Texas Department of State Health Services Laboratory
Environmental Sciences Branch
Quality Assurance Report

Laboratory Case Narrative: The water samples identified below as AC69591and AC69594 were collected on 10-14-2014. A single cube container of each sample was received by the Texas Department of State Health Services Laboratory on 10-15-2014. The sample submission form indicated that total analysis was requested for the samples. Samples were acidified on 10-15-2014. The pH verification was performed on 10-17-2014.

The client requested analyses for arsenic, cadmium, chromium, iron, lead, mercury, molybdenum, selenium, and sodium on the samples. The turbidity was <1 NTU and the samples were analyzed by direct analysis.

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DSHS Sample Number	Operator/Facility	Sample Location
AC69591	N/A	Garcia Hill Working Well (aka WW-24)
AC69594	N/A	Nazario Martinez Kitchen Faucet

Analytes Tested	Analytical Method	Analytical Technique	Analysis Date
As, Cd, Cr, Pb, Mo, Se, U	EPA 200.8	ICPMS	10-20-2014
Fe, Na	EPA 200.7	ICP	10-17-2014
Hg	EPA 245.1	CVAAS	10-20-2014

Quality Control of Arsenic, Cadmium, Lead, Manganese, Molybdenum, and Selenium Results for AC69591 and AC69594
Analysis Date: 10-20-2014

Analyte	Method Detection Limit mg/L	Minimum Reporting Limit mg/L	Initial Calibration Blank (ICB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Final Calibration Blank (CCB) mg/L	Quality Control Sample Verification (QCS) (2nd Source) % R	Initial Calibration Verification (IIPC) % R	Continue Calibration Verification (IPC) % R	Continue Calibration Verification (IPC) % R
Arsenic	0.0000942	0.0020	0.000097	<0.0000942	< 0.0000942	< 0.0000942	99	106	104	106
Cadmium	0.0000268	0.0010	<0.0000268	<0.0000268	<0.0000268	<0.0000268	102	106	102	104
Chromium	0.0000342	0.0100	<0.0000342	<0.0000342	0.000153	0.000328	107	110	104	107
Lead	0.00000664	0.0010	<0.00000664	<0.00000664	<0.00000664	<0.00000664	102	104	102	104
Molybdenum	0.000194	0.0010	0.000452	<0.000194	0.000440	0.000553	99	102	99	103
Selenium	0.000149	0.0030	<0.000149	<0.000149	<0.000149	<0.000149	102	106	101	104
Acceptance Criteria			**<MRL**	**<MRL**	**<MRL**	**<MRL**	**90-110**	**90-110**	**90-110**	**90-110**

Analyte	Final Calibration Verification (IPC) % R	Minimum Reporting Limit Check (MRL) % R	Sample Result AC69594 mg/L	Matrix Spike (LFM) AC69594 % R	Matrix Spike Duplicate (LFMD) AC69594 % R	LFM/LFMD % RPD	Spike Target Concentration Level mg/L
Arsenic	106	105	< 0.0020	115	113	1.6	0.0500
Cadmium	102	102	< 0.0010	104	102	2.0	0.0500
Chromium	107	117	< 0.0100	97	99	2.3	0.0500
Lead	103	101	0.0014	105	103	1.5	0.0500
Molybdenum	102	115	0.0016	105	105	0.7	0.0500
Selenium	104	97	< 0.0030	114	113	0.8	0.100
Acceptance Criteria	**90-110**	**70-130**		**70-130**	**70-130**	**< 20**	

Internal Standard (Analyte)	Internal Standard AC69594 % R	Internal Standard AC69594 (LFM) % R	Internal Standard AC69594 (LFMD) % R
Rh (Mo)	89	84	89
Sc (Cr)	100	97	101
In (Cd)	91	85	92
Y (Se and As)	94	90	96
Bi (Pb)	90	87	90
Acceptance Criteria	**60-125**	**60-125**	**60-125**

Quality Control of Uranium Results for AC69591 and AC69594
Analysis Date: 10-20-2014

