FINAL

BASELINE REPORT

ENVIRONMENTAL MONITORING SERVICES for COLORADO RIVER CORRIDOR PLAN

TRAVIS COUNTY, TEXAS
Contract No. PS110046JW

August 2012

Prepared for:
Travis County, Texas

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PROFESSIONAL GEOSCIENTIST CERTIFICATION

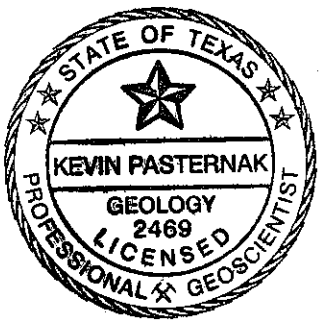
Baseline Report Environmental Monitoring Services for Colorado River Corridor Plan

Travis County, Texas

August 2012

In accordance with the Texas Professional Geoscience Practice Act (Title 6, Texas Occupations Code, Chapter 1002; Senate Bill 405, 77th Legislature) and the Administrative Rules of the Texas Board of Professional Geoscientist (Title 22, Texas Administrative Code, Part 39, Chapter 850 and 851), the geoscientific information contained in the Baseline Report Environmental Monitoring Services for Colorado River Corridor Plan dated August 2012 for Travis County, Texas has been reviewed by a registered professional geoscientist.

This is to certify that the findings, specifications, and/or professional opinions presented in this report have been prepared in accordance with generally accepted professional geologic and hydrogeologic practice. I hereby certify that I have prepared and/or reviewed the information presented in the Baseline Report Environmental Monitoring Services for Colorado River Corridor Plan dated August 2012and have found that the report is consistent with accepted geoscientific principles and practices.



Signature Kevin Pasternak Date 8/23/12

Kevin Pasternak, P.G.
Texas LPG No. 2469
URS Corporation, a Nevada Corporation

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List of Acronyms and Abbreviations

$\mu g/m^3$	micrograms per cubic meter
ABIA	Austin Bergstrom International Airport
ATF	Austin Tree Farm
bgs	below ground surface
CFR	Code of Federal Regulations
CO_3	carbonate
CRC	Colorado River Corridor
CRCP	Colorado River Corridor Plan
db	decibel
dBA	A-weighted sound level
DTW	depth to water
EPA	U.S. Environmental Protection Agency
ETJ	Extra Territorial Jurisdiction
FHWA	Federal Highway Administration
FM	Farm-to-Market
ft	feet, foot
FTA	Federal Transit Administration
GPM	gallons per minute
HCO_3	bicarbonate
ID	identification
IML	Inter-Mountain Labs
in	inch
LCRA	Lower Colorado River Authority
Leq	equivalent steady-state sound level
meq/L	milliequivalents per liter
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
msl	mean sea level
N/A	Not Available
NA	Not Analyzed

List of Acronyms and Abbreviations (Continued)

NAAQS	National Ambient Air Quality Standards
NC	Not Calculated
NM	not measured
NTN	Native Texas Nursery
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PVC	polyvinyl chloride
QC	Quality Control
SH	State Highway
SM	Standard Method
SOP	Standard Operating Procedure
TCEQ	Texas Commission on Environmental Quality
TD	total depth
TDS	total dissolved solids
TOC	top of casing
TSS	total suspended solids
TWDB	Texas Water Development Board
TXI	Texas Industries, Inc.
URS	URS Corporation
WSC	Water Supply Company

1.0 INTRODUCTION

Travis County anticipates that Texas Industries, Inc. (TXI) will begin sand and gravel mining at their Hornsby Bend East and Hornsby Bend West mine locations. This Baseline Environmental Report was prepared by URS Corporation (URS) to document the pre-mining environmental conditions within the vicinity of the anticipated mining locations. The pre-mining environmental conditions were documented by performing three environmental monitoring tasks to determine groundwater availability and groundwater water quality (Task 1), air quality (Task 2), and noise levels (Task 3).

Task 1 Groundwater

The purpose of the groundwater availability and groundwater quality task was to establish existing (i.e., baseline) groundwater conditions. Baseline groundwater availability was monitored by performing synoptic water level measurements across the site and groundwater quality was monitored by collecting and analyzing water samples for basic water quality parameters. Baseline groundwater elevation and water quality data will serve as a reference point for comparison to groundwater conditions during future mining activities.

Task 2 Air

The purpose of the air quality task was to measure the levels of suspended particulate matter (PM) in the 2.5 microns ($PM_{2.5}$) and 10 microns (PM_{10}) size fractions upwind and downwind of the proposed mining area under representative pre-mining conditions. The intended use of the measurement data is to provide a baseline from which to assess potential air quality impacts caused by future mining activities.

Task 3 Noise

The purpose of the noise study task was to document baseline noise levels near the TXI Hornsby Bend East and Hornsby Bend West sites and at nearby sensitive receptor locations. The resulting baseline noise levels will be used as a comparison tool with future noise levels during subsequent phases of the project to determine potential noise impacts once TXI mining operations begin in the project area.

The work described herein was performed in accordance with methods described in the ***Sampling and Analysis Plan for Environmental Monitoring Services for Colorado River Corridor Plan*** (URS, October 2011) (hereafter referred to as the ***Sampling and Analysis Plan***) URS performed the work for Travis County under the Professional Services Agreement between Travis County and URS for Environmental Monitoring Services for Colorado River Corridor Plan (CRCP), contract number PS110046JW.

Limitations and Qualifications

URS' work on this project shall not be intended as a warranty or guarantee of site conditions other than that it reflects professional judgment which is based on present standards and care of the profession.

1.1 Background

The CRCP study area covers over 30,000 acres in eastern Travis County (Figure 1-1). The CRCP study area is bounded by US 183 on the west, the Travis County/Bastrop County line to the east, by Farm-to-Market (FM) 969 to the north and State Highway 71 to the south. Approximately 3,000 acres within the Colorado River Corridor (CRC) will be mined for sand and gravel by TXI at their Hornsby Bend East and Hornsby Bend West sand mining sites. The proposed TXI mining sites are located east of State Highway (SH) 130 and south of FM 969 along both sides of Dunlap Road (Figure 1-2).

Geology and Groundwater

The surface strata over much of the CRCP study area consist of scattered remains of terrace deposits and stream or river alluvium, ranging in age from Pleistocene to Recent. The terrace deposits consist of sand, gravel, and clay. They occur at higher elevations than the more recent floodplain deposits. The stream or river alluvium is composed of up to 60 feet (ft) of unconsolidated material, chiefly gravel, sand, and silt. Underlying the terrace and alluvial strata is the Cretaceous-aged Navarro and Taylor Groups, consisting of massive beds of shale, siltstone, marl, and chalk with clay (Brune and Duffin, June 1983). Based on a review of lithologic logs and well reports, the Navarro and Taylor Groups contact with the overlying alluvial deposits is at approximately 65 to 30 ft below ground surface (bgs).

The principal source of usable groundwater in the CRCP study area is from the Colorado River Alluvial Aquifer. This aquifer produces small to very large quantities of fresh to slightly saline groundwater. Based on a review of lithologic logs and well reports, the sand and gravel deposits within the Colorado River Alluvial Aquifer range from approximately 8-to 60-ft thick. Recharge to the aquifer in the CRCP study area is principally from rainfall on the outcrop and tributary streams. The Colorado River is in hydraulic contact with the aquifer and is suspected of influencing groundwater elevations and movement within the aquifer.

The Navarro and Taylor Groups can produce small quantities of groundwater, particularly in the weathered surface layers where fractures and shrink/swell cracking of the clay-rich surface occurs and conveys water into thin sand layers. Historically, many wells placed into this formation have been abandoned due to poor production (CRCP, July 2011).

1.2 Objectives

The objectives of this Baseline Environmental Report are to:

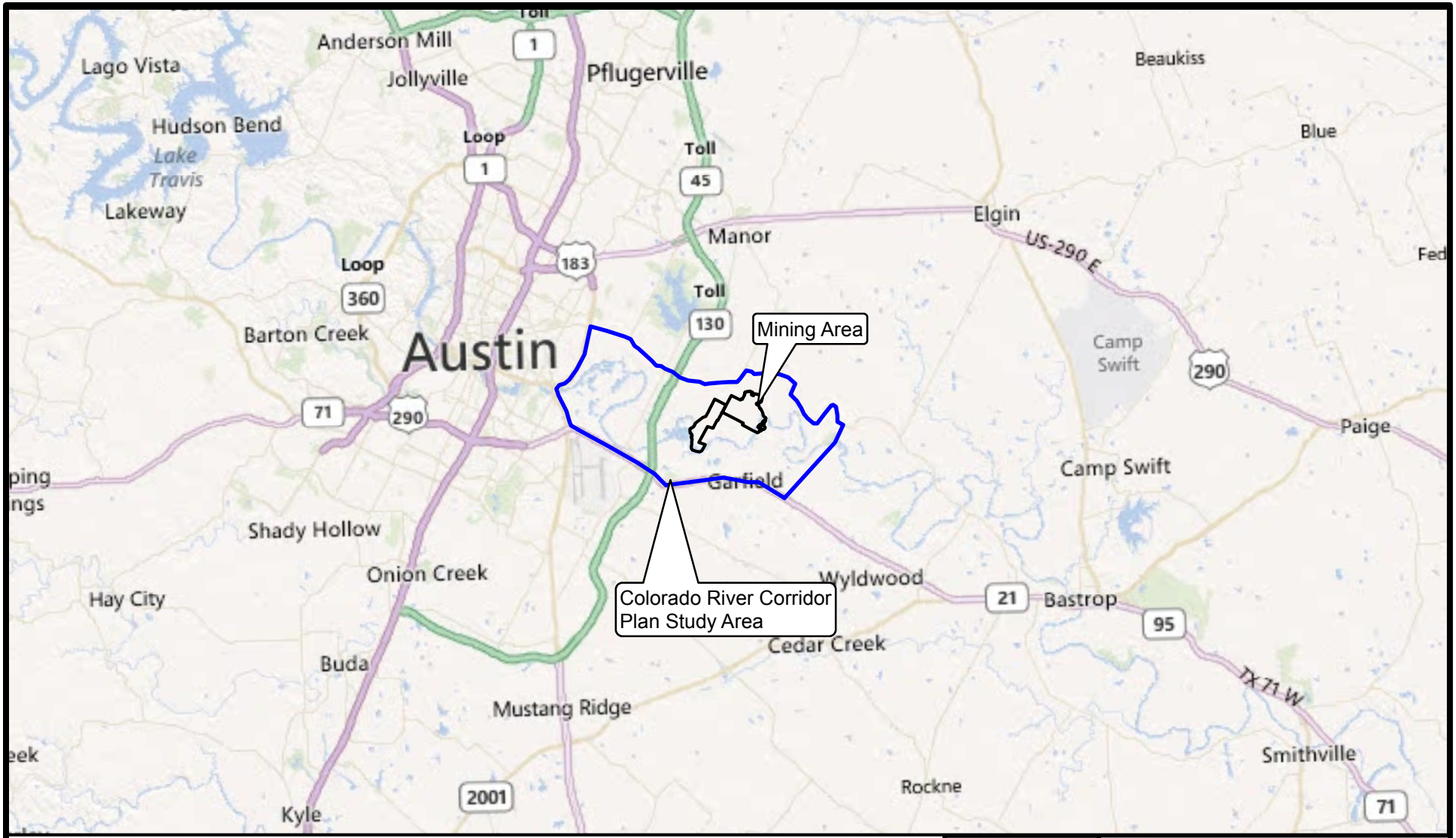
- Summarize all field activities and laboratory analyses performed for environmental monitoring of groundwater, air and noise;
- Present field data and analytical results;
- Provide an interpretation of the environmental monitoring results;
- Identify baseline environmental conditions and trigger levels; and
- Present conclusions and recommendations.

1.3 Report Organization

The Baseline Report is organized as follows:

Section 1.0 – Introduction
Section 2.0 – Initial Field Activities
Section 3.0 – Environmental Monitoring Field Activities
Section 4.0 – Environmental Monitoring Data Evaluation
Section 5.0 – Conclusions & Recommendations
Section 6.0 – References

Field notes are included in Appendix A, laboratory analytical reports are included in Appendix B, noise data are included in Appendix C, and historical precipitation data is included in Appendix D.



Legend

- Mining Area
- Colorado River Corridor Plan Study Area

N

6 3 0 6

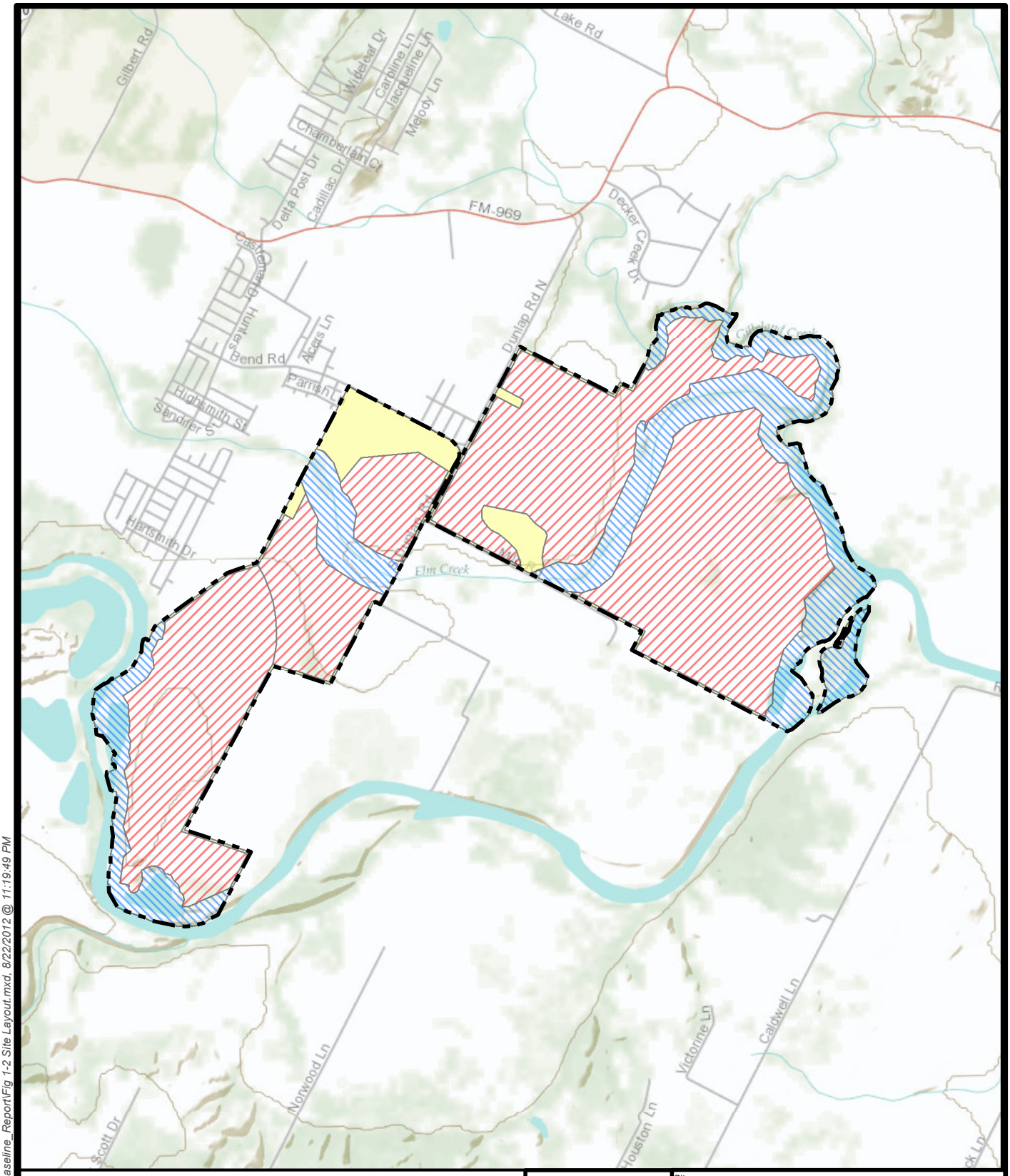
Miles

URS
9400 Amberglen Blvd.
Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 1-1 Regional Location Map**

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 1-1 Loc Map	1-1



Legend

- TXI Mining Site
- City of Austin Buffer
- Mining Area
- Non-Mining Area

N

3,000 1,500 0 3,000

Feet

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Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 1-2**
Anticipated Mining Area

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 1-2 Site Layout	1-2

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2.0 INITIAL FIELD ACTIVITIES

2.1 Task 1, Groundwater

Prior to performing the baseline groundwater study, a well inventory review and a site reconnaissance were conducted to identify wells to include in the groundwater monitoring program. Furthermore, URS met with owners of private wells to seek property access and permission to include their wells within the monitoring network.

2.1.1 Well Inventory

Initially, an inventory of wells was created using the Texas Water Development Board (TWDB) database of registered public water supply and private wells. URS identified wells that were located within 1,000 ft of TXI's planned mining area and screened within the Colorado River Alluvial Aquifer. Wells were selected for the monitoring program based on their location upgradient, cross gradient, and downgradient of the proposed mining site, with an approximately even distribution throughout the area. For wells with available well logs and well construction details, the information was reviewed to determine if the hydraulic zone screened in each well is hydraulically equivalent to the Colorado River Alluvial Aquifer and the presumed sands and gravels targeted for mining by TXI.

URS performed phone interviews with property owners to confirm well presence and to schedule a site visit to the well.

2.1.2 Site Reconnaissance

On July 26, 2011, August 10, 2011 and October 12, 2011 URS performed well reconnaissance visits to determine individual well locations, well access points, well construction details, and in some cases, the depth to groundwater. URS visited with private property owners to request permission to include their wells in the groundwater monitoring program. An access agreement between URS and TXI was necessary to access two wells located on TXI property (the Glass Well and Well 5852213).

Two of the selected wells, ATF Well 1 and NTN Well 2, are located on the neighboring Austin Tree Farm and Native Texas Nursery located on the south side of Milo Road. The location of phreatophyte trees (primarily a large pecan orchard located south of Austin Tree Farm and Native Tree Nursery) was noted during the site visits.

The final list of wells identified and used in the groundwater monitoring program is included in Table 2-1 and shown on Figure 2-1.

2.2 Task 2, Air Quality

URS performed site visits on July 26, 2011, August 10, 2011 and October 12, 2011 to identify two locations for the baseline air sampling. The initial site visit was used to identify potential air sampling located between TXI's planned mining area and nearby receptors and locations with sufficient distance from trees, buildings, and other structures that could obstruct wind flow. During the second and third site visits, URS met with private property owners and requested permission for property access for air sampling and to place the air sampling equipment on their property.

Based on the field reconnaissance and with permission from the property owners, two sites for the baseline air sampling were selected. One site was in a field west of Dunlap Road approximately 2,000 ft northeast of the intersection of Dunlap Road and Hunters Bend Road. The other site was at the Austin Tree Farm and located south of Milo Road. The two sampling sites are oriented along a line extending from the Austin Tree Farm diagonally across the TXI property toward the north-northwest, in approximate alignment with the annual predominant wind direction for the area (which is southerly to south- southeasterly). Both sites have a sufficient distant from trees, buildings, and other structures that would obstruct wind flow to the sampler. The air sample locations are shown on Figure 2-2.

2.3 Task 3, Noise Assessment

The initial step performed for the noise assessment was site reconnaissance, conducted on August 5, 2011, to identify noise sensitive land uses and terrain features located within the project area and close to the planned mining sites. Noise sensitive land uses that were identified primarily included existing residential neighborhoods located near the proposed mining sites as well as scattered rural residences. Significant residential developments located near the mining sites include the Austin's Colony, Chaparral Crossing, and Twin Creek Meadows neighborhoods, as well as scattered residences located within rural settings. No parks, day care facilities, schools, or churches were identified immediately adjacent to or near the proposed mining sites.

Terrain within the project area is generally flat to slightly rolling. The area contains a mix of established residential neighborhoods, open lands, agricultural land, and land used for existing sand and gravel mining.

Based on this information seven representative sites located within the Austin's Colony, Chaparral Crossing, and Twin Creek Meadows residential developments as well as in adjacent rural areas were selected for noise monitoring. A description of each noise measurement location (Figure 2-2) is provided below:

- Site M1 is located at the northwest corner of Dunlap Road and Chaparral Crossing Boulevard within the Chaparral Crossing subdivision. The site is representative of residences located closest to the proposed mining area. One long-term noise measurement also was performed at this location.

- Site M2 is located on the south end of Crownover Street within the Austin's Colony subdivision. The location is near the west side of the proposed TXI mining area boundary.

- Site M3 is located on the south end of Yabers Court and south of Hunters Bend Road. The location is near the northwest corner of the proposed TXI mining area boundary.

- Site M4 is located at the Native Texas Nursery at the east end of Milo Road. The location is near the southeast corner of the proposed TXI mining area boundary.

- Site M5 is located at the northeast corner of FM 969 and Decker Creek Drive near the entrance to the Twin Creek Meadows subdivision. The site is representative of residences located closest to FM 969 within Twin Creek Meadows.

- Site M6 is located at the northeast corner of FM 969 and Taylor Lane. The site is representative of residences located adjacent to the potential truck haul route along FM 969.

- Site M7 is located at the south end of Decker Creek Drive within the Twin Creek Meadows subdivision. The site is representative of residences located closest to north side of the proposed mining area.

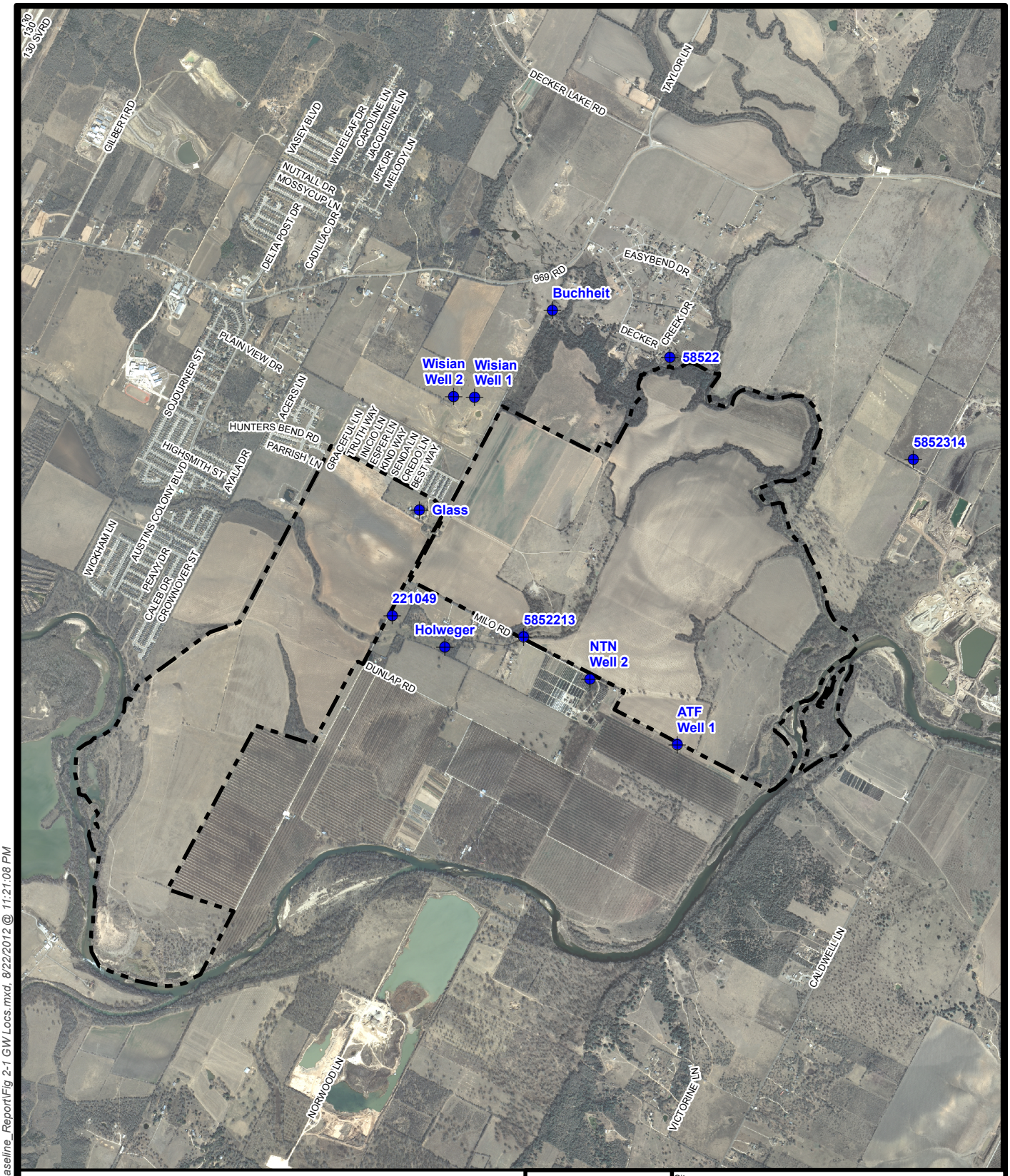
Each noise monitoring location was selected because it was in close proximity to the future mining sites or to truck haul routes and representative of residential locations within the immediate study area.

Table 2-1. Groundwater Wells for Groundwater Monitoring Program

Well ID	Well Owner	Northing	Easting	TOC Elevation (ft msl)	Diameter (inches)	DTW (ft, TOC)[1]	TD (ft, TOC)	Active Pumping	Notes
58522	Douglas Edgar	10063222.73	3174211.78	414.637	4	38.60	56.36	Yes, occasional use for lawn care	Gauged depth to water and sampled
221049	Sarah King	10057588.37	3168216.16	420.800	5	NM	43.98	Yes	Gauged depth to water and sampled
5852213	TXI	10057126.47	3171089.11	406.308	5	29.26	36.38	No	Gauged depth to water and sampled, next to Elm Creek; Transducer location
5852314	Manville WSC	10060996.99	3179527.77	409.216	12	NM	60.00	Yes, 668 GPM, cycles daily	Gauged depth to water and sampled; Water supply well
ATF Well 1	ATF	10054790.33	3174300.03	403.020	16	29.20	50.58	Yes, 450 GPM, occasional use	Gauged depth to water and sampled
Buchheit	Barb Buchheit	10064273.43	3171701.20	416.314	4	NM	30.75	Yes, occasional use for lawn care	Gauged depth to water and sampled
Glass	TXI	NM[2]	NM[2]	NM[2]	30	46.00	46.99	No	Hand dug well, on west side of Hunters Mansion; Poor well production; Only gauged and sampled in October 2011
NTN Well 2	Native Texas Nursery	10056198.58	3172482.94	406.565	18	NM	40.77	Yes, 300 GPM, cycles daily	Gauged depth to water and sampled
Holweger	Dale Holweger	10056903.54	3169296.25	411.531	5	NM	39.75	Yes, occasional use for stock tanks	Gauged depth to water and sampled
Wisian Well 1	Mary Wisian	10062371.14	3169965.66	440.240	8	49.76	65.10	No	Gauged depth to water and sampled
Wisian Well 2	Mary Wisian	10062375.18	3169484.23	435.521	6	45.06	62.18	No	Gauged depth to water and sampled

Note:
[1] Measured during well reconnaissance on 8/10/2011.
[2] Due to poor well production, the Glass well was gauged and sampled only in October 2011. The well was replaced in the monitoring network with Wisian Well 2, and therefore, was not included in the professional survey.

ATF - Austin Tree Farm.
DTW - Depth to Water
ft - Feet.
GPM - Gallons per minute.
ID - Identification.
msl - Mean sea level.
NM - Not measured.
NTN - Native Texas Nursery.TD - Total depth (of well).
TOC - Top of casing.
TXI - Texas Industries Incorporated.
WSC - Water Supply Company.



