-1.60	0.04	-1.24	0.06	-1.48	0.41	-1.49	0.38	-2.34	0.38	-1.00	0.05	-0.57	0.04	-1.25	0.04	0.48	CSA	IR
COMLAB	0.03	-0.48	0.08	0.22	0.07	0.62	0.09	0.09	0.46	0.10	0.45	-0.08	0.38	-1.00	0.05	-0.57	0.06	0.15	0.02	-1.09	CSA	IR
COMLAB	0.03	-0.48	0.07	-0.39	0.05	-0.62	0.08	-0.43	0.44	-0.53	0.44	-0.41	0.41	0.02	0.05	-0.57	0.05	-0.55	0.02	-1.09	CSA	IR
COMLAB	0.04	0.22	0.08	0.22	0.06	0.00	0.09	0.09	0.47	0.42	0.47	0.56	0.41	0.02	0.06	-0.20	0.07	0.85	0.03	-0.30	CSA	IR
COMLAB	0.04	0.22	0.08	0.22	0.06	0.00	0.08	-0.43	0.42	-1.17	0.42	-1.05	0.41	0.02	0.08	0.52	0.05	-0.55	0.04	0.48	CSA	IR
COMLAB	0.03	-0.48	0.07	-0.39	0.05	-0.62	0.09	0.09	0.46	0.10	0.45	-0.08	0.39	-0.66	0.08	0.52	0.05	-0.55	0.03	-0.30	CSA	IR
COMLAB	<0.03	blid	0.08	0.22	0.06	0.00	0.11	1.14	0.51	1.70	0.51	1.85	0.62	3.00	0.12	1.97	0.06	0.15	<0.03	blid	CSA	IR
COMLAB	<0.01	blid	0.04	-2.20	0.03	-1.86	0.06	-1.48	0.43	-0.85	0.43	-0.73	0.40	-0.32	0.02	-1.66	0.03	-1.94	<0.01	blid	CSA	IR
COMLAB	0.04	0.22	0.09	0.82	0.06	0.00	0.09	0.09	0.47	0.42	0.48	0.88	0.40	-0.32	0.04	-0.93	0.06	0.15	0.03	-0.30	CSA	IR
COMLAB	0.03	-0.48	0.09	0.82	0.07	0.62	0.09	0.09	0.47	0.42	0.47	0.56	0.42	0.37	0.06	-0.20	0.06	0.15	0.03	-0.30	CSA	IR
COMLAB	0.04	0.22	0.07	-0.39	0.06	0.00	0.08	-0.43	0.47	0.42	0.46	0.24	0.41	0.02	0.11	1.61	0.06	0.15	0.03	-0.30	CSA	IR
COMLAB	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	<0.50	blid	CSA	IR
COMLAB	0.02	-1.18	0.07	-0.39	0.06	0.00	0.08	-0.43	0.46	0.10	0.46	0.24	0.43	0.71	0.04	-0.93	0.05	-0.55	0.02	-1.09	CSA	IR
COMLAB	0.04	0.22	0.08	0.22	0.06	0.00	0.08	-0.43	0.44	-0.53	0.44	-0.41	0.40	-0.32	0.08	0.52	0.06	0.15	0.04	0.48	CSA	IR
COMLAB	0.05	0.92	0.08	0.22	0.07	0.62	0.10	0.61	0.58	3.00	0.58	3.00	0.50	3.00	0.06	-0.20	0.07	0.85	0.04	0.48	CSA	IR
COMLAB	<0.01	blid	0.05	-1.60	0.03	-1.86	0.04	-2.53	0.52	2.01	0.51	1.85	0.40	-0.32	<0.01	blid	0.03	-1.94	<0.01	blid	CSA, GRAV	IR
COMLAB	0.03	-0.48	0.07	-0.39	0.05	-0.62	0.07	-0.96	0.42	-1.17	0.42	-1.05	0.39	-0.66	0.05	-0.57	0.05	-0.55	0.03	-0.30	CSA	IR
COMLAB	0.02	-1.18	0.06	-0.99	0.04	-1.24	0.06	-1.48	0.40	-1.81	0.37	-2.67	0.34	-2.37	0.03	-1.29	0.04	-1.25	0.02	-1.09	CSA	IR
COMLAB	0.07	2.33	0.11	2.03	0.09	1.86	0.12	1.66	0.46	0.10	0.44	-0.41	0.43	0.71	0.11	1.61	0.10	3.00	0.08	3.00	CSA	IR
COMLAB	0.04	0.22	0.07	-0.39	0.07	0.62	0.10	0.61	0.44	-0.53	0.44	-0.41	0.43	0.71	0.33	3.00	0.06	0.15	0.04	0.48	CSA	IR
COMLAB	0.03	-0.48	0.05	-1.78	0.03	-1.80	0.06	-1.58	0.43	-0.98	0.42	-0.99	0.36	-1.55	0.06	-0.28	0.05	-0.48	0.03	-0.70	CSA	IR
COMLAB	<0.10	blid	<0.10	blid	<0.10	blid	<0.10	blid	0.49	1.06	0.49	1.21	0.43	0.71	<0.10	blid	<0.10	blid	<0.10	blid	CSA	IR
