



September 6, 2007

Entrix, Inc  
Brian Frantz  
590 Ygnacio Valley Road  
Walnut Creek, CA 94596

RE: Brooks Rand Project: ENX002; Report #: 07BR1155

Dear Mr. Frantz,

Brooks Rand Labs (BRL) received seventeen containers, including two field blank samples, on August 8, 2007. The requested analyses listed on the chain of custody (COC) form were for total mercury (THg), trace metals including arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), iron (Fe), nickel (Ni), and lead (Pb), and hardness (calculation based on calcium (Ca) and magnesium (Mg) concentrations).

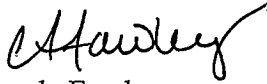
The samples were received, stored, prepared, and analyzed according to BRL standard operating procedures (SOPs) and EPA Methods 1631 and 1638. All samples were stored in a cabinet in a locked storage room until further processing. The water samples were field filtered by the client through pre-cleaned 0.45- $\mu$ m filtration units. Please refer to the Quality Assurance (QA) Summaries for QA details.

The analysis of a method blank (MB) in trace metals batch #07-0863 produced results for Mg and Ca that were greater than the practical quantitation limit (PQL). As a result, the associated MB in batch #07-0825 (hardness calculation) produced a result for hardness that was also greater than the PQL. These blank results were omitted as Grubb's outliers and were not used to method blank correct the results. All results from these batches were blank-corrected with the average of the three remaining MBs. Additionally, the standard deviation of the MBs for Mg in batch #07-0863 was greater than the method detection limit (MDL). However, all client sample results were more than ten times the highest MB result and were thus unaffected.

Sample results may have been evaluated using detection limits that have been adjusted to account for sample aliquot size; please refer to the Quality Assurance (QA) Summaries for a list of the sample specific MDLs and PQLs. Results less than or equal to the MDL have been qualified "U" for non-detect and have been reported at the MDL. Results above the MDL and less than or equal to the PQL have been qualified "B" and should be considered estimates. All QA criteria were met. No additional qualification of the data was required.

If you have any questions regarding this report, please feel free to contact us at any time.

Sincerely,



Amanda Fawley  
Project Manager  
amanda@brooksrands.com



Amy Durdle  
Project Coordinator  
amy@brooksrands.com

**Reported by****Brooks Rand LLC****Contact:** Amanda Fawley

3958 6th Avenue NW

Seattle, WA 98107

Tel: 206-632-6206 Fax: 206-632-6017

**Summary of Results for****Entrix, Inc.****Contact:** Brian Frantz

590 Ygnacio Valley Road

Walnut Creek CA 94596

Tel: 925-988-1217

**Lab Project #** ENX002**Lab Tracking #** 07BR1155**Lab Services Agreement** ENX002**Sample/Sampling/Receiving Info****Entrix, Inc.****BRL**

Sample Identification	Sampling Date	Matrix	Submatrix	Sample Number	Receiving Date
FM-A	8/7/2007	Water		07BR1155 - 01	8/8/2007
FM-B	8/7/2007	Water		07BR1155 - 02	8/8/2007
FM-C	8/7/2007	Water		07BR1155 - 03	8/8/2007
FM-D	8/7/2007	Water		07BR1155 - 04	8/8/2007
FM-E	8/7/2007	Water		07BR1155 - 05	8/8/2007
Field Blank	8/7/2007	Water	Blank	07BR1155 - 06	8/8/2007
FM-A	8/7/2007	Water		07BR1155 - 07	8/8/2007
FM-B	8/7/2007	Water		07BR1155 - 08	8/8/2007
FM-C	8/7/2007	Water		07BR1155 - 09	8/8/2007
FM-D	8/7/2007	Water		07BR1155 - 10	8/8/2007
FM-E	8/7/2007	Water		07BR1155 - 11	8/8/2007
Field Blank	8/7/2007	Water	Blank	07BR1155 - 12	8/8/2007
FM-A	8/7/2007	Water		07BR1155 - 13	8/8/2007
FM-B	8/7/2007	Water		07BR1155 - 14	8/8/2007
FM-C	8/7/2007	Water		07BR1155 - 15	8/8/2007
FM-D	8/7/2007	Water		07BR1155 - 16	8/8/2007
FM-E	8/7/2007	Water		07BR1155 - 17	8/8/2007

Thursday, September 06, 2007

  
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**Lab Project #** ENX002**Lab Tracking #** 07BR1155**Lab Services Agreement** ENX002**As**

Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	2.760	µg/L	
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	5.540	µg/L	
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	4.800	µg/L	
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.160	µg/L	B
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.120	µg/L	B
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.060	µg/L	U

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**Cd**

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Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.004	µg/L	U

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**Cr**

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Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	0.140	µg/L	B
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	0.100	µg/L	B
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	0.090	µg/L	B
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.030	µg/L	U
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.030	µg/L	U
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.030	µg/L	U

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Lab Tracking # 07BR1155

Lab Services Agreement ENX002

**Cu**

Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	0.110	µg/L	B
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	0.060	µg/L	B
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	0.060	µg/L	B
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.190	µg/L	B
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.180	µg/L	B
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.040	µg/L	U

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Lab Tracking # 07BR1155

Lab Services Agreement ENX002

**Fe**

Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/27/2007	07-0863a	20,400.000	µg/L	
FM-B	07BR1155 - 08	D	8/13/2007	8/27/2007	07-0863a	16,000.000	µg/L	
FM-C	07BR1155 - 09	D	8/13/2007	8/27/2007	07-0863a	19,400.000	µg/L	
FM-D	07BR1155 - 10	D	8/13/2007	8/27/2007	07-0863a	137.000	µg/L	
FM-E	07BR1155 - 11	D	8/13/2007	8/27/2007	07-0863a	34.800	µg/L	
Field Blank	07BR1155 - 12	T	8/13/2007	8/27/2007	07-0863a	1.400	µg/L	U

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**Lab Project #** ENX002  
**Lab Tracking #** 07BR1155

**Lab Services Agreement** ENX002

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**Hg**

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Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 01	T	8/23/2007	8/30/2007	07-0871	0.100	ng/L	U
FM-B	07BR1155 - 02	T	8/23/2007	8/30/2007	07-0871	0.100	ng/L	U
FM-C	07BR1155 - 03	T	8/23/2007	8/30/2007	07-0871	0.100	ng/L	U
FM-D	07BR1155 - 04	T	8/23/2007	8/30/2007	07-0871	0.410	ng/L	
FM-E	07BR1155 - 05	T	8/23/2007	8/30/2007	07-0871	0.220	ng/L	B
Field Blank	07BR1155 - 06	T	8/23/2007	8/30/2007	07-0871	0.100	ng/L	U

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Lab Project # ENX002

Lab Tracking # 07BR1155

Lab Services Agreement ENX002

**Ni**

Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	0.390	µg/L	
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	0.310	µg/L	
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	0.240	µg/L	
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.070	µg/L	B
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.060	µg/L	B
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.040	µg/L	U

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Tel: 925-988-1217

Lab Project # ENX002

Lab Tracking # 07BR1155

Lab Services Agreement ENX002

**Pb**

Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 07	D	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U
FM-B	07BR1155 - 08	D	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U
FM-C	07BR1155 - 09	D	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U
FM-D	07BR1155 - 10	D	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U
FM-E	07BR1155 - 11	D	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U
Field Blank	07BR1155 - 12	T	8/13/2007	8/14/2007	07-0863	0.010	µg/L	U

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590 Ygnacio Valley Road

Walnut Creek CA 94596

Tel: 925-988-1217

Lab Project # ENX002

Lab Tracking # 07BR1155

Lab Services Agreement ENX002

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## Hardness

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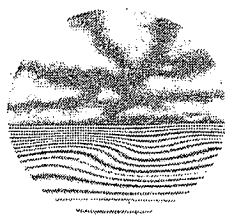
Sample Identification	BRL Number	Total or Dissolved	Preparation date	Analysis date	Batch #	Result	Units	Qualifier (Q)
FM-A	07BR1155 - 13	T	8/13/2007	8/27/2007	07-0825	41.900	mg/L	
FM-B	07BR1155 - 14	T	8/13/2007	8/27/2007	07-0825	54.900	mg/L	
FM-C	07BR1155 - 15	T	8/13/2007	8/27/2007	07-0825	49.300	mg/L	
FM-D	07BR1155 - 16	T	8/13/2007	8/27/2007	07-0825	9.160	mg/L	
FM-E	07BR1155 - 17	T	8/13/2007	8/27/2007	07-0825	9.020	mg/L	

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Thursday, September 06, 2007