Legend

- TXI Mining Site
- Well Location

N

3,000 1,500 0 3,000

Feet

URS

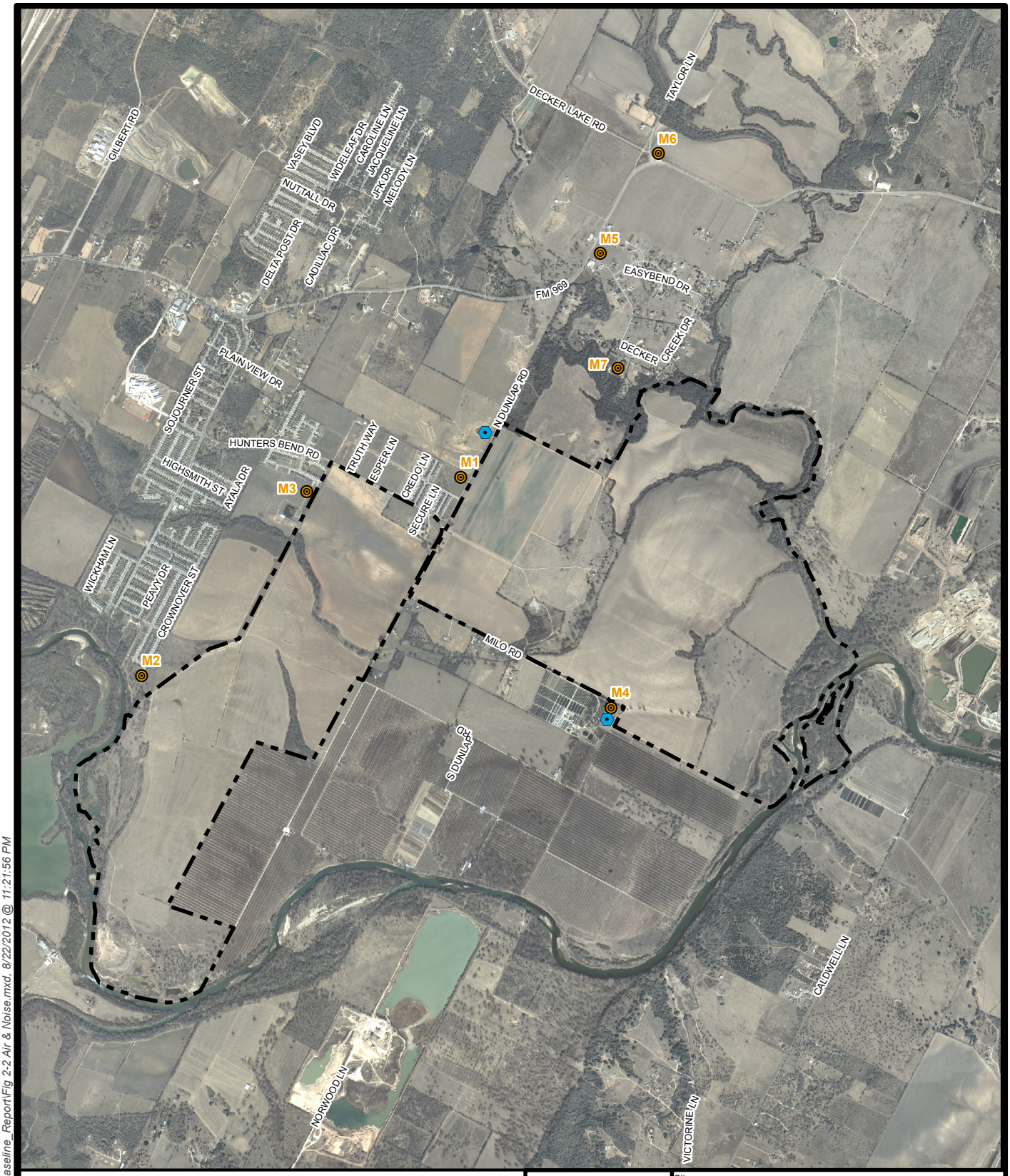
9400 Amberglen Blvd.
Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 2-1 Groundwater Assement Locations**

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 2-1 GW Locs	2-1

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Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 2-2 Air and Noise Assement Locations**

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 2-2 Air & Noise	2-2

3.0 ENVIRONMENTAL MONITORING FIELD ACTIVITIES

3.1 Task 1, Groundwater

Baseline groundwater gauging and sampling activities were performed during six monitoring events that took place on the following dates:

- October 18 to 19, 2011;
- November 29 to 30, 2011;
- January 4 to 5, 2012;
- February 15 to 16, 2012;
- March 26 to 27, 2012; and
- May 7 to 8, 2012.

Groundwater levels were measured and recorded, and groundwater samples were collected from the wells presented in Table 2-1 and shown on Figure 2-1. Ten wells were gauged and sampled during each event. The Glass well was included only in the October 2011 groundwater monitoring event. Due to low well production, the Glass well was replaced with Wisian Well 2 starting in November 2011.

3.1.1 Groundwater Elevation

Groundwater levels were measured in accordance with the Texas Commission on Environmental Quality (TCEQ) Standard Operating Procedure (SOP) 7.1 (*Water Level/Sediment Measurement*) (See Appendix B of the ***Sampling and Analysis Plan*** [URS, October 2011]). All wells were measured within the same 48-hour period to ensure that a synoptic potentiometric surface was observed. The groundwater levels were recorded on monitoring well purge forms, which are included in Appendix A. In addition, hourly groundwater levels in Well 5852213 were monitored and recorded with an In-Situ Troll 500 submersible water level pressure transducer.

On November 30, 2011, Landesign Services, Inc, a licensed professional surveyor, surveyed the coordinates and top of casing elevations for the wells included in the monitoring network. The coordinates and top of casing elevation data are included in Table 2-1. The Glass well was not surveyed because the well was replaced in the monitoring network with Wisian Well 2.

The groundwater gauging data for the six groundwater monitoring events are presented in Table 3-1. Potentiometric surface maps of the baseline study area for the October 2011, November 2011, January 2012, February 2012, March 2012, and May 2012 events are included in Figures 3-1 through 3-6, respectively. The groundwater elevation data recorded with the pressure transducer in Well 5852213 is presented in a well hydrograph with corresponding precipitation data from the Lower Colorado River Authority (LCRA) hydromet rain gauge located at the Gilleland Creek Station #5417 (Figure 3-7). The Gilleland Creek Station is located approximately 4 miles north of the study area near the intersection of FM 973 and SH 130.

3.1.2 Groundwater Sampling

Prior to groundwater sample collection, the groundwater was purged in accordance with the appropriate TCEQ SOPs, as included in Appendix B of the ***Sampling and Analysis Plan*** (URS, October 2011). Three wells (Well 5852213, Wisian Well 1, and Wisian Well 2) were purged

using a submersible pump with dedicated tubing and the low-flow technique in accordance with TCEQ SOPs 7.3 (*Purging a Monitoring Well with a Pump*) and 7.4 (*Micro Purging a Monitoring Well*). Seven wells were sampled using dedicated pumps and were purged in accordance with TCEQ SOP 7.9 (*Purging a Drinking Water Well*). Due to low well production, the Glass well was sampled with a disposable bailer during the October 2011 sampling event because an insufficient volume of water was in the well for use of the submersible pump. Wisian Well 2 was sampled as a replacement of the Glass well for subsequent sampling events.

Groundwater field parameters were collected in accordance with TCEQ SOP 7.5 (*Measurements of Field Parameters*). The field parameters were measured using the YSI 556 water quality meter with flow-through cell, Mettler Toledo pH meter, and LaMotte turbidity meter. The meters were calibrated according to manufacturer's instructions prior to each monitoring event. Field notes and monitoring well purge forms with recorded field parameters (temperature, specific conductivity, pH, turbidity, dissolved oxygen, and oxidation reduction potential) are included Appendix A.

After the wells were purged and field parameters stabilized, groundwater samples were collected in accordance with TCEQ SOP 7.7 (*Groundwater Sampling Using a Pump*), 7.8 (*Groundwater Sampling Using a Low-Flow Techniques*), or 7.10 (*Sampling a Drinking Water Well).* Due to the low well production at the Glass well, a grab groundwater sample was collected from the well in October 2011 using a disposable weighted bailer. All groundwater samples were handled in accordance with TCEQ SOP 6.4 (*Sample Handling and Control*).

Groundwater samples, including quality control samples such as duplicate, equipment blank, and matrix spike (MS)/matrix spike duplicate (MSD) samples were submitted to the LCRA laboratory and analyzed for ammonia by U.S. Environmental Protection Agency (EPA) Method 350.1, anions (chloride, fluoride, nitrate, and sulfate) by EPA Method 300.0, bicarbonate (as HCO_3) and carbonate (as CO_3) by Standard Method (SM) 2320B, cations (calcium, magnesium, potassium, and sodium) by EPA Method 200.7, and total suspended solids (TSS) by SM 2540D. The analytical results from the six monitoring events are presented in Table 3-2 and major-ion chemistry composition is depicted in Trilinear and Stiff diagrams presented in Figures 3-8 and 3-9. Laboratory analytical reports of the groundwater data are included in Appendix B.

All gauging and sample equipment, including the water level indicator and submersible pump (where applicable), were decontaminated between use at each well. The decontamination process consisted of two steps: 1) soapy water wash and 2) distilled water rinse.

3.2 Task 2, Air Monitoring

As requested by Travis County, baseline levels of $PM_{2.5}$ and PM_{10} were measured during four multi-day periods:

- October 20 to November 4, 2011;
- January 5 to 20, 2012;
- March 15 to 30, 2012; and
- May 3 to 18, 2012.

Air sampling for $PM_{2.5}$ and PM_{10} was conducted using MiniVol portable air samplers, manufactured by Airmetrics, Inc. The sampling technique used by the MiniVol is a modification of the PM_{10} reference method described in the U.S. Code of Federal Regulations (CFR) (40 CFR Part 50, Appendix J). A PM_{10} reference sampler must have: 1) an air inlet to provide particle size discrimination, 2) a flow control device capable of maintaining a flow rate within specified limits, 3) means to measure the flow rate during the sampling period, and 4) a timing control device capable of starting and stopping the sampler. The Airmetrics MiniVol Portable Air Sampler has all these features; however, the MiniVol's flow rate (five liters per minute) is generally less than the flow rates used by reference method devices. The lower flow rate results in a greater deviation in accuracy at low concentrations of particulate matter where precision can be lost through the handling and weighing. At high particulate matter levels, the sampler produces results that are precise and comparable to reference method samplers according to the product literature. The $PM_{2.5}$ and PM_{10} samples were captured on pre-weighed 47-millimeter diameter filters and stored at constant controlled relative humidity. Inter-Mountain Labs (IML) Air Science provided and weighed the filters.

The air samplers were hung about five feet above ground level at sites oriented upwind (south) and downwind (north) of the proposed mining area based on the year-round predominant wind direction at Austin-Bergstrom International Airport (See Figure 2-2). The sampler timers and pumps ran on solar charged batteries. Sets of six 24-hour $PM_{2.5}$ and PM_{10} samples were scheduled at each site during each multi-day sampling event, nominally one sample every three days; however, due to a faulty air pump, four $PM_{2.5}$ samples were not collected during event 2, six PM_{10} samples were not collected during event 3, and six $PM_{2.5}$ samples were not collected during event 4.

Quality control (QC) checks were conducted each time filters were installed or replaced and include checks for system leaks, checks of instrument flow rates, and checks of the samplers' real-time clocks and elapsed time indicators.

The air quality samples were submitted to IML for analysis of suspended particulate matter in the $PM_{2.5}$ and PM_{10} size fractions. $PM_{2.5}$ and PM_{10} size fractions were determined by dividing the mass of particulate matter captured on a given filter by the total volume of air sampled through the given filter. The $PM_{2.5}$ and PM_{10} size fractions are reported in units of micrograms per cubic meter (**$\mu g/m^3$**), and the results for each sample are presented in Table 3-3. Laboratory reports of the $PM_{2.5}$ and PM_{10} size fractions are included in Appendix B.

3.3 Task 3, Noise Monitoring

To determine the existing noise environment, two rounds of short-term and long-term noise measurements were performed at representative sites located within the project study area (Figure 2-2).

The first round of noise measurements occurred from October 26-November 3, 2011. The second round of noise measurements occurred approximately five months later from March 20-30, 2012. All noise measurements were conducted during daytime hours from Monday through Friday. The purpose of the noise measurements was to determine existing or ambient daytime noise levels within the project area, including near existing sensitive receptor locations. Representative noise receptor sites were selected based on existing residential areas located near

the future mining activity areas and along potential heavy equipment haul routes. The noise receptor locations are described in more detail in Section 2.3.

A series of short-term (i.e., approximately 15-minute) existing noise measurements were conducted for each round of noise measurements. In addition, one continuous long-term (i.e., 4-hour) monitoring session was conducted on March 20, 2012 during the second round of noise monitoring. The intent of the long-term noise monitoring session was to measure existing longer-term noise levels that are less susceptible to short-term events such as airplane overflights and to serve as a comparison tool with short-term noise measurements conducted at the same location. The long-term noise monitoring session was performed near the Chaparral Crossing residential subdivision (site M1 on Figure 2-2) that is centrally located near the future TXI mining activity areas.

All noise measurements were performed according to applicable noise measurement standards and guidelines. In addition, all measurements were documented on field data sheets that are available in Appendix C of this report.

A Quest SoundPro DL-1 Type 1 precision sound level meter was used in the noise study. The sound level meter was mounted on a tripod, approximately five ft above ground surface and equipped with a windscreen during all measurements. The sound level meter was programmed using a "slow" response time mode to account for longer duration noise events and was calibrated using a Cirrus CR: 514 precision acoustic calibrator before and after each measurement session. Weather conditions during each monitoring period varied but generally consisted of clear to partly cloudy skies, no precipitation, and southerly winds at 5 to 10 miles per hour; however, other wind directions occurred during the monitoring period.

Table 3-1. Groundwater Elevation Data

Well Owner	Well ID	TOC Elevation (ft msl)	Date	Depth to Water (ft TOC)	Groundwater Elevation (ft msl)	Ft of Water in Well
Douglas Edgar	58522	414.64	10/19/2011	38.92	375.72	17.44
			11/29/2011	39.40	375.24	16.96
			1/5/2012	39.34	375.30	17.02
			2/15/2012	38.70	375.94	17.66
			3/27/2012	38.54	376.10	17.82
			5/7/2012	38.75	375.29	17.61
Sarah King	221049	420.80	10/19/2011	32.63	388.17	11.35
			11/30/2011	32.94	387.86	11.04
			1/5/2012	32.79	388.01	11.19
			2/15/2012	31.67	389.13	12.31
			3/27/2012	31.29	389.51	12.69
			5/8/2012	31.21	389.59	12.77
TXI	5852213	406.31	10/18/2011	29.84	376.47	6.54
			11/29/2011	29.66	376.65	6.72
			1/4/2012	29.30	377.01	7.08
			2/15/2012	28.62	377.69	7.76
			3/26/2012	28.40	377.91	7.98
			5/7/2012	27.96	378.35	8.42
Mansville Water Supply Company	5852314	409.22	10/18/2011	41.10	368.12	18.90
			11/30/2011	40.80	368.42	19.20
			1/5/2012	41.63	367.59	18.37
			2/16/2012	37.26	371.96	22.74
			3/26/2012	36.30	372.92	23.70
			5/7/2012	36.25	372.97	23.75
Austin Tree Farm	ATF Well 1	403.02	10/19/2011	28.92	374.10	21.66
			11/29/2011	28.48	374.54	22.10
			1/5/2012	28.16	374.86	22.42
			2/15/2012	26.81	376.21	23.77
			3/27/2012	26.33	376.69	24.25
			5/8/2012	27.17	375.85	23.41
Barb Buchheit	Buchheit	416.31	10/19/2011	26.15	390.16	4.60
			11/30/2011	26.21	390.10	4.54
			1/5/2012	26.52	389.79	4.23
			2/16/2012	25.96	390.35	4.79
			3/26/2012	25.33	390.98	5.42
			5/7/2012	25.33	390.98	5.42
TXI	Glass	N/A	10/18/2011	47.01	N/A	0.39
			11/29/2011	47.28	N/A	0.12
			2/15/2012	47.00	N/A	0.40
Dale Holweger	Holweger	411.53	10/19/2011	32.82	378.71	6.93
			11/30/2011	32.60	378.93	7.15
			1/5/2012	32.26	379.27	7.49
			2/16/2012	31.60	379.93	8.15
			3/27/2012	31.25	380.28	8.50
			5/8/2012	31.38	380.15	8.37

Table 3-1. Groundwater Elevation Data (Continued)

Well Owner	Well ID	TOC Elevation (ft msl)	Date	Depth to Water (ft TOC)	Groundwater Elevation (ft msl)	Ft of Water in Well
Native Tree Nursery	NTN Well 2	406.57	10/19/2011	33.82	372.75	6.95
			11/30/2011	31.80	374.77	8.97
			1/5/2012	31.38	375.19	9.39
			2/16/2012	31.58	374.99	9.19
			3/27/2012	30.42	376.15	10.35
			5/8/2012	30.33	376.24	10.44
Mary Wisian	Wisian Well 1	440.24	10/18/2011	50.39	389.85	14.83
			11/29/2011	50.56	389.68	14.54
			1/4/2012	50.64	389.60	14.46
			2/15/2012	50.06	390.18	15.04
			3/26/2012	49.33	390.91	15.77
			5/7/2012	49.54	390.70	15.56
Mary Wisian	Wisian Well 2	435.52	11/29/2011	45.50	390.02	16.68
			1/4/2012	45.54	389.98	16.64
			2/15/2012	45.20	390.32	16.98
			3/26/2012	44.90	390.62	17.28
			5/7/2012	44.83	390.69	17.35

ft - Feet.
ID - Identification.
msl - Mean sea level.
N/A - Not available.
NTN - Native Texas Nursery.
TOC - Top of casing.
TXI - Texas Industries Incorporated.

Table 3-2. Groundwater Analytical Data

Well ID	Sample ID	Well Owner	Sampling Event	Date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L) [1]	Note
ATF 1	CRCP-ATF1-010	ATF	1	10/19/2011	194	46.2	3.48	43.2	71.3	0.245	6.87	148	478	< 2	< 0.020	< 1.0	986	
ATF 1	CRCP-ATF1-020	ATF	2	11/29/2011	203	45.0	3.57	46.3	79.4	0.230	6.46	170	490	< 2	< 0.020	< 1.0	1039	
ATF 1	CRCP-ATF1-030	ATF	3	1/5/2012	220	47.3	4.01	53.2	81.3	0.200	6.76	171	544	< 2	< 0.020	< 1.1	1123	
ATF 1	CRCP-ATF1-040	ATF	4	2/15/2012	210	46.0	4.42	54.1	83.0	0.224	6.68	184	515	< 2	< 0.020	< 1.1	1099	
ATF 1	CRCP-ATF1-050	ATF	5	3/27/2012	222	46.8	4.49	57.4	83.6	0.140	4.86	175	496	< 2	< 0.020	1.7	1087	
ATF 1	CRCP-ATF1-060	ATF	6	5/8/2012	201	41.2	3.58	50.2	65.2	0.360	8.91	143	461	< 2	0.073	2.3	967	
5852314	CRCP-5852314-010	MWS	1	10/18/2011	137	39.9	2.22	81.2	61.0	0.235	10.8	188	364	< 2	< 0.020	< 1.1	875	
5852314	CRCP-5852314-020	MWS	2	11/30/2011	140	40.7	2.16	86.1	60.9	0.241	11.2	190	356	< 2	< 0.020	< 1.1	878	
5852314	CRCP-5852314-030	MWS	3	1/4/2012	138	36.8	2.21	88.4	52.2	0.300	11.1	187	364	< 2	< 0.020	1.7	871	
5852314	CRCP-5852314-040	MWS	4	2/16/2012	134	38.9	2.12	94.5	63.8	0.259	11.0	207	349	< 2	< 0.020	2.1	891	
5852314	CRCP-5852314-050	MWS	5	3/26/2012	139	40.7	1.98	85.8	53.3	0.170	10.7	192	368	< 2	< 0.020	2.3	883	
5852314	CRCP-5852314-060	MWS	6	5/7/2012	154	42.5	2.53	79.4	61.3	0.245	10.3E	192	353	< 2	< 0.020	1.2	887	
NTNW2	CRCP-NTNW2-010	NTN	1	10/19/2011	175	56.5	2.24	41.7	39.6	0.246	24.3	266	382	< 2	< 0.020	< 1.1	965	
NTNW2	CRCP-NTNW2-011	NTN	1	10/19/2011	178	57.6	2.24	41.9	34.3	0.298	24.6	271	375	< 2	< 0.020	< 1.1	960	Field Duplicate
NTNW2	CRCP-NTNW2-020	NTN	2	11/30/2011	192	62.2	2.31	46.2	41.3	0.264	17.9 E	302	340	< 2	< 0.020	< 1.0	988	
NTNW2	CRCP-NTNW2-020	NTN	2	11/30/2011	NA	NA	NA	NA	NA	NA	27.0 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
NTNW2	CRCP-NTNW2-021	NTN	2	11/30/2011	193	63.3	2.28	46.5	41.4	0.270	17.9 E	299	341	< 2	< 0.020	< 1.0	987	Field Duplicate
NTNW2	CRCP-NTNW2-021	NTN	2	11/30/2011	NA	NA	NA	NA	NA	NA	26.7 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
NTNW2	CRCP-NTNW2-030	NTN	3	1/5/2012	202	61.4	2.32	47.3	37.4	0.290	28.2	322	367	< 2	< 0.020	< 1.0	1041	
NTNW2	CRCP-NTNW2-031	NTN	3	1/5/2012	204	62.5	2.35	46.7	37.9	0.280	27.9	326	358	< 2	< 0.020	< 1.0	1038	Field Duplicate
NTNW2	CRCP-NTNW2-040	NTN	4	2/16/2012	202	63.8	2.42	52.6	44.9	0.348	34.7	364	337	< 2	0.027	< 1.0	1069	
NTNW2	CRCP-NTNW2-041	NTN	4	2/16/2012	196	63.5	2.43	55.4	44.9	0.346	30.4	365	342	< 2	< 0.020	< 1.0	1069	Field Duplicate
NTNW2	CRCP-NTNW2-050	NTN	5	3/27/2012	216	68.4	2.33	48.4	35.6	0.200	29.4	389	336	< 2	< 0.020	< 1.1	1098	
NTNW2	CRCP-NTNW2-051	NTN	5	3/27/2012	221	69.4	2.43	48.8	35.2	0.190	29.4	385	356	< 2	< 0.020	< 1.0	1118	Field Duplicate
NTNW2	CRCP-NTNW2-060	NTN	6	5/8/2012	233	76.7	2.51	44.2	37.5	0.420	31.1	406	347	< 2	0.020	< 1.0	1149	
NTNW2	CRCP-NTNW2-061	NTN	6	5/8/2012	242	81.0	2.53	44.2	37.7	0.430	30.5	395	343	< 2	< 0.020	< 1.0	1145	Field Duplicate
Holweger	CRCP-Holweger-013	Holweger	1	10/19/2011	117	19.7	2.03	41.3	32.2	0.301	21.6	31.4	310	< 2	< 0.020	< 1.1	556	MS/MSD
Holweger	CRCP-Holweger-023	Holweger	2	11/30/2011	114	18.3	1.88	45.2	32.6	0.286	20.7	34.1	300	< 2	< 0.020	< 1.1	548	MS/MSD
Holweger	CRCP-Holweger-033	Holweger	3	1/5/2012	112	16.8	2.00	40.2	20.6	0.296	17.8	27.0	311	< 2	< 0.020	< 1.1	532	MS/MSD
Holweger	CRCP-Holweger-043	Holweger	4	2/16/2012	105	15.5	1.99	44.0	17.7	0.296	16.5	26.1	289	< 2	< 0.020	< 1.0	501	MS/MSD
Holweger	CRCP-Holweger-053	Holweger	5	3/27/2012	105	15.3	1.98	37.5	11.8	0.430	15.2	23.8	314	< 2	< 0.020	< 1.0	511	MS/MSD
Holweger	CRCP-Holweger-063	Holweger	6	5/8/2012	113	16.5	1.94	31.9	11.9	0.390	16.1	21.1	287	< 2	< 0.020	< 1.0	485	MS/MSD
5852213	CRCP-5852213-010	TXI	1	10/18/2011	130	24.8	4.68	31.9	27.8	0.293	0.07	7.11	460	< 2	6.35	60	688	
5852213	CRCP-5852213-020	TXI	2	11/29/2011	133	21.2	4.70	28.9	19.8	0.360	<0.050	9.84	420	< 2	3.57	18.2	639	
5852213	CRCP-5852213-030	TXI	3	1/4/2012	128	20.2	4.35	30.0	16.5	0.39	<0.050	28.4	404	< 2	1.90	25.4	633	
5852213	CRCP-5852213-040	TXI	4	2/15/2012	129	20.1	6.01	25.5	15.6	0.239	<0.010	34.1	527	< 2	1.52	73.7	759	
5852213	CRCP-5852213-050	TXI	5	3/26/2012	150	23.2	4.41	25.5	15.2	0.230	<0.100	37.4	425	< 2	0.909	5.9	683	
5852213	CRCP-5852213-060	TXI	6	5/7/2012	150	23.6	4.62	22.6	18.5	0.332	0.025	14.6	455	< 2	1.22	7.0	691	
221049	CRCP-221049-010	King	1	10/19/2011	99.0	12.3	1.83	29.0	13.3	0.267	13.6	17.9	286	< 2	< 0.020	4.8	461	
221049	CRCP-221049-020	King	2	11/30/2011	106	13.1	2.01	29.4	13.7	0.266	11.3 E	17.8	285	< 2	< 0.020	11.2	469	
221049	CRCP-221049-020	King	2	11/30/2011	NA	NA	NA	NA	NA	NA	14.2 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
221049	CRCP-221049-030	King	3	1/5/2012	104	11.9	1.90	30.3	11.1	0.265	13.1	16.4	320	< 2	< 0.020	17.9	498	
221049	CRCP-221049-040	King	4	2/15/2012	92.7	10.9	1.80	30.0	14.2	0.264	13.6	18.5	290	< 2	< 0.020	7.1	460	
221049	CRCP-221049-050	King	5	3/27/2012	102	11.5	1.88	30.5	10.2	0.180	12.9	14.9	268	< 2	< 0.020	3.8	441	
221049	CRCP-221049-060	King	6	5/8/2012	106	12.2	1.83	25.8	10.2	0.430	13.3	15.2	267	< 2	< 0.020	2.9	440	
Glass	CRCP-Glass-010	TXI	1	10/18/2011	3040	73.2	22.1	58.3	18.6	0.232	10.5	32.5	882	< 2	3.54	3120	4127	
58522	CRCP-58522-010	Edgar	1	10/19/2011	117	37.5	2.02	69.5	89.5	0.262	4.27	77.3	382	< 2	< 0.020	3.4	775	
58522	CRCP-58522-020	Edgar	2	11/29/2011	122	36.2	2.00	73.9	87.8	0.320	3.88	81.0	374	< 2	< 0.020	< 1.0	779	
58522	CRCP-58522-030	Edgar	3	1/5/2012	124	36.9	2.23	71.1	88.2	0.277	3.73	81.3	378	< 2	< 0.020	< 1.0	784	
58522	CRCP-58522-040	Edgar	4	2/15/2012	111	32.1	1.98	73.8	99.6	0.253	3.36	81.2	259	< 2	< 0.020	1.9	661	
58522	CRCP-58522-050	Edgar	5	3/27/2012	120	33.1	2.14	75.2	92.1	0.200	2.42	76.1	335	< 2	< 0.020	3.8	736	
58522	CRCP-58522-060	Edgar	6	5/7/2012	121	32.9	1.84	70.7	93.5	0.268	2.71	76.7	345	< 2	< 0.020	1.1	744	

Table 3-2. Groundwater Analytical Data (Continued)

Well ID	Sample ID	Well Owner	Sampling Event	Date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L) [1]	Note
Wisian W1	CRCP-Wisian W1-010	Wisian	1	10/18/2011	87.0	11.0	2.64	56.8	18.5	0.238	8.62	27.2	308	< 2	< 0.020	2.3	513	
Wisian W1	CRCP-Wisian W1-015	Wisian	1	10/18/2011	< 0.200	< 0.200	< 0.200	< 0.600	< 1.00	< 0.010	< 0.010	< 1.00	2	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-020	Wisian	2	11/29/2011	91.4	10.8	2.65	62.8	14.5	0.300	8.80	24.2	305	< 2	< 0.020	< 1.0	511	
Wisian W1	CRCP-Wisian W1-025	Wisian	2	11/29/2011	3.72	< 0.200	< 0.200	< 0.600	< 5.00	< 0.050	0.225	< 5.00	2	< 2	< 0.020	2.9	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-030	Wisian	3	1/4/2012	86.6	10.1	2.61	66.1	13.8	0.330	8.78	24.8	356	< 2	< 0.020	1.5	562	
Wisian W1	CRCP-Wisian W1-035	Wisian	3	1/4/2012	0.696	< 0.200	< 0.200	< 0.600	< 0.500	< 0.050	<0.050	< 5.00	<20	<20	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-040	Wisian	4	2/15/2012	90.2	10.8	2.89	63.1	19.2	0.240	8.87	27.5	327	< 2	< 0.020	2.4	543	
Wisian W1	CRCP-Wisian W1-045	Wisian	4	2/15/2012	0.346	< 0.200	< 0.200	< 0.600	< 1.00	0.059	0.025	< 1.00	3	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-050	Wisian	5	3/26/2012	89.5	10.1	3.04	54.0	12.7	0.410	8.03	21.2	300	< 2	< 0.020	< 1.0	493	
Wisian W1	CRCP-Wisian W1-055	Wisian	5	3/26/2012	0.241	<0.200	<0.200	<0.600	< 10.0	<0.100	<0.100	< 10.0	<20	<20	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-060	Wisian	6	5/7/2012	92.2	10.8	2.79	53.9	17.3	0.236	8.38 E	27.5	310	< 2	< 0.020	< 1.0	517	
Wisian W1	CRCP-Wisian W1-060	Wisian	6	5/7/2012	NA	NA	NA	NA	NA	NA	8.88 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
Wisian W1	CRCP-Wisian W1-065	Wisian	6	5/7/2012	0.665	< 0.200	0.545	< 0.600	< 1.00	< 0.010	0.080	< 1.00	3	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W2	CRCP-Wisian W2-020	Wisian	2	11/29/2011	95.7	12.0	2.51	106	12.2	0.140	9.93	30.0	391	< 2	< 0.020	1.6	651	
Wisian W2	CRCP-Wisian W2-030	Wisian	3	1/4/2012	88.3	10.7	2.41	109	11.6	<0.050	9.07	31.2	455	< 2	< 0.020	< 1.1	710	
Wisian W2	CRCP-Wisian W2-040	Wisian	4	2/15/2012	83.9	10.2	2.46	115	14.2	0.142	12.5	36.2	400	< 2	< 0.020	1.8	664	
Wisian W2	CRCP-Wisian W2-050	Wisian	5	3/26/2012	90.7	10.8	2.47	118	10.6	0.110	11.3	27.9	418	< 2	< 0.020	< 1.0	681	
Wisian W2	CRCP-Wisian W2-060	Wisian	6	5/7/2012	99.4	12.2	2.72	102	15.3	0.120	10.3 E	33.3	403	< 2	< 0.020	< 1.0	670	
Wisian W2	CRCP-Wisian W2-060	Wisian	6	5/7/2012	NA	NA	NA	NA	NA	NA	12.3 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
Buchheit	CRCP-Buchert-010	Buchheit	1	10/19/2011	122	12.8	2.39	55.2	36.8	0.373	4.56	76.0	319	< 2	< 0.020	< 1.0	624	
Buchheit	CRCP-Buchert-020	Buchheit	2	11/30/2011	117	12.4	2.30	58.1	37.0	0.382	4.70	78.2	311	< 2	< 0.020	< 1.0	618	
Buchheit	CRCP-Buchert-030	Buchheit	3	1/5/2012	128	12.8	2.54	57.4	31.8	0.389	4.26	80.3	363	< 2	< 0.020	< 1.0	678	
Buchheit	CRCP-Buchert-040	Buchheit	4	2/16/2012	120	11.4	2.39	61.5	37.6	0.381	4.02	84.3	312	< 2	< 0.020	< 1.1	631	
Buchheit	CRCP-Buchert-050	Buchheit	5	3/26/2012	132	12.3	2.40	56.4	37.3	0.28	3.73	77.2	327	< 2	< 0.020	< 1.0	647	
Buchheit	CRCP-Buchert-060	Buchheit	6	5/7/2012	139	13.0	2.59	53.6	39.9	0.37	3.84	85.2	310	< 2	0.045	1.2	645	

< Result is below the practical quantitation limit and is considered estimated.

