MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

City of Phoenix
Public Works Department
3060 South 27th Avenue
Phoenix, AZ 85009-6810
Attention: Cristina Wilfong
Fax: 602-534-8599

Date of Issue
06/10/2010

MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 334969
Project: SR85
Group: SR-85 Metals Confirmation

TDF: Thomas.D.French

Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

MWH Laboratories

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

City of Phoenix
Public Works Department
3060 South 27th Avenue
Phoenix, AZ 85009-6810
Attn: Cristina Wilfong
Phone: 602-534-8512

Customer Code: PHOENIX-LF
Group #: 334969
Project #: SR85
Sample Group: SR-85 Metals Confirmation
Project Manager: Thomas.D.French
Phone: (480) 778-1558

The following samples were received from you on **June 02, 2010**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
201006020173	MW-3	01-Jun-2010 1054
	Sample Type: FO Well Id: MW-3	
	Arsenic Total ICAP/MS	
201006020174	MW-4	02-Jun-2010 1204
	Sample Type: FO Well Id: MW-4	
	Barium Total ICAP/MS Selenium Total ICAP/MS	
201006020175	MW-4 DUP	02-Jun-2010 1204
	Sample Type: FD Well Id: MW-4	
	Barium Total ICAP/MS Selenium Total ICAP/MS	

Test Description

CHAIN OF CUSTODY RECORD

334969

MWH LABORATORIES

750 Royal Oaks, Suite 100
Monrovia, California 91016
Phone: (626) 386-1100
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Fax: (626) 386-1101

MWH LABS USE ONLY:

LOGIN COMMENTS:

SAMPLE TEMP RECEIVED AT:
☑ Scottsdale 7.2 °C (Compliance: 4 +/- 2°C)
RECEIVED FROM CLIENT: REFRIGERATED___ ON ICE___
☑ Monrovia 3 °C (Compliance: 4 +/- 2°C)
CONDITION OF ICE: FROZEN___ PARTIALLY FROZEN___ THAWED___

SAMPLES CHECKED AGAINST COC BY: JS
SAMPLES LOGGED IN BY: JS
SAMPLES REC'D DAY OF COLLECTION ☐ (check for yes)

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY or PROJECT: CITY OF PHOENIX
SYSTEM #: SR-85 LF
MWH LABS CLIENT CODE: PHOENIX-LF
P.O.# / JOB # / PROJECT :
SAMPLER PRINTED NAME AND SIGNATURE: JESUS PAEZ
TAT requested: rush by adv notice only
STD___ 1 week___ 3 day___ 2 day___ 1 day___

COMPLIANCE SAMPLES (check for yes) ☐ - Requires state forms ☐
NON-COMPLIANCE SAMPLES (check for yes) ☐
REGULATION INVOLVED: ___ (eg. SDWA, Phase V, NPDES, FDA,...)
Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☑ (check for yes), OR
LIST ANALYSES REQUIRED BELOW (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
6/1/10	1354	MW-3	SR-85 LF		X		WELL ID MW-3 FD
6/2/10	1204	MW-4	↓		X		WELL ID MW-4 FD
6/2/10	1204	MW-4 DUP			X		WELL ID MW-4 FD

*** MATRIX TYPES:**
RSW = Raw Surface Water; CFW = Chlor(am)inated Finished Water; CWW = Chlorinated Waste Water; BW = Bottled Water; SO = Soil
RGW = Raw Ground Water; FW = Other Finished Water; WW = Other Waste Water; SW = Storm Water; SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		JESUS PAEZ	CITY OF PHOENIX	6/2/10	1425
RECEIVED BY:		JESUS PAEZ	MWH	060210	1425
RELINQUISHED BY:		JESUS PAEZ	MWH	060210	1700
RECEIVED BY:	Joe Sanchez	JOE SANCHEZ	MWH	6-3-10	1052
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# ___

PAGE ___ OF ___

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Laboratory Comments
Report: #334969

City of Phoenix
Cristina Wilfong
Public Works Department
3060 South 27th Avenue
Phoenix, AZ 85009-6810

The Comments Report may be blank if there are no comments for this report.

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Laboratory
Hits Report: 334969

City of Phoenix
Cristina Wilfong
Public Works Department
3060 South 27th Avenue
Phoenix, AZ 85009-6810

Samples Received on:
06/02/2010

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
		201006020173 MW-3				
06/07/2010	18:19 Arsenic Total ICAP/MS		9.7	10	ug/L	5
		201006020174 MW-4				
06/03/2010	19:53 Barium Total ICAP/MS		100	2000	ug/L	2
06/03/2010	19:53 Selenium Total ICAP/MS		6.2	50	ug/L	5
		201006020175 MW-4 DUP				
06/03/2010	19:58 Barium Total ICAP/MS		100	2000	ug/L	2
06/03/2010	19:58 Selenium Total ICAP/MS		6.3	50	ug/L	5