  
Project Manager

# QUALITY ASSURANCE SUMMARY



**BROOKSRAND**  
TRACE METALS ANALYSIS & PRODUCTS

3958 6th Avenue NW

Seattle, WA 98107

Voice: 206-632-6206

Fax: 206-632-6017

Batch #: 07-0871

Method #: EPA 1631E

Analyte: Hg

Matrix: Water

BIAS Criterion: Recovery = 77-123% Continuing Calibration Verification (CCV)			
QCS ID	Certified Value ng/L	Measured Value ng/L	Recovery %
CCV1	5.00	4.95	99%
CCV2	5.00	5.16	103%
CCV3	5.00	5.19	104%
CCV4	5.00	5.02	100%
CCV5	5.00	5.27	105%

BIAS Criterion: Recovery = 85-115% Independent Calibration Verification (ICV)			
QCS ID	Certified Value ng/L	Measured Value ng/L	Recovery %
ICV*	16.01	15.60	97%

\* Preparation of the CRM NIST 1641d.

BIAS Criteria: Recovery = 71-125%, RPD ≤ 24% Matrix Spikes/Matrix Spike Duplicates (MS/MSD)								
Sample ID	Sample Value ng/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value ng/L	Measured Value ng/L	MS Recovery %	Spiked Value ng/L	Measured Value ng/L	MSD Recovery %	
07BR1130-01	101.8	401.6	523.1	105%	453.0	581.1	106%	11%
07BR1147-01	789.4	1020	1866	105%	1020	1864	105%	0%

1.0% BrCl Method Blanks (MB) Criterion: MB ≤ 0.5 ng/L, StDev ≤ 2/3 MDL						Method Detection Limits	
MB1 ng/L	MB2 ng/L	MB3 ng/L	MB4 ng/L	Average ng/L	StDev ng/L	MB MDL ng/L	MB PQL ng/L
0.18	0.17	0.17	0.12	0.16	0.03	0.10	0.25

1% BrCl MB prepared in quadruplicate.

Average MB result multiplied by appropriate factor to produce correction factor for each sample preservation BrCl level.

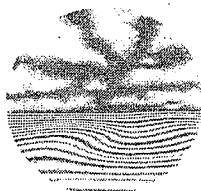
Sample Specific Detection Limits		
Sample ID	MDL ng/L	PQL ng/L
07BR1130-01	2.1	5.1
07BR1130-02	0.21	0.53
07BR1130-03	0.36	0.91
07BR1130-04	0.47	1.17
07BR1130-05	0.53	1.33

Sample Specific Detection Limits		
Sample ID	MDL ng/L	PQL ng/L
07BR1130-06	0.43	1.07
07BR1130-07	0.45	1.13
07BR1130-08	0.42	1.05
07BR1130-09	0.40	1.00
07BR1147-01	2.0	5.1

*Nicole C. Mead*  
Quality Assurance Officer

*C. Hawley*  
Project Manager

# QUALITY ASSURANCE SUMMARY



**BROOKSRAND**  
TRACE METALS ANALYSIS & PRODUCTS

3958 6th Avenue NW  
Seattle, WA 98107  
Voice: 206-632-6206  
Fax: 206-632-6017

Batch #: 07-0863

Method #: EPA 1638 Mod. (ICP-MS)

Analyte: Trace Metals

Matrix: Water

BIAS Criterion: Recovery = 85-115% Independent Calibration Verification (ICV)			
Analyte	Certified Value µg/L	Measured Value µg/L	Recovery %
Cr	50.00	49.58	99%
Ni	50.00	51.30	103%
Cu	50.00	52.68	105%
As	50.00	48.52	97%
Cd	5.00	5.16	103%
Ba	50.00	50.19	100%
Pb	5.00	5.66	113%

BIAS Criteria: Recovery = 75-125% Certified Reference Materials (CRM)						
Analyte	NIST 1640			NIST 1643e		
	Certified Value µg/L	Measured Value µg/L	Recovery %	Certified Value µg/L	Measured Value µg/L	Recovery %
Cr	38.6	38.0	98%	20.4	20.6	101%
Ni	27.4	28.5	104%	62.41	62.48	100%
Cu	85.2	90.4	106%	22.76	23.24	102%
As	26.67	25.91	97%	60.45	55.89	92%
Cd	22.79	22.43	98%	6.568	6.439	98%
Ba	148.0	142.2	96%	544.2	535.3	98%
Pb	27.89	31.12	112%	19.63	19.84	101%