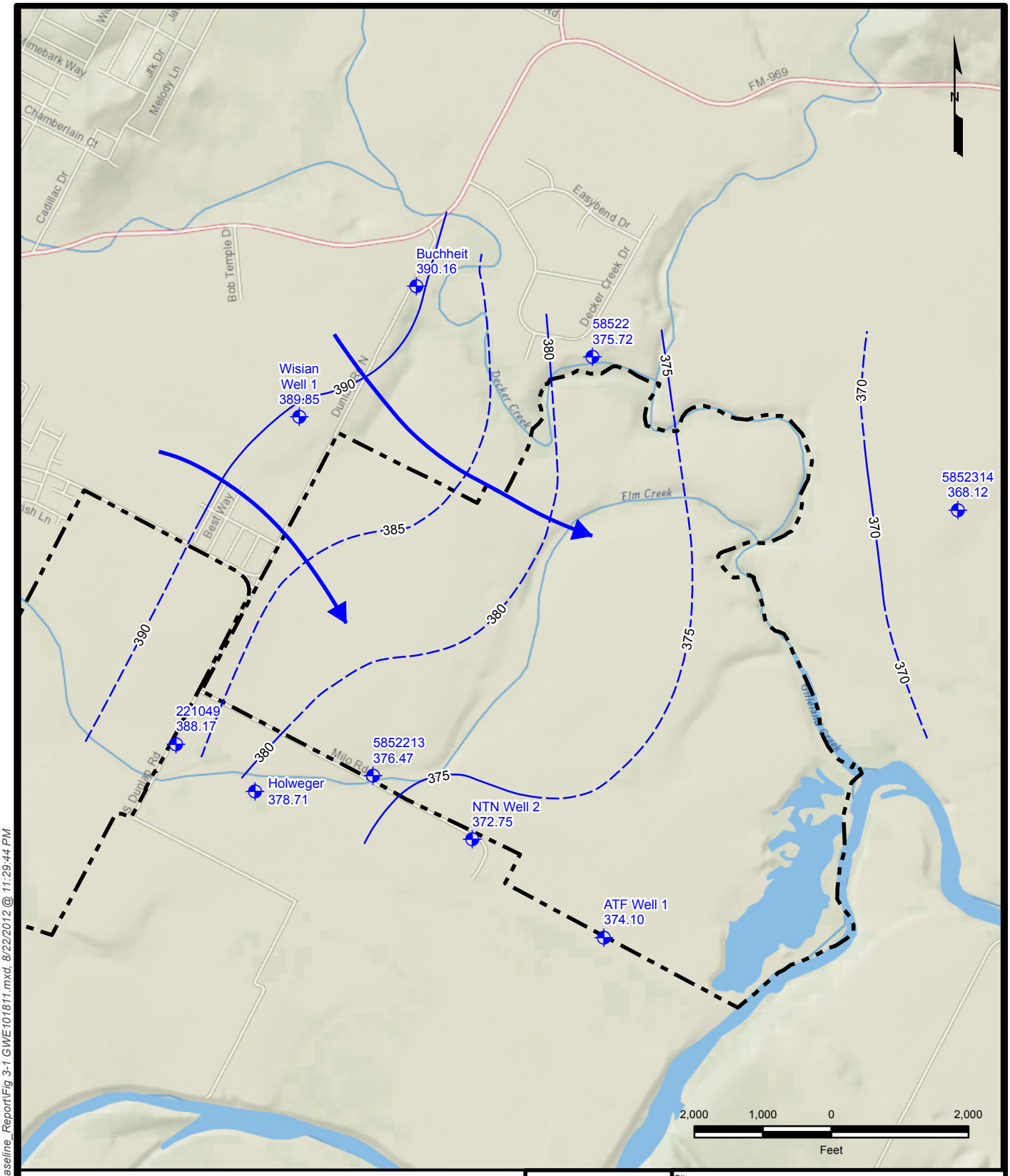
[1] TDS computed as sum of dissolved-ion concentration.

ATF - Austin Tree Farm.
CRCP - Colorado River Corridor Plan.
E - Value above quantitation range.
H - Holding time exceeded.
ID - Identification.
mg/L - Milligrams per liter.
MS/MD - Matrix spike/matric spike duplicate.
MWS - Manville Water Supply Corporation
NA - Not Analyzed.
NC - Not Calculated.
NTN - Native Texas Nursery.
TDS - Total Dissolved Solids.
TXI - Texas Industries Incorporated.

Table 3-3. Air Quality $PM_{2.5}$ and PM_{10} Size Fraction Results

Sampling Event	Date	North Site		South Site	
		PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)
1	10/20/2011	28.1	7.6	15.8	7.5
1	10/23/2011	24.9	10.7	19.9	10.7
1	10/26/2011	11.9	8.1	15.0	8.2
1	10/29/2011	27.5	9.0	22.1	10.3
1	11/1/2011	22.6	11.7	28.6	13.6
1	11/4/2011	15.4	6.7	NV-L	7.4
2	1/5/2012	21.9	4.0	24.6	10.8
2	1/8/2012	31.7	10.3	31.9	19.3
2	1/11/2012	11.8	NS	12.5	6.5
2	1/14/2012	33.2	NS	17.5	8.9
2	1/17/2012	13.6	NS	13.9	NS[1]
2	1/20/2012	21.5	NS	60.1	16.0
3	3/15/2012	14.7	10.0	NS	9.0
3	3/18/2012	12.9	7.8	NS	10.3
3	3/21/2012	13.8	5.7	NS	5.8
3	3/24/2012	16.5	12.5	NS	11.7
3	3/27/2012	18.1	10.6	NS	NV-C
3	3/30/2012	19.6	13.3	NS	12.2
4	5/3/2012	16.5	NV-L	22.4	NS
4	5/6/2012	14.7	NV-L	22.8	NS
4	5/9/2012	19.7	12.5	32.9	NS
4	5/12/2012	11.3	9.2	16.7	NS
4	5/15/2012	17.2	8.5	27.9	NS
4	5/18/2012	18.1	NV-L	22.2	NS
	Average	**19.1**	**9.3**	**23.9**	**10.5**

$\mu g/m^3$ - Micrograms per cubic meter.
NS - Not sampled due to faulty air pump.
NS[1] - Not sample due to faulty wire.
NV-C - Sample not valid due to filter contamination.
NV-L - Sample not valid due to low value.
PM_{10} - Particulate matter less than 10 microns in diameter.
PM_{25} - Particulate matter less than 2.5 microns in diameter.



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

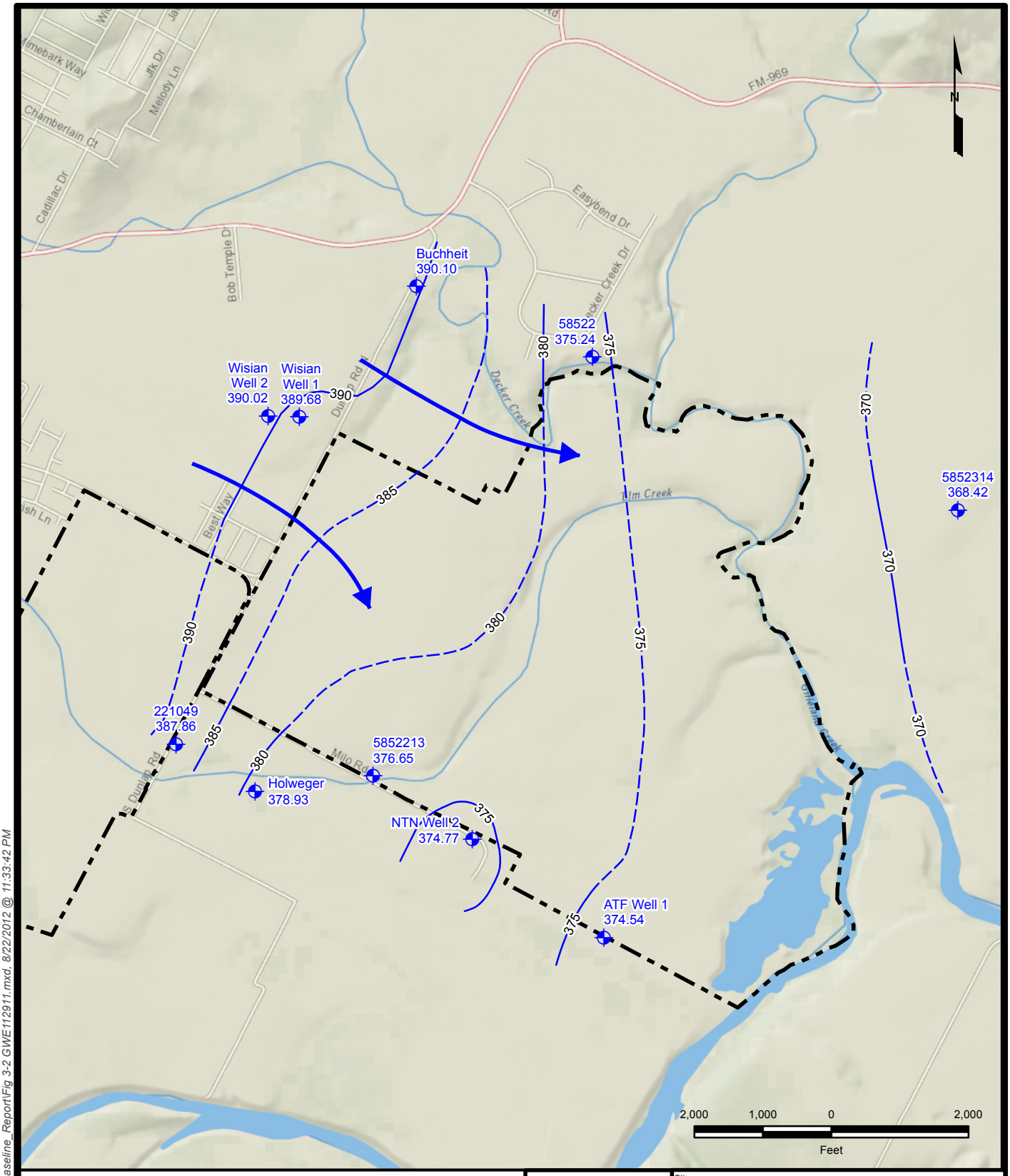
URS
9400 Amberglen Blvd.
Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 3-1**
Potentiometric Surface Map
October 18-19, 2011

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-1 GWE101811	3-1

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-1 GWE101811.mxd, 8/22/2012 @ 11:29:44 PM



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

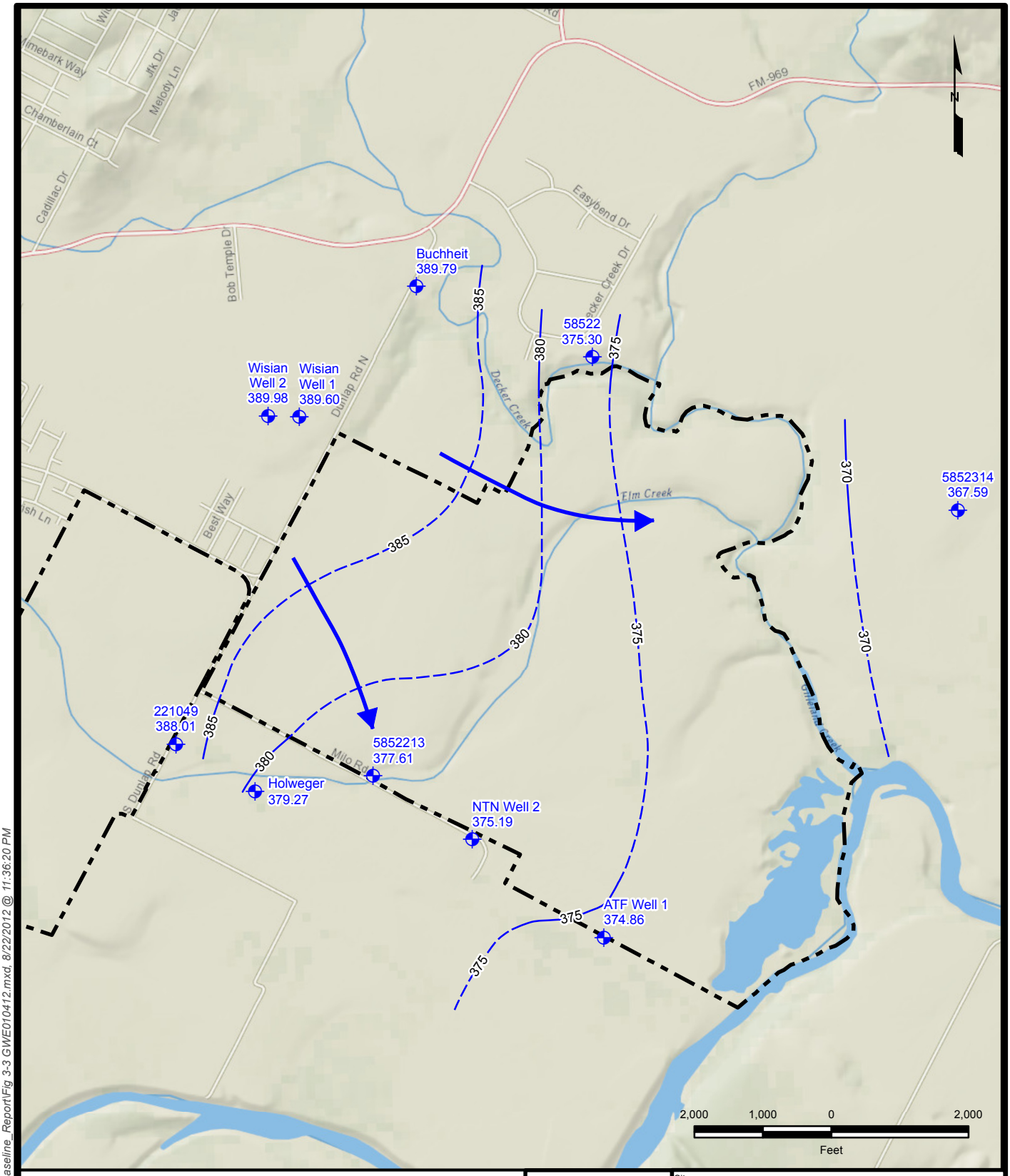
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Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 3-2**
Potentiometric Surface Map
November 29-30, 2011

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-2 GWE112911	3-2

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-2 GWE112911.mxd, 8/22/2012 @ 11:33:42 PM



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

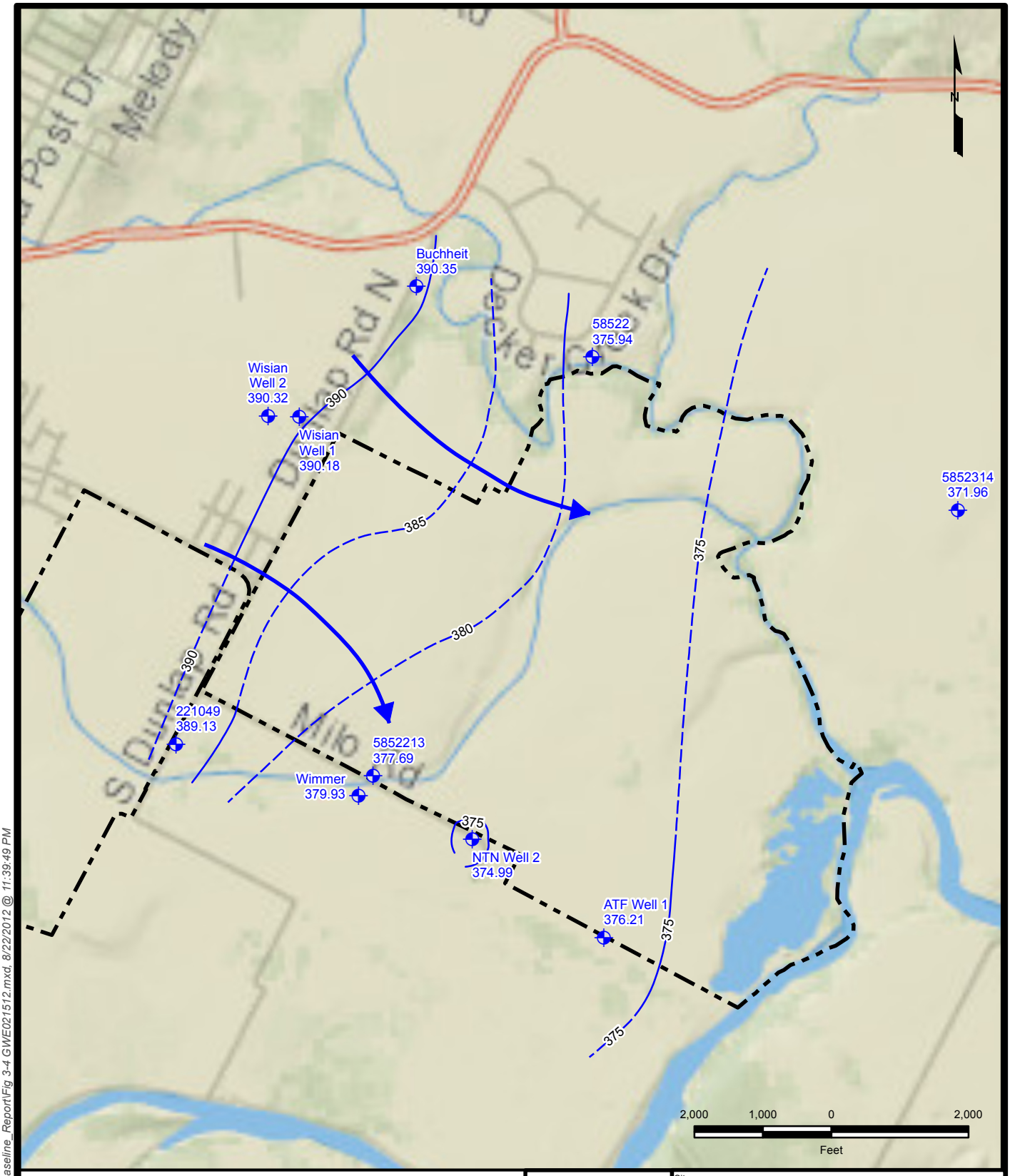
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Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 3-3**
Potentiometric Surface Map
January 4-5, 2012

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-3 GWE010412	3-3

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-3 GWE010412.mxd, 8/22/2012 @ 11:36:20 PM



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

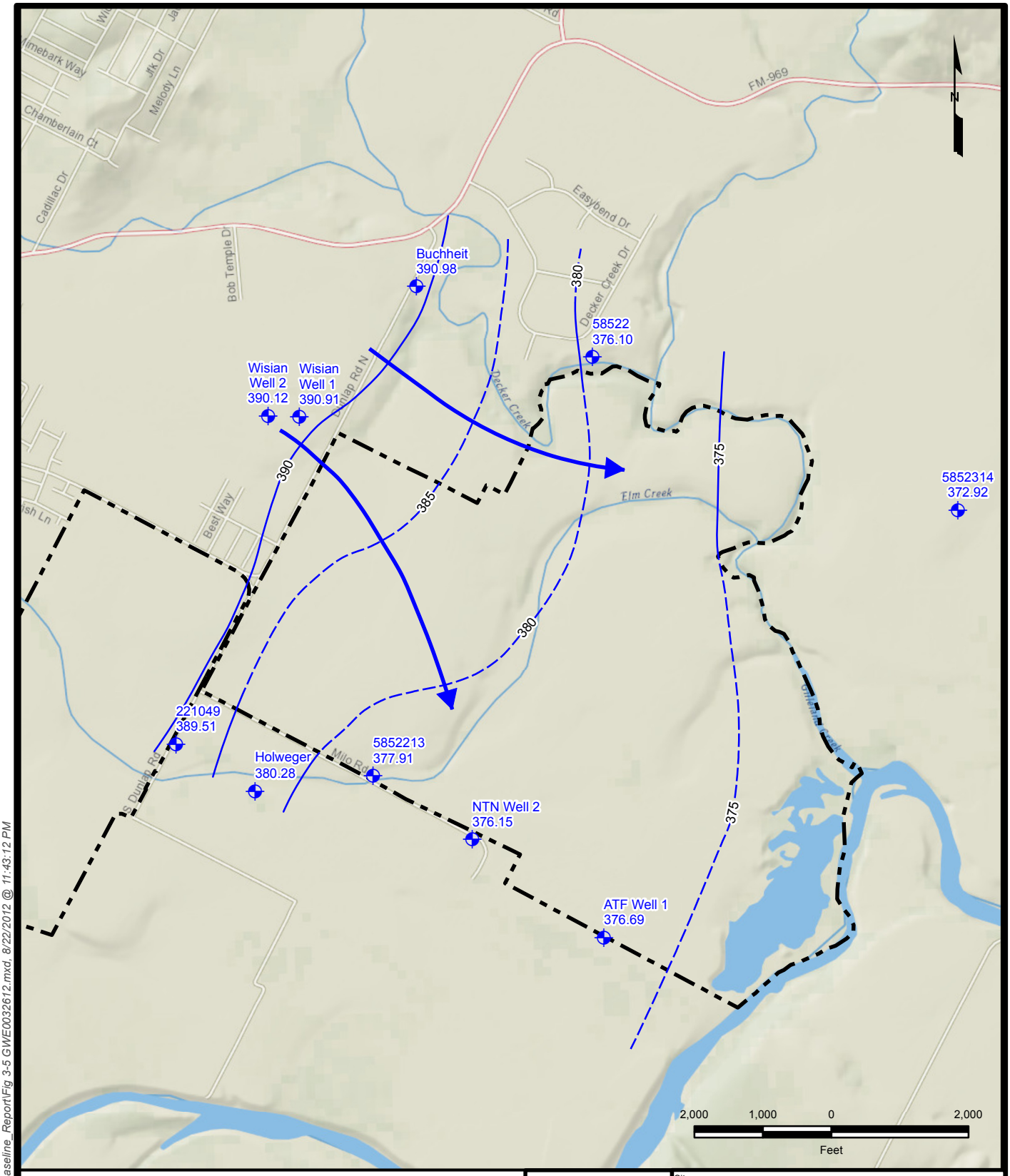
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Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 3-4**
Potentiometric Surface Map
February 15-16, 2012

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-4 GWE021512	3-4

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-4 GWE021512.mxd, 8/22/2012 @ 11:39:49 PM



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

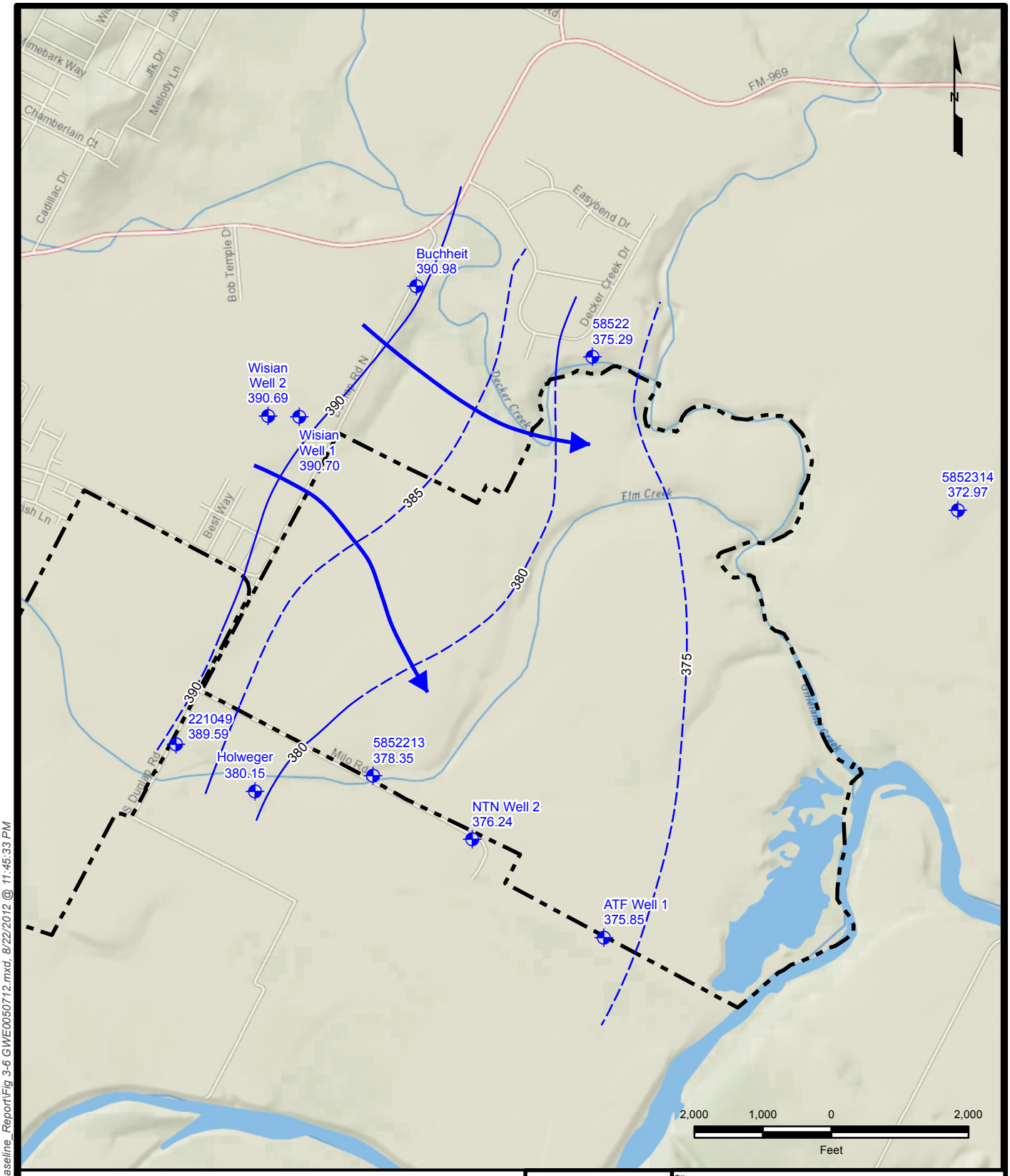
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Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Site: Travis County CRCP

Title: **Figure 3-5**
Potentiometric Surface Map
March 26-27, 2012

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-5 GWE0032612	3-5

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-5 GWE0032612.mxd, 8/22/2012 @ 11:43:12 PM



Legend

- TXI Mining Site
- Groundwater Well Location
- Potentiometric Surface Contour (ft msl) (Dashed Where Inferred)
- Groundwater Flow Direction

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Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