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Data
Report: 334969

City of Phoenix
Cristina Wilfong
Public Works Department
3060 South 27th Avenue
Phoenix, AZ 85009-6810

Samples Received on:
06/02/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
MW-3 (201006020173)						**Sampled on 06/01/2010 1054**		
Sample Type: FO Well Id: MW-3								
EPA 200.8 - ICPMS Metals								
06/07/2010	18:19	556654	(EPA 200.8)	Arsenic Total ICAP/MS	9.7	ug/L	5	5
MW-4 (201006020174)						**Sampled on 06/02/2010 1204**		
Sample Type: FO Well Id: MW-4								
EPA 200.8 - ICPMS Metals								
06/03/2010	19:53	556366	(EPA 200.8)	Barium Total ICAP/MS	100	ug/L	2	1
06/03/2010	19:53	556366	(EPA 200.8)	Selenium Total ICAP/MS	6.2	ug/L	5	1
MW-4 DUP (201006020175)						**Sampled on 06/02/2010 1204**		
Sample Type: FD Well Id: MW-4								
EPA 200.8 - ICPMS Metals								
06/03/2010	19:58	556366	(EPA 200.8)	Barium Total ICAP/MS	100	ug/L	2	1
06/03/2010	19:58	556366	(EPA 200.8)	Selenium Total ICAP/MS	6.3	ug/L	5	1

Rounding on totals after summation.
(c) - indicates calculated results

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QC Ref # 556366 - ICPMS Metals — **Analysis Date: 06/03/2010**

201006020174	MW-4	Analyzed by: DYH
201006020175	MW-4 DUP	Analyzed by: DYH

QC Ref # 556654 - ICPMS Metals — **Analysis Date: 06/07/2010**

201006020173	MW-3	Analyzed by: DYH

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 556366 - ICPMS Metals by EPA 200.8						**Analysis Date: 06/03/2010**			
LCS1	Aluminum Total ICAP/MS		200	205	ug/L	102	(85-115)		
LCS2	Aluminum Total ICAP/MS		200	205	ug/L	103	(85-115)	20	0.0
MBLK	Aluminum Total ICAP/MS			<20	ug/L				
MRL_CHK	Aluminum Total ICAP/MS		20	23.8	ug/L	119	(50-150)		
MS_201006020309	Aluminum Total ICAP/MS	ND	200	197	ug/L	96	(70-130)		
MS2_201006020224	Aluminum Total ICAP/MS	ND	200	201	ug/L	97	(70-130)		
MSD_201006020309	Aluminum Total ICAP/MS	ND	200	194	ug/L	95	(70-130)	20	1.5
MSD2_201006020224	Aluminum Total ICAP/MS	ND	200	204	ug/L	99	(70-130)	20	1.6
LCS1	Antimony Total ICAP/MS		50	50.9	ug/L	102	(85-115)		
LCS2	Antimony Total ICAP/MS		50	51.9	ug/L	104	(85-115)	20	2.0
MBLK	Antimony Total ICAP/MS			<1	ug/L				
MRL_CHK	Antimony Total ICAP/MS		1.0	1.17	ug/L	117	(50-150)		
MS_201006020309	Antimony Total ICAP/MS	ND	50	51.9	ug/L	104	(70-130)		
MS2_201006020224	Antimony Total ICAP/MS	ND	50	51.5	ug/L	103	(70-130)		
MSD_201006020309	Antimony Total ICAP/MS	ND	50	49.0	ug/L	98	(70-130)	20	6.3
MSD2_201006020224	Antimony Total ICAP/MS	ND	50	51.8	ug/L	103	(70-130)	20	0.0
LCS1	Arsenic Total ICAP/MS		20	20.5	ug/L	102	(85-115)		
LCS2	Arsenic Total ICAP/MS		20	20.6	ug/L	103	(85-115)	20	0.49
MBLK	Arsenic Total ICAP/MS			<1	ug/L				
MRL_CHK	Arsenic Total ICAP/MS		1.0	1.07	ug/L	107	(50-150)		
MS_201006020309	Arsenic Total ICAP/MS	1.9	20	22.4	ug/L	102	(70-130)		
MS2_201006020224	Arsenic Total ICAP/MS	ND	20	20.6	ug/L	101	(70-130)		
MSD_201006020309	Arsenic Total ICAP/MS	1.9	20	22.0	ug/L	101	(70-130)	20	0.99
MSD2_201006020224	Arsenic Total ICAP/MS	ND	20	20.9	ug/L	103	(70-130)	20	2.0
LCS1	Barium Total ICAP/MS		100	103	ug/L	103	(85-115)		
LCS2	Barium Total ICAP/MS		100	103	ug/L	103	(85-115)	20	0.0
MBLK	Barium Total ICAP/MS			<2	ug/L				
MRL_CHK	Barium Total ICAP/MS		2.0	2.57	ug/L	129	(50-150)		
MS_201006020309	Barium Total ICAP/MS	38	100	132	ug/L	94	(70-130)		
MS2_201006020224	Barium Total ICAP/MS	24	100	123	ug/L	99	(70-130)		
MSD_201006020309	Barium Total ICAP/MS	38	100	127	ug/L	89	(70-130)	20	5.4
MSD2_201006020224	Barium Total ICAP/MS	24	100	124	ug/L	100	(70-130)	20	1.0
LCS1	Beryllium Total ICAP/MS		5.0	5.3	ug/L	106	(85-115)		
LCS2	Beryllium Total ICAP/MS		5.0	5.32	ug/L	106	(85-115)	20	0.38
MBLK	Beryllium Total ICAP/MS			<1	ug/L				
MRL_CHK	Beryllium Total ICAP/MS		1.0	1.11	ug/L	111	(50-150)		
MS_201006020309	Beryllium Total ICAP/MS	ND	5.0	5.5	ug/L	110	(70-130)		