Analyte	Method Detection Limit mg/L	Minimum Reporting Limit mg/L	Initial Calibration Blank (ICB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Final Calibration Blank (CCB) mg/L
Uranium	0.0000146	0.0010	0.000015	<0.0000146	<0.0000146	<0.0000146	<0.0000146	<0.0000146	<0.0000146
Acceptance Criteria			<MRL	<MRL	<MRL	<MRL	<MRL	<MRL	<MRL

Analyte	Quality Control Sample (QCS) (2nd Source) % R	Initial Calibration Verification (IIPC) % R	Continue Calibration Verification (IPC) % R	Continue Calibration Verification (IPC) % R	Continue Calibration Verification (IPC) % R	Continue Calibration Verification (IPC) % R	Continue Calibration Verification (IPC) % R	Final Calibration Verification (IPC) % R	Minimum Reporting Limit Check (MRL) % R
Uranium	106	99	100	101	108	105	102	104	104
Acceptance Criteria	90-110	90-110	90-110	90-110	90-110	90-110	90-110	90-110	70-130

Analyte	Sample Result AC69477 mg/L	Matrix Spike (LFM) AC69477 % R	Matrix Spike Duplicate AC69477 (LFMD) % R	LFM/LFMD % RPD	Spike Target Concentration Level mg/L
Uranium	0.000770	104	111	6	0.0500
Acceptance Criteria		70-130	70-130	< 20	

Internal Standard (Analyte)	Internal Standard AC69477 % R	Internal Standard AC69477 (LFM) % R	Internal Standard AC69477 (LFMD) % R
Bi(U)	115	107	115
Acceptance Criteria	**60-125**	**60-125**	**60-125**

Quality Control of Iron and Sodium Results for AC69591 and AC69594
Analysis Date: 10-17-2014

Analyte	Method Detection Limit mg/L	Minimum Reporting Limit mg/L	Initial Calibration Blank (ICB) mg/L	Continue Calibration Blank (CCB) mg/L	Continue Calibration Blank (CCB) mg/L	Final Calibration Blank (CCB) mg/L	Minimum Reporting Limit Check (MRL) % R	Quality Control Sample (QCS) (2nd Source) % R	Initial Calibration Verification (IIPC) % R	Continuing Calibration Verification (IPC) % R
Iron	0.000613	0.010	<0.000613	<0.000613	<0.000613	<0.000613	101	105	102	101
Sodium	0.0127	1.00	<0.0127	<0.0127	<0.0127	<0.0127	96	102	101	99
Acceptance Criteria			**<MRL**	**<MRL**	**<MRL**	**<MRL**	**70-130**	**95-105**	**95-105**	**90-110**

Analyte	Continuing Calibration Verification (IPC) % R	Final Calibration Verification (IPC) % R	Sample Result AC69576 mg/L	Matrix Spike (LFM) AC69576 % R	Matrix Spike Duplicate (LFMD) AC69576 % R	LFM/LFMD % RPD	Spike Target Concentration Level mg/L
Iron	99	95	0.054	99	101	2	1.00
Sodium	97	93	60.0	100	103	3	50.0
Acceptance Criteria	**90-110**	**90-110**		**70-130**	**70-130**	**< 20**	

Quality Control of Mercury Results for AC69591 and AC69594
Analysis Date: 10-20-2014

Analyte	Minimum Reporting Limit mg/L	Method Detection Limit mg/L	Initial Calibration Blank (ICB) mg/L	Final Calibration Blank (CCB) mg/L	Minimum Reporting Limit Check (MRL) % R	Quality Control Sample (QCS) (2nd Source) % R	Initial Calibration Verification (IIPC) % R	Final Calibration Verification (IPC) % R
Mercury	0.00040	0.0000239	<0.0000239	<0.0000239	89	100	99	98
Acceptance Criteria			**<MRL**	**<MRL**	**70-130**	**90-110**	**95-105**	**90-110**