COMLAB	0.03	-0.45	0.07	-0.38	0.07	0.77	0.10	0.77	0.41	-1.55	0.40	-1.70	0.45	1.26	0.08	0.47	0.07	1.12	0.05	1.06	CSA	IR
COMLAB	0.03	-0.48	0.07	-0.39	0.06	0.00	0.09	0.09	0.48	0.74	0.49	1.21	0.38	-1.00	0.05	-0.57	0.06	0.15	0.03	-0.30	CSA	IR
COMLAB	0.03	-0.48	0.08	0.22	0.06	0.00	0.09	0.09	0.46	0.10	0.46	0.24	0.42	0.37	0.08	0.52	0.05	-0.55	0.02	-1.09	CSA	IR
COMLAB	0.14	3.00	0.19	3.00	0.52	3.00	0.21	3.00	0.53	2.33	0.41	-1.37	0.54	3.00	0.32	3.00	0.14	3.00	0.36	3.00	CSA	IR
COMLAB	0.03	-0.48	0.08	0.22	0.08	1.24	0.10	0.61	0.44	-0.53	0.44	-0.41	0.36	-1.69	0.06	-0.20	0.06	0.15	0.04	0.48	CSA	IR
COMLAB	0.07	2.33	0.11	2.03	0.08	1.24	0.12	1.66	0.48	0.74	0.49	1.21	0.39	-0.66	0.08	0.52	0.08	1.54	0.06	2.05	CSA	IR
COMLAB	<0.05	blid	0.09	0.82	0.06	0.00	0.10	0.61	0.46	0.10	0.51	1.85	0.44	1.05	0.06	-0.20	0.07	0.85	<0.05	blid	CSA	IR
COMLAB	0.03	-0.48	0.08	0.22	0.06	0.00	0.09	0.09	0.45	-0.21	0.44	-0.41	0.41	0.02	0.05	-0.57	0.05	-0.55	0.03	-0.30	CSA, FUS	IR, ES
COMLAB	0.04	0.22	0.09	0.82	0.07	0.62	0.10	0.61	0.47	0.42	0.47	0.56	0.51	3.00	0.13	2.34	0.06	0.15	0.04	0.48	CSA	IR
COMLAB	0.03	-0.48	0.07	-0.39	0.05	-0.62	0.08	-0.43	0.45	-0.21	0.44	-0.41	0.41	0.02	0.04	-0.93	0.05	-0.55	0.02	-1.09	CSA	IR
COMLAB	0.06	1.62	0.10	1.43	0.09	1.86	0.12	1.66	0.49	1.06	0.49	1.21	0.43	0.71	0.08	0.52	0.12	3.00	0.05	1.27	CSA	IR
COMLAB	0.04	0.22	0.08	0.22	0.06	0.00	0.09	0.09	0.48	0.74	0.45	-0.08	0.41	0.02	0.09	0.89	0.05	-0.55	0.03	-0.30	CSA	IR
COMLAB	0.05	0.92	0.09	0.82	0.08	1.24	0.10	0.61	0.37	-2.76	0.33	-3.00	0.99	3.00	0.72	3.00	0.05	-0.55	0.05	1.27	CSA	IR
COMLAB	0.04	0.01	0.08	0.16	0.07	0.74	0.10	0.46	0.45	-0.21	0.46	0.24	0.43	0.71	0.09	0.89	0.08	1.40	0.02	-1.09	CSA	IR
COMLAB	0.04	0.15	0.09	0.58	0.06	0.18	0.10	0.35	0.47	0.49	0.47	0.46	0.42	0.47	0.06	-0.39	0.06	0.29	0.02	-0.85	CSA	IR
COMLAB	0.05	0.92	0.07	-0.39	0.05	-0.62	0.09	0.09	0.46	0.10	0.44	-0.41	0.40	-0.32	0.06	-0.20	0.06	0.15	0.02	-1.09	CSA	IR
COMLAB	0.02	-1.18	0.07	-0.39	0.05	-0.62	0.08	-0.43	0.43	-0.85	0.42	-1.05	0.40	-0.32	0.04	-0.93	0.05	-0.55	0.02	-1.09	CSA	IR
COMLAB	0.04	0.34	0.09	0.56	0.07	0.57	0.10	0.42	0.45	-0.21	0.45	-0.02	0.40	-0.28	0.06	-0.04	0.07	0.81	0.04	0.54	CSA	IR
COMLAB	0.04	0.22	0.08	0.22	0.07	0.62	0.10	0.61	0.48	0.74	0.48	0.88	0.43	0.71	0.06	-0.20	0.07	0.85	0.04	0.48	CSA	IR
COMLAB	<0.005	blid	0.04	-2.44	0.02	-2.79	0.04	-2.32	0.44	-0.60	0.41	-1.44	0.38	-1.14	0.01	-2.13	0.02	-2.64	<0.005	blid	CSA	IR
COMLAB	0.02	-1.18	0.06	-0.99	0.04	-1.24	0.07	-0.96	0.46	0.10	0.46	0.24	0.40	-0.32	0.03	-1.29	0.04	-1.25	0.02	-1.09	CSA	IR
COMLAB	0.02	-1.18	0.07	-0.39	0.04	-1.24	0.09	0.09	0.45	-0.21	0.44	-0.41	0.38	-1.00	0.02	-1.66	0.05	-0.55	0.01	-1.87	CSA	IR
COMLAB	0.02	-1.18	0.06	-0.99	0.05	-0.75	0.08	-0.64	0.44													