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

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City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS2_201006020224	Beryllium Total ICAP/MS	ND	5.0	5.32	ug/L	106	(70-130)		
MSD_201006020309	Beryllium Total ICAP/MS	ND	5.0	5.46	ug/L	109	(70-130)	20	0.91
MSD2_201006020224	Beryllium Total ICAP/MS	ND	5.0	5.42	ug/L	108	(70-130)	20	1.9
LCS1	Cadmium Total ICAP/MS		20	20.6	ug/L	103	(85-115)		
LCS2	Cadmium Total ICAP/MS		20	20.6	ug/L	103	(85-115)	20	0.0
MBLK	Cadmium Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Cadmium Total ICAP/MS		0.5	0.540	ug/L	108	(50-150)		
MS_201006020309	Cadmium Total ICAP/MS	ND	20	19.6	ug/L	98	(70-130)		
MS2_201006020224	Cadmium Total ICAP/MS	ND	20	19.4	ug/L	97	(70-130)		
MSD_201006020309	Cadmium Total ICAP/MS	ND	20	18.7	ug/L	93	(70-130)	20	5.0
MSD2_201006020224	Cadmium Total ICAP/MS	ND	20	19.6	ug/L	98	(70-130)	20	0.92
LCS1	Chromium Total ICAP/MS		100	102	ug/L	102	(85-115)		
LCS2	Chromium Total ICAP/MS		100	104	ug/L	104	(85-115)	20	1.9
MBLK	Chromium Total ICAP/MS			<1	ug/L				
MRL_CHK	Chromium Total ICAP/MS		1.0	1.08	ug/L	108	(50-150)		
MS_201006020309	Chromium Total ICAP/MS	2.1	100	98.5	ug/L	96	(70-130)		
MS2_201006020224	Chromium Total ICAP/MS	1.0	100	97.7	ug/L	97	(70-130)		
MSD_201006020309	Chromium Total ICAP/MS	2.1	100	97.0	ug/L	95	(70-130)	20	1.5
MSD2_201006020224	Chromium Total ICAP/MS	1.0	100	98.1	ug/L	97	(70-130)	20	0.41
LCS1	Copper Total ICAP/MS		100	107	ug/L	107	(85-115)		
LCS2	Copper Total ICAP/MS		100	107	ug/L	107	(85-115)	20	0.0
MBLK	Copper Total ICAP/MS			<2	ug/L				
MRL_CHK	Copper Total ICAP/MS		2.0	2.36	ug/L	118	(50-150)		
MS_201006020309	Copper Total ICAP/MS	33	100	125	ug/L	92	(70-130)		
MS2_201006020224	Copper Total ICAP/MS	21	100	116	ug/L	95	(70-130)		
MSD_201006020309	Copper Total ICAP/MS	33	100	124	ug/L	91	(70-130)	20	0.87
MSD2_201006020224	Copper Total ICAP/MS	21	100	118	ug/L	97	(70-130)	20	2.1
LCS1	Lead Total ICAP/MS		20	21.8	ug/L	109	(85-115)		
LCS2	Lead Total ICAP/MS		20	21.7	ug/L	108	(85-115)	20	0.46
MBLK	Lead Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.563	ug/L	113	(50-150)		
MS_201006020309	Lead Total ICAP/MS	ND	20	20.4	ug/L	101	(70-130)		
MS2_201006020224	Lead Total ICAP/MS	ND	20	20.2	ug/L	100	(70-130)		
MSD_201006020309	Lead Total ICAP/MS	ND	20	20.0	ug/L	99	(70-130)	20	2.0
MSD2_201006020224	Lead Total ICAP/MS	ND	20	20.4	ug/L	101	(70-130)	20	1
LCS1	Manganese Total ICAP/MS		50	52.3	ug/L	105	(85-115)		
LCS2	Manganese Total ICAP/MS		50	52.6	ug/L	105	(85-115)	20	0.57
MBLK	Manganese Total ICAP/MS			<2	ug/L				