	Laboratory Reagent Blank (LRB) mg/L	Laboratory Fortified Blank (LFB) % R	Sample Result AC69731 mg/L	Matrix Spike (LFM) AC69731 % R	Matrix Spike Duplicate (LFMD) AC69731 % R	LFM/LFMD % RPD	Spike Target Concentration Level mg/L
Mercury	<0.0000239	92	-0.0000267	102	101	1	0.0010
Acceptance Criteria	**< 2.2*MDL**	**85-115**		**70-130**	**70-130**	**< 20**	

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. I affirm that this data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached deficiency reports. I further affirm to the best of my knowledge that all problems/anomalies observed by this laboratory, or if applicable, any and all subcontracted laboratories that might affect the quality of the data have been identified in the laboratory review checklist, and no information or data have been withheld that would affect the quality of the data.

Evelyn Boyer	Evelyn Boyer	11/10/2014	Team Leader
Name (printed)	Signature	Date	Official Title (printed)

NOV 10 2014

URGENT

TEXAS COMMISSION on ENVIRONMENTAL QUALITY (TCEQ)

TCEQ CHEMICAL ANALYSIS LABORATORY REPORT

P. O. BOX 13087
AUSTIN, TEXAS 78711-3087

Handling Instructions: ☐ Routine ☒ Urgent ☐ Priority (short half-life)
Purpose: ☐ Close Out/Groundwater Restoration ☐ Baseline (Pre-Operation) ☒ Compliance
Sample Collected From: ☒ Unrestricted Area ☐ Restricted/Controlled Area
☒ Radiological Analysis Also Performed **PCA #** _____ **Index No** _____
Water only: ☐ Acidified ☒ Not Acidified ☐ Filtered ☒ Not Filtered

Contact: M. Abbaszadeh
Phone/MC: 512-239-6078 MC-1
Submitter No. _____
Suspected Radionuclides: U-238

Type: ☐ Soil ☐ Sediment ☐ Vegetation ☐ Wipe ☐ Other _____

Type: Water ☐ Monitor Well ☐ Baseline Well ☐ Surface Water ☒ Other Water Well

Facility Category: ☐ Uranium Recovery ☐ Waste Processing ☐ Low Level Radioactive Waste/Material ☐ Buried Radioactive Waste ☐ Mixed Waste Treatment Facility ☐ By-Product Waste/Material ☒ Other Garcia Hill Community

Radiation Survey Results: BKG: 5-6 UR/hr Sample: BKG
Sample Number 2 of 6
Sample location Garcia Hill - working Well (aka WW-24)
Operator / Facility NA
Permit/License No NA
Notes Sample collected from pressure tank Sample was clear with no odor.

I certify this sample was collected by me at 9 : 27 AM on 10/14/14 and remained in my custody until transfer to DSHS Lab at 10 : 05 AM on 10/15/14

Signature: M. Abbaszadeh

I certify this sample was constantly in my custody from the time of receipt listed hereon until transferred to Metals Lab at 11 : 30 AM on 10/15/14

Signature: Anita Vadgama

I certify this sample was constantly in my custody from the time of receipt listed hereon until transferred to _____ at _____ : _____ M on _____

Signature: _____

INDICATE THE REQUIRED ANALYSIS BELOW
☒ **Total Analysis** ☐ **TCLP** ☐ **Dissolved Analysis**
Detection Limit Requested _____

Arsenic		mg/
Barium		mg/
Boron		mg/
Cadmium		mg/
Calcium		mg/
Chromium		mg/
Copper		mg/
Iron		mg/
Lead		mg/
Magnesium		mg/
Manganese		mg/
Mercury		mg/
Molybdenum		mg/
Nickel		mg/
Potassium		mg/
Selenium		mg/
Silver		mg/
Sodium		mg/
Vanadium		mg/
Zinc		mg/
		mg/
		mg/
TDS		
Alkalinity		mg/
Ammonia-N		mg/
Bicarbonate		mg/
Carbonate		mg/
Chloride		mg/
Fluoride		mg/
Nitrate-N		mg/
Silica		mg/
Sulfate		mg/
		mg/
		mg/
		mg/
		mg/
Conductivity		
Specific Conductance		µS/cm
pH		µS/cm
		Std. Unit