BIAS Criteria: Recovery = 75-125%, RPD ≤ 25% Sample 07BR1113-33 Matrix Spike and Matrix Spike Duplicate Analysis (MS/MSD)								
Analyte	Sample Value µg/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value µg/L	Measured Value µg/L	MS Recovery %	Spiked Value µg/L	Measured Value µg/L	MSD Recovery %	
Ba	9.91	100.0	113.2	103%	100.0	111.5	102%	2%
Pb	0.15	5.00	5.21	101%	5.00	5.11	99%	2%

PRECISION Criteria: RPD ≤ 25% or results +/- PQL if ≤ 5x PQL Sample 07BR1113-33 Method Duplicate Analysis (MD)				
Analyte	Sample Value µg/L	Duplicate Value µg/L	Average Value µg/L	Duplicate RPD
Ba	9.91	10.12	10.01	2%
Pb	0.15	0.14	0.15	***

\*\*\* Results are less than 5x the PQL and within one PQL of each other, satisfying the secondary acceptance criteria.

Quality Assurance Officer

Project Manager

# QUALITY ASSURANCE SUMMARY

Batch #: 07-0863 (continued)

Method #: EPA 1638 Mod. (ICP-MS)

Analyte: Trace Metals

Matrix: Water

BIAS					Criteria: Recovery = 75-125%, RPD ≤25%			
Sample 07BR1155-07 Matrix Spike and Matrix Spike Duplicate Analysis (MS/MSD)								
Analyte	Sample Value μg/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value μg/L	Measured Value μg/L	MS Recovery %	Spiked Value μg/L	Measured Value μg/L	MSD Recovery %	
Cr	0.14	1.00	0.97	83%	1.00	0.96	82%	1%
Ni	0.39	1.00	1.25	86%	1.00	1.26	87%	0%
Cu	0.11	1.00	1.07	97%	1.00	1.07	97%	0%
As	2.76	1.00	3.71	95%	1.00	3.68	92%	1%
Cd	0.003	0.500	0.479	95%	0.500	0.473	94%	1%
Pb	0.01	0.50	0.54	105%	0.50	0.54	105%	1%

PRECISION					Criteria: RPD ≤25% or results +/-PQL if ≤5x PQL			
Sample 07BR1155-07 Method Duplicate Analysis (MD)								
Analyte	Sample Value μg/L	Duplicate Value μg/L	Average Value μg/L	Duplicate RPD				
Cr	0.14	0.11	0.1	***				
Ni	0.39	0.38	0.38	5%				
Cu	0.11	0.10	0.10	***				
As	2.76	2.78	2.77	1%				
Cd	0.003	0.003	0.003	***				
Pb	0.01	0.01	0.01	***				

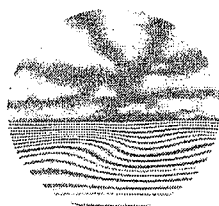
\*\*\* Results are less than 5x the PQL and within one PQL of each other, satisfying the secondary acceptance criteria.

Method Blanks (MB)							Method Detection Limits	
Criteria: Avg. ≤ PQL and StDev ≤ MDL or < 1/10th sample result							MDL	PQL
Analyte	MB1 μg/L	MB2 μg/L	MB3 μg/L	MB4 μg/L	Average μg/L	StDev μg/L	μg/L	μg/L
Cr	-0.01	-0.01	0.00	-0.01	-0.01	0.00	0.03	0.15
Ni	0.00	-0.01	-0.01	0.00	0.00	0.00	0.04	0.20
Cu	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.20
As	-0.01	0.00	0.00	-0.01	-0.01	0.01	0.06	0.20
Cd	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.010
Ba	-0.02	-0.02	-0.02	-0.02	-0.02	0.00	0.01	0.05
Pb	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.05

  
Quality Assurance Officer

  
Project Manager

# QUALITY ASSURANCE SUMMARY



**BROOKSRAND**  
TRACE METALS ANALYSIS & PRODUCTS

3958 6th Avenue NW  
Seattle, WA 98107  
Voice: 206-632-6206  
Fax: 206-632-6017

Batch #: 07-0863a

Method #: EPA 1638 Mod. (ICP-MS)

Analyte: Ca, Mg, and Fe

Matrix: Water

BIAS <span style="float: right;">Criteria: Recovery = 75-125%</span>						
Certified Reference Materials (CRM)						
Analyte	NIST 1640			NIST 1643e		
	Certified Value µg/L	Measured Value µg/L	Recovery %	Certified Value µg/L	Measured Value µg/L	Recovery %
Mg	5819	5788	99%	8037	8020	100%
Ca	7045	7486	106%	32300	31323	97%
Fe	34.3	40.6	118%	n/a	n/a	n/a

BIAS <span style="float: right;">Criterion: Recovery = 75-125%</span>			
ERA Hardness CRM			
Analyte	Expected Value* mg/L	Measured Value µg/L	Recovery %
Mg	6550	6677	102%
Ca	32400	34808	107%

\* Analytical verification values from the Round Robin validation of the Hardness standard.