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

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QC Report: 334969

City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Manganese Total ICAP/MS		2.0	2.31	ug/L	116	(50-150)		
MS_201006020309	Manganese Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)		
MS2_201006020224	Manganese Total ICAP/MS	15	50	64.1	ug/L	99	(70-130)		
MSD_201006020309	Manganese Total ICAP/MS	ND	50	48.8	ug/L	97	(70-130)	20	1.8
MSD2_201006020224	Manganese Total ICAP/MS	15	50	64.2	ug/L	99	(70-130)	20	0.10
LCS1	Molybdenum Total ICAP/MS		100	104	ug/L	104	(85-115)		
LCS2	Molybdenum Total ICAP/MS		100	105	ug/L	105	(85-115)	20	0.96
MBLK	Molybdenum Total ICAP/MS			<2	ug/L				
MRL_CHK	Molybdenum Total ICAP/MS		2.0	2.23	ug/L	112	(50-150)		
MS_201006020309	Molybdenum Total ICAP/MS	4.1	100	102	ug/L	98	(70-130)		
MS2_201006020224	Molybdenum Total ICAP/MS	ND	100	96.5	ug/L	96	(70-130)		
MSD_201006020309	Molybdenum Total ICAP/MS	4.1	100	96.9	ug/L	93	(70-130)	20	4.8
MSD2_201006020224	Molybdenum Total ICAP/MS	ND	100	98.7	ug/L	98	(70-130)	20	2.3
LCS1	Nickel Total ICAP/MS		50	52.1	ug/L	104	(85-115)		
LCS2	Nickel Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	0.77
MBLK	Nickel Total ICAP/MS			<5	ug/L				
MRL_CHK	Nickel Total ICAP/MS		5.0	5.44	ug/L	109	(50-150)		
MS_201006020309	Nickel Total ICAP/MS	ND	50	47.0	ug/L	92	(70-130)		
MS2_201006020224	Nickel Total ICAP/MS	ND	50	50.1	ug/L	96	(70-130)		
MSD_201006020309	Nickel Total ICAP/MS	ND	50	46.7	ug/L	92	(70-130)	20	0.54
MSD2_201006020224	Nickel Total ICAP/MS	ND	50	50.2	ug/L	96	(70-130)	20	0.21
LCS1	Selenium Total ICAP/MS		20	20.4	ug/L	102	(85-115)		
LCS2	Selenium Total ICAP/MS		20	20.4	ug/L	102	(85-115)	20	0.49
MBLK	Selenium Total ICAP/MS			<5	ug/L				
MRL_CHK	Selenium Total ICAP/MS		5.0	4.91	ug/L	98	(50-150)		
MS_201006020309	Selenium Total ICAP/MS	ND	20	21.6	ug/L	106	(70-130)		
MS2_201006020224	Selenium Total ICAP/MS	ND	20	21.3	ug/L	105	(70-130)		
MSD_201006020309	Selenium Total ICAP/MS	ND	20	21.2	ug/L	104	(70-130)	20	1.9
MSD2_201006020224	Selenium Total ICAP/MS	ND	20	21.3	ug/L	105	(70-130)	20	0.0
LCS1	Silver Total ICAP/MS		50	50.5	ug/L	101	(85-115)		
LCS2	Silver Total ICAP/MS		50	50.4	ug/L	101	(85-115)	20	0.20
MBLK	Silver Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Silver Total ICAP/MS		0.5	0.340	ug/L	68	(50-150)		
MS_201006020309	Silver Total ICAP/MS	ND	50	42.9	ug/L	86	(70-130)		
MS2_201006020224	Silver Total ICAP/MS	ND	50	42.3	ug/L	85	(70-130)		
MSD_201006020309	Silver Total ICAP/MS	ND	50	42.0	ug/L	84	(70-130)	20	2.4
MSD2_201006020224	Silver Total ICAP/MS	ND	50	43.2	ug/L	86	(70-130)	20	1.9
LCS1	Thallium Total ICAP/MS		20	20.6	ug/L	103	(85-115)		