FOR USE BY LABORATORY ONLY

Laboratory Identification No. AC69591 A EU
Date Received 10/16/2014
Condition of Seals ☐ S
MISC METALS
Comments _____
Wet (as received) Weight _____
Dry Weight _____ Ash Weight _____
Notes _____

I certify this sample was constantly in the laboratory custody from the time of receipt and after the report date listed below until transferred to the TCEQ staff.

Report Date/Signature 11/10/2014 Evelyn Boyer

MC 1947
1100 West 49th Street
PO Box 149347
Austin, Texas 78714-9347

Texas Department of State Health Services
Laboratory Services Section
Metals Analysis Report

Tel. (512) 776-7587
FAX (512) 776-7757

DSHS Lab Sample Number: AC69591
Submitter: TCEQ

Date Collected: 10/14/2014
Digestion Method: None (ICP Minerals)
None (ICP-MS Metals)
EPA 245.1 (Hg)

Sample Type: Water
Sample Location: Garcia Hill - Working Well (aka WW-24)
Date Received: 10/15/2014
Analytical Method: EPA 200.7 (ICP Minerals)
EPA 200.8 (ICP-MS Metals)
EPA 245.1 (Hg)

Report ID#: 20141023METALAC69591

Analyte	Results (mg/L)	Dilution Factor	Reporting Limit (mg/L)	Analysis date	Analyst
Arsenic	< 0.0020	1	0.0020	10-20-14	PG
Cadmium	< 0.0010	1	0.0010	10-20-14	PG
Chromium	< 0.0100	1	0.0100	10-20-14	PG
Iron	0.458	1	0.010	10-17-14	JK
Lead	0.0122	1	0.0010	10-20-14	PG
Molybdenum	0.0623	1	0.0010	10-20-14	PG
Mercury	<0.00040	2	0.00040	10-20-14	JK
Selenium	< 0.0030	1	0.0030	10-20-14	PG
Sodium	307	10	1.00	10-17-14	JK
Uranium	0.149	5	0.0010	10-20-14	IU

Comments: The test results on this report relate only to the sample identified on this report.

Team Leader Approval: Evelyn Boyer

Date Approved: 10/23/2014

Date Reported: NOV 10 2014

① URGENT

TCEQ CHEMICAL ANALYSIS LABORATORY REPORT

TEXAS COMMISSION on ENVIRONMENTAL QUALITY (TCEQ)

P. O. BOX 13087
AUSTIN, TEXAS 78711-3087

Handling Instructions: ☐ Routine ☒ Urgent ☐ Priority (short half-life)
Purpose: ☐ Close Out/Groundwater Restoration ☐ Baseline (Pre-Operation) ☒ Compliance
Sample Collected From: ☒ Unrestricted Area ☐ Restricted/Controlled Area
☒ Radiological Analysis Also Performed **PCA #** _____ **Index No** _____
Water only: ☐ Acidified ☐ Filtered
☒ Not Acidified ☒ Not Filtered

Contact: m. Abbaszadeh
Phone/MC: 512-239-6078 MC17
Submitter No. _____
Suspected Radionuclides: U-238

Type: ☐ Soil ☐ Sediment ☐ Vegetation ☐ Wipe ☐ Other _____

Type: Water ☐ Monitor Well ☐ Baseline Well ☐ Surface Water ☒ Other Residence

Facility Category: ☐ Uranium Recovery ☐ Waste Processing ☐ Low Level Radioactive Waste/Material ☐ Buried Radioactive Waste ☐ Mixed Waste Treatment Facility ☐ By-Product Waste/Material ☒ Other Garcia Hill Community