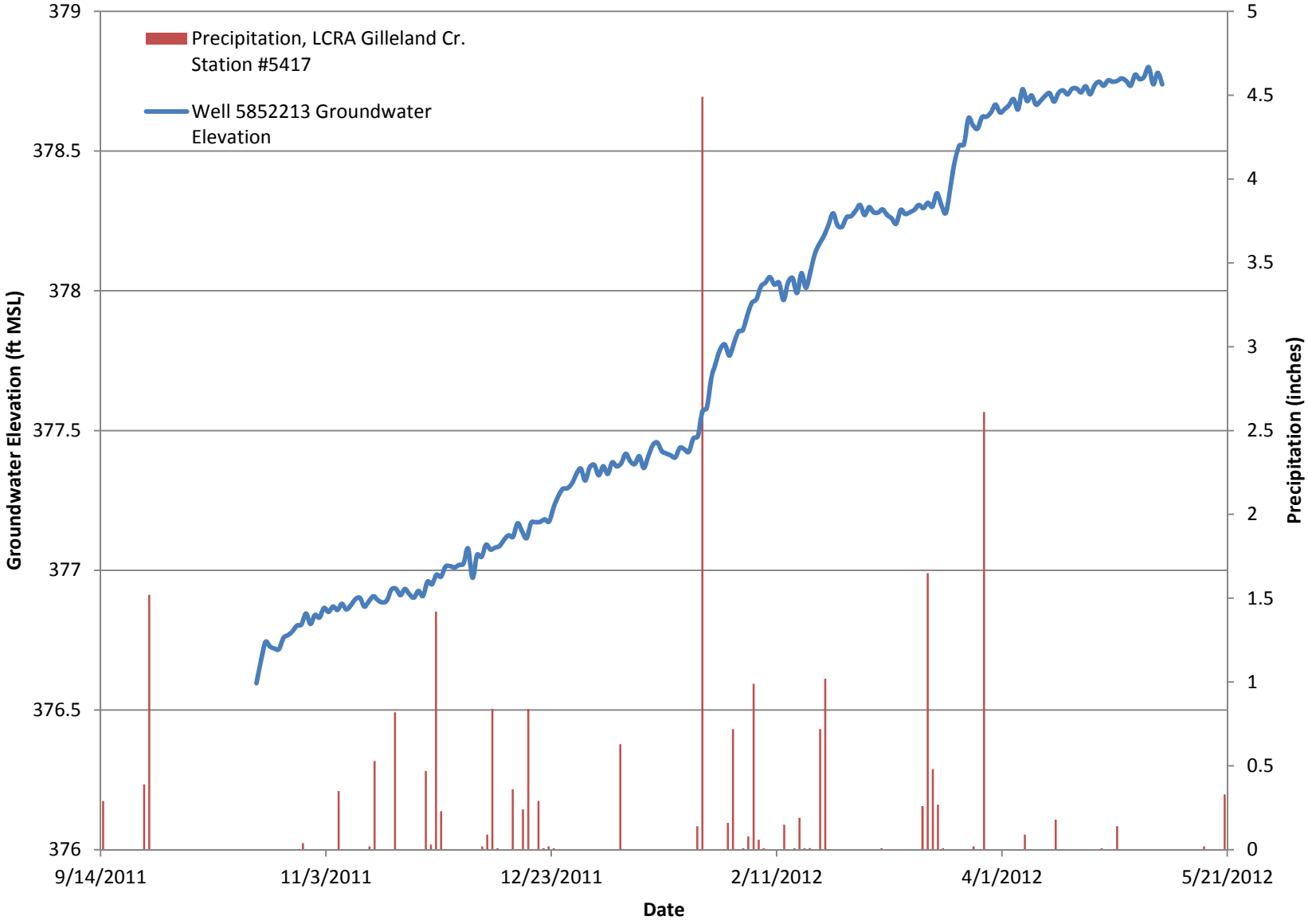
Site: Travis County CRCP

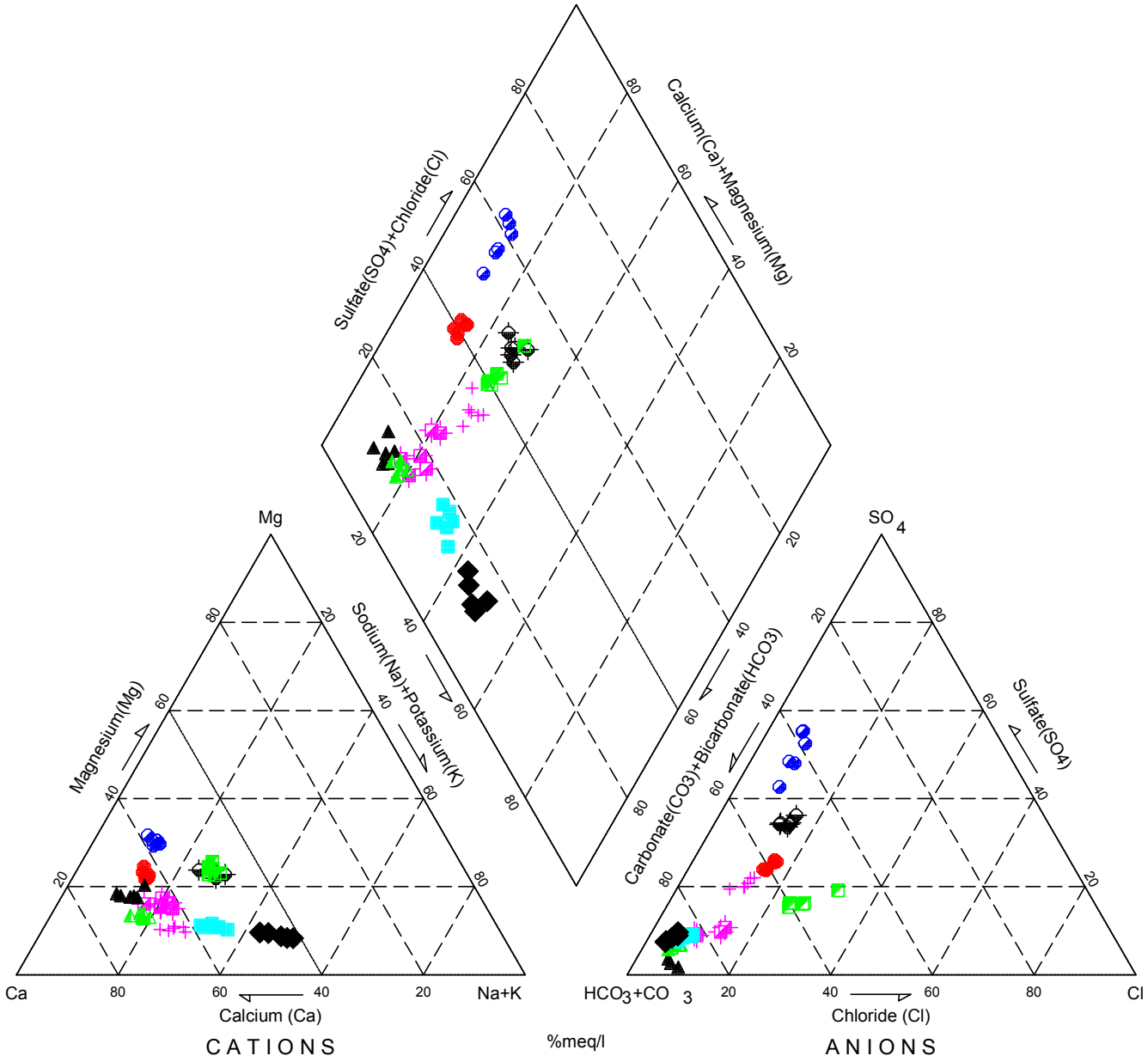
Title: **Figure 3-6**
Potentiometric Surface Map
May 7-8, 2012

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	22 Aug 2012	Fig 3-6 GWE0050712	3-6

K:\PROJECTS\Travis_County_CRCP\Baseline_Report\Fig 3-6 GWE0050712.mxd, 8/22/2012 @ 11:45:33 PM

Figure 3-7 Well Hydrograph for Well 5852213





Legend

- ATF 1
- 5852314 (MWS)
- NTNW2
- Holweger
- 5852213 (TXI)
- 221049 (King)
- 58522 (Edgar)
- Wisian W1
- Wisian W2
- Buchheit

%meq/l Percent Milliequivalents per Liter

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9400 Amberglen Blvd.
Austin, TX 78729
Phone: (512) 454-4797
Fax: (512) 419-5474

Client: **Travis County CRCP**

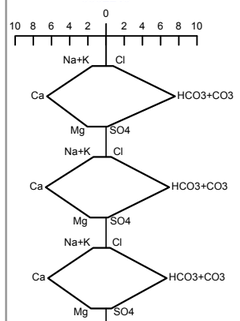
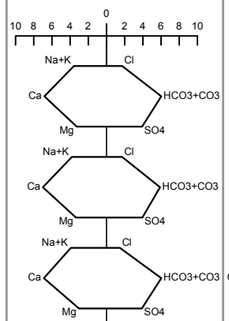
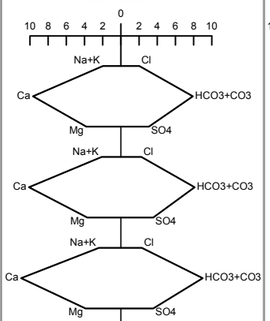
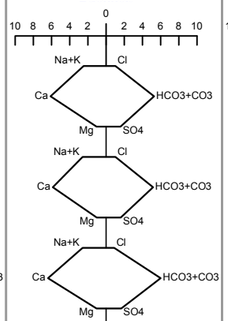
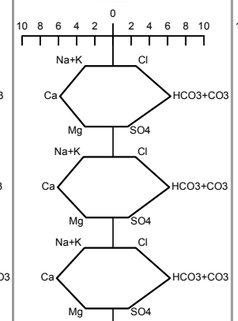
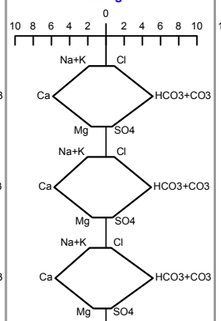
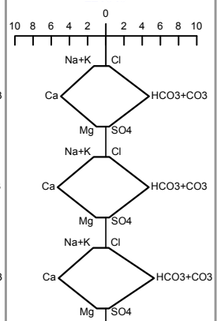
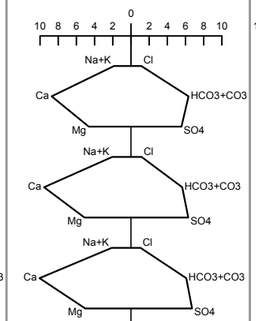
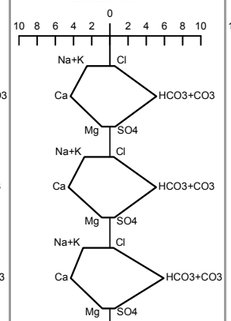
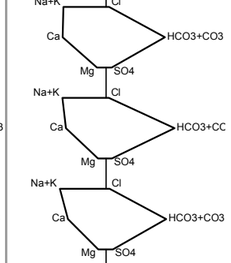
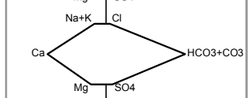
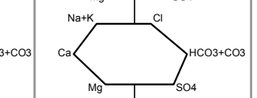
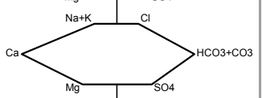
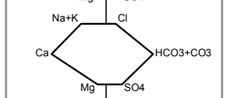
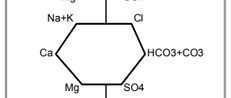
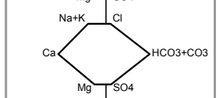
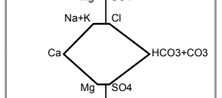
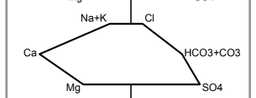
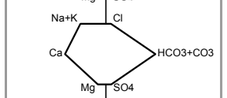
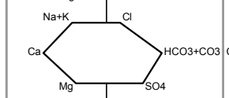
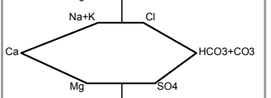
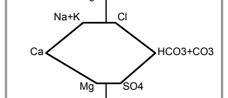
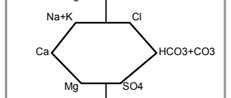
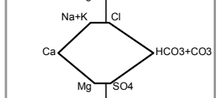
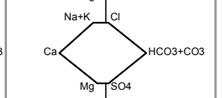
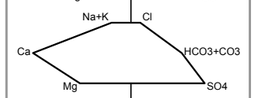
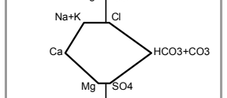
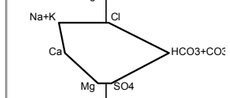
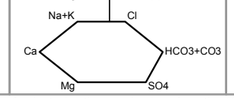
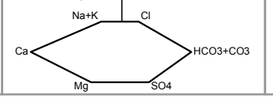
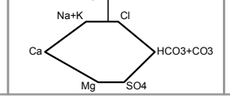
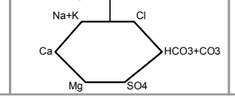
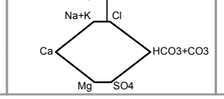
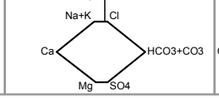
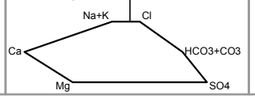
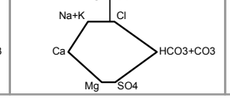
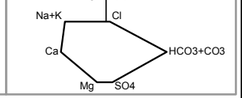
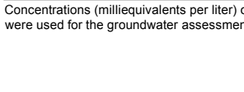
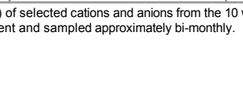
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Trilinear Diagram

Drawn by:

Date: Aug 22, 2012

Figure: 3-8

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Sample Date	5852213	5852314	ATF Well 1	Buchheit	58522	Holweger	221049	NTN Well 2	Wisian Well 1	Wisian Well 2
2011 Oct. 18-19										NOT SAMPLED
2011 Nov. 29-30										
2012 Jan. 4-5										
2012 Feb. 15-16										
2012 Mar. 26-27										
2012 May 7-8										

Concentrations (milliequivalents per liter) of selected cations and anions from the 10 wells were used for the groundwater assessment and sampled approximately bi-monthly.

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Client: **Travis County CRCP**

Title: **Figure 3-9**
Stiff Diagrams

Drawn by:	Date:	Drawing File:	Figure:
Gary_Callahan	Aug 23, 2012	Diagrams.dwg	3-9

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4.0 ENVIRONMENTAL MONITORING DATA EVALUTION

4.1 Task 1, Groundwater Evaluation

Baseline groundwater availability and quality conditions were evaluated using the groundwater data collected during the six approximately bi-monthly groundwater sampling events.

Groundwater Availability

The general groundwater flow direction of the Colorado River Alluvial Aquifer within the study area is towards the east and southeast with an average hydraulic gradient of 0.0023 (Figures 3-1 to 3-6). The groundwater flow direction appears to be influenced by pumping wells NTN Well 2, ATF Well 1 and well 5852314. Wells 5852314 and NTN Well 2 have the most significant influence on the potentiometric surface because of their daily cyclical pumping rates of approximately 670 gallons per minute (gpm) and 300 gpm respectively. Well ATF Well 1 has an approximate pumping rate of 450 gpm, but it not used on a regular basis. However, localized buried gravel channels within the Colorado Alluvial Aquifer may provide conduits for groundwater flow in directions not consistent with the general east-southeast groundwater flow direction. From October 2011 to May 2012 the groundwater elevation in the area rose in each of the 10 wells monitored. Table 4-1 shows the change in groundwater elevation at each well.

The rise in groundwater elevation is likely a recovery response caused by above average precipitation during November and December 2011, and January to March 2012 recharging the Colorado River Alluvial aquifer after the extreme dry conditions that persisted from February to October 2011. The 2011 rainfall total recorded at Austin Bergstrom International Airport (ABIA) was only 16.98 inches and well below the average yearly rainfall of 32.52 inches. Precipitation data from 1942 to 2012 at ABIA is included as Appendix D. Additionally, the observed groundwater elevation recorded with the transducer in well 5852213 shows marked increased water levels corresponding to precipitation events and relatively flat water level trends during periods of little or no precipitation (Figure 3-7).

Availability of groundwater for domestic, agricultural, and municipal use from the Colorado River Alluvial Aquifer is dependent upon the aquifer potentiometric surface remaining within or above the screened intervals of existing wells and is largely controlled by local precipitation recharge. Loss of groundwater elevation resulting in diminished or complete loss of groundwater availability was observed in the Glass well where only 0.22 to 0.40 ft of water was in the well (Table 3-1), and presumably was a result of dry climatic conditions. Not including the Glass well, the observed thickness of water in wells included in the monitoring program ranged from 4.23 ft (Buchheit Well on January 5, 2012) to 24.25 ft (Well ATF W 1 on March 27, 2012) (Table 3-1). Overall groundwater elevations ranged from approximately 390 ft above mean sea level (msl) upgradient of the Hornsby Bend East mine location to approximately 370 ft above msl downgradient (Figures 3-1 to 3-6).

Groundwater Quality

Water quality of the Colorado River Alluvial Aquifer in the vicinity of the Hornsby Bend East mine location was assessed by analyzing the groundwater for major-ions and nutrients. Major-ions were graphically evaluated to identify the typical water types present prior to mining, and a

statistical evaluation of major-ions and nutrient concentrations in groundwater was performed to identify the typical range of values present during baseline conditions.

Major-ion chemistry data was used to construct trilinear (Hem, 1992) and Stiff diagrams (Stiff, 1951). The trilinear diagram (Figure 3-8) depicts the water composition as percentage milliequivalents per liter (meq/L) and shows that the Colorado River Alluvial Aquifer groundwater is predominantly indicative of calcium-bicarbonate type water. However, three wells have a calcium-bicarbonate/calcium-sulfate mixed type water and one well has a calcium-bicarbonate/sodium-bicarbonate mixed type water. Wells 5852314, ATF 1 and NTN 2, which are located on the down gradient side of the study area have calcium-bicarbonate/calcium-sulfate mixed type water. Wisian Well 2 is the furthest upgradient well in the study area and shows calcium-bicarbonate/sodium-bicarbonate mixed type water.

Stiff diagrams (Figure 3-9) depict water composition as concentrations of meq/l for each of the 6 samples collected from the 10 wells. The similarity of the six stiff patterns from a single well indicates that no substantial temporal changes in major-ion chemistry occurred during baseline monitoring. This temporal consistency in major-ion chemistry at each well is also demonstrated by the tight pattern of plotted data for each well on the trilinear diagram (Figure 3-8).

A statistical evaluation of the water quality constituents for all wells is presented in Table 4-2 and the minimum, maximum and mean for each well in Table 4-3. Water quality data from the Glass well collected during the first sampling event on October 18, 2011 was not included in the statistical evaluation because the Glass well results are not indicative of the actual water quality of the Colorado River Alluvial Aquifer. Rather, it is suspected that the relatively elevated water quality concentrations of the constituents in Glass well (Table 3-2), calcium, potassium, and bicarbonate in particular, are indicative of stagnant water in the well sump.

The statistics of the water quality constituents were used to estimate a range of values representative of baseline conditions. As expected, the mean concentration for most constituents at the majority of the wells did not vary considerably from the overall mean (Table 4-3). Therefore, the range of concentrations (minimum to maximum) for each water quality constituent on Table 4-2 is representative of the overall baseline condition.

Water Quality Threshold Levels

An indication that a change from baseline water quality has occurred could be gained by comparing newly observed water quality values to the range of baseline values shown on Table 4-3. However, just because a hypothetical future water quality value may exceed its baseline maximum value does not necessarily indicate a change to baseline conditions. Natural variation in the baseline range obviously exits. Therefore, an approach to identify values that exceed baseline conditions would be to identify levels greater than the maximum baseline concentration plus one standard deviation. Values of maximum concentration plus one standard deviation are presented on Table 4-2.

4.2 Task 2, Air Quality Evaluation

Valid 24-hour PM_{10} and $PM_{2.5}$ mass measurement results are given in Table 3-3. The average levels of PM_{10} were 19.1 $\mu g/m^3$ and 23.9 $\mu g/m^3$ at the north and south sites, respectively. These

levels are slightly above the annual average PM_{10} level measured at 2600B Weberville Road, in East Austin, by TCEQ in 2011 (which was 18 $\mu g/m^3$). The differences between the PM_{10} levels measured at the test sites relative to the East Austin annual average might be due to the different sampling schedules (TCEQ collects 24-hour PM_{10} and $PM_{2.5}$ filter samples once every six days throughout the year) or they may reflect an impact from windblown dust at the test sites due to the dry and mostly barren agricultural land nearby.

The average levels of $PM_{2.5}$ were 9.3 $\mu g/m^3$ and 10.5 $\mu g/m^3$ at the north and south sites, respectively. These levels are slightly below the 10.9 $\mu g/m^3$ annual average that TCEQ measured at Webberville Road in 2011. These small differences may also be attributed to the different sampling schedules or, perhaps, to less vehicular traffic near the test sites than near the East Austin monitor location.

Air Quality Threshold Levels

The 24-hour National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ and PM_{10} are 35 $\mu g/m^3$ and 150 $\mu g/m^3$, respectively (40 CFR Part 50). All observed baseline $PM_{2.5}$ and PM_{10} levels were well below the levels of the respective NAAQS, though federal regulations call for three years of year round monitoring, at least once every six days, for determining compliance with the NAAQS. $PM_{2.5}$ and PM_{10} levels above these NAAQS may lead to adverse health effects, and reduced visibility. The NAAQS can be used in subsequent phases of this project for comparison to observed $PM_{2.5}$ and PM_{10} levels to asses potential air quality impacts associated with sand and gravel mining operations.

4.3 Task 3, Noise Assessment Data Evaluation

Noise is generally defined as unwanted sound that is typically associated with human activity and which interferes with or disrupts normal activities. Sound becomes unwanted when it interferes with our normal activities such as sleeping, conversation, recreation, or when it causes adverse health effects. Sound is created when objects vibrate, resulting in a rapid variation in surrounding atmospheric pressure called sound pressure. Airborne sound is generally described in terms of the amplitude and frequency of variation of air pressure. The standard unit of measurement of the amplitude of sound is the decibel (dB). Decibels are measured on a logarithmic scale representing points on a sharply rising curve. For example, 10 dB are 10 times more intense than 1 dB, 20 dB are 100 times more intense, and 30 dB are 1,000 times more intense.

Most of the sounds that humans hear in the environment do not consist of a single frequency, but rather a broad range of sound frequencies, with each frequency differing in sound level. The sound energy in each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the mid-range frequency. This method is called “A-weighting”, and the dB level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighted curve. Typical A-weighted levels measured in the environment and in industry are shown in Table 4-4 for different types of noise.

All sound pressure levels decrease as a function of distance from the source as a result of wave divergence, ground attenuation, and atmospheric absorption. As a sound wave travels away from the source, the sound energy is dispersed over a greater area, thereby dispersing the sound energy of the wave over an increasing area. Intervening topography can have a substantial effect on sound pressure levels with greater ground attenuation occurring over rough terrain verses flat terrain. For example, noise levels for a line source such as a busy highway decrease 3 dBA over hard ground (concrete, pavement) or 4.5 dBA over soft ground (grass) for every doubling of distance between the source and the receptor. Atmospheric absorption also influences sound levels; the greater the distance traveled, the greater the influence and the resultant fluctuations. The degree of absorption is a function of the frequency of the sound as well as the humidity and temperature of the air. Atmospheric turbulence and meteorological conditions such as wind and temperature gradients can also play a significant role in determining the degree of attenuation.

Noise levels from construction activities or ground transportation sources depend on a number of factors including equipment type, volume and speed.

The existing noise environment near the future mining activity areas is affected by a number of noise sources, most of which are transportation-related (i.e., roadway and aircraft). Primary noise sources observed within the project area include FM 969, local residential roadways, and aircraft overflight operations from ABIA. Other sources of noise contributing to local noise background levels included agricultural activities including plant nursery, tree farming, and pecan orchards located on and south of Milo Road as well as general community noise from nearby residential areas.

The existing ambient baseline sound-level measurements for each monitoring location are shown in Table 4-5. The table lists the equivalent, or steady state average noise level equivalent steady-state sound level (L_{eq}) during the respective monitoring period for each round of noise monitoring.

As shown in Table 4-5, equivalent A-weighted sound levels vary greatly depending on location. Existing daytime noise levels at residential areas located away from FM 969 (M1 through M4 and M7) generally vary from approximately 40 dBA to as high as 55 dBA. Monitored areas located next to the more heavily traveled FM 969 roadway (M5 and M6) are considerably higher varying from approximately 57 dBA to approximately 68 dBA.

A long-term (i.e., 4-hour) baseline noise measurement was also performed at the M1 measurement location. The noise measurement was conducted on a weekday, during the late afternoon hours. The resulting ambient noise level was 46.8 dBA which is very close (i.e., within 2 dBA) of the average of the short-term noise levels recorded at this same location.

Noise Threshold Levels

The project area is located within the Extra Territorial Jurisdiction (ETJ) of the City of Austin, therefore, the City of Austin noise ordinance applies. The City of Austin codifies noise regulations in several locations within its Code of Ordinances. Most references to noise concern music venues or the operation of sound equipment (loud speakers or public address systems) which do not apply to this project. However, some sections of the code may potentially apply to

TXI operations. In Chapter 9-2-3 – Noise and Amplified Sound, General Restrictions, Section 9-2-3(2) prohibits the "*making of noise audible to an adjacent business or residence between 10:30 PM and 7:00 AM*". Section 9-2-3(3) prohibits "*operation of a machine that separates, gathers, grades, loads, or unloads sand, rock, or gravel within 600 feet of a residence, church, hospital, hotel, or motel between 7:00 p.m. and 6:00 a.m.*".

Other sections within the Code of Ordinances prohibit certain noise levels and conditions within Planned Development Areas and Traditional Neighborhood Districts; however, at this time the surrounding residential areas do not qualify for these designations.

No standardized or regulatory criteria have been developed for specifically assessing construction noise impacts. Therefore, criteria must be developed on a project-specific basis unless local ordinances can be found to apply. Outside of work hour and distance requirements as shown above, the City of Austin noise ordinances do not specifically apply to construction noise levels within the project area and are therefore, not practical for assessing the noise impact of a construction project.

Project construction noise threshold levels should take into account existing noise levels, adjacent land use, and the duration of construction activities. The Federal Transit Administration (FTA) has developed general project construction noise criteria guidelines that can be considered reasonable criteria to be used in construction noise assessments. For general construction noise assessments, the eight-hour L_{eq} dBA noise criteria levels for various land use activity categories provided in Table 4-6 are often used.

Noise levels above these threshold criteria may lead to adverse community reaction, while noise levels below them generally require no action. The FTA noise criteria or other applicable construction noise criteria should be used in subsequent phases of this project to predict potential noise impacts associated with sand and gravel mining operations.

Table 4-1. Observed Groundwater Elevation Increase from October 2011 to May 2012

Well ID	Change in Groundwater Elevation (ft)
58522	+ 0.17
221049	+ 1.42
5852213	+ 1.88
5852314	+ 4.85
ATF Well 1	+ 1.75
Buchheit	+ 1.83
Holweger	+ 1.44
NTN Well 2	+ 3.49
Wisian Well 1	+ 0.85
Wisian Well 2	+ 0.67

ATF - Austin Tree Farm.
ft - feet, foot.
ID - Identification.
NTN - Native Texas Nursery.

Table 4-2. Overall Water Quality Statistics

Overall Statistic (all normal samples)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L)
# of Samples	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean	134	27.3	2.71	57.0	38.9	0.28	10.5	99.3	364	< 2	0.28	5.13	724
Range	149	66.6	4.21	95.4	89.4	0.32	34.7	399	285	< 2	6.33	72.7	709
Minimum	84	10.1	1.80	22.6	10.2	0.11	0.01	7.11	259	< 2	0.02	1.00	440
Maximum	233	76.7	6.01	118	99.6	0.43	34.7	406	544	< 2	6.35	73.7	1149
Standard Deviation	41	17.9	0.94	24.2	27.7	0.09	8.19	103	69.9	< 2	0.99	12.6	205
Mean + 1 Standard Deviation	175	45.2	3.63	81.2	66.6	0.37	18.7	202	433	< 2	1.27	17.7	929
Mean + 2 Standard Deviations	216	63.1	4.58	105	94.2	0.45	26.9	305	503	< 2	2.26	30.3	1134
Maximum + 1 Standard Deviation	274	94.6	6.95	142	127	0.52	42.9	509	614	< 2	7.34	86.3	1354

mg/L - Milligrams per liter.
TDS - Total dissolved solids.
TSS - Total suspended solids.

Table 4-3. Water Quality Statistics by Well

Well ID	Minimum/Maximum	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L)
ATF 1	Minimum	194	41.2	3.48	43.2	65.2	0.14	4.86	143	461	< 2	0.02	1.00	967
	Mean	208	45.4	3.93	50.7	77.3	0.23	6.76	165	497	< 2	0.03	1.37	1050
	Maximum	222	47.3	4.49	57.4	83.6	0.36	8.91	184	544	< 2	0.07	2.30	1123
5852314	Minimum	134	36.8	1.98	79.4	52.2	0.17	10.3	187	349	< 2	0.02	1.10	871
	Mean	140	39.9	2.20	85.9	58.8	0.24	10.9	193	359	< 2	0.02	1.58	881
	Maximum	154	42.5	2.53	94.5	63.8	0.30	11.2	207	368	< 2	0.02	2.30	891
NTNW2	Minimum	175	56.5	2.24	41.7	35.6	0.20	24.3	266	336	< 2	0.02	1.00	965
	Mean	208	64.8	2.36	46.7	39.4	0.29	29.1	342	352	< 2	0.02	1.03	1052
	Maximum	233	76.7	2.51	52.6	44.9	0.42	34.7	406	382	< 2	0.03	1.10	1149
Holweger	Minimum	105	15.3	1.88	31.9	11.8	0.29	15.2	21.1	287	< 2	0.02	1.00	484
	Mean	111	17.0	1.97	40.0	21.1	0.33	18.0	27.3	302	< 2	0.02	1.07	522
	Maximum	117	19.7	2.03	45.2	32.6	0.43	21.6	34.1	314	< 2	0.02	1.10	556
5852213	Minimum	128	20.1	4.35	22.6	15.2	0.23	0.01	7.11	404	< 2	0.91	5.90	633
	Mean	137	22.2	4.80	27.4	18.9	0.31	0.05	21.9	449	< 2	2.58	31.7	682
	Maximum	150	24.8	6.01	31.9	27.8	0.39	0.10	37.4	527	< 2	6.35	73.7	759
221049	Minimum	92.7	10.9	1.80	25.8	10.2	0.18	12.9	14.9	267	< 2	0.02	2.90	440
	Mean	102	12.0	1.88	29.2	12.1	0.28	13.5	16.8	286	< 2	0.02	7.95	462
	Maximum	106	13.1	2.01	30.5	14.2	0.43	14.2	18.5	320	< 2	0.02	17.9	498
58522	Minimum	111	32.1	1.84	69.5	87.8	0.20	2.42	76.1	259	< 2	0.02	1.00	661
	Mean	119	34.8	2.04	72.4	91.8	0.26	3.40	78.9	346	< 2	0.02	2.03	747
	Maximum	124	37.5	2.23	75.2	99.6	0.32	4.27	81.3	382	< 2	0.02	3.80	784
Wisian W1	Minimum	86.6	10.1	2.61	53.9	12.7	0.24	8.03	21.2	300	< 2	0.02	1.00	493
	Mean	89.5	10.6	2.77	59.5	16.0	0.29	8.66	25.4	318	< 2	0.02	1.53	523
	Maximum	92.2	11.0	3.04	66.1	19.2	0.41	8.88	27.5	356	< 2	0.02	2.40	562
Wisian W2	Minimum	83.9	10.2	2.41	66.1	10.6	0.11	8.88	27.5	356	< 2	0.02	1.00	651
	Mean	91.6	11.2	2.51	110	12.8	0.13	11.0	31.72	413	< 2	0.02	1.30	675
	Maximum	99.4	12.2	2.72	118	15.3	0.14	12.5	36.2	455	< 2	0.02	1.80	710
Burchheit	Minimum	117	11.4	2.30	53.6	31.8	0.28	3.73	76.0	310	< 2	0.02	1.00	618
	Mean	126	12.5	2.44	57.0	36.7	0.36	4.19	80.2	324	< 2	0.02	1.05	641
	Maximum	139	13.0	2.59	61.5	39.9	0.39	4.70	85.2	363	< 2	0.05	1.20	678
All Wells	Overall Mean	134	27.3	2.71	57.0	38.9	0.28	10.5	99.4	364	< 2	0.28[1]	5.13	724

Note:
[1]Overall ammonia mean skewed by well 5852314, overall ammonia mean without 5852314 is 0.02.