Standard Deviations

Standard Deviations







**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.

Analysis	Total Digest		Partial Digest	
	Reported	Number of Outliers	Reported	Number of Outliers
Silver	No	-	Yes	0
Copper	Yes	0	No	-
Lead	Yes	0	No	-
Zinc	Yes	2	No	-
Nickel	Yes	2	No	-
Arsenic	Yes	0	No	-
Cobalt	Yes	0	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

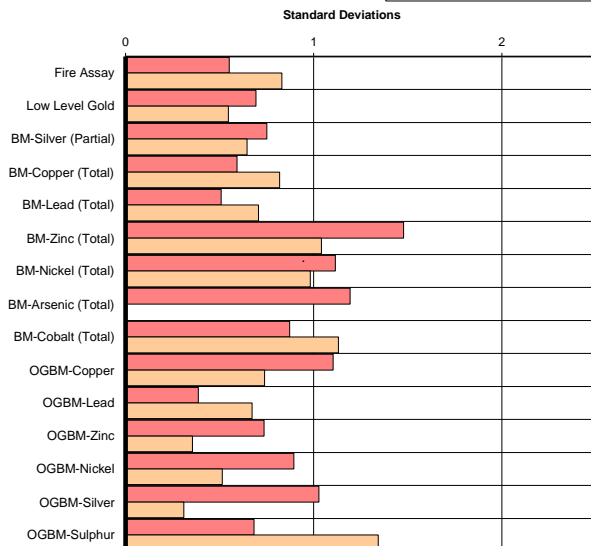
**SULPHUR SAMPLES**

The laboratory were not sent any Sulphur samples for analysis.

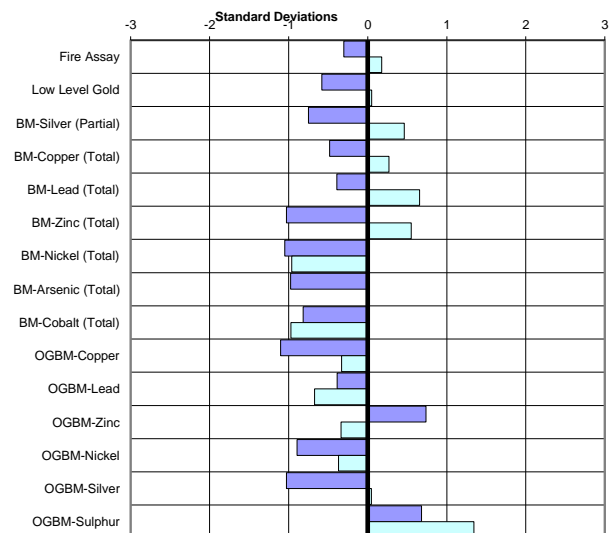
Analysis	Reported	Number of Outliers
Sulphur	-	-
Carbon	-	-

**ERROR GRAPHS**

Mean of Absolute Standardized Values ■ April 2016   ■ October 2015



Mean of Standardized Values ■ April 2016   ■ October 2015



**FURTHER INFORMATION**

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

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