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City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Thallium Total ICAP/MS		20	20.8	ug/L	104	(85-115)	20	0.97
MBLK	Thallium Total ICAP/MS			<1	ug/L				
MRL_CHK	Thallium Total ICAP/MS		1.0	1.12	ug/L	112	(50-150)		
MS_201006020309	Thallium Total ICAP/MS	ND	20	19.7	ug/L	99	(70-130)		
MS2_201006020224	Thallium Total ICAP/MS	ND	20	20.0	ug/L	100	(70-130)		
MSD_201006020309	Thallium Total ICAP/MS	ND	20	19.6	ug/L	98	(70-130)	20	0.82
MSD2_201006020224	Thallium Total ICAP/MS	ND	20	20.4	ug/L	102	(70-130)	20	2.0
LCS1	Uranium ICAP/MS		20	21.6	ug/L	108	(85-115)		
LCS2	Uranium ICAP/MS		20	21.8	ug/L	109	(85-115)	20	0.92
MBLK	Uranium ICAP/MS			<1	ug/L				
MRL_CHK	Uranium ICAP/MS		1.0	0.975	ug/L	98	(50-150)		
MS_201006020309	Uranium ICAP/MS	15	20	36.0	ug/L	106	(70-130)		
MS2_201006020224	Uranium ICAP/MS	ND	20	20.3	ug/L	101	(70-130)		
MSD_201006020309	Uranium ICAP/MS	15	20	35.8	ug/L	105	(70-130)	20	0.95
MSD2_201006020224	Uranium ICAP/MS	ND	20	20.9	ug/L	105	(70-130)	20	3.9
LCS1	Vanadium Total ICAP/MS		100	102	ug/L	102	(85-115)		
LCS2	Vanadium Total ICAP/MS		100	104	ug/L	104	(85-115)	20	1.9
MBLK	Vanadium Total ICAP/MS			<3	ug/L				
MRL_CHK	Vanadium Total ICAP/MS		3.0	3.27	ug/L	109	(50-150)		
MS_201006020309	Vanadium Total ICAP/MS	5.7	100	105	ug/L	99	(70-130)		
MS2_201006020224	Vanadium Total ICAP/MS	ND	100	101	ug/L	100	(70-130)		
MSD_201006020309	Vanadium Total ICAP/MS	5.7	100	104	ug/L	98	(70-130)	20	1.0
MSD2_201006020224	Vanadium Total ICAP/MS	ND	100	101	ug/L	101	(70-130)	20	1
LCS1	Zinc Total ICAP/MS		100	102	ug/L	102	(85-115)		
LCS2	Zinc Total ICAP/MS		100	102	ug/L	102	(85-115)	20	0.0
MBLK	Zinc Total ICAP/MS			<20	ug/L				
MRL_CHK	Zinc Total ICAP/MS		20	22.7	ug/L	113	(50-150)		
MS_201006020309	Zinc Total ICAP/MS	ND	100	96.6	ug/L	96	(70-130)		
MS2_201006020224	Zinc Total ICAP/MS	ND	100	106	ug/L	98	(70-130)		
MSD_201006020309	Zinc Total ICAP/MS	ND	100	95.5	ug/L	95	(70-130)	20	1.2
MSD2_201006020224	Zinc Total ICAP/MS	ND	100	111	ug/L	102	(70-130)	20	4.1
QC Ref# 556654 - ICPMS Metals by EPA 200.8							**Analysis Date: 06/07/2010**		
LCS1	Aluminum Total ICAP/MS		200	207	ug/L	104	(85-115)		
LCS2	Aluminum Total ICAP/MS		200	207	ug/L	104	(85-115)	20	0.0
MBLK	Aluminum Total ICAP/MS			<20	ug/L				
MRL_CHK	Aluminum Total ICAP/MS		20	21.9	ug/L	110	(50-150)		
MS_201006010003	Aluminum Total ICAP/MS	ND	200	213	ug/L	102	(70-130)		

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RPD not calculated for LCS2 when different a concentration than LCS1 is used
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LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