ATF - Austin Tree Farm.
ID - Identification.
mg/L - Milligrams per liter.
NTN - Native Texas Nursery.
TDS - Total dissolved solids.
TSS - Total suspended solids.

Table 4-4. Range of Common Sound Levels on an A-Weighted Decibel Scale

Outdoor	dBA	Indoor
Jet takeoff at 200 feet/car Horn at 3 feet	120	Threshold of pain
Pneumatic hammer Gas lawn mower at 3 feet	100	Subway train
	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal at 3 feet
Lawn mower at 100 feet	70	Vacuum cleaner at 10 feet Normal speech at 3 feet
Air conditioning unit Babbling brook	60	Clothes dryer at 3 feet Large business office
Quiet urban (daytime)	50	Dishwasher (next room)
Quiet urban (nighttime)	30	Recording studio
	0	Threshold of hearing

Source: FHWA, 1997.

Table 4-5. Summary of Daytime Ambient Noise Measurements

Site Location	Monitored Noise Level (dBA Leq)										
	Round 1						Round 2				
	10/26	10/27	10/28	10/31	11/2	11/3	3/22	3/23	3/28	3/29	3/30
M1	47.0	53.6	51.0	50.4	53.1	55.5	45.5	42.7	52.6	44.4	44.0
M2	43.8	48.2	51.0	41.2	44.8	53.5	49.4	49.7	44.2	45.8	44.5
M3	42.1	46.9	46.6	43.7	47.5	47.6	51.3	44.4	44.3	47.1	41.6
M4	48.3	48.6	50.5	43.6	48.8	49.3	50.4	44.3	48.2	43.3	42.5
M5	59.6	59.9	59.1	58.2	61.6	60.8	57.6	58.9	58.5	56.7	56.8
M6	66.1	62.7	65.2	65.8	65.8	62.3	67.1	64.1	67.2	68.3	63.8
M7	39.7	47.2	52.4	46.0	48.7	43.3	44.7	41.6	53.5	45.7	45.2

Table 4-6. Federal Transit Administration Construction Noise Criteria Guidelines

Land Use	Eight-hour Leq (dBA)	
	Day	Night
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: FHWA, 2006.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The following section presents the conclusions and recommendations of the baseline environmental monitoring for groundwater, air, and noise.

5.1 Conclusions

Groundwater

Baseline groundwater availability conditions of the Colorado River Alluvial Aquifer in the vicinity of the Hornsby Bend East and Hornsby Bend West mine location indicate that groundwater flow is to the south and southeast, with a typical potentiometric surface of approximately 390 ft above msl on the west to approximately 370 ft above msl on the east. Groundwater elevations in the area were rising as winter and spring 2012 precipitation recharged the aquifer after an abnormally dry summer and fall of 2011.

Typical groundwater at the site is calcium-bicarbonate type water. One upgradient well (Wisian Well 2) exhibited calcium-bicarbonate/sodium-bicarbonate mixed type water and three downgradient wells (5852314, ATF 1, and NTN 2) exhibited calcium-bicarbonate/calcium-sulfate mixed type water. Despite the presence of the mixed water types located on the up and downgradient ends of the site, the overall range of water quality constitutes is relatively consistent and appears representative of baseline water quality conditions. The minimum to maximum ranges of water quality constituents on Table 4-2 are indicative of baseline water quality conditions. The maximum water quality values plus one standard deviation can be used as a criteria to determine if baseline levels have been exceeded.

Air

$PM_{2.5}$ and PM_{10} levels from both locations averaged 9.8 µg/m^3 and 21.1 µg/m^3, respectively. These levels are consistent with the annual average $PM_{2.5}$ and PM_{10} level measured at 2600B Weberville Road, in East Austin, by TCEQ in 2011, which were 10.9 µg/m^3 and 18.0 µg/m^3, respectively. The small differences between the air quality levels measured at the test sites relative to the East Austin annual averages might be due to different sampling schedules or local effects such as windblown dust from dry agricultural land at the site (PM_{10}) and perhaps less $PM_{2.5}$ impact due to less vehicular traffic near the test site relative to the East Austin monitor location. All observed baseline $PM_{2.5}$ and PM_{10} levels were well below the NAAQS of 35µg/m^3 for $PM_{2.5}$ and 150 µg/m^3 for PM_{10}.

The $PM_{2.5}$ and PM_{10} air quality levels shown in Table 3-3 will serve as a comparison tool for future air quality levels during subsequent phases of the project to determine potential air impacts once mining operations begin.

Noise

Existing noise levels within the project area vary greatly depending on location with the highest noise levels occurring adjacent to FM 969 and Dunlap Road and lower noise levels occurring in the more rural sections of the project study area. Measured daytime noise levels within the study area are consistent with normal daytime noise levels for quiet urban and suburban areas of approximately 50 dBA as shown in Table 4-5.

The noise levels shown in Table 4-6 will serve as a comparison tool to future noise levels during subsequent phases of the project to determine potential noise impacts in adjacent residential areas once mining operations begin. Potential noise impacts should be determined based on future TXI mining activities, including proposed operations, schedules, and equipment to be used.

5.2 Recommendations

Groundwater

Prior to initiation of active mining operations at the Hornsby Bend East and Hornsby Bend West sites, it is recommended that groundwater levels be measured quarterly at the same 10 wells included in the baseline monitoring and that continuous water level monitoring at well 5852213 be continued. Groundwater sampling from the 10 wells should be performed annually until active mining commences. The water quality and groundwater availability data collected during this interim mining period should be used to update and or adjust baseline values. Once active mining starts it is recommended that water quality and groundwatetr availability monitoring be conducted quarterly.

Air

It is recommended that air quality sampling for $PM_{2.5}$ and PM_{10} from the same two locations used for the baseline sampling be performed quarterly for the first two years of active mining.

Noise

Prior to the start of future TXI mining activities, potential noise impacts associated with future mining activities should be determined at nearby off-property sensitive receptor locations. For best results, TXI operational parameters for the Hornsby Bend East and Hornsby Bend West sites should be well established. If noise impacts are predicted, then noise abatement measures should be considered. A noise abatement measure is any positive action taken to reduce the impact of noise on an activity area such as source controls (e.g., varying haul road paths), pathway controls (e.g., noise barrier walls, earthen berms, etc.), or receiver controls (e.g., acoustical land-use site planning concepts or acoustical construction techniques). Once active mining starts, it is recommended that noise monitoring be conducted semi-annually for the first year of mining.

6.0 REFERENCES

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http://www.txi.com/TXI-hornsby/hornsby-bend

APPENDIX A

Field Forms

From Page No.

8/10/11

0800 Arrive at site, meet w/ Mr. Ms. Glass, and S. England TXI.

0830 Arrive at well located behind Mr./Ms Glass mansion.
Well has a concrete cover w/ small opening to measure water level. Well was a hand dug well - no pump in well.
DTW = 46.00' BTOC (not from top of concrete lid)
TD = ~~47.46~~ 46.99' BTOC (" " " " " ")
46.99' = 46.72 + ~~0.26~~ 0.27' padlock length (used as weight on end of tape)
Coordinates = N 30° 14.080'
W 097° 34.277'
Elevation = 395.0 ft MSL
Outer diameter of casing = 2.8"
Thickness of casing = 0.22', Sample port = 0.22' x 0.5'

0855 Arrive at Well # 5852203, located off of Dunlap Rd
DTW = Dry
TD = 20.66 + 0.27' = 20.93' BTOC
Coordinates = N 30° 13.649'
W 097° 34.457'
Elevation = 353.7 ft MSL

0925 Arrive at a presumed well with steel casing ~ 2" casing

0945 Arrive at Well # 5852213, located near Elm Creek; by barbed wire
DTW = 29.26' BTOC
TD = 36.38' BTOC
Coordinates = N30° 13.612' W 097° 33.846'
Elevation = 376.5 ft MSL
Yellow PVC casing, 5" casing, needs well cap
Access during mining - Safeway - Milo Rd (Mr. Carson's driveway)
Good candidate for installation of transducer.

1020 Arrive at buffer zone between Chaparral Crossing and the cemetery. Potential area to install air monitoring equipment.

1105 Arrive at Native Tree Nursery - Meet with Mr Bill Carson
Gave permission to access/use 2 wells - Well # 35464 and another well not identified in database (installed between 1998-2000)
Said the wells are pumping ~~mere~~ a majority of day
Sulfuric acid added before coming out of tap

To Page No.

Witnessed & Understood by me, Date 8/10/11 Invented by: Date

Project No. _____
Book No. A00801 TITLE CRCP - Well Survey

8/10/11 (cont.)

~40' bgs
- Unidentified well at NTN - can collect GW before it gets acidified at the cistern. Need ladder
- Well #35464 - physically tricky to obtain fresh GW. May need long pole w/ bucket
- B. Carson also said there's another well located @ 15821 Milo (adjacent property) co-shared w/ Betty Wiseman

Also another well next to NTN office - not active
- no electrical
- ~40' bgs (clay ~ @ 40' bgs)
- top cover, equipment needs to be removed
- said it has water

Possible to use office NTN well for gauging and one of pumping wells to sample.

Unidentified NTN well (drilled 3/26/98), ~~NTN well 1~~ (NTN well 2)
Coordinates: N 30° 13.453'
W 097° 33.585'
Elevation: 424.4 ft MSL

NTN office well (NTN well 1)
Coordinates: N 30° 13.354'
W 097° 33.589'
Elevation: 371.3 ft MSL

Well #35464
Coordinates: N 30° 13.320'
W 097° 33.582'
Elevation: 385.8 ft MSL

Arrive at Rex Wimmer's well
DTW: 33.80' BTOC
TD: 43.54' BTOC
6" diameter
Pump installed
Coordinates: N 30° 13.565'
W 097° 33.898'
Elevation: 410.7 ft MSL

Will need to bleed pressure equalizer tank, pump will kick on automatically. Like GW will bypass tank and flow straight out spigot.

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erstood by me, | Date 8/10/11 | Invented by: | Date
Recorded by:

From Page No. ____

8/10/11 (cont.)

1300 Arrive at Dale Holweger well
Coordinates: N 30° 13.582' W 097° 34.184'
TD ~ 48' (based on D. Holweger)
Elevation: 422.8 ft MSL
Nearby hand dug well (dry) - TD = 29.22' BTOC
Well is located ~ 200' beyond tree line behind house. Follow power lines to back
*Need thin water level meter for sample port
Can sample from spigot - need to remove hose first.

1345 Arrive at Mary Wisian well (2 wells)
Coordinates: N 30° 14.400' W 097° 34.093' } (older well)
Elevation: 428.9 ft MSL
Can sample from older well from faucet near pressure equalizer tank
Can sample from PVC pipe (6" dia) from new well - needs to be turned on manually
Need to call Mrs. Wisian to get electricity on for pump on new well and old well
Need wrench to unscrew sample port for WL gauging
2 additional PVC wells in the grazing pasture
Well #1 (in grazing pasture)
DTW = 49.76' BTOC, 375.44' MSL
TD = 65.20' BTOC
Coordinates: N 30° 14.480' W 097° 34.035'
Elevation: 425.2 ft MSL
9" Diameter w/ PVC cap
Well #2 (beyond brush line/fence)
DTW = 45.06' BTOC 375.84' MSL
TD = 62.14' BTOC
Coordinates: N 30° 14.485' W 097° 34.122'
Elevation: 420.9 ft MSL
6" Diameter w/ PVC cap

To Page No. ____

Witnessed & Understood by me, Date 8/10/11 Invented by: Date

Project No.
Book No. A00801 TITLE CRCP- Well Survey

Page No.

8/10/11 (cont.

1445 Arrive at Barb Buchheit well
Coordinates: N 30° 14.788'
W 097° 33.702'
Elevation: 403.4 ft MSL
Need thin WL meter to gauge through port
Can sample through spigot
1515 Arrive at Douglas Edgar well
Coordinates N 30° 14.608'
W 097° 33.719'
Elevation: 300.5 ft MSL
Spigot right on top of well - gets GW
right of well, turn on gently - will spray wat
Well house located behind house
DTW: 38.60' BTOC
TD: ~70' bgs (according to Doug Edgar)
Broke PVC pipe on well
1550 Arrive at Ally Bates and William Bates Well
Water not pumping at well. Likely due to broken
pressure gauge. Notified Ally Bates.
1625 Head back to office after attempt to access
WSC well (northeast of mining region) failed
Kevin Pasternak wrote down contact info.

(W)

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ed & Understood by me, Date 8/10/11 Invented by: Date

Recorded by:

TITLE

Project No.

Book No. A00801

From Page No.

10/14/11
@ 1425 YSI 556 MPS calibrated by N. Henry

	Pre-cal:	Post-cal:
pH 4	5.16	3.99 SU
pH 7	5.91	7.00 SU
Conductivity (1,413 µmhos)	0.895	1.413 mS/cm
ORP +229 mV (Zobell's) @ 25°C	255.4	229.1 mV
DO (Zero + 0.01 mg/L)	225	0.01 mg/L

To Page No.

Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

TITLE CRCP - GW Monitoring Book No. 00835

From Page No. ____

10/18/11
High 75°F, Windy

Purpose: Purge and sample: Wisian W1 well, Glass well, 585213, 585 ~~22~~ 2314

Crew: Arthur Potts - Cox Mclain
Kevin Pasternak, Kim Nguyen - URS Austin

Equipment: Twister Tempest submersible pump, WL meter, YSI water quality meter, tubing, LaMotte (ren turbidity meter, bailers

0830 Sign in at TX1 Webberville site. Spoke with Jeff Roes Said can call in to sign-out. Do not access TX1 thru Mil
0900 Meet Mary Wisian (Weezan) at her property
Calibrate LaMotte turbidity meter

Standard	Final
1 NTU	1.24 NTU
10 NTU	10.17 NTU

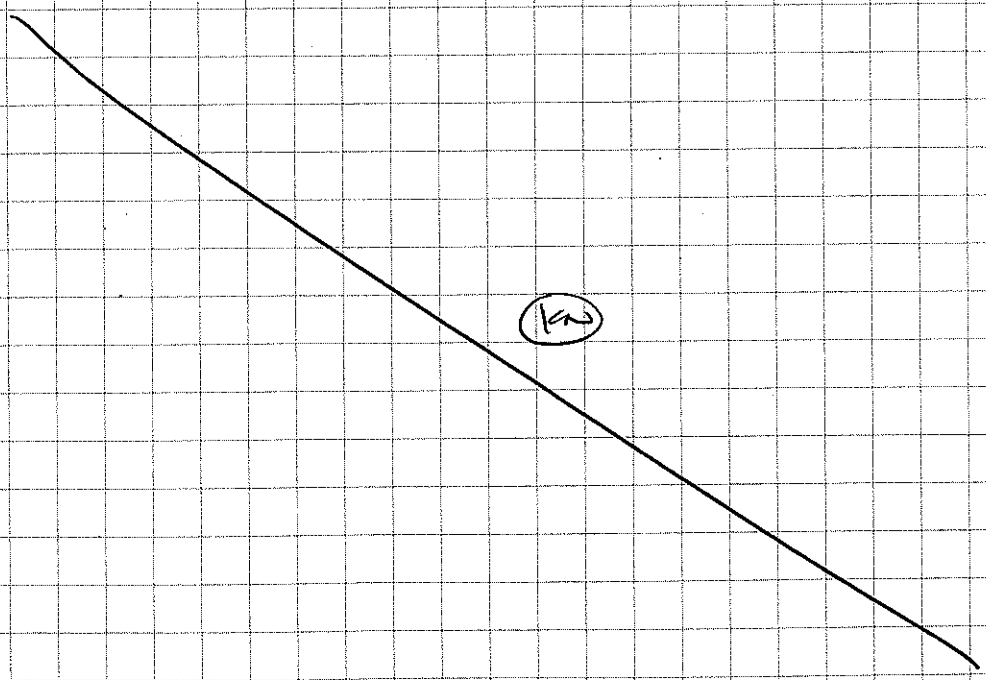
Set up on 8" diameter Wisian W1 well. Has white PVC outer casing (removable) to protect it. In the open field.
0954 Pump on at Wisian W1 well.
1010 Collect [CRCP-WisianW1-010] Decon equipment.
1020 Collect equipment blank [CRCP-WisianW1-015] using lab provided water. No TSS sample collected.
1040 Set up on Glass Well
1110 Begin bailing at 30" diameter Glass Well. Very little water in well and bailer not functioning properly. Silt gets caught up in ball valve. Needed to run bailer down multiple times to get enough volume for readings.
1120 Collect [CRCP-Glass-010] after collect first reading.
1210 Set up on well 585213. Note * need to cross Elm Branch (Creek?) slightly - then stop.

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Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

10/18/11 (cont.)

Well is on the left. White PVC pipe.
1250 Have some issues with WL meter. Need to replace battery (Prop black center out using pliers or flat head screwdriver).
1308 Pump on at 5852213 well.
1330 Collect [CRCP-5852213-010] Decon equipment. Install transducer at ~ 2 ft above bottom.
1425 Arrive at Mansville Water Supply Company. Meet w/ technician (Richard). MWSC turns off pump. Allow water level to return to static.
1450 Turn on pump. Turn on spigot inside pump house. Allow water to pour/drain out of bucket. Collect readings every minute out of bucket.
1455 Collect [CRCP-5852314-010]. Decon equipment. Total volume purged (routed in separate path) = 3,340 gal.
1520 Jonas Rosenthal with Travis County arrives.
1600 Leave for LCRA lab. Hand deliver samples.



Witnessed & Understood by me,	Date	Invented by:	Date
	10/18/11	Recorded by:	

TITLE CRCP-GW Monitoring

Project No.
Book No. 00835

From Page No. ____

10/19/11
High 75°F, Sunny

Purpose: Purge and sample 221049 well (Sarah King), Bucheit well, 58522 (Douglas Edgar), NTN Well 2, ATF Well 1, Holweger well

Equipment: YSI water quality meter (URS property), blue WL meter (URS property), thin tape WL meter (URS property), LaMotte turbidity meter (Ashtead rental), buckets, dedicated private pumps

Crew: Arthur Potts (Cox Mclain)
Kim Nguyen, Kevin Pasternak (URS Austin)

0715 AP & KN leave from URS office for site. Purchase ice.
0755 Arrive at Sarah King's house - 221049 well.
Talk to Sarah King about her pressurized tank. Said it doesn't work. Pump kicks on everytime she turns on water. Water doesn't fill up tank. Since tank doesn't work. Good because URS doesn't need to drain tank before sampling. Use spigot on back of well house. Spigot attached to a garden hose.
0826 Turn spigot on. Collect readings.
0840 Collect CRCP-221049-010 * WL was stable.
Note Do not run over cat when driving in/out of driveway.
0810 Calibrate LaMotte turbidity meter

Standard	Final
= 1 NTU	= 0.88 NTU
= 10 NTU	= 9.68 NTU

KP said YSI doesn't need to be calibrated
0900 Arthur and Randy Stephens (URS) goes to Wislan property to set up air monitoring equipment. KP helps set up.
0930 Set up on Bucheit well. Purge water from spigot.
0941 Turn spigot on. No hose.
1000 Collect CRCP-Bucheit-010

To Page No. ____

Witnessed & Understood by me,	Date	Invented by:	Date
	10/18/11	Recorded by:	

Project No.
Book No. 00835 TITLE CRCP-GW Monitoring

From Page No. ____

10/19/11 (Cont.)

1015 Jonas with Travis County meets URS at Exxon
1030 Set up on 58522 well (Douglas Edgar). Discuss with DE about drilling hole into cap to run WL meter down. Will need to plug hole with 3/4" plug.
1138 Spigot on at 58522 well. DE needs to turn power to pump on from the house. Run water through hose (belonging to DE)
1150 Collect CRCP-58522-010
1200 Meet AP and RS at Native Tree Nursery (NTN) Check in with Emily Brown
1230 Measure DTW at NTN Well 1 (well by office).
DTW = 30.63' BTOC
TD = 36.16' BTOC
1235 (W)
~~1635~~ Set up on NTN Well 2. Water discharges from outfall. Pump rate will vary based on level in pond. Move/ submerge "float" if need pump to start. Flow rate averaged by reading total volume (on meter inside pump housing) and dividing over time
1249 Begin taking readings at NTN Well 2.
1255 Collect CRCP-NTNW2-010
1310 Arrive at Austin Tree Farm (ATF). KP discusses with AP and RS about potential air monitoring locations. Meet w/ manager of ATF - Dan
1340 Turn on pump. Need some time to allow water to reach. Hose was on spigot Turn on spigot.
1355 Collect CRCP-ATF1-010
1410 Set up on Holweger well. Can use large WL meter if unscrew pink top. Sample from spigot by unscrewing piping.
1448 Turn spigot on
1455 Collect CRCP-Holweger-010
1515 Conduct housekeeping. Complete COC.
1600 Delivery samples to LCRA lab (ELS)

To Page No. ____

Witnessed & Understood by me,	Date	Invented by:	Date
	10/19/11	Recorded by:	

TLE Water Quality Meter Calibration Book No. 00835

om Page No. ____

11/28/11

Purpose: Calibrate YSI 556 WQM and Mettler Toledo pH meter prior to November 2011 GW Monitoring event.

Crew: Kim Nguyen (KN), Jen Woertz (JW)

1300 Mettle Toledo pH meter Calibration. JW allows use of meter for CRCP project.

Standard	Final Reading
pH = 4.0	= 4.00
= 7.0	= 7.03

YSI 556 Calibration.

Standard		
pH = 4.0	= 4.26 *	* pH meter on YSI doesn't function properly
= 7.0	= 6.99 *	
Sp Cond = 1.413 ms/cm	= 1.425 ms/cm	

Note: Turbidity meter will be picked up from Ashtead tonight and will be calibrated tomorrow.

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tnessed & Understood by me,	Date	Invented by:	Date
	11/28/11	Recorded by:	

Project No.
Book No. 00835 TITLE CRCP-GW Monitoring

m Page No. ____

11/29/11
High 61°F, Sunny

Purpose: Download transducer data from Well 5852213,
Purge + sample: Well 5852213, Wisian Well #1,
ATF Well 1, Wisian Well #2, 5822 well,
Deliver samples to LCRA lab

Crew: Kim Nguyen (KN), Kevin Pasternak (KP)
Arthur Potts (AP) - Cox McClain

Equipment: YSI 556 WQM, blue WL meter, thin WL meter,
LaMotte turbidity meter (Ashtead), Twister Tempest
pump, dedicated tubing, Mettler Toledo pH meter,
buckets, low flow controller

0730 Leave URS Office. Meet KP at Exxon. Purchase ice
0848 Sign in at TXI Weberville scale house (office was closed)
0915 Conduct H&S meeting. Discuss:
- Biological hazards - insects, mosquitoes, poison ivy near 5852213
- Lifting
- Traffic
- PPE
- Splash hazards
- Running over grass / cat with vehicle

0930 Calibrate LaMotte turbidity meter

Standard	Final Reading
1.0 NTU	0.85 NTU
10.0 NTU	9.47 NTU

0935 Set up on 5852213 (by creek)
0950 Pump on at 5852213
1010 Collect CRCP-5852213-0201 Decon WL meter and pump
1040 Set up on Glass well
1100 Pump doesn't pump up water at Glass well! due to low well volume (w)

To Page No. ____

Witnessed & Understood by me,	Date	Invented by:	Date
	11/29/11	Recorded by:	

11/29/11 (cont)

Not enough volume. KP said to not sample well. It isn't representative. Water column ~0.2' thick

1120 Set up on Wisian Well #1.
1139 Pump on at Wisian Well #1.
1200 Collect CRCP-WisianW1-020 Decon WL meter and pump.
1210 Collect CRCP-WisianW1-025 (Equipment Blank)
1230 Break for lunch
1300 Meet Dan Pacatte at Austin Tree Farm
1312 Pump on at ATF Well 1. Dan needs to turn on pump
1325 Collect CRCP-ATF1-020 Decon WL meter.
1345 Set up on Wisian Well #2.
1402 Pump on at Wisian Well #2
1420 Collect CRCP-WisianW2-020. Decon WL meter and pump. Pack pump and tubing into trash ~~back~~ bag and label as Wisian Well 2.
1445 Set up on 58522 (Edgar well) well
1456 Pump on at 58522
1510 Collect CRCP-58522-020. Decon WL meter. Conduct housekeeping. Move equipment into truck cab. Fill out C-O-C.
1550 Leave for LCRA lab.
1615 Drop off samples at lab.
1630 Return to Wisian property to unlock gate.
* Had accidently locked Wisian out of her property

(P)

To Page No.

Project No. _____
Book No. 00835 TITLE CRCP-GW Monitoring
From Page No. ____

11/30/11
High 60's, Sunny

Purpose: Purge + sample 221049 well (Sarah King), NTN Well 2, ~~5852?~~ 585314 well, Holweger well, ~~Buee~~ Buchheit Well, Survey all wells.

Crew: Kim Nguyen (KN)
Arthur Potts (AP)

Equipment: WL meter (blue & thin tape), YSI 556 WQM, LaMotte turbidity meter, buckets, Mettler Toledo pH meter

0645 Leave URS Austin office for site
0730 Arrive at 221049 well (Sarah King property).
0735 Calibration check on turbidity meter

Standard	Measured ~~vee~~ value
0.0 NTU	= 0.56 NTU
1.0 NTU	= 1.14 NTU
10.0 NTU	= 12.6 NTU

0740 Undrill wall off of well house to access well. Set up.
0756 Pump on using URS garden hose
0815 Collect CRCP-221049-020 Decon WL meter
0830 Check in with Bill Carson at Native Tree Nursery.
0840 Set up on NTN Well 2 Could not turn pump on. Call Emily Brown. Emily meets crew. NTN had turned off the pump last night. Needed to flip the circuit breaker. AP needed to press float in pond (empty) in order to get water to flow out at spigot.
0906 Pump on at NTN Well 2
0930 Collect CRCP-NTNW2-020
CRCP-NTNW2-021 (Dup).
Decon WL meter. Kevin calls and asks to measure WL at NTN Well 1 (over by NTN office).
0935 Attempt to measure WL @ NTN Well 1

To Page No. ____

Witnessed & Understood by me,

Date	Invented by:	Date
11/30/11	Recorded by:	

11/30/11 (cont)

WL meter (thin tape) not functioning. Replaced battery. Still not working. Water is visible on tape. Call Kevin to inform.

1000 Drive to Mansville WSC well - 5852314 well. Give to Kevin the WL meter (thin tape). He will try to fix it.

1015 Set up on 5852314 well.

1023 Pump on at 5852314 well.

1035 Collect CRCP-5852314-0201 Decon WL meter

1045 Call Kevin to check status on WL meter. He instructed to call Ashtead to see if they had one available in the Austin office. Ashtead was called - did not have one. Will use "wet" method to determine approx. WL (measure thickness of wetted tape).

1100 Break for lunch.

1120 Pick up WL meter back from Kevin (who was working with the surveyors

1135 Set up Holweger well.

1149 Pump on Holweger well. Able to use blue standard WL meter at well.

1210 ~~1201~~ Collect CRCP-Holweger-023. Decon WL meter.

1300 Arrive at Buchheit (Buck-height) well. She could not meet until 1300.
Attempt to gauge using standard blue WL meter. Kevin tries to remove bits of the rubber gasket in portal. Attempt failed. Measure WL with thin WL meter. Back calculate WL by measuring TD and water column height.