BIAS <span style="float: right;">Criteria: Recovery = 75-125%, RPD &lt;25%</span>								
Sample 07BR1155-07 Matrix Spike and Matrix Spike Duplicate Analysis (MS/MSD)								
Analyte	Sample Value µg/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value µg/L	Measured Value µg/L	MS Recovery %	Spiked Value µg/L	Measured Value µg/L	MSD Recovery %	
Mg	3202	20000	23518	102%	20000	24085	104%	2%
Fe	20428	20000	40557	101%	20000	41479	105%	2%

PRECISION <span style="float: right;">Criteria: RPD &lt;25% or results +/-PQL if &lt;5x PQL</span>				
Sample 07BR1155-07 Method Duplicate Analysis (MD)				
Analyte	Sample Value µg/L	Duplicate Value µg/L	Average Value µg/L	Duplicate RPD
Mg	3202	3321	3262	4%
Fe	20428	20851	20639	2%

Quality Assurance Officer  
  
 Project Manager



# QUALITY ASSURANCE SUMMARY

Batch #: 07-0863a (continued)

Method #: EPA 1638 Mod. (ICP-MS)

Analyte: Ca, Mg, and Fe

Matrix: Water

BIAS					Criteria: Recovery = 75-125%, RPD <25%			
Sample 07BR1155-16 Matrix Spike and Matrix Spike Duplicate Analysis (MS/MSD)								
Analyte	Sample Value µg/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value µg/L	Measured Value µg/L	MS Recovery %	Spiked Value µg/L	Measured Value µg/L	MSD Recovery %	
Mg	616.3	2000	2595	99%	2000	2558	97%	1%
Ca	2652	2000	4777	106%	2000	4804	108%	1%

PRECISION					Criteria: RPD<25% or results +/-PQL if <5x PQL
Sample 07BR1155-16 Method Duplicate Analysis (MD)					
Analyte	Sample Value µg/L	Duplicate Value µg/L	Average Value µg/L	Duplicate RPD	
Mg	616	584	600	5%	
Ca	2652	2553	2603	4%	

Method Blanks (MB)							Criteria: Avg. < PQL and StDev < MDL or < 1/10th sample result			
Analyte	MB1 µg/L	MB2 µg/L	MB3 µg/L	MB4 µg/L	Average µg/L	StDev µg/L				
Mg	17.1	2.7	0.9	-0.1	1.2	1.4				
Ca	59.5	3.1	-4.5	-4.2	-1.9	4.3				
Fe	-0.4	-0.6	-0.2	0.1	-0.3	0.3				

MB1 for Mg and Ca is omitted as a Grubb's outlier. It is not included in the MB average used to blank correct the results. The MB standard deviation for Mg is >MDL, all sample results >10x the greatest blank result.

Method Detection Limits		
Analyte	MDL µg/L	PQL µg/L
Mg	0.6	3.0
Ca	6.0	30.0
Fe	1.4	5.0

Sample Specific Detection Limits For Fe		
Sample ID	MDL µg/L	PQL µg/L
07BR1155-07	7	25
07BR1155-08	7	25
07BR1155-09	7	25

  
 Quality Assurance Officer  
  
 Project Manager

# QUALITY ASSURANCE SUMMARY



**BROOKSRAND**  
TRACE METALS ANALYSIS & PRODUCTS

3958 6th Avenue NW  
Seattle, WA 98107  
Voice: 206-632-6206  
Fax: 206-632-6017

Batch #: 07-0825

Method #: SM 2340 B (calculation)

Analyte: Hardness

Matrix: Water

BIAS ERA Hardness CRM			
Criterion: Recovery = 75-125%			
Analyte	Expected Value*	Measured Value	Recovery %
Hardness	110	114	104%

\* Analytical verification value from the Round Robin validation of the Hardness standard.