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City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS2_201006030183	Aluminum Total ICAP/MS	ND	200	210	ug/L	103	(70-130)		
MSD_201006010003	Aluminum Total ICAP/MS	ND	200	211	ug/L	101	(70-130)	20	0.99
MSD2_201006030183	Aluminum Total ICAP/MS	ND	200	211	ug/L	104	(70-130)	20	0.97
LCS1	Antimony Total ICAP/MS		50	54.2	ug/L	108	(85-115)		
LCS2	Antimony Total ICAP/MS		50	52.8	ug/L	106	(85-115)	20	2.6
MBLK	Antimony Total ICAP/MS			<1	ug/L				
MRL_CHK	Antimony Total ICAP/MS		1.0	1.14	ug/L	114	(50-150)		
MS_201006010003	Antimony Total ICAP/MS	ND	50	53.8	ug/L	107	(70-130)		
MS2_201006030183	Antimony Total ICAP/MS	ND	50	55.1	ug/L	110	(70-130)		
MSD_201006010003	Antimony Total ICAP/MS	ND	50	53.8	ug/L	107	(70-130)	20	0.0
MSD2_201006030183	Antimony Total ICAP/MS	ND	50	56.4	ug/L	113	(70-130)	20	2.7
LCS1	Arsenic Total ICAP/MS		20	21.1	ug/L	105	(85-115)		
LCS2	Arsenic Total ICAP/MS		20	21.1	ug/L	106	(85-115)	20	0.0
MBLK	Arsenic Total ICAP/MS			<1	ug/L				
MRL_CHK	Arsenic Total ICAP/MS		1.0	1.05	ug/L	105	(50-150)		
MS_201006010003	Arsenic Total ICAP/MS	ND	20	21.7	ug/L	106	(70-130)		
MS2_201006030183	Arsenic Total ICAP/MS	1.2	20	23.6	ug/L	112	(70-130)		
MSD_201006010003	Arsenic Total ICAP/MS	ND	20	21.4	ug/L	105	(70-130)	20	0.95
MSD2_201006030183	Arsenic Total ICAP/MS	1.2	20	23.7	ug/L	113	(70-130)	20	0.89
LCS1	Barium Total ICAP/MS		100	106	ug/L	106	(85-115)		
LCS2	Barium Total ICAP/MS		100	106	ug/L	106	(85-115)	20	0.0
MBLK	Barium Total ICAP/MS			<2	ug/L				
MRL_CHK	Barium Total ICAP/MS		2.0	2.12	ug/L	106	(50-150)		
MS_201006010003	Barium Total ICAP/MS	49	100	149	ug/L	100	(70-130)		
MS2_201006030183	Barium Total ICAP/MS	73	100	178	ug/L	105	(70-130)		
MSD_201006010003	Barium Total ICAP/MS	49	100	148	ug/L	99	(70-130)	20	0.71
MSD2_201006030183	Barium Total ICAP/MS	73	100	181	ug/L	108	(70-130)	20	2.8
LCS1	Beryllium Total ICAP/MS		5.0	5.21	ug/L	104	(85-115)		
LCS2	Beryllium Total ICAP/MS		5.0	5.25	ug/L	105	(85-115)	20	0.77
MBLK	Beryllium Total ICAP/MS			<1	ug/L				
MRL_CHK	Beryllium Total ICAP/MS		1.0	1.03	ug/L	103	(50-150)		
MS_201006010003	Beryllium Total ICAP/MS	ND	5.0	5.42	ug/L	108	(70-130)		
MS2_201006030183	Beryllium Total ICAP/MS	ND	5.0	5.73	ug/L	115	(70-130)		
MSD_201006010003	Beryllium Total ICAP/MS	ND	5.0	5.45	ug/L	109	(70-130)	20	0.92
MSD2_201006030183	Beryllium Total ICAP/MS	ND	5.0	5.77	ug/L	115	(70-130)	20	0.0
LCS1	Cadmium Total ICAP/MS		20	21.2	ug/L	106	(85-115)		
LCS2	Cadmium Total ICAP/MS		20	21.2	ug/L	106	(85-115)	20	0.0
MBLK	Cadmium Total ICAP/MS			<0.5	ug/L				

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Monrovia, California, 91016-3629
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1 800 566 LABS (1 800 566 5227)

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QC Report: 334969

City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Cadmium Total ICAP/MS		0.5	0.518	ug/L	104	(50-150)		
MS_201006010003	Cadmium Total ICAP/MS	ND	20	20.6	ug/L	103	(70-130)		
MS2_201006030183	Cadmium Total ICAP/MS	ND	20	21.0	ug/L	105	(70-130)		
MSD_201006010003	Cadmium Total ICAP/MS	ND	20	20.4	ug/L	102	(70-130)	20	0.98
MSD2_201006030183	Cadmium Total ICAP/MS	ND	20	21.4	ug/L	107	(70-130)	20	1.9
LCS1	Chromium Total ICAP/MS		100	104	ug/L	104	(85-115)		
LCS2	Chromium Total ICAP/MS		100	104	ug/L	104	(85-115)	20	0.0
MBLK	Chromium Total ICAP/MS			<1	ug/L				
MRL_CHK	Chromium Total ICAP/MS		1.0	1.02	ug/L	102	(50-150)		
MS_201006010003	Chromium Total ICAP/MS	1.3	100	105	ug/L	103	(70-130)		
MS2_201006030183	Chromium Total ICAP/MS	1.1	100	104	ug/L	102	(70-130)		
MSD_201006010003	Chromium Total ICAP/MS	1.3	100	103	ug/L	101	(70-130)	20	2.0
MSD2_201006030183	Chromium Total ICAP/MS	1.1	100	105	ug/L	103	(70-130)	20	0.98
LCS1	Cobalt Total ICAP/MS		100	105	ug/L	105	(85-115)		
LCS2	Cobalt Total ICAP/MS		100	106	ug/L	106	(85-115)	20	0.95
MBLK	Cobalt Total ICAP/MS			<2	ug/L				
MRL_CHK	Cobalt Total ICAP/MS		2.0	2.15	ug/L	107	(50-150)		
MS_201006010003	Cobalt Total ICAP/MS	ND	100	102	ug/L	102	(70-130)		
MS2_201006030183	Cobalt Total ICAP/MS	ND	100	102	ug/L	102	(70-130)		
MSD_201006010003	Cobalt Total ICAP/MS	ND	100	99.7	ug/L	100	(70-130)	20	2.4
MSD2_201006030183	Cobalt Total ICAP/MS	ND	100	103	ug/L	102	(70-130)	20	0.0
LCS1	Copper Total ICAP/MS		100	108	ug/L	108	(85-115)		
LCS2	Copper Total ICAP/MS		100	107	ug/L	107	(85-115)	20	0.93
MBLK	Copper Total ICAP/MS			<2	ug/L				
MRL_CHK	Copper Total ICAP/MS		2.0	2.12	ug/L	106	(50-150)		
MS_201006010003	Copper Total ICAP/MS	3.1	100	105	ug/L	102	(70-130)		
MS2_201006030183	Copper Total ICAP/MS	2.1	100	102	ug/L	100	(70-130)		
MSD_201006010003	Copper Total ICAP/MS	3.1	100	104	ug/L	101	(70-130)	20	0.99
MSD2_201006030183	Copper Total ICAP/MS	2.1	100	103	ug/L	101	(70-130)	20	1
LCS1	Lead Total ICAP/MS		20	22.3	ug/L	111	(85-115)		
LCS2	Lead Total ICAP/MS		20	22.4	ug/L	112	(85-115)	20	0.45
MBLK	Lead Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.548	ug/L	110	(50-150)		
MS_201006010003	Lead Total ICAP/MS	ND	20	21.7	ug/L	108	(70-130)		
MS2_201006030183	Lead Total ICAP/MS	ND	20	21.7	ug/L	108	(70-130)		
MSD_201006010003	Lead Total ICAP/MS	ND	20	21.3	ug/L	106	(70-130)	20	1.9
MSD2_201006030183	Lead Total ICAP/MS	ND	20	22.3	ug/L	111	(70-130)	20	2.7
LCS1	Manganese Total ICAP/MS		50	53.0	ug/L	106	(85-115)		