1354 Pump on Buchheit well.

1410 Collect CRCP-Buchheit-020. Decon WL meter.

1430 Drive to LCRA lab.

1500 Drop samples off at LCRA lab. Go to drop off equipment at URS office and at Ashtead (LaMotte Turbidity Meter).

(KW)

tnessed & Understood by me,	Date 11/30/11	Invented by:	Date
		Recorded by:	

Project No.
Book No. 00835 TITLE Water Quality Meter Calibration

From Page No. ____

1/3/12

Purpose: Calibrate YSI 556 WQM and Mettler Toledo pH meter prior to January 2012 GW monitoring event.

Crew: Kim Nguyen (KN), ~~AF~~

1055 Calibrate Mettler Toledo pH meter.

Standard	Final reading
pH = 7	= 7.03 @ 16.5°C
= 4	= 4.00 @ 16.8°C

1110 Calibrate YSI 556 WQ meter

Standard	Final reading
pH = 4	= 4.01
= 7	= 6.93

* pH meter on YSI doesn't usually function properly.

Conductivity = 1413 $\frac{\text{umhos}}{\text{cm}}$ = 1.413 $\frac{\text{ms}}{\text{cm}}$

Note: LaMotte turbidity meter will be picked up from Ashtead tonight and will be calibrated tomorrow.

To Page No. ____

Witnessed & Understood by me,	Date	Invented by:	Date
	1/3/12	Recorded by:	

1/4/12
Clear skies, High 65°F

Purpose: Purge + sample Well 5852213 (Download transducer data), Well 5852314, Wisian Well 1, Wisian Well 2, Drop off samples with lab, Collect equipment blank at Wisian Well 1

Equipment: YSI 556 WQ meter, LaMotte turbidity meter, submersible pump, dedicated tubing, low flow controller, blue WL meter, thin tape WL meter. Mettler Toledo pH meter

Crew: Kim Nguyen (KN) - URS Austin
Arthur Potts (AP) - Cox McClain

0730 KN arrives at URS to meet AP. Gathers equipment and supplies.

0800 Calibrate LaMotte turbidity meter

Cal. Solution	Final Reading
Turb = 10 NTU	= 10.85 NTU
= 1 NTU	= 0.83 NTU

AP not yet showed up. Call Cox McClain office and AP's cell phone 2x. AP had been made aware of the project. Office manager will try to contact AP's emergency numbers.

0930 AP arrives at URS. Load truck. Drive to LCRA lab to pick up coolers and sample containers. Call Richard Braun with Mansville WSC to notify of early arrival. Will meet Richard @ 1040.

1040 Set up on Mansville WSC well 5852314. Turn off well pump. Allow WL to stabilize to collect initial WL. Takes ~20 minutes for WL to stabilize

1059 Pump on at Well 5852314. Use garden hose to transmit water. pH meter acts up a bit on YSI. Use the Mettler Toledo pH meter. Midway thru, pH meter on YSI has more reasonable/comparable pH values

1115 Collect CRCP-5852314-030 Decon WL meter

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1/4/12 (Cont.)

1130 Check in at TX1 Weberville Office. Call Joe Parks in advance to notify.
1145 Break to eat lunch. Mrs. Wisian will meet us at noon to open gate (keys to Wisian property were left at home).
1210 Set up on Wisian Well 2
1237 Pump on at Wisian Well 2. Purge using low flow
1250 Collect [CRCP-WISIAN2-030]. Decon pump + WL meter
1310 Randy w/ URS arrives to install solar panels on air monitoring equipment on Wisian property. AP stops to see if he needs assistance.
1325 Set up on Wisian Well 1. *Note* Before lowering pump into well, remove water level meter to prevent them getting tangled. There is enough cord/cable to lower the pump below a water table @ 50' BTOC. There is enough tubing as well, with ~2.5' left of clearance.
1339 Pump on at Wisian Well 1. Purge using low flow
1355 Collect [CRCP-WisianW1-030] Decon pump.
1410 Collect [CRCP-WisianW1-035]. Decon WL meter
1415 AP stops to check on air monitoring equipment on Wisian property.
1500 Set up on 5852213 well (TX1). Download transducer data.
1510 Pump on at 5852213. Notice that PVC cap on well was removed. Well exposed to ambient air
1525 Collect [CRCP-5852213-030.] Decon WL meter.
1555 Meet Randy at ATF air monitoring location. AP works w/ Randy on air monitoring
1610 Leave for LCRA lab
1630 Hand deliver samples to lab

(KN)

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nessed & Understood by me,	Date	Invented by:	Date
	1/4/12	Recorded by:	

1/5/12
Clear skies, High 60's

Purpose: Purge + sample well 221049 (Sarah King), Holweger well, ATF Well 1, NTN Well 2, Buchheit well, Well 58522 (Edgar well)

Equipment: YSI 556 WQ meter, Mettler Toledo pH meter, LaMotte turbidity meter, blue WL meter, thin tape WL meter

Crew: Kim Nguyen (KN) - URS Austin
Arthur Potts (AP) - Cox McLain

0645 Meet at URS. Drive to well 221049 (Sarah King) well
0750 Set up on well 221049.
0811 Pump on at well 221049.
0830 Collect [CRCP-221049-030]. Decon thin tape WL meter.
0900 Purchase ice for cooler. Fuel up truck.
0915 Set up on ATF well 1. Call Dan Pacatte to inform. He said ~~to~~ he will ask one of workers to turn on the pump because he will not be able to come
0929 Pump on at ATF Well 1
0950 Collect [CRCP-ATF1-030] Decon blue WL meter
1000 Measure DTW at NTN Well 1 (by office).
DTW = 29.36' BTOC
TD = 36.19' BTOC Decon thin tape WL meter.
1015 Set up on NTN Well 2. Emily Brown said that pump was turned off the day before to allow for WL to reach static levels. Just need to switch braker (labeled for pump) to "on" (three connected switches located on the left wall in pump house).
1021 Pump on at NTN Well 2@
1040 Collect [CRCP-NTN Well 2@-030]
[CRCP-NTNW2-031] (DUP)
Decon blue WL meter.
1100 Break for lunch

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Date 1/5/12

Invented by:

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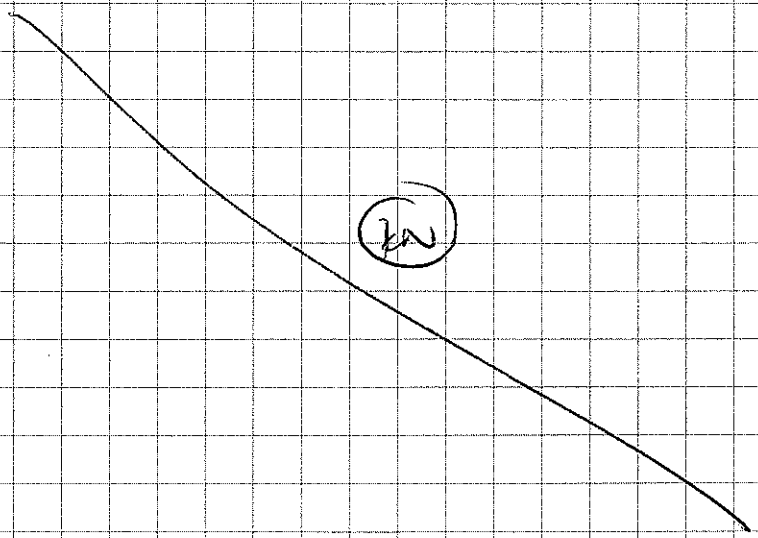
Date

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Book No. 00835 TITLE CRCP-GW Monitoring Jan 20

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1/5/12 (cont.)

1115 Set up on Holweger well. Mr. Holweger wanted to know the exact nitrate levels of his groundwater. Travis County notified him of high levels and to not drink/cook with the water. KN told Mr. Holweger to request the final report through the Open Records Request when the report is submitted. He wanted to know the levels so he can determine how to treat the water.
1126 Pump on Holweger well (KN).
1145 Collect [CRCP-Holweger-033] (MS/MSD). Decon WL meter
1150 Set up on Buchheit well
1157 Pump on Buchheit well.
1215 Collect [CRCP-Buchheit-030] Decon WL meter.
1225 Set up on 58522 well (Edgar)
1231 Pump on 58522 well.
1250 Collect [CRCP-58522-030] Decon WL meter.
1300 Conduct housekeeping. Finish notetaking. Fill out COC.
1340 Hand deliver samples to lab. Drop off LaMotte.
1430 Unload equipment



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Witnessed & Understood by me,	Date	Invented by:	Date
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2/15/12
High 72°F, Fog, Rain

Purpose: Purge + sample ATF Well 1, 5852213 (TXI well), Wisian Well 1, Wisian Well 2, 58522 (Edgar), 221049 (King)

Equipment: Portable battery, submersible pump, dedicated tubing, blue WL meter, thin tape WL meter, YSI 556 WQM, Mettler Toledo pH meter, low-flow controller, LaMotte turbidity meter, buckets

Crew: Kim Nguyen (KN) - URS Austin
Arthur Potts (AP) - Cox Mclain

0700 Meet at URS office. Load equipment and supplies. Go to LCRA lab to pick up coolers.
0840 Sign in at TXI Weberville plant.
0845 Meet Dan Pacatte at ATF Well 1. Kevin Pasternak is on site with Tom (Travis County) and Dr. Jack Sharp. Set up on ATF Well 1.
Calibrate LaMotte turbidity meter

Standard	Final Reading
= 1.0 NTU	= 0.97 NTU
= 10.0 NTU	= 9.98 NTU

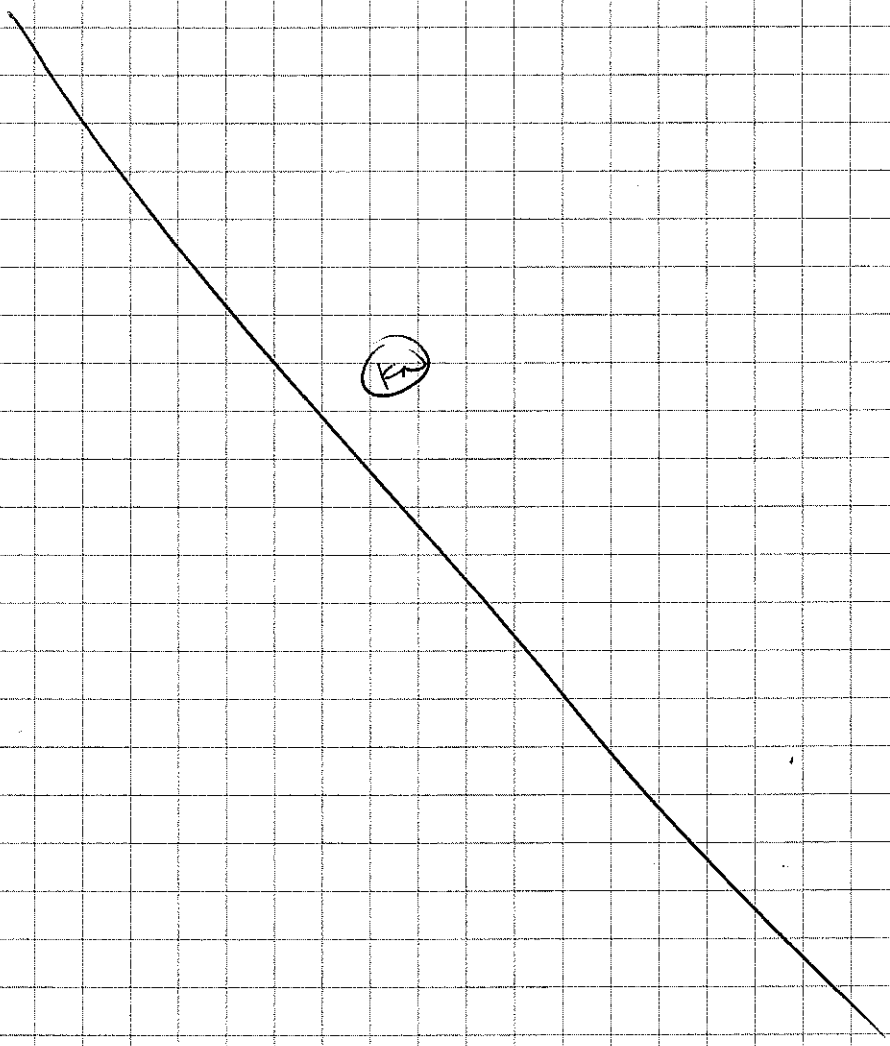
0906 Pump on at ATF Well 1
0920 Collect [CRCP-ATF1-040] Decon WL meter.
0935 Set up on 5852213 (TXI well). Download transducer data.
1007 Pump on at 5852213. Conduct low flow purge
1020 Collect [CRCP-5852213-040] Decon WL meter + pum
1050 Set up on Wisian Well 1.
1105 Pump on at Wisian Well. Conduct low flow purge
1120 Collect [CRCP-WisianW1-040]. Decon WL meter + p
1135 Collect equipment blank [CRCP-WisianW1-045]
1145 Kevin, Tom, Jack head over to Glass Well to check on water level. DTW = 40.00' BTOC. KN and AP Set up on Wisian Well 2.
1159 Pump on Wisian Well 2. Conduct low flow purge.
1215 Collect [CRCP-WisianW2-040] Rinse pump

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Recorded by:

2/15/12 (cont.)

and decon WL meter.
1230 Break for lunch. Sign out at TXI.
1300 Set up at 58522 (Edgar).
1328 Pump on at 58522.
1350 Collect CRCP-58522-0407. from spigot. Decon WL meter
Purchase add'l ice at Exxon.
1400 Set up at 221049 (Sarah King).
1419 Pump on at 221049.
1445 Collect CRCP-221049-040 from spigot. Decon WL meter.
Put up equipment. Fill out C-O-C.
1515 Hand deliver samples to LCRA ELS lab. Drive back to URS office.



tnessed & Understood by me,	Date	Invented by:	Date
	2/15/12	Recorded by:	

Project No. 41010113.102
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2/16/12
High 70s, P. Cloudy

Purpose: Purge + sample - Buchhert well, Holweger well, 5852314 (Mansville), NTN Well 2

Equipment: Dedicated private pumps, blue WL meter, thin tape WL meter, YSI 556 WQ meter, Mettler Toledo pH meter, LaMotte turbidity meter

Crew: Kim Nguyen (KN), Arthur Potts (AP)

0730 Meet at URS office. Leave for site. Purchase ice.
0815 Set up on Buchheit well.
0826 Pump on at Buchhert well.
0850 Collect CRCP-Buchhert-0401. Decon WL meter.
0905 Set up on Holweger well. Holweger mentions that he has yet to receive the nitrate results. Will pass info along to Kevin Pasternak.
0916 Pump on Holweger well
0935 Collect CRCP Holweger-043 (MS/MSD). Decon WL meter.
0950 Set up on 5852314 well (Mansville WSC). Richard Brown says that they may adjust pump intake depth or replace screen in the future due to previous issues in late January/early February when pump had pumped out dry air
1003 Pump on 5852314 well
1020 Collect CRCP-5852314-0401. Decon WL meter
1050 Break for lunch.
1105 Set up on NTN wells. Gauge NTN well 1 (by the office. DTW = 28.15' BTOC
1110 Blue WL meter not functioning properly at ~~NTN~~ NTN Well 2 AP says we have had problems with the meter at the well. The pump was on when we arrived, however, it wasn't actively pumping since the pond was still full.
1122 Pump on at NTN Well 2

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Witnessed & Understood by me,	Date	Invented by:	Date
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2/16/12 (cont.)

1145 Collect CRCP-NTNW2-040 and CRCP-NTNW2-041 (DUP)
Decon WL meter and other equipment. Pack up equipment. Fill out C-O-C.

1220 Hand deliver samples to LCRA ELS lab. Drop off turbidity meter at Ashtead. Unload equipment at URS office.

(KW)

nessed & Understood by me,	Date	Invented by:	Date
	2/16/12	Recorded by:	

Project No. 41010113.102
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3/23/12

Purpose: Calibrate YSI 556 Water Quality Meter (WQM) and pH Mettler Toledo meter.

0945 Calibrate Mettler Toledo in the Solid Waste lab (Building D)

Standard	Final
pH = 4.0	= 4.00
= 7.0	= 7.03

1010 Calibrate YSI WQM.

Standard	Final	
pH = 4	= 3.98	* Have issues w/ pH meter. Calibration is out of range. Will use pH Mettler Toledo for pH measurements
= 7	= 6.98	
Sp. Cond = 1.413 ms/cm	= 1.413 ms/cm	
ORP = 220 mV	= 197.3 mV @ 16°C	
DO = 100% Saturation	= 96.5% at 17.70°C, 767.0 mmHg	

* Turbidity meter will be calibrated on the first day of the field event.

KN

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Witnessed & Understood by me,	Date	Invented by:	Date
	3/23/12	Recorded by:	

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3/26/12
High 84°F, Sunny

Purpose: Purge and sample - Wisian Well 1, Wisian Well 2, 5852213 (TX1), 5852314 (Mansville), Buchheit well

Equipment: Submersible pump, dedicated tubing, YSI 556 WQM, LaMotte turbidity meter, blue WL meter, thin tape water level meter

Crew: Kim Nguyen (KN) - URS; Arthur Potts (AP) - CoxMclain

0700 Meet at URS office. Load equipment. Go pick up coolers at LCRA lab.
0820 Attempt to check in at TX1 Weberville. Accident on 969 prevents access. AP collects air sample at Wisian.
0900 Set up on Wisian Well 2.
0914 Pump on Wisian Well 2. Conduct low flow.
0935 Collect CRCP-WisianW2-050. Decon WL meter/pum
0945 Set up on Wisian Well 1. Conduct low flow.
0958 Pump on Wisian Well 1
1020 Collect CRCP-WisianW1-050. Decon WL meter/pump
1035 Collect CRCP-WisianW1-055 (EB)
1050 Go check in at TX1 Weberville office. Get ice. Break
1130 for lunch.
~~1155~~ (KN) Set up on 5852213. Poison ivy is everywhere!
~~1159~~ (KN) Download transduce data
1155 Pump on at 5852213
1210 Collect CRCP-5852213-050 Decon WL meter/pump
1230 AP collects air samples at ATF.
1250 Wait for Richard at 5852314 well.
1315 Set up on 5852314 (Mansville)
1333 Pump on at 5852314. Purge sand/water. Then water clears up.
1350 Collect CRCP-5852314-050. Decon WL meter.
1410 Take break. Next appt is at 1500 @ Buchheit well.
1430 Set up on Buchheit well.

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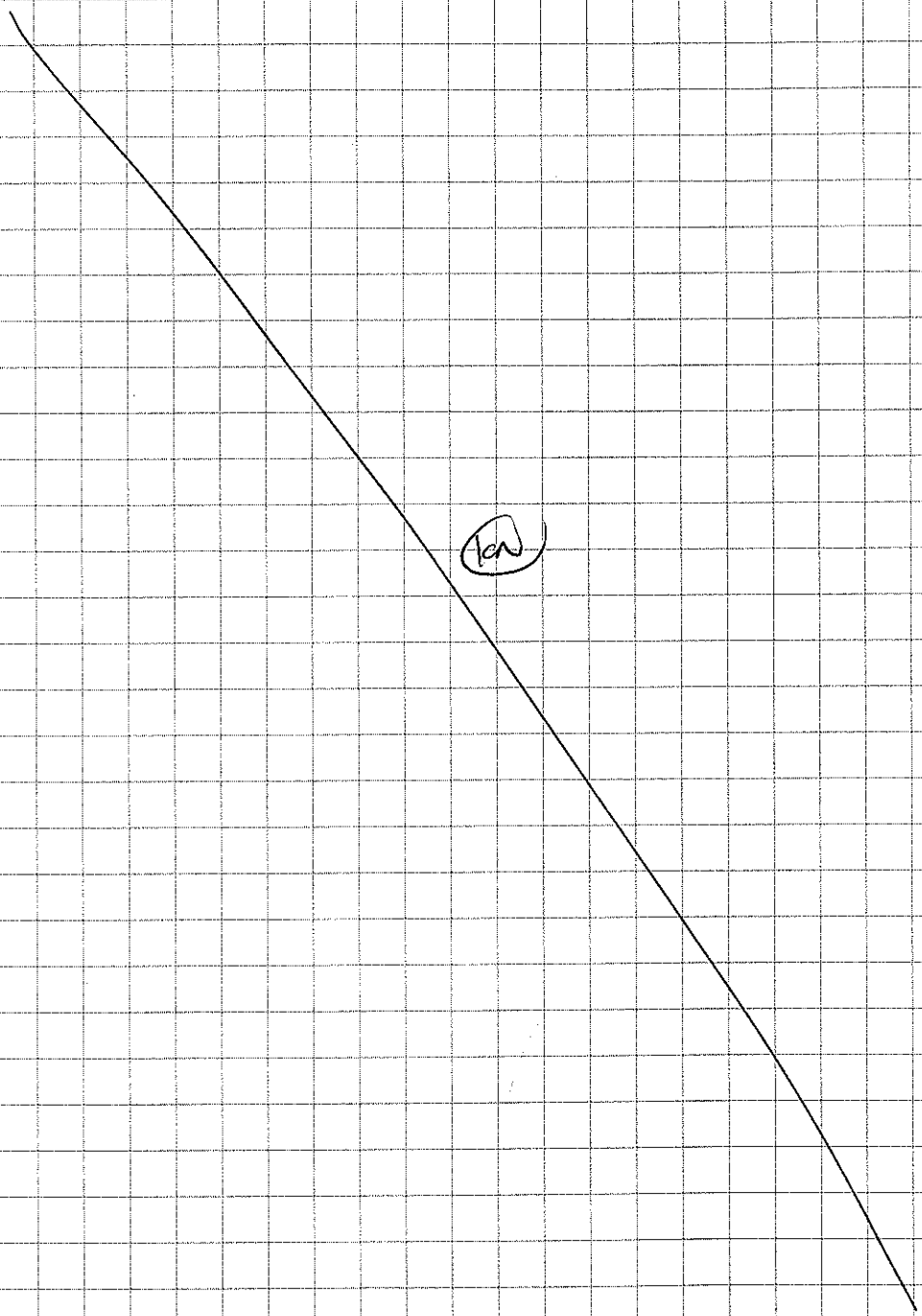
Witnessed & Understood by me,	Date	Invented by:	Date
	3/26/12	Recorded by:	

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Book No. 00835 TITLE CRCP-GW Monitoring March 2012

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3/26/12 (cont.)

1459 Pump on at Buchhert well.
1520 Collect [CRCP-Buchhert-050] Decon WL meter
1543 Drop off samples at LCRA lab.



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nessed & Understood by me,

Date 3/26/12

Invented by:

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3/27/12
High 83°F, Sunny

Purpose: Purge + sample - ATF Well 1, NTN Well 2, Holweger well, 58522 (Edgar),

Equipment: Thin tape WL meter, private pumps, YSI 556 WQM, LaMotte turbidity meter

Crew: Arthur Potts (AP) Cox Mclain
Kim Nguyen (KN) - URS

0800 Meet at URS. Head to ATF.
0900 Set up on ATF Well 1
0922 Pump on at ATF Well 1
0940 Collect [CRCP-ATF1-050] Decon WL meter.
0950 Set up on NTN Well 1. Measure WL = 27.60' BTOC
1000 Set up on NTN Well 2
1008 Pump on at NTN Well 2
1025 Collect [CRCP-NTNW2-050] [CRCP-NTNW2-051] (DUP) Decon WL meter.
1040 Set up on Holweger well
1053 Pump on Holweger well
1115 Collect [CRCP-Holweger-053] Decon WL meter.
1130 Take lunch break
1215 Set up on 58522 (Edgar)
1223 Pump on 58522 well
1255 Collect [CRCP-58522-050] Decon WL meter
1305 Set up on 221049 well
1305 Pump on 221049 well
1330 Collect [CRCP-221049-050] Decon WL meter.
1345 Load equipment
1400 Hand deliver samples to LCRA lab.
1445 Unload equipment at URS office.

(KN)

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	3/27/12	Recorded by:	

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5/4/12

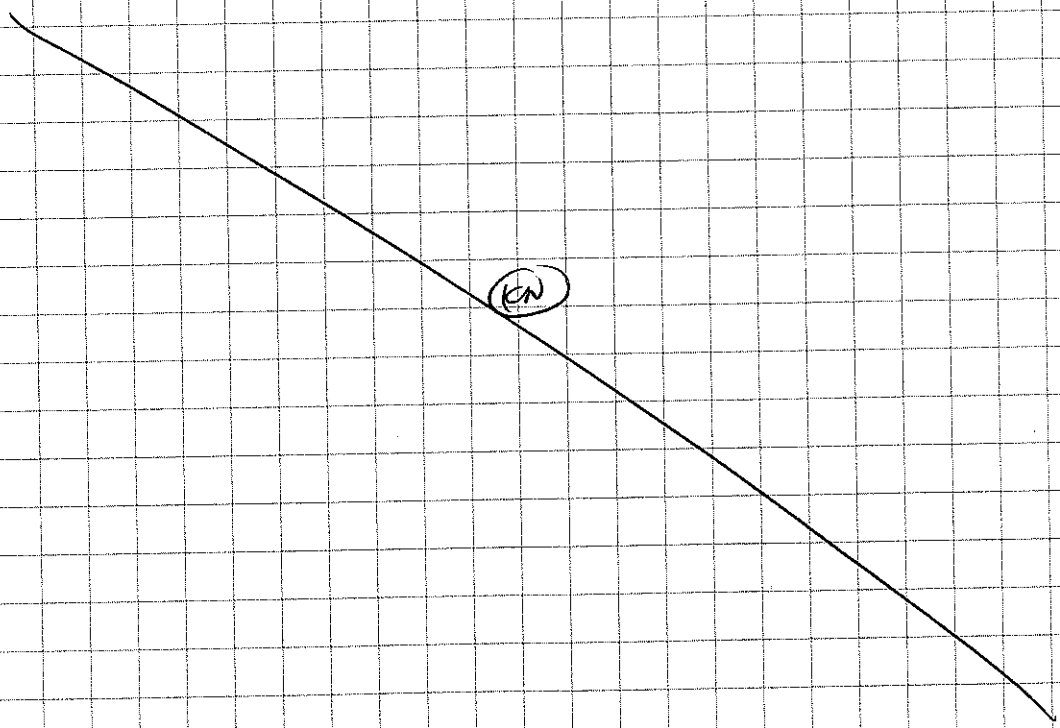
Purpose: Calibrate YSI and Mettler Toledo pH meter.

1000 Calibrate Mettler Toledo pH meter

Standard	Final
pH = 4.0	= 4.00
= 7.0	= 7.03

Calibrate YSI (pH not functioning properly on YSI)

Standard	
Sp. Cond = 1.413 ms/cm	= 1.413 ms/cm
ORP = 220 mV	= 203.4 mV @ 18.00°C (ORP check only)
DO = 95%	= 99.1% @ 18.00°C



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Witnessed & Understood by me,	Date	Invented by:	Date
	5/4/12	Recorded by:	

5/7/12
Partly Cloudy, High 91°F

Purpose: Purge and sample 5852213 (TXI), 5852314 (Mansville Wisian W1, Wisian W2, 58522 (Edgar), Buchhert

Equipment: Thin tape WL meter, LaMotte turbidity meter, YSI 556 Water Quality Meter (WQM), Submersible pump, dedicated tubing, Mettler Toledo pH meter, Jump Start battery

Crew: Kim Nguyen (KN - URS Austin)
Arthur Potts (AP - Cox Mclain)

0700 Load equipment at URS Austin office
0800 Arrive at LCRA lab to pick up coolers. Buy ice
0837 Sign in at TX1
0850 Calibrate LaMotte turbidity meter

	Standard	Final
Turbidity =	0.0 NTU	= 0.00 NTU
	= 10.0 NTU	= 9.70 NTU

0900 Set up on well 5852213 (TX1 well). Download transduce data. Low flow controller not working. Discovered that the connection with the Jump Start battery was loose.
0941 Pump on at 5852213
1000 Collect CRCP-5852213-0601. Decon pump and WL meter.
1030 Sign off at TX1
1045 Set up on 5852314 well
1052 Pump on at 5852314
1105 Collect CRCP-5852314-0601 Decon WL mete.
1115 Take a break.
1140 AP collects air quality samples from Wisian property
1200 Set up on Wisian Well 1
1210 Pump on at Wisian Well 1
1220 Pump stopped possibly due to overheating

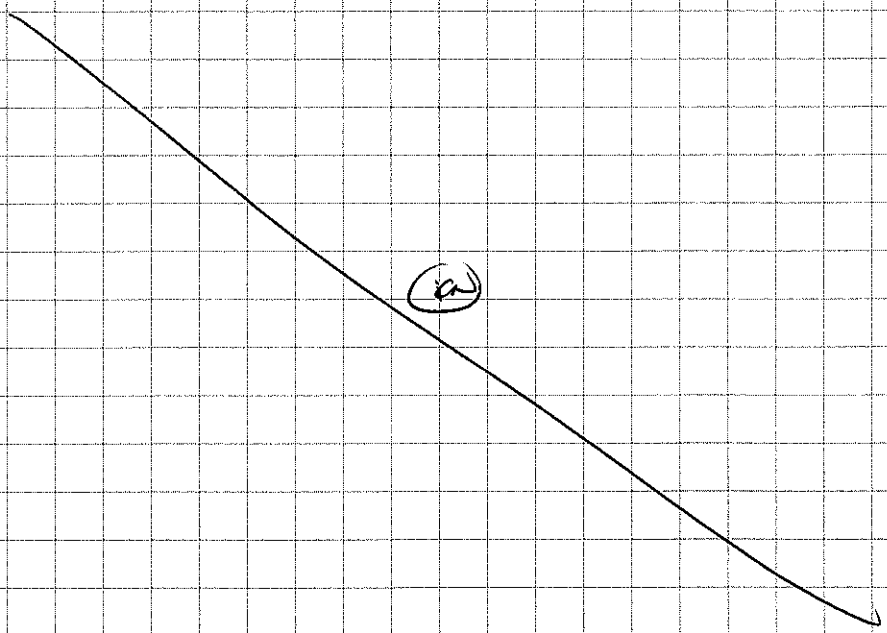
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5/7/12 (Cont.)