Radiation Survey Results: BKG: 5-6 UR/hr Sample: BKG

Sample Number 5 of 6
Sample location Nazario Martinez Kitchen faucet
Operator / Facility NA
Permit/License No NA
Notes Sample was clear with no odor, Water supplied by STWA, Ricardo W's

I certify this sample was collected by me at 9 : 57 AM
on 10/14/14 and remained in my custody until
transfer to DSHS Lab
at 10 : 05 AM on 10/15/14
Signature: m. abbaszadeh

I certify this sample was constantly in my custody from the time of receipt listed hereon until transferred to Metals Lab
at 11 : 30 AM on 10/15/14
Signature: Anita Vadgama

I certify this sample was constantly in my custody from the time of receipt listed hereon until transferred to _____
at _____ : _____ M on _____
Signature: _____

INDICATE THE REQUIRED ANALYSIS BELOW
☒ **Total Analysis** ☐ **TCLP** ☐ **Dissolved Analysis**
Detection Limit Requested _____

Arsenic		mg/
Barium		mg/
Boron		mg/
Cadmium		mg/
Calcium		mg/
Chromium		mg/
Copper		mg/
Iron		mg/
Lead		mg/
Magnesium		mg/
Manganese		mg/
Mercury		mg/
Molybdenum		mg/
Nickel		mg/
Potassium		mg/
Selenium		mg/
Silver		mg/
Sodium		mg/
Vanadium		mg/
Zinc		mg/
		mg/
TDS		
Alkalinity		mg/
Ammonia-N		mg/
Bicarbonate		mg/
Carbonate		mg/
Chloride		mg/
Fluoride		mg/
Nitrate-N		mg/
Silica		mg/
Sulfate		mg/
		mg/
		mg/
		mg/
Conductivity		µS/cm
Specific Conductance		µS/cm
pH		Std. Unit

FOR USE BY LABORATORY ONLY

Laboratory Identification No. AC69594 EU A
Date Received 10/15/2014
Condition of Seals ☐ S
Comments _____
Wet (as received) Weight _____
Dry Weight _____ Ash Weight _____
Notes _____

MISC METALS

I certify this sample was constantly in the laboratory custody from the time of receipt and after the report date listed below until transferred to the TCEQ staff.

Report Date/Signature 11/10/2014 Cindy Boyer

MC 1947
1100 West 49th Street
PO Box 149347
Austin, Texas 78714-9347

Texas Department of State Health Services
Laboratory Services Section
Metals Analysis Report

Tel. (512) 776-7587
FAX (512) 776-7757

DSHS Lab Sample Number: AC69594
Submitter: TCEQ
Date Collected: 10/14/2014
Digestion Method: None (ICP Minerals)
None (ICP-MS Metals)
EPA 245.1 (Hg)

Sample Type: Water
Sample Location: Nazario Martinez Kitchen faucet
Date Received: 10/15/2014
Analytical Method: EPA 200.7 (ICP Minerals)
EPA 200.8 (ICP-MS Metals)
EPA 245.1 (Hg)

Report ID#: 20141023METALAC69594

Analyte	Results (mg/L)	Dilution Factor	Reporting Limit (mg/L)	Analysis date	Analyst
Arsenic	< 0.0020	1	0.0020	10-20-14	PG
Cadmium	< 0.0010	1	0.0010	10-20-14	PG
Chromium	< 0.0100	1	0.0100	10-20-14	PG
Iron	0.090	1	0.010	10-17-14	JK
Lead	0.0014	1	0.0010	10-20-14	PG
Molybdenum	0.0016	1	0.0010	10-20-14	PG
Mercury	<0.00040	2	0.00040	10-20-14	JK
Selenium	< 0.0030	1	0.0030	10-20-14	PG
Sodium	60.7	1	1.00	10-17-14	JK
Uranium	0.0026	1	0.0010	10-20-14	IU

Comments: The test results on this report relate only to the sample identified on this report.

Team Leader Approval: Evelyn Bowyer

Date Approved: 10/23/2014

Date Reported: NOV 1 0 2014