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RPD not calculated for LCS2 when different a concentration than LCS1 is used
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

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1 800 566 LABS (1 800 566 5227)

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City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Manganese Total ICAP/MS		50	52.7	ug/L	105	(85-115)	20	0.57
MBLK	Manganese Total ICAP/MS			<2	ug/L				
MRL_CHK	Manganese Total ICAP/MS		2.0	2.14	ug/L	107	(50-150)		
MS_201006010003	Manganese Total ICAP/MS	ND	50	53.5	ug/L	105	(70-130)		
MS2_201006030183	Manganese Total ICAP/MS	ND	50	52.5	ug/L	105	(70-130)		
MSD_201006010003	Manganese Total ICAP/MS	ND	50	52.4	ug/L	103	(70-130)	20	1.9
MSD2_201006030183	Manganese Total ICAP/MS	ND	50	52.8	ug/L	106	(70-130)	20	0.95
LCS1	Molybdenum Total ICAP/MS		100	107	ug/L	107	(85-115)		
LCS2	Molybdenum Total ICAP/MS		100	108	ug/L	108	(85-115)	20	0.93
MBLK	Molybdenum Total ICAP/MS			<2	ug/L				
MRL_CHK	Molybdenum Total ICAP/MS		2.0	2.13	ug/L	107	(50-150)		
MS_201006010003	Molybdenum Total ICAP/MS	ND	100	108	ug/L	107	(70-130)		
MS2_201006030183	Molybdenum Total ICAP/MS	2.5	100	108	ug/L	106	(70-130)		
MSD_201006010003	Molybdenum Total ICAP/MS	ND	100	107	ug/L	106	(70-130)	20	0.94
MSD2_201006030183	Molybdenum Total ICAP/MS	2.5	100	111	ug/L	108	(70-130)	20	1.9
LCS1	Nickel Total ICAP/MS		50	53.1	ug/L	106	(85-115)		
LCS2	Nickel Total ICAP/MS		50	53.1	ug/L	106	(85-115)	20	0.0
MBLK	Nickel Total ICAP/MS			<5	ug/L				
MRL_CHK	Nickel Total ICAP/MS		5.0	5.25	ug/L	105	(50-150)		
MS_201006010003	Nickel Total ICAP/MS	ND	50	51.0	ug/L	100	(70-130)		
MS2_201006030183	Nickel Total ICAP/MS	ND	50	52.0	ug/L	99	(70-130)		
MSD_201006010003	Nickel Total ICAP/MS	ND	50	50.1	ug/L	98	(70-130)	20	1.7
MSD2_201006030183	Nickel Total ICAP/MS	ND	50	52.6	ug/L	100	(70-130)	20	1.1
LCS1	Selenium Total ICAP/MS		20	21.0	ug/L	105	(85-115)		
LCS2	Selenium Total ICAP/MS		20	21.0	ug/L	105	(85-115)	20	0.0
MBLK	Selenium Total ICAP/MS			<5	ug/L				
MRL_CHK	Selenium Total ICAP/MS		5.0	4.98	ug/L	100	(50-150)		
MS_201006010003	Selenium Total ICAP/MS	ND	20	21.0	ug/L	103	(70-130)		
MS2_201006030183	Selenium Total ICAP/MS	ND	20	23.6	ug/L	114	(70-130)		
MSD_201006010003	Selenium Total ICAP/MS	ND	20	21.0	ug/L	102	(70-130)	20	0.98
MSD2_201006030183	Selenium Total ICAP/MS	ND	20	23.9	ug/L	116	(70-130)	20	1.7
LCS1	Silver Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
LCS2	Silver Total ICAP/MS		50	51.0	ug/L	102	(85-115)	20	0.39
MBLK	Silver Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Silver Total ICAP/MS		0.5	0.517	ug/L	103	(50-150)		
MS_201006010003	Silver Total ICAP/MS	ND	50	46.8	ug/L	94	(70-130)		
MS2_201006030183	Silver Total ICAP/MS	ND	50	46.7	ug/L	93	(70-130)		
MSD_201006010003	Silver Total ICAP/MS	ND	50	46.2	ug/L	92	(70-130)	20	1.3