1240 Collect CRCP-WisianW1-060 Decon pump and WL meter.
1250 Collect CRCP-WisianW1-065 (EB).
1255 Set up on Wisian Well 2.
1307 Pump on at Wisian Well 2.
1325 Collect CRCP-WisianW2-060 Decon WL meter. Rinse pump. Place pump with Wisian Well 2 tubing.
1345 AP collects air filter sample at ATF.
1410 Set up on well 58522 (Edgar)
1417 Pump on at 58522
1435 Collect CRCP-58522-060. Decon WL meter
1450 Set up on Buchhert well.
1500 Pump on at Buchhert well
1515 Collect CRCP-Buchhert-060. Decon WL meter
1520 Load equipment. Drive to LCRA lab.
1550 Drop off samples at LCRA lab.



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5/8/12
Raining, High 81°F
(T-Storm last night)

Purpose: Purge and sample ATF Well 1, NTN Well 2, Holweger well, 221049 (King) well.

Equipment: Private pumps, thin tape WL meter, YSI 556 WQM, LaMotte turbidity meter, Mettler Toledo pH mete-

Crew: Kim Nguyen (KN - URS Austin)
Arthur Potts (AP - Cox Mclain)

0730 Leave Austin Office for ATF Well 1. Buy Ice.
0845 Set up on ATF Well 1
0851 Pump on ATF Well 1. WL meter not functioning properly. Will replace battery after finished w/ well.
0905 Collect [CRCP-ATF1-060] Decon WL meter.
0925 Gauge NTN Well 1 - DTW = 27.96' BTOC
Set up on NTN Well 2
0935 Pump on at NTN Well 2. WL meter not functioning.
0955 Collect [CRCP-NTNW2-060] [CRCP-NTNW2-061] (DUP)
Decon WL meter.
1000 Replace battery on WL meter.
1010 Set up on Holweger well
1019 Pump on at Holweger well.
1035 Collect [CRCP-Holweger-063] (MS/MSD). Decon WL meter
1050 Set up on 221049 (King)
1055 Pump on 221049
1110 Collect [CRCP-221049-060]. Decon WL meter.
1120 Clean/put up equipment.
1145 Drop off samples at LCRA lab.
1215 Unload equipment at URS office.
1300 Drop off LaMotte turbidity meter at Ashtead.

(KN)

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Witnessed & Understood by me,	Date	Invented by:	Date
	5/8/12	Recorded by:	

0800

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 10/19/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: 2210449 well
Initial Water Level (ft, BTOC): 32.63'
Well Diameter: 5 inches
Well Depth (ft, BTOC): Unknown
Screen Interval: Unknown
Well Volume:
Pump/Purging Device: Dedicated pump
Pump Intake Depth: Unknown
Sample Time: 0840
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
0826	-	-	-	-	-	-	-	-	-	-	Pump On
0826	32.63	—	~~~2.5~~	14.59	0.342	6.97	5.3	0.03	153.9	—	Purge out of hose
0829	32.63	~0.83	~2.5	17.82	0.368	10.24	5.3	0.03	136.7	—	
0830	32.63	~0.83	—	18.08	0.368	10.38	5.57	0.03	133.7	—	pH values are suspect
0831	32.63	~0.83	—	18.22	0.370	10.62	5.67	0.03	128.0	—	
0832	32.63	~0.83	—	18.31	0.370	12.42	5.52	0.02	124.2	—	
0833	32.63	~0.83	—	18.32	0.370	11.58	5.21	0.02	120.8	—	
0834	32.63	~0.83	—	18.38	0.370	11.45	6.23	0.02	119.6	—	
0835	32.63	~0.83	—	18.51	0.371	11.52	6.45	0.02	118.9	—	
			~7.5								
0840	Collect CRCP-2210449-010										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 10/19/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: 58522 well (Edgar)

Initial Water Level (ft, BTOC): ~~Not able to measure WL~~ 38.92' BTOC

Well Diameter: 4 inches

Well Depth (ft, BTOC): ~70

Screen Interval:

Well Volume:

Pump/Purging Device: Dedicated pump, hose

Pump Intake Depth: ~~Unknown~~ ~39.50' BTOC

Sample Time: 1150

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	TDS (mg/L)	Comments
1138	-	-	-	-	-	-	-	-	-		Spigot ~~Pump~~ On, Spigot is on
1139	39.28	5 gal/min	—	22.07	0.667	9.79	0.16	0.01	144.0	—	top of the well head,
1140	—	5 gal/min	—	21.90	0.667	9.80	—	0.01	138.6	—	connected to hose
1141	—	5 gal/min	—	21.88	0.667	9.94	—	0.01	134.7	—	clear
1142	39.20	5 gal/min	—	21.89	0.668	10.15	0.39	0.01	130.2	—	"
1143	—	5 gal/min	—	21.88	0.667	10.29	—	0.01	128.8	—	"
1144	—	5 gal/min	—	21.87	0.667	10.32	0.00	0.01	126.3	—	"
1145	39.14	5 gal/min	—	21.87	0.667	10.32	—	0.01	123.4	—	"
			~35 gal								
1150	Collect CRCP-58522-010										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 10/18/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: 5852213
Initial Water Level (ft, BTOC): 29.84'
Well Diameter: 5 inches
Well Depth (ft, BTOC): 36.38'
Screen Interval:
Well Volume:
Pump/Purging Device: Twister Tempest Submersible Pump
Pump Intake Depth: ~34' BTOC
Sample Time: 1330
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	TDS (mg/L)	Comments
1250	-	-	-	-	-	-	-	-	-		Pump On; Pump stopped. Need to pull pump
1305 ~~1253~~	—	—	—	—	—	—	—	—	—		Pump on
1308 ~~1256~~	30.00	225	—	21.17	0.574	14.37	56.4	0.01	-189.6	—	Sulfur odor
1311	30.00	225	~2.0	21.19	0.576	14.12	51.3	0.01	-183.8	—	
1314	30.00	260	—	21.39	0.581	14.28	51.3	0.01	-195.2	—	pH values are suspect
1317	30.00	260	~2.5	21.40	0.582	14.08	56.3	0.01	-183.0	—	
1320	30.~~28~~ 2	260	~3.0	21.10	0.580	14.23	55.4	0.01	-201.1	—	
1323	30.10	275	—	20.73	0.560	14.25	49.1	0.01	-203.8	—	
1326	30.14	275	~3.5	20.72	0.562	14.14	41.9	0.01	-199.5	—	
1330	Collect CRCP-5852213-010										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

1425

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 10/18/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: 5852314 well
Initial Water Level (ft, BTOC): 41.10' (Pump turned off, Allowed to equilibrate)
Well Diameter: (inches)
Well Depth (ft, BTOC): ~50
Screen Interval:
Well Volume:
Pump/Purging Device: Dedicated pump
Pump Intake Depth: N/A
Sample Time: 1455
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1450	-	(Pump capacity.	-	-	-	-	-	-	-	—	Pump On
1450	48.30	390 gal/min	2	20.29	0.716	11.34	—	0.03	-11.6	—	170,210 gal (initial)
1451	—	5 gal/min	5	20.67	0.716	10.44	—	0.03	70.2	—	173,550 gal (final)
1452	—	5 gal/min	—	20.65	0.711	10.25	—	0.03	82.9	—	Turbidity values
1453	—	5 gal/min	—	20.63	0.714	10.12	—	0.03	86.9	—	are negative. Need to recalibrate.
1454	—	5 gal/min	—	20.60	0.713	10.06	—	0.02	88.6	—	Water very clear.
1455	48.56	5 gal/min	—	20.59	0.713	10.09	0.95	0.02	84.9	—	
		from spigot									Total purged = 3,340 gal
1455	Collect	CRCP-5852314-010									moved to tank

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 10/19/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: ATF Well 1

Initial Water Level (ft, BTOC): 28.92' BTOC

Well Diameter: 16 inches

Well Depth (ft, BTOC): 50.58' BTOC

Screen Interval:

Well Volume:

Pump/Purging Device: 1

Pump Intake Depth:

Sample Time: 1355

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	gal/min Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1346	-	-	-	-	-	-	-	-	-		Spigot ~~Pump~~ On; Take a little time to
1347	—	~300-400	—	21.36	0.799	10.49	—	0.02	115.1	—	build back pressure for water
1349	—	~300-400	—	21.41	0.800	10.34	—	0.01	110.1	—	Clear
1350	—	~300-400	—	21.48	0.801	10.41	—	0.01	107.2	—	"
1351	—	~300-400	—	21.45	0.802	10.39	0.00	0.01	104.5	—	"
1352	44.78	~300-400	—	21.47	0.803	10.42	—	0.01	102.5	—	"
1353	—	~300-400	—	21.47	0.802	10.43	1.11	0.01	102.0	—	"
1355	Collect CRCP-ATF1-010										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

0930

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 10/19/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: Buchheit Well
Initial Water Level (ft, BTOC): 26.15' (Pump off)
Well Diameter: ~~inches~~ ~~Unknown~~ (KN) 4 inches
Well Depth (ft, BTOC):
Screen Interval:
Well Volume:
Pump/Purging Device: Dedicated pump
Pump Intake Depth: Unknown
Sample Time: 1000
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
0941	-	-	-	-	-	-	-	-	-	—	Spigot ~~Pump~~ On
0943	—	2700	—	19.89	0.505	8.54	0.00	0.03	139.1	—	Clear
0944	—	—	—	20.77	0.465	9.47	—	0.02	133.3	—	"
0945	—	—	—	20.69	0.458	9.70	—	0.02	129.4	—	"
0946	—	~3 gal/min	—	20.51	0.353	10.10	—	0.02	128.3	—	"
0947	—	~3 gal/min	—	22.09	0.400	10.08	—	0.02	123.9	—	Pump kicked on, Clear
0948	—	~3 gal/min	—	22.00	0.401	10.32	—	0.02	118.5	—	Clear
0949	26.48	~3 gal/min	—	22.01	0.464	10.88	—	0.02	114.2	—	"
0950	—	~3 gal/min	—	21.99	0.490	10.76	0.22	0.02	111.4	—	"
0951	26.48	~3 gal/min	—	22.04	0.489	11.57	—	0.02	107.3	—	"
0952	26.45	~3 gal/min	—	22.05	0.481	11.67	—	0.02	105.3	—	"
0953	—	~3 gal/min	—	22.06	0465	11.81	—	0.02	103.5	—	"
0954	—	~3 gal/min	—	22.06	0.465	11.89	—	0.02	101.0	—	"
0955	—	~3 gal/min	—	22.07	0.457	11.86	0.14	0.02	100.2	—	"
		(KN) ~~>30 gal~~	>30 gal								
1000	Collect [CRCP-Buchheit-010]										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**

Date: 10/18/11

Location: **Austin, TX**

Field Personnel: **Kim Nguyen, Arthur Potts, Kevin Pasternak**

Well Identification: Glass Well

Initial Water Level (ft, BTOC): 47.01'

Well Diameter: 30 inches

Well Depth (ft, BTOC): 47.40' (from top of the concrete lid)

Screen Interval:

Well Volume:

Pump/Purging Device: Bailer

Pump Intake Depth: N/A

Sample Time: 1120

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1110	-	-	-	-	-	-	-	-	-		Start bailing ~~Pump On~~
1115	—	—	<0.1	19.17	0.445	8.18	300	0.03	139.0	—	Very little water in well. Had to bail multiple times to get enough volume for reading.
1120	Collect GRCP-Glass-010										Collect sample after 1st reading

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 10/19/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: Holweger well
Initial Water Level (ft, BTOC): 32.82' BTOC
Well Diameter: 5 inches
Well Depth (ft, BTOC): 39.75' BTOC
Screen Interval:
Well Volume:
Pump/Purging Device: Dedicated pump
Pump Intake Depth:
Sample Time: 1450
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1448	-	-	-	-	-	-	-	-	-		Spigot ~~Pump~~ On, No hose
1450	32.86	10 gal/min	—	21.56	0.533	10.80	0.27	0.05	90.3	—	Pump cycling on and off
1451	33.00	10 gal/min	—	21.36	0.531	10.84	0.62	0.02	85.7	—	
1452	32.91	10 gal/min	—	21.31	0.530	10.89	0.74	0.02	83.0	—	
1453	32.98	10 gal/min	—	21.05	0.530	10.90	1.55	0.02	82.2	—	
			~50 gal								
1455	Collect CRCP-Holweger-013					(MS/MSD)					
	* Note * Well next to Holweger well (hand dug) is dry. TD = 29.34' BTOC										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.66	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

1205 59442 1243
10225 1257
783

* Need small diameter WL meter to measure WL

30' 7.5"
36' 1 7/8"

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Location: Austin, TX

Well Identification: NTN Well 2, NTN well 1 (gauge only)

Well Diameter: 18 inches

Screen Interval:

Pump/Purging Device: Dedicated pump

Sample Time: 1255

Date: 10/19/11

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Initial Water Level (ft, BTOC): 30.63' BTOC (at NTN well by office) NTN Well 1

Well Depth (ft, BTOC): 36.16' BTOC (at NTN well by office) NTN Well 1

Well Volume:

Pump Intake Depth:

Not Sure if grounded top of pump

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1247	-	-	-	-	-	-	-	-	-		Pump On
1249	—	~~100~~ 56	—	21.48	0.796	10.56	0.45	0.01	120.4	—	Clear
1250	—	~56	—	20.65	0.784	10.47	1.06	0.01	119.5	—	"
1251	—	~56	—	20.68	0.791	10.52	1.69	0.01	116.9	—	"
1252	36.94	~56	—	20.90	0.793	10.46	1.65	0.01	119.3	—	"
1253	37.94	~56	—	—	—	—	—	—	—	—	"
1256	37.94	~56	504	—	—	—	—	—	—	—	"
1255	Collect CRCP-NTNW2-010 and CRCP-NTNW2-0101										Discharge directly
	* Water levels collected from PVC pipe by wellhead/pump										from outfall. Pump
1426	33.82	Pump was not on at the time of WL reading.									rate changes with level
											of water in pond.
											If need to start pump,
											lower the "float" and
											pump will start

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**
Date: 10/18/11

Location: **Austin, TX**
Field Personnel: **Kim Nguyen, Arthur Potts, Kevin Pasternak**

Well Identification: Wisian W1
Initial Water Level (ft, BTOC): 50.39'

Well Diameter: 8 **inches**
Well Depth (ft, BTOC): 65.22'

Screen Interval:
Well Volume:

Pump/Purging Device: Twister Tempest submersible pump
Pump Intake Depth: ~58' BTOC

Sample Time: 1010
Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
0954	-	-	-	-	-	-	-	-	-		Pump On
0957	50.39	1300	—	21.84	0.441	6.17	5.51	0.02	55.9	—	
1000	50.39	1300	~2.5	21.85	0.441	6.13	3.82	0.02	53.1	—	
1003	50.39	1300	~3.0	21.81	0.441	6.28	3.06	0.02	53.2	—	
1006	50.39	1300	~4.5	21.75	0.440	6.18	2.91	0.02	54.1	—	
1010	Collect CRCP-Wisian W1-010										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/30/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: 221049 (Sarah King Well)

Initial Water Level (ft, BTOC): 32.94

Well Diameter: 5 inches

Well Depth (ft, BTOC):

Screen Interval:

Well Volume:

Pump/Purging Device: Private pump

Pump Intake Depth:

Sample Time: 0815

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	(gal/min) Purge Rate ~~(ml/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
756	-	-	-	-	-	-	-	-	-		Pump On
758	32.96	5 gal/min	10	10.07	0.589	5.92	4.92	0.23	156.2	—	Clear
800	32.94		20 gal	11.55	0.611	6.60	5.77	0.21	138.8	—	"
802	32.94		30 gal	13.26	0.639	6.92	6.49	0.20	130.0	—	"
804	32.92		~~30~~ 40 gal	14.49	0.659	7.18	8.80	0.18	123.6	—	"
806	3292		50 gal	15.62	0.678	7.38	9.20	0.15	117.3	—	"
808	32.94		60 gal	16.70	0.696	7.53	—	0.12	112.0	—	"
809	32.92		65 gal	17.09	0.703	7.57	—	0.11	110.6	—	"
810	32.92		70 gal	17.61	0.709	7.61	10.52	0.09	107.7	—	"
815	Collect CRCP-221049-020										

32.85'
11.25'
11.25'
11"
11"
11.25"
11"
11"

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/29/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: 58522 (Edgar well)

Initial Water Level (ft, BTOC): 39.40

Well Diameter: inches

Well Depth (ft, BTOC): ~70

Screen Interval:

Well Volume:

Pump/Purging Device: Dedicated private pump

Pump Intake Depth:

Sample Time: 1510

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1456	-	-	-	-	-	-	-	-	-		Pump On
1458	39.40	0.9	–	20.65	1.239	6.73	4.42	0.04	84.3	–	Clear
1500	39.40	↓	–	21.02	1.248	7.39	2.49	0.04	53.8	–	"
1502	39.40		–	21.12	1.251	7.52	0.59	0.04	46.0	–	"
1504	39.40		–	21.23	1.254	7.71	–	0.04	37.6	–	"
1506	39.40		–	21.19	1.253	7.75	0.52	0.05	34.2	–	"
1508	39.40		~10.8	21.22	1.253	7.76	0.15	0.05	31.2	–	"
1510	Collect	CRCP-58522-020									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/29/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: 5852213

Initial Water Level (ft, BTOC): 29.66

Well Diameter: 5 inches

Well Depth (ft, BTOC): 36.38

Screen Interval:

Well Volume: 6.72' x 1.02 = 6.9 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~3' above bottom

Sample Time: 1010

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
0950	-	-	-	-	-	-	-	-	-		Pump On
0953	29.85	650	—	19.42	0.956	7.05	14.5	0.08	-239.8	—	pH=6.47 ; Sulfur odor
0956	29.96	680	—	19.82	0.970	7.14	12.1	0.06	-240.3	—	
0959	29.96	720	—	19.85	0.972	7.21	11.0	0.06	-236.7	—	
1002	29.86	300	—	19.40	0.959	7.26	9.94	0.06	-231.6	—	
1005	29.85	300	~9L	19.31	0.956	7.22	9.55	0.06	-223.3	—	
1008	29.84	300	~10L	19.70	0.964	7.25	9.13	0.06	-213.8	—	
1010	Collect	CRCA-5852213-020									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 11/30/11

Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: 5852314
Initial Water Level (ft, BTOC): 40.80

Well Diameter: inches
Well Depth (ft, BTOC): 60.00

Screen Interval:
Well Volume:

Pump/Purging Device: Private pump
Pump Intake Depth: Unknown

Sample Time:
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	gpm Purge Rate ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1023	-	-	-	-	-	-	-	-	-	—	Pump On
1025	47.02	380	—	20.71	1.393	7.94	4.58	0.17	88.7	—	Clear
1027	47.22	↓	—	20.82	1.390	8.02	2.23	0.11	74.5	—	"
1029	47.36		—	20.83	1.390	8.14	1.56	0.08	69.4	—	"
1031	47.44		—	20.84	1.390	8.18	1.37	0.05	66.7	—	"
1033	47.54	↓	3800	20.86	1.391	8.24	1.31	0.03	65.1	—	"
1035	Collect	CRCP-5852314-020					1				

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 11/29/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: ATF Well 1
Initial Water Level (ft, BTOC): 28.48
Well Diameter: inches
Well Depth (ft, BTOC):
Screen Interval:
Well Volume:
Pump/Purging Device: Dedicated private pump
Pump Intake Depth:
Sample Time: 1325
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate ~~(mL/min)~~ gal/min	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	TDS (mg/L)	Comments
1312	-	-	-	-	-	-	-	-	-		Pump On
1314	44.46	~2 gal/min	—	21.04	1.618	7.35	—	0.13	-25.9	—	Clear
1315	44.48	↓	—	21.23	1.620	7.99	0.05	0.12	-32.4	—	"
1316	44.48		—	21.20	1.607	7.99	1.76	0.11	-30.0	—	"
1318	44.50		—	21.20	1.607	7.97	0.61	0.10	-29.3	—	"
1319	44.50		—	21.24	1.609	7.91	—	0.09	-26.5	—	"
1320	44.51	↓	~16 gal	21.24	1.611	7.89	0.31	0.07	-24.9	—	"
1325	Collect CRCP-ATF1-020										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
(L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/30/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: Buchheit well

Initial Water Level (ft, BTOC): 26.21 (used thin WL meter)

Well Diameter: 4 inches

Well Depth (ft, BTOC): 30.75

Screen Interval:

Well Volume: 4.54' x 0.65 = 2.95 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1410

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	gpm Purge Rate ~~(ml/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1354	-	-	-	-	-	-	-	-	-	—	Pump On
1356	NM	2.0	4	18.38	0.924	6.53	0.09	0.03	112.0	—	Clear
1358	NM	4 gpm	—	20.29	0.988	7.20	0.40	0.03	94.0	—	"
1400	NM	↓	—	21.81	0.998	7.66	0.34	0.03	87.2	—	"
1402	NM		—	21.91	1.005	7.82	0.25	0.03	78.0	—	"
1404	NM		—	21.69	0.999	7.99	0.73	0.03	70.8	—	"
1405	NM		—	21.47	0.992	7.90	1.31	0.03	68.3	—	"
1406	NM		—	21.34	0.990	7.93	0.48	0.03	67.9	—	"
1407	NM	↓	48	21.28	0.987	7.97	0.32	0.03	67.6	—	"
1410	Collect	CRCP-Buchheit-020									
		/									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.45	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/29/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: Glass Well

Initial Water Level (ft, BTOC): 47.28 (from top concrete lid)

Well Diameter: 30 inches

Well Depth (ft, BTOC): 47.50

Screen Interval:

Well Volume:

Pump/Purging Device:

Pump Intake Depth: None

Sample Time:

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
	-	-	-	-	-	-	-	-	-		Pump On
		Too little well volume to collect sample.									
		No sample collected.									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 11/30/11
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak
Well Identification: Holweger well
Initial Water Level (ft, BTOC): 32.60
Well Diameter: 5 inches
Well Depth (ft, BTOC): 39.75
Screen Interval: Unknown
Well Volume: 7.15' x 1.02 = 7.3 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1210
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gpm) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1149	-	-	-	-	-	-	-	-	-		Pump On
1151	32.64	3.0	—	18.04	0.907	7.82	0.34	0.15	36.6	—	Clear
1153	32.64	"	—	20.39	0.943	7.94	<10	0.15	38.3	—	Negative turbidity. Very clear
1155	32.63	"	—	21.11	0.967	7.97	<10	0.11	37.7	—	water. <10 NTU
1157	32.64	"	—	21.30	0.974	8.00	<10	0.07	36.8	—	"
1159	32.66	"	—	21.33	0.978	8.03	<10	0.05	36.6	—	"
1201 ~~1202~~	32.64	↓	36	21.32	0.982	8.01	<10	0.04	38.5	—	"
1210	Collect CRCP-Holweger-023										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

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Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/30/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: NTN well 2

Initial Water Level (ft, BTOC): 31.80 (gauged at NTN well 2)

Well Diameter: 18 inches

Well Depth (ft, BTOC):

Screen Interval:

Well Volume:

Pump/Purging Device: Private well

Pump Intake Depth: Unknown

Sample Time: 0930

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
906	-	-	-	-	-	-	-	-	-	—	Pump On
908	36.92	~40	—	18.94	1.520	6.62	3.32	0.04	100.7	—	
910	36.90	↓	—	18.85	1.517	6.70	7.80	0.05	101.6	—	
912	36.90		—	19.37	1.526	7.28	3.39	0.05	97.4	—	
914	36.92		—	20.04	1.549	7.55	8.50	0.05	95.8	—	
916	36.92		—	20.24	1.550	7.84	6.72	0.05	92.1	—	
918	36.92		—	20.36	1.541	8.03	7.31	0.05	90.4	—	
920	36.92		—	20.45	1.554	8.26	8.23	0.05	87.9	—	pH = 6.77 (using Mettler Toledo pH meter)
922	36.92		—	20.63	1.559	8.33	6.21	0.05	85.4	—	= 6.81
924	36.92		~600	20.69	1.558	8.32	6.26	0.05	84.1	—	= 6.85
930	Collect	CRCP-NTNW2-020									
		CRCP-NTNW2-021									(DUP)

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/29/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: Wisian Well 1

Initial Water Level (ft, BTOC): 50.56

Well Diameter: 8 inches

Well Depth (ft, BTOC): 65.10

Screen Interval:

Well Volume: 14.54' x 2.61 = 37.9 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: Unknown

Sample Time: 1200

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1139	-	-	-	-	-	-	-	-	-	—	Pump On
1142	50.56	210	—	21.72	0.852	7.57	10.96	0.05	-15.8	—	Clear
1145	50.56	210	—	22.19	0.859	7.99	5.95	0.05	-25.0	—	"
1148	50.56	240	—	22.26	0.861	8.14	3.7	0.05	-28.1	—	"
1151	50.56	245	6.5L	22.27	0.863	8.27	4.15	0.05	-32.1	—	" pH=6.79
1154	50.56	300	9L	22.32	0.863	8.37	1.65	0.05	-35.0	—	" pH=6.84
1157	50.56	300	10.5L	22.32	0.860	8.38	0.55	0.05	-35.7	—	pH=6.84
1200	Collect CRCP-Wisian W1-020										
1210	Collect CRCP-Wisian W1-025										

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 11/29/11

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts, Kevin Pasternak

Well Identification: Wisian Well 2

Initial Water Level (ft, BTOC): 45.50

Well Diameter: 6 inches

Well Depth (ft, BTOC): 62.18

Screen Interval:

Well Volume: 16.68' x 1.47 = 24.5 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~50' from top of casing (marked on tubing w/ black marker)

Sample Time: 1420

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORPI (mV)	TDS (mg/L)	Comments
1402	-	-	-	-	-	-	-	-	-	—	Pump On
1405	45.50	160	—	21.80	1.031	7.88	5.58	0.06	12.5	—	Clear
1408	45.50	230	~3.5	22.07	1.041	7.93	7.22	0.04	3.6	—	"
1411	45.50	240	~5.0	22.21	1.046	7.95	6.57	0.04	-0.5	—	"
1414	45.50	250	~7.0	22.34	1.056	7.93	2.54	0.03	-4.6	—	"
1417	45.50	290	~8.5	22.27	1.058	7.93	2.61	0.03	-6.0	—	"
1420	Collect	CRCP-WisianW2-020									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 1/5/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: 58522 (Edgar)

Initial Water Level (ft, BTOC): 39.34

Well Diameter: 4 inches

Well Depth (ft, BTOC): 56.36

Screen Interval: Unknown

Well Volume: 17.02' x 0.65 = 11.06 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1250

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft-BTOC)	Purge Rate ~~(mL/min)~~ (gal/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments: Using dedicated garden hose connected to spigot
1231	-	-	-	-	-	-	-	-	-	Pump On
1233	39.36	1.25	-	21.55	1.243	7.27	0.49	0.04	64.3	pH on Toledo = 6.88
1235	39.36	1.25	-	21.57	1.244	7.55	0.41	0.04	57.4	" " " = 6.76
1237	39.36	1.25	-	21.58	1.244	7.69	0.20	0.03	52.9	" " " = 6.72
1239	39.36	1.25	-	21.57	1.244	7.72	0.11	0.03	51.8	" " " = 6.66
1241	39.36	1.25	12.5	21.57	1.244	7.73	0.00	0.03	50.5	" " " = 6.65
1243	39.36	1.25	15.0	21.58	1.244	7.74	0.06	0.03	48.9	" " " = 6.64
1250	Collect	CRCP-58522-0301								

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/5/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 221049 (Sarah King)
Initial Water Level (ft, BTOC): 32.79
Well Diameter: 5 inches
Well Depth (ft, BTOC): 43.98
Screen Interval: Unknown
Well Volume: 11.19' x 1.02 = 11.41 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 830
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

	Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
	811	-	-	-	-	-	-	-	-	-	Pump On
10"	813	32.83	10	20	13.06	0.620	5.73	7.66	0.10	97.5	
10"	815	32.83	10	40	14.80	0.650	6.31	8.15	0.07	90.9	
10"	817	32.83	10	60	16.17	0.672	6.74	8.25	0.06	84.7	pH on Toledo = 6.74
	819	32.83	10	80	17.68	0.697	7.00	12.2	0.05	78.1	" " " = 6.71
	821	32.83	10	100	18.70	0.711	7.20	12.2	0.05	73.3	" " " = 6.67
	823	32.83	10	120	19.29	0.725	7.37	12.3	0.05	69.1	" " " = 6.65
	825	32.83	10	140	19.82	0.732	7.47	12.4	0.05	66.5	" " " = 6.62
	827	32.83	10	160	20.13	0.737	7.59	12.2	0.05	62.9	" " " = 6.61
	830	Collect CRCP-221049-030									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**

Date: 1/4/12

Location: **Austin, TX**

Field Personnel: **Kim Nguyen, Arthur Potts**

Well Identification: 5852213 (TX1)

Initial Water Level (ft, BTOC): 29.30

Well Diameter: 5 **inches**

Well Depth (ft, BTOC): 36.38

Screen Interval: Unknown

Well Volume: 7.08' x 1.02 = 7.22 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~3' from bottom