BIAS Matrix Spike and Matrix Spike Duplicate Analysis (MS/MSD)								
Criteria: Recovery = 75-125%, RPD <25%								
Sample ID	Sample Value mg/L	Matrix Spike			Matrix Spike Duplicate			Duplicate RPD
		Spiked Value mg/L	Measured Value mg/L	MS Recovery %	Spiked Value mg/L	Measured Value mg/L	MSD Recovery %	
07BR1155-16	9.16	13.23	22.62	102%	13.23	22.53	101%	0%

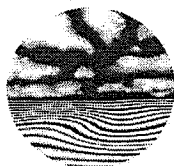
PRECISION Method Duplicate Analysis (MD)				
Criteria: RPD <25% or results +/-PQL if <5x PQL				
Sample ID	Sample Value mg/L	Duplicate Value mg/L	Average Value mg/L	Duplicate RPD
07BR1155-16	9.16	8.78	8.97	4%

Method Blanks (MB)						
Criteria: Avg. < PQL and StDev < MDL or < 1/10th sample result						
Analyte	MB1 mg/L	MB2 mg/L	MB3 mg/L	MB4 mg/L	Average mg/L	StDev mg/L
Hardness	0.219*	0.019	-0.007	-0.011	0.000	0.016

\* Omitted as a Grubb's outlier. Result not used to calculate average MB used to correct sample results.

Method Detection Limits		
Analyte	MDL mg/L	PQL mg/L
Hardness	0.018	0.088

Quality Assurance Officer  
  
Project Manager



**BROOKSRAND**  
TRACE METALS ANALYSIS & PRODUCTS

3958 6<sup>th</sup> Avenue NW

Seattle, WA 98107

www.brooksrand.com

Phone: 206-632-6206

Fax: 206-632-6017

Email: brl@brooksrand.com

## Sample Receiving Log

Tracking # **07BR1155**

Customer: Entrix, Inc.

Contact: Brian Frantz

Project Ref. #: ENX002

BRL Project Manager: Amanda Fawley

Due Date: 9/5/2007

Receiving Date: 8/8/2007

Receiving Time: 9:00 AM

Logged-in by: Katie Jahanmir

Log-in Date: 8/8/2007

Log-in Time: 12:26 PM

Airbill present? Yes

Airbill # 862166261471

Courier: FedEx

Custody seal present? Yes

Custody seal intact? Yes

COC Present? Yes

COC/Sample tag agree? Yes

COC Number: N/A

QA Level Standard

Sample Condition Intact

Shipping container intact? Yes

Shipping container type: Cooler

Shipping container temp: 4 °C

Shipping container coolant: Ice

Sample Turnaround Time:

Contract Turnaround Time: 28 days

Comments:

Lab ID:

**01**

Sample Tag #: FM-A

Collection Date/Time: 8/7/2007, 10:15:00 AM

ContainerType and Lot #: FLPE bottle, 07-032

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: No

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg

EPA 1631

**02**

Sample Tag #: FM-B

Collection Date/Time: 8/7/2007, 10:50:00 AM

ContainerType and Lot #: FLPE bottle, 07-032

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: No

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg

EPA 1631

**03**

Sample Tag #: FM-C

Collection Date/Time: 8/7/2007, 11:10:00 AM

ContainerType and Lot #: FLPE bottle, 07-032

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: No

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg

EPA 1631

Lab ID:

04 Sample Tag #: FM-D  
Collection Date/Time: 8/7/2007, 12:00:00 PM  
ContainerType and Lot #: FLPE bottle, 07-032  
Size: 250-mL  
Matrix/Sub-Matrix: Water,  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: No  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg EPA 1631

05 Sample Tag #: FM-E  
Collection Date/Time: 8/7/2007, 12:30:00 PM  
ContainerType and Lot #: FLPE bottle,  
Size: 500-mL  
Matrix/Sub-Matrix: Water,  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: No  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg EPA 1631

06 Sample Tag #: Field Blank  
Collection Date/Time: 8/7/2007, 12:45:00 PM  
ContainerType and Lot #: FLPE bottle, 07-032  
Size: 250-mL  
Matrix/Sub-Matrix: Water, Blank  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: No  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Hg EPA 1631 Do Not Spike

07 Sample Tag #: FM-A  
Collection Date/Time: 8/7/2007, 10:15:00 AM  
ContainerType and Lot #: HDPE bottle, 07-092  
Size: 250-mL  
Matrix/Sub-Matrix: Water,  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: Yes  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: As EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cd EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cr EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cu EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Fe EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Ni EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Pb EPA 1638 Mod. (ICP-MS)