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City of Phoenix
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD2_201006030183	Silver Total ICAP/MS	ND	50	44.7	ug/L	90	(70-130)	20	4.3
LCS1	Thallium Total ICAP/MS		20	22.0	ug/L	110	(85-115)		
LCS2	Thallium Total ICAP/MS		20	22.5	ug/L	113	(85-115)	20	2.3
MBLK	Thallium Total ICAP/MS			<1	ug/L				
MRL_CHK	Thallium Total ICAP/MS		1.0	1.1	ug/L	110	(50-150)		
MS_201006010003	Thallium Total ICAP/MS	ND	20	22.1	ug/L	110	(70-130)		
MS2_201006030183	Thallium Total ICAP/MS	ND	20	21.9	ug/L	110	(70-130)		
MSD_201006010003	Thallium Total ICAP/MS	ND	20	21.8	ug/L	109	(70-130)	20	0.91
MSD2_201006030183	Thallium Total ICAP/MS	ND	20	22.6	ug/L	113	(70-130)	20	2.7
LCS1	Uranium ICAP/MS		20	21.6	ug/L	108	(85-115)		
LCS2	Uranium ICAP/MS		20	21.8	ug/L	109	(85-115)	20	0.92
MBLK	Uranium ICAP/MS			<1	ug/L				
MRL_CHK	Uranium ICAP/MS		1.0	0.956	ug/L	96	(50-150)		
MS_201006010003	Uranium ICAP/MS	ND	20	22.8	ug/L	113	(70-130)		
MS2_201006030183	Uranium ICAP/MS	21	20	43.3	ug/L	112	(70-130)		
MSD_201006010003	Uranium ICAP/MS	ND	20	22.8	ug/L	113	(70-130)	20	0.0
MSD2_201006030183	Uranium ICAP/MS	21	20	45.8	ug/L	124	(70-130)	20	10
LCS1	Vanadium Total ICAP/MS		100	106	ug/L	106	(85-115)		
LCS2	Vanadium Total ICAP/MS		100	106	ug/L	106	(85-115)	20	0.0
MBLK	Vanadium Total ICAP/MS			<3	ug/L				
MRL_CHK	Vanadium Total ICAP/MS		3.0	3.16	ug/L	105	(50-150)		
MS_201006010003	Vanadium Total ICAP/MS	ND	100	107	ug/L	107	(70-130)		
MS2_201006030183	Vanadium Total ICAP/MS	4.6	100	112	ug/L	107	(70-130)		
MSD_201006010003	Vanadium Total ICAP/MS	ND	100	105	ug/L	105	(70-130)	20	1.9
MSD2_201006030183	Vanadium Total ICAP/MS	4.6	100	113	ug/L	109	(70-130)	20	1.9
LCS1	Zinc Total ICAP/MS		100	105	ug/L	105	(85-115)		
LCS2	Zinc Total ICAP/MS		100	105	ug/L	105	(85-115)	20	0.0
MBLK	Zinc Total ICAP/MS			<20	ug/L				
MRL_CHK	Zinc Total ICAP/MS		20	21.2	ug/L	106	(50-150)		
MS_201006010003	Zinc Total ICAP/MS	ND	100	107	ug/L	102	(70-130)		
MS2_201006030183	Zinc Total ICAP/MS	ND	100	103	ug/L	102	(70-130)		
MSD_201006010003	Zinc Total ICAP/MS	ND	100	105	ug/L	100	(70-130)	20	2.4
MSD2_201006030183	Zinc Total ICAP/MS	ND	100	104	ug/L	103	(70-130)	20	0.98

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