08 Sample Tag #: FM-B  
Collection Date/Time: 8/7/2007, 10:50:00 AM  
ContainerType and Lot #: HDPE bottle, 07-092  
Size: 250-mL  
Matrix/Sub-Matrix: Water,  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: Yes  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: As EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cd EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cr EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Cu EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Fe EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

Lab ID:

Analysis / Method: Ni EPA 1638 Mod. (ICP-MS)

Analysis / Method: Pb EPA 1638 Mod. (ICP-MS)

09

Sample Tag #: FM-C

Collection Date/Time: 8/7/2007, 11:10:00 AM

ContainerType and Lot #: HDPE bottle, 07-092

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: Yes

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: As EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cd EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cr EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cu EPA 1638 Mod. (ICP-MS)

Analysis / Method: Fe EPA 1638 Mod. (ICP-MS)

Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

Analysis / Method: Ni EPA 1638 Mod. (ICP-MS)

Analysis / Method: Pb EPA 1638 Mod. (ICP-MS)

10

Sample Tag #: FM-D

Collection Date/Time: 8/7/2007, 12:00:00 PM

ContainerType and Lot #: HDPE bottle, 07-092

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: Yes

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: As EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cd EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cr EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cu EPA 1638 Mod. (ICP-MS)

Analysis / Method: Fe EPA 1638 Mod. (ICP-MS)

Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

Analysis / Method: Ni EPA 1638 Mod. (ICP-MS)

Analysis / Method: Pb EPA 1638 Mod. (ICP-MS)

11

Sample Tag #: FM-E

Collection Date/Time: 8/7/2007, 12:30:00 PM

ContainerType and Lot #: HDPE bottle, 07-092

Size: 250-mL

Matrix/Sub-Matrix: Water,

Preservation: none

Acid Lot#: n/a

pH:

Filtered?: Yes

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: As EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cd EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cr EPA 1638 Mod. (ICP-MS)

Analysis / Method: Cu EPA 1638 Mod. (ICP-MS)

Analysis / Method: Fe EPA 1638 Mod. (ICP-MS)

Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

Analysis / Method: Ni EPA 1638 Mod. (ICP-MS)

Analysis / Method: Pb EPA 1638 Mod. (ICP-MS)

Lab ID:

12

Matrix/Sub-Matrix: Water, Blank

Sample Tag #: Field Blank

Preservation: none

Collection Date/Time: 8/7/2007, 12:45:00 PM

Acid Lot#: n/a

ContainerType and Lot #: HDPE bottle, 07-092

pH:

Filtered?: No

Size: 250-mL

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method:	As	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Cd	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Cr	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Cu	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Fe	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Mg	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Ni	EPA 1638 Mod. (ICP-MS)	Do Not Spike
Analysis / Method:	Pb	EPA 1638 Mod. (ICP-MS)	Do Not Spike

13

Matrix/Sub-Matrix: Water,

Sample Tag #: FM-A

Preservation: none

Collection Date/Time: 8/7/2007, 10:15:00 AM

Acid Lot#: n/a

ContainerType and Lot #: HDPE bottle, 07-092

pH:

Filtered?: No

Size: 250-mL

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method:	Ca	EPA 1638 Mod. (ICP-MS)
Analysis / Method:	Hardness	SM 2340 B (Calculation)
Analysis / Method:	Mg	EPA 1638 Mod. (ICP-MS)

14

Matrix/Sub-Matrix: Water,

Sample Tag #: FM-B

Preservation: none

Collection Date/Time: 8/7/2007, 10:50:00 AM

Acid Lot#: n/a

ContainerType and Lot #: HDPE bottle, 07-092

pH:

Filtered?: No

Size: 250-mL

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method:	Ca	EPA 1638 Mod. (ICP-MS)
Analysis / Method:	Hardness	SM 2340 B (Calculation)
Analysis / Method:	Mg	EPA 1638 Mod. (ICP-MS)

15

Matrix/Sub-Matrix: Water,

Sample Tag #: FM-C

Preservation: none

Collection Date/Time: 8/7/2007, 11:10:00 AM

Acid Lot#: n/a

ContainerType and Lot #: HDPE bottle, 07-092

pH:

Filtered?: No

Size: 250-mL

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method:	Ca	EPA 1638 Mod. (ICP-MS)
Analysis / Method:	Hardness	SM 2340 B (Calculation)
Analysis / Method:	Mg	EPA 1638 Mod. (ICP-MS)

16

Matrix/Sub-Matrix: Water,

Sample Tag #: FM-D

Preservation: none

Collection Date/Time: 8/7/2007, 12:00:00 PM

Acid Lot#: n/a

ContainerType and Lot #: HDPE bottle, 07-092

pH:

Filtered?: No

Size: 250-mL

Sample Storage Location: Cabinet #5

Comments:

Analysis / Method:	Ca	EPA 1638 Mod. (ICP-MS)
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Lab ID:

Analysis / Method: Hardness SM 2340 B (Calculation)  
Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

17

Sample Tag #: FM-E  
Collection Date/Time: 8/7/2007, 12:30:00 PM  
ContainerType and Lot #: HDPE bottle, 07-092  
Size: 250-mL

Matrix/Sub-Matrix: Water,  
Preservation: none  
Acid Lot#: n/a  
pH:  
Filtered?: No  
Sample Storage Location: Cabinet #5

Comments:

Analysis / Method: Ca EPA 1638 Mod. (ICP-MS)  
Analysis / Method: Hardness SM 2340 B (Calculation)  
Analysis / Method: Mg EPA 1638 Mod. (ICP-MS)

*updated Amy Dunde* 8/9/07  
Sample Custodian signature Date  
*Amy Dunde* 8/09/07  
Reviewed by signature Date



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## Chain Of Custody Record

Page 1 of 1  
White: LAB COPY  
Yellow: CUSTOMER COPY

Client: <b>ENTRIX</b>	COC receipt confirmation? (Y / N) <b>(N)</b>	Ship to: <b>Brooks Rand LLC</b>
Contact: <b>Coralie Dayde</b>	If yes, by Fax / Email (circle one)	<b>3958 6<sup>th</sup> Avenue NW</b>
Address: <b>590 Ygnacio Valley Rd, Ste 200 Walnut Creek CA 94596</b>	Fax #:	<b>Seattle, WA 98107</b>
	Email:	<b>Phone: 206-632-6206</b>
Phone #: <b>925-988-1234</b>	Sampler's name: <b>C. Dayde - J Aldrin</b>	<b>Fax: 206-632-6017</b>
PO #:	Client project ID: <b>PCWA-WQ</b>	<b>Email: samples@brooksrand.com</b>
	BRL project ID: <b>ENX002</b>	<b>www.brooksrand.com</b>

Sample ID	Collection		Miscellaneous				Field Preservation		Analyses required									Comments	
	Date	Time	Sampler (initials)	Matrix type	# of containers	Sample field filtered (Y/N)	Unpreserved / ice only	HCl/HNO <sub>3</sub> /BrCl (circle one)	Other (specify)	Total Hg, EPA 1631	Methyl Hg, EPA 1630	Metals ICP-MS (specify)	As / Se species (specify)	% Solids	Filtration	Other (specify) As, Cd, Cr, Hg, Pb, Ni, Cu	Other (specify) Hudson		Other (specify)
1 FM-A	8-7-07	10:15	CDJA	H <sub>2</sub> O	3	Y/N	X			X						X	X	X	THg & Hg spec not filtered. (metals field filtered)
2 FM-B	8-7-07	10:50	CDJA	H <sub>2</sub> O	3	Y/N	X			X						X	X	X	
3 FM-C	8-7-07	11:10	CDJA	H <sub>2</sub> O	3	Y/N	X			X						X	X	X	
4 FM-D	8-7-07	12:00	CDJA	H <sub>2</sub> O	3	Y/N	X			X						X	X	X	
5 FM-E	8-7-07	12:30	CDJA	H <sub>2</sub> O	3	Y/N	X			X						X	X	X	
6 Field Blank	8-7-07	12:45	CDJA	H <sub>2</sub> O	2	Y/N	X			X									THg not filtered Metals filtered
7																			
8																			
9																			
10																			

Relinquished by: <b>Coralie Dayde</b>	Date: <b>8.7.07</b>	Time: <b>17:00</b>	Received by: <b>RJA</b>	Date: <b>8/8/07</b>	Time: <b>9:00</b>
Relinquished by:	Date:	Time:	Received at BRL by:	Date:	Time:
Shipping carrier: <b>FedEx</b>	# of coolers: <b>1</b>	BRL Tracking #: <b>07BR1155</b>			