Sample Time: 1525

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1510	29 (fw)	-	-	-	-	-	-	-	-	Pump On
1512	~~30~~.50	370	0.74	21.05	0.938	11.23	14.5	0.04	-244.1	pH on Toledo = 6.60
1514	29.44	370	1.48	20.92	0.939	11.41	14.1	0.04	-233.3	" " " = 6.64
1516	29.48	370	2.22	21.02	0.945	11.39	11.7	0.03	-224.4	" " " = 6.67
1518	29.47	300	2.82	21.09	0.952	11.35	12.7	0.03	-222.2	" " " = 6.62
1520	29.42	300	3.42	21.23	0.955	11.17	10.12	0.03	-220.5	" " " = 6.60
1522	29.42	300	4.02	21.44	0.960	10.92	8.62	0.03	-210.9	" " " = 6.56
1525	Collect CRCP-5852213-030 1									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

1035

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/4/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 5852314 (Mansville WSC)
Initial Water Level (ft, BTOC): 41.63 (after pump shutoff initially)
Well Diameter: ◯ inches
Well Depth (ft, BTOC): 60.00
Screen Interval: Unknown
Well Volume: 18.37' x
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1115
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1059	-	-	-	-	-	-	-	-	-	Pump On
1101	48.19	365	—	20.85	1.352	7.65	—	0.36	160.6	
1103	48.38	365	—	20.86	1.352	6.37	2.1	0.37	157.1	pH read w/ Mettler Toledo
1105	48.40	365	—	20.83	1.350	6.46	0.59	0.37	150.0	" " " " "
1107	48.42	365	—	20.83	1.349	6.50	0.19	0.32	143.7	" " " " "
1109	48.46	365	—	20.83	1.349	6.53	0.00	0.28	134.5	" " " " "
1111	48.50	365	4380	20.84	1.349	6.54	—	0.26	130.7	" " " " "
1115	Collect CRCP-5852314-030									

Takes ~20 minutes for WL to stabilize initially once pump is turned off

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/5/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: ATF Well 1
Initial Water Level (ft, BTOC): 28.16
Well Diameter: 16 inches
Well Depth (ft, BTOC): 50.58
Screen Interval: Unknown
Well Volume: 22.42' x 10.44 = 234.06 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 950 @ faucet
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min) (gal/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
929	-	-	-	-	-	-	-	-	-	Pump On
931	43.80	4	8	21.28	1.606	7.38	3.63	0.09	14.9	
933	44.12	4	16	21.34	1.609	7.33	1.21	0.07	13.3	pH on Toledo = 6.54
935	44.14	4	24	21.42	1.612	7.68	0.53	0.06	12.9	" " " = 6.50
937	44.16	4	(FW) 30 32	21.45	1.611	7.91	0.37	0.04	12.8	" " " = 6.46
939	44.12	4	(FW) 40	21.46	1.610	7.97	0.09	0.04	12.7	" " " = 6.41
941	44.10	4	48	21.47	1.609	8.03	0.16	0.04	11.7	" " " = 6.40
943	44.22	4	56	21.49	1.609	8.07	0.10	0.03	10.6	" " " = 6.38
950	Collect CRCP-ATF1-030									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/5/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: Holweger well
Initial Water Level (ft, BTOC): 32.26
Well Diameter: 5 inches
Well Depth (ft, BTOC): 39.75
Screen Interval: Unknown
Well Volume: 7.49' x 1.02 = 7.64 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1145
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1126	-	-	-	-	-	-	-	-	-	Pump On
1128	32.30	3	6	20.07	0.865	6.97	0.25	0.05	87.5	pH on Toledo = 7.35
1130	32.30	3	12	20.79	0.881	7.48	0.18	0.04	72.4	" " " = 7.12
1132	32.31	3	18	21.19	0.894	7.79	0.00	0.04	63.0	" " " = 6.92
1134	32.30	3	24	21.39	0.903	8.03	0.00	0.04	54.8	" " " = 6.86
1136	32.30	3	30	21.51	0.908	8.20	0.00	0.04	49.9	" " " = 6.81
1138	32.30	3	36	21.54	0.910	8.23	0.00	0.04	48.4	" " " = 6.76
1140	32.30	3	42	21.56	0.912	8.30	0.00	0.04	46.0	" " " = 6.74
1145	Collect CRCP-Holweger-033									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/5/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: Buchheit well
Initial Water Level (ft, BTOC): 26.52
Well Diameter: 4 inches
Well Depth (ft, BTOC): 30.75
Screen Interval: Unknown
Well Volume: ~~3~~ 4.23' x 0.65 = 2.75 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1215
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1157	-	-	-	-	-	-	-	-	-	Pump On
8.25" 1159	26.69	2	4	19.72	0.949	7.84	—	0.07	64.0	pH on Toledo = 6.96
7.5" 1201	26.69 ~~96~~ 69	2	8	20.83	0.971	7.87	0.39	0.05	65.7	" " " = 6.81
7.5" 1203	26.62	2	12	21.35	0.963	7.76	0.39	0.04	68.7	" " " = 6.68
6" 1205	26.50	2	16	21.55	0.988	7.86	0.13	0.04	68.9	" " " = 6.64
6.5" 1207	26.54	2	20	21.45	0.986	7.89	0.24	0.04	70.2	" " " = 6.62
6.25" 1209	26.52	2	24	21.40	0.985	7.87	0.12	0.03	70.9	" " " = 6.60
1215	Collect CRCP-Buchheit-030									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

1/5/12 1000 NTN Well 1: DTW = 29.36' BTOC
TD = 36.19' BTOC

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/5/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: NTN Well 2
Initial Water Level (ft, BTOC): 31.38
Well Diameter: 18 inches
Well Depth (ft, BTOC): 40.77
Screen Interval: Unknown
Well Volume: 9.39' x 13.21 = 124.04 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1040
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1021	-	-	-	-	-	-	-	-	-	Pump On
1023	36.88	375	—	20.98	1.607	6.42	0.13	0.05	78.5	pH on Toledo = 6.97
1025	36.88	375	—	21.31	1.617	7.44	0.08	0.05	60.4	" " " = 6.88
1027	36.89	375	—	21.36	1.616	7.86	3.76	0.05	54.2	" " " = 6.80
1029	36.89	375	—	21.38	1.615	8.26	0.00	0.05	46.8	" " " = 6.77
1031	36.88	375	—	21.38	1.617	8.42	5.41	0.05	43.4	" " " = 6.76
1033	36.89	375	4500	21.43	1.616	8.61	3.60	0.05	39.0	= 6.74
1040	Collect	CRCP-NTNW2-0307								
		CRCP-NTNW2-0311 (DUP)								

Purge rate was provided by Emily Brown

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 1/4/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: Wisian Well 1
Initial Water Level (ft, BTOC): 50.64
Well Diameter: 8 inches
Well Depth (ft, BTOC): 65.10
Screen Interval: Unknown
Well Volume: 4.46' x 2.61 = 11.64 gal
Pump/Purging Device: Submersible pump
Pump Intake Depth: ~52' BTOC
Sample Time: 1355 / 1410 (EB)
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1339	-	-	-	-	-	-	-	-	-	Pump On
1341	50.64	340	0.78	21.89	0.836	8.49	0.88	0.07	78.7	pH on Toledo = 6.52
1343	50.64	340	1.56	22.03	0.837	8.53	0.86	0.07	78.1	
1345	50.65	340	2.34	22.09	0.838	8.57	—	0.07	76.4	pH on Toledo = 6.77
1347	50.65	340	3.12	22.07	0.838	8.56	0.80	0.07	74.6	" " " = 6.73
1349	50.65	340	4.90	22.20	0.839	8.58	0.79	0.07	73.5	" " " = 6.76
1351	50.65	340	5.68	22.17	0.840	8.57	0.65	0.07	72.5	" " " = 6.77
1355	Collect CRCP-WisianW1-030									
1410	Collect CRCP-WisianW1-035						(Equip Blank)			

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 1/4/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Wisian Well 2

Initial Water Level (ft, BTOC): 45.54

Well Diameter: 6 inches

Well Depth (ft, BTOC): 62.18

Screen Interval: Unknown

Well Volume: 16.64' x 1.47 = 24.5 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~50' BTOC

Sample Time: 1250

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (L) ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1237	45.54	-	-	-	-	-	-	-	-	Pump On
1239	45.54	300	0.6	22.28	1.013	8.23	0.70	0.22	77.0	
1241	45.54	520	1.64	22.55	1.024	8.08	0.39	0.14	73.6	pH on Mettler-Toledometer=6.836
1243	45.54	520	2.68	22.56	1.026	8.06	0.10	0.12	71.6	
1245	45.54	520	3.72	22.57	1.031	8.02	0.16	0.11	69.8	pH on Mettler-Toledometer=6.68
1247	45.54	520	4.76	22.50	1.035	7.96	0.28	0.10	66.4	" " " " " =6.75
1249	45.54	520	5.80	22.47	1.037	7.92	0.28	0.09	64.6	" " " " " =6.73
1250	Collect CRCP-WISIAN2-030									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/15/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 58522 (Edgar)
Initial Water Level (ft, BTOC): 38.70
Well Diameter: 4 inches.
Well Depth (ft, BTOC): 56.36
Screen Interval: Unknown
Well Volume: 17.66' x 0.65 = 11.5 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1350
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1328	-	-	-	-	-	-	-	-	-	Pump On
1330	38.84	2.5	-	22.20	1.231	7.90	0.56	11.41	-41.2	pH on MettlerToledo = 6.78
1332	38.82	2.5	-	22.10	1.229	7.90	0.36	6.35	-43.2	" " " " = 6.73
1334	38.70	2.5	-	22.08	1.228	7.83	0.70	5.65	-44.5	" " " " = 6.71
1336	38.70	2.5	-	22.05	1.229	7.78	0.79	4.71	-47.8	" " " " = 6.65
1338	38.70	2.5	-	22.05	1.229	7.75	1.24	4.46	-49.1	" " " " = 6.64
1340	38.70	2.5	-	22.05	1.229	7.71	1.01	4.25	-41.2	" " " " = 6.60
1343	38.70	2.5	-	22.06	1.230	7.68	1.11	4.07	-35.3	" " " " = 6.58
1346	38.70	2.5	45	22.06	1.230	7.65	1.20	~~3~~4.95	-33.2	" " " " = 6.57
1350	Collect CRCP-58522-040									Sample ~~for dedicated~~ from spigot ~~garden hose~~ (KN)

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 2/15/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: 5852213 (TX1)

Initial Water Level (ft, BTOC): 28.62

Well Diameter: 5 inches

Well Depth (ft, BTOC): 36.38

Screen Interval: Unknown

Well Volume: 7.76' x 3.86 = 29.95 L

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~3' from bottom

Sample Time: 1020

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1007	-	-	-	-	-	-	-	-	-	Pump On
1009	28.72	275	-	19.37	0.876	7.40	2.09	8.64	-232.1	pH on Mettler Toledo = 6.75 ; Sulfur odor
1011	28.74	275	-	19.45	0.883	7.33	2.64	6.98	-237.7	" " " " =6.75
1013	28.74	275	-	19.60	0.889	7.30	1.81	6.08	-240.4	" " " " =6.72
1015	28.73	275	-	19.72	0.894	7.30	1.43	5.33	-229.4	" " " " =6.70
1017	28.73	275	-	19.75	0.897	7.29	1.63	5.04	-237.7	" " " " =6.68
1019	28.73	275	330	19.77	0.898	7.28	-	4.76	-224.6	" " " " =6.66
1020	Collect CRCP-5852213-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/16/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 5852314 (Mansville WSC)
Initial Water Level (ft, BTOC): 37.26
Well Diameter: 12 inches
Well Depth (ft, BTOC): 60.00
Screen Interval: Unknown
Well Volume: 22.74' x
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1020
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1003	42.00	-	-	-	-	-	-	-	-	Pump On Sand accumulating in bucket
1005	~~37.20~~	~340	-	20.15	1.293	6.52	17.2	8.68	75.0	pH on Mettler Toledo = 6.99
1007	42.16	~340	-	20.44	1.310	6.83	10.57	6.67	60.1	" " " " =6.86
1009	42.26	~340	-	20.50	1.318	6.99	5.92	6.32	58.3	" " " " =6.83
1011	42.37	~340	-	20.54	1.326	7.15	2.94	5.86	56.5	" " " " =6.76
1013	42.42	~340	~3,400	20.57	1.329	7.25	1.73	5.62	56.0	" " " " =6.74
1015	42.50	~340	-	20.58	1.331	7.29	1.16	5.46	55.5	" " " " =6.73
1017	42.54	~340	~4,760	20.59	1.332	7.34	1.16	5.30	54.7	" " " " =6.72
1020	Collect CRCP-5852314-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/15/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 221049 (Sarah King)
Initial Water Level (ft, BTOC): 31.67'
Well Diameter: 5 inches
Well Depth (ft, BTOC): 43.98'
Screen Interval: Unknown
Well Volume: 12.31' x 1.02 = 12.6 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1445
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
8" @ 1419	-	-	-	-	-	-	-	-	-	Pump On
7 3/4" 1421	31.65	2.0	-	17.97	0.692	7.32	4.11	7.43	79.3	pH on Mettler Toledo = 7.35
7 3/4" 1423	31.65	2.0	-	18.33	0.697	7.27	3.58	6.65	82.2	" " " " = 7.29
1425	31.65	2.0	-	18.81	0.704	7.25	3.62	6.08	83.9	" " " " = 7.11
1427	31.67	2.0	-	19.25	0.711	7.25	3.89	5.81	84.2	" " " " = 7.00
7 1/2" 1430	31.63	2.0	-	19.63	0.718	7.28	3.89	5.64	84.1	" " " " = 6.93
1433	31.65	2.0	-	20.09	0.725	7.33	4.74	5.50	83.6	" " " " = 6.84
1436	31.65	2.0	-	20.37	0.730	7.37	5.03	5.42	83.0	" " " " = 6.81
1439	31.65	2.0	40 gal	20.62	0.734	7.39	5.29	5.42	82.8	" " " " = 6.80
1445	Collect CRCP-221049-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/15/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: ATF Well 1
Initial Water Level (ft, BTOC): 26.81
Well Diameter: 16 inches
Well Depth (ft, BTOC): 50.58
Screen Interval: Unknown
Well Volume: 23.77' x 10.44 = 248.2 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 0920
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	gal/min Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0906	-	-	-	-	-	-	-	-	-	Pump On
0908	42.44	2.75	—	21.40	1.604	7.26	3.13	8.47	40.5	pH on Mettler-Toledo = 6.60
0910	42.38	—	-	21.45	1.599	7.34	1.06	8.38	38.0	" " " " = 6.58
0912	42.37	—	-	21.46	1.597	7.38	0.68	6.34	37.7	" " " " = 6.56
0914	42.38	—	-	21.47	1.602	7.39	2.22	6.44	38.3	" " " " = 6.55
0916	42.40	—	27.5	21.48	1.599	7.41	1.44	6.10	39.0	" " " " = 6.52
				out of spigot						
0920	Collect CRCP-ATF1-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 2/16/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Buchheit well

Initial Water Level (ft, BTOC): 25.96

Well Diameter: 4 inches

Well Depth (ft, BTOC): 30.75

Screen Interval: Unknown

Well Volume: 4.79' x 0.65 = 3.11 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 0850

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0826	-	-	-	-	-	-	-	-	-	Pump On
0828	25.96	1.5	3.0	18.53	0.887	5.97	0.55	13.84	168.5	pH on Mettler Toledo = 6.76
0830	25.96	1.5	6.0	18.89	0.892	6.20	0.28	11.30	144.0	" " " " =6.67
0832	25.96	1.5	9.0	19.09	0.898	6.45	0.08	10.03	131.3	" " " " =6.65
0834	25.96 (94)	1.5	12.0	19.22	0.901	6.61	0.11	9.16	122.4	" " " " =6.61
0836	25.94	1.5	15.0	19.36	0.904	6.76	0.22	8.59	116.3	" " " " =6.59; Pump kicked on
0838	26.10	1.5	18.0	20.04	0.916	6.85	0.22	8.03	111.5	" " " " =6.57
0840	25.96	1.5	21.0	20.64	0.929	6.97	0.72	7.71	104.5	" " " " =6.56
0842	25.94	1.5	24.0	20.72	0.933	7.05	0.18	7.48	99.6	" " " " =6.57
0844	25.94	1.5	27.0	20.66	0.932	7.10	0.33	7.34	97.1	" " " " =6.57
0850	Collect CRCP-Buchheit-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/16/12

Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Holweger well
Initial Water Level (ft, BTOC): 31.60

Well Diameter: 5 inches
Well Depth (ft, BTOC): 39.75

Screen Interval: Unknown
Well Volume: 8.15' x 1.02 = 8.3 gal

Pump/Purging Device: Private pump
Pump Intake Depth: Unknown

Sample Time: 0935
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0916	-	-	-	-	-	-	-	-	-	Pump On
0918	31.62	1.25	2.5	19.45	0.783	6.63	0.53	9.36	114.5	pH on MettlerToledo = 7.35
0920	31.62	1.25	5.0	20.00	0.793	6.78	0.40	7.62	102.0	" " " " = 7.11
0922	31.62	1.25	7.5	20.63	0.807	6.96	0.55	6.73	91.0	" " " " = 6.86
0924	31.62	1.25	10	20.98	0.814	7.10	0.55	6.50	86.1	" " " " = 6.85
0926	31.62	1.25	12.5	21.13	0.817	7.14	0.48	6.44	83.3	" " " " = 6.81
0928	31.62	1.25	15	21.36	0.823	7.21	0.50	6.36	80.0	" " " " = 6.78
0930	31.62	1.25	17.5	21.45	0.826	7.27	0.92	6.33	77.1	" " " " = 6.77
0932	31.62	1.25	20	21.56	0.829	7.31	—	6.29	75.5	" " " " = 6.76
0935	Collect CRCP-Holweger-043 (MS/MSD)									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.82	1.40	2.46	3.86	5.56	9.88	15.44	138.93

NTN Well 1 - DTW - 28.15' BTOC @ 1055 on 2/16/12

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 2/16/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: NTN Well 2

Initial Water Level (ft, BTOC): 31.58'

Well Diameter: 18 inches

Well Depth (ft, BTOC): 40.77'

Screen Interval: Unknown

Well Volume: 9.19' x 13.21 = 121.4 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1145 at spigot/outfall

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1122	-	-	-	-	-	-	-	-	-	Pump On
1125	36.98	~15	—	21.52	1.647	7.01	0.16	6.69	60.5	pH on Mettler Toledo = 6.88
1128	36.98	~15	—	21.57	1.649	7.18	6.32	7.08	57.4	" " " " = 6.84
1131	36.98	~15	—	21.58	1.652	7.27	0.00	7.20	57.3	" " " " = 6.83
1134	36.98	~15	—	21.59	1.659	7.34	0.06	7.20	57.3	" " " " = 6.82
1137	36.98	~15	—	21.59	1.660	7.36	0.53	7.20	57.7	" " " " = 6.82
1140	36.98	~15	270 (at spigot)	21.60	1.663	7.38	4.40	7.18	57.9	" " " " = 6.82
1145	Collect	CRCP-NTNW2-040								
		CRCP-NTNW2-041								

11 3/4'
11 3/4'
11 3/4'

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 2/15/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: Wisian Well 1
Initial Water Level (ft, BTOC): 50.06
Well Diameter: 8 inches
Well Depth (ft, BTOC): 65.10
Screen Interval: Unknown
Well Volume: 15.04' x 9.88 = 148.6 L
Pump/Purging Device: Submersible pump
Pump Intake Depth: ~52' BTOC
Sample Time: 1120
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1105	-	-	-	-	-	-	1.33	-	-	Pump On
1107	50.07	450	-	21.67	0.815	7.58	~~7.09~~ (A)	9.03	-47.9	pH on Mettler Toledo = 7.09
1109	50.07	450	-	22.02	0.818	7.53	0.52	6.42	-39.2	" " " " = 7.03
1111	50.07	450	-	22.29	0.824	7.56	0.25	6.01	-37.0	" " " " = 6.98
1113	50.07	450	-	22.23	0.824	7.55	0.25	5.89	-35.0	" " " " = 6.88
1115	50.07	450	-	22.23	0.824	7.54	0.25	5.81	-33.0	" " " " = 6.87
1117	50.07	450	5.40	22.20	0.823	7.57	0.34	5.75	-31.7	" " " " = 6.84
1120	Collect CRCP-WisianW1-040									
1135	Collect CRCP-WisianW1-045									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**

Date: 2/15/12

Location: **Austin, TX**

Field Personnel: **Kim Nguyen, Arthur Potts**

Well Identification: Wisian Well 2

Initial Water Level (ft, BTOC): 45.20

Well Diameter: .6 **inches**

Well Depth (ft, BTOC): 62.18

Screen Interval: Unknown

Well Volume: 6.98' x 5.56 = 38.8 L

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~50' BTOC

Sample Time: 1215

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1159	45.21	-	-	-	-	-	-	-	-	Pump On
1201	45.22	350	—	22.98	1.060	7.72	0.75	6.61	-0.4	pH on Mettler-Toledo = 7.12
1203	45.22	350	—	22.77	1.058	7.64	1.21	5.26	-7.9	" " " " =6.89
1205	45.22	350	—	23.02	1.064	7.56	0.71	4.70	-13.0	" " " " =6.80
1207	45.22	350	—	23.05	1.063	7.52	0.64	4.49	-16.9	" " " " =6.76
1209	45.22	350	-	23.22	1.066	7.50	0.53	4.30	-18.9	" " " " =6.73
1211	45.22	350	4.2	23.20	1.064	7.49	0.53	4.26	-21.2	" " " " =6.70
1215	Collect CRCP-WisianW2-040									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Location: Austin, TX

Well Identification: 58522 (Edgar)

Well Diameter: 4 inches.

Screen Interval: Unknown

Pump/Purging Device: Private pump

Sample Time: 1255

Date: 3/27/12

Field Personnel: Kim Nguyen, Arthur Potts

Initial Water Level (ft, BTOC): 38.54

Well Depth (ft, BTOC): 56.36

Well Volume: 17.82' x 0.65 = 11.6 gal

Pump Intake Depth: Unknown

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1223	-	-	-	-	-	-	-	-	-	Pump On
1225	38.54	1.5	—	22.35	1.266	7.15	1.09	6.37	98.3	*pH measured on Mettler Toledo unit
1227	38.79	1.5	—	22.28	1.264	7.11	0.47	4.99	79.2	Water is clear
1229	38.79	1.5	9	22.28	1.265	7.09	0.56	4.41	72.8	
1231	38.79	1.5	—	22.28	1.265	7.08	0.36	3.73	61.2	
1233	38.54	1.5	—	22.27	1.265	7.07	0.72	3.48	56.0	
1235	38.54	1.5	18	22.27	1.265	7.06	0.74	3.23	51.4	
1238	38.54	1.5	—	22.28	1.265	7.06	0.90	3.00	46.0	
1241	38.54	1.5	27	22.29	1.266	7.05	1.01	2.82	41.8	
1244	38.54	1.5	—	22.32	1.265	7.05	1.34	2.71	38.5	
1247	38.54	1.5	36	22.29	1.266	7.05	1.34	2.65	37.0	
1255	Collect CRCP-58522-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 3/27/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 221049 (Sarah King)
Initial Water Level (ft, BTOC): 31.29
Well Diameter: 5 inches
Well Depth (ft, BTOC): 43.98
Screen Interval: Unknown
Well Volume: 12.69' x 1.02 = 12.9 gal
Pump/Purging Device: Private pump
Pump Intake Depth: Unknown
Sample Time: 1330
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1304	-	-	-	-	-	-	-	-	-	Pump On
1306	31.29	1.5	3.0	20.75	0.641	7.69	1.84	8.56	82.5	*pH measured on Mettler Toledo
1309	31.29	2.25	—	20.83	0.759	7.87	2.16	7.42	90.4	Water is clear
1312	31.29	2.25	—	20.98	0.761	7.73	2.28	6.74	91.3	Noticed pH meter not in water
1315	31.29	2.25	23.25	21.13	0.764	7.20	2.28	6.38	92.0	
1318	31.29	2.25	—	21.32	0.767	7.14	3.20	5.97	90.1	
1321	31.29	2.25	36.75	21.49	0.770	7.12	3.30	5.72	88.8	
1324	31.29	2.25	43.50	21.59	0.771	7.11	4.02	5.48	87.5	
1330	Collect CRCP-221049-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 3/26/12

Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: 5852213 (TX1)
Initial Water Level (ft, BTOC): 28.40

Well Diameter: 5 inches
Well Depth (ft, BTOC): 36.38

Screen Interval: Unknown
Well Volume: 7.98' x 1.02 = 8.14 gal

Pump/Purging Device: Submersible pump
Pump Intake Depth:

Sample Time: 1210
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

28 1/4"
28 3"

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1155	-	-	-	-	-	-	-	-	-	Pump On
1157	28.25	400	0.8	20.75	1.010	6.72	—	7.23	-190.3	* pH measured on Mettler-Toledo
1159	28.25	400	1.6	20.94	1.015	6.70	1.46	5.42	-200.0	Toledo unit
1201	28.25	400	2.4	20.99	1.019	6.68	0.98	4.66	-203.2	Sulfur odor
1203	28.25	400	3.2	21.03	1.023	6.67	1.51	4.21	-206.2	
1205	28.25	400	4.0	21.09	1.026	6.66	0.74	3.74	-212.2	
1210	Collect CRCP-5852213-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

1330

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Location: Austin, TX
Well Identification: 5852314 (Mansville WSC)
Well Diameter: 12 inches
Screen Interval: Unknown
Pump/Purging Device: Private pump
Sample Time: 1350

Date: 3/26/12
Field Personnel: Kim Nguyen, Arthur Potts
Initial Water Level (ft, BTOC): 36.30
Well Depth (ft, BTOC): 60.00
Well Volume: 23.70' x 5.87 = 139 gal
Pump Intake Depth: Unknown
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(ml/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1333	-	-	-	-	-	-	-	-	-	Pump On ; 6 gal/min @ spigot
1335	—	320	—	20.05	1.363	6.92	11.3	9.46	2.1	*pH measured on Mettler Toledo
1337	—	320	—	20.03	1.362	6.90	3.75	7.05	11.3	WL meter is stuck - possibly by
1339	—	320	—	20.05	1.360	6.90	1.37	6.77	13.6	pump.
1341	39.50	320	—	20.11	1.357	6.90	1.11	5.99	16.8	WL measured w/ thin tape meter
1343	40.04	320	—	20.12	1.356	6.89	0.84	5.60	18.4	
1345	40.13	320	—	20.13	1.355	7.00	0.89	5.37	20.6	
1347	40.25	320	—	20.09	1.354	7.01	0.82	5.25	22.1	
1349	40.38	320	5120	20.09	1.353	7.01	0.59	5.17	23.2	
1350	Collect CRCP-5852314-0501									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Location: Austin, TX

Well Identification: ATF Well 1

Well Diameter: 16 inches

Screen Interval: Unknown

Pump/Purging Device: Private pump/Garden Hose

Sample Time: 0940 at spigot

Date: 3/27/12

Field Personnel: Kim Nguyen, Arthur Potts

Initial Water Level (ft, BTOC): 26.33

Well Depth (ft, BTOC): 50.58

Well Volume: 24.25' × 10.44 = 253.17 gal

Pump Intake Depth: Unknown

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0922	-	-	-	-	-	-	-	-	-	Pump On ;
0924	42.08	4.5	—	21.40	1.679	6.72	2.94	10.50	46.6	* pH measured on Mettler Toledo
0926	41.96	4.5	—	21.45	1.677	6.71	0.60	7.65	41.9	Pump actually pumping ~ 400 gal/min
0928	42.00	4.5	—	21.46	1.675	6.71	0.35	5.96	383	
0930	42.00	4.5	—	21.45	1.673	6.70	0.11	4.81	34.1	
0932	42.00	4.5	4,000	21.46	1.672	6.70	0.36	4.33	32.0	
0940	CRCP-ATF1-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Location: Austin, TX

Well Identification: Buchheit well

Well Diameter: 4 inches

Screen Interval: Unknown

Pump/Purging Device: Private pump/Garden hose

Sample Time: 1520

Date: 3/26/12

Field Personnel: Kim Nguyen, Arthur Potts

Initial Water Level (ft, BTOC): 25.33

Well Depth (ft, BTOC): 30.75

Well Volume: 5.42' × 0.65 = 3.5 gal

Pump Intake Depth: Unknown

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate ~~(mL/min)~~ (gal/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1459	-	-	-	-	-	-	-	-	-	Pump On
1501	25.33	~3.0	6.0	23.48	1.069	6.92	0.31	7.42	106.6	* pH measured on Mettle-Toledo
1504	25.33	~3.0	15.0	23.19	1.059	6.88	0.08	6.03	96.0	
1506	25.33	~3.0	21.0	23.23	1.058	6.87	0.15	5.27	88.1	Pump kicked on @ 1507
1508	25.48	~3.0	27.0	22.97	1.053	6.87	0.18	5.07	82.8	
1510	25.48	~3.0	33.0	22.73	1.047	6.87	0.19	4.87	80.3	
1512	25.33	~3.0	39.0	22.72	1.046	6.87	0.38	4.78	78.9	
1520	Collect CRCP-Buchheit-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Location: Austin, TX
Well Identification: Holweger well
Well Diameter: 5 inches
Screen Interval: Unknown
Pump/Purging Device: Private pump
Sample Time: 1115

Date: 3/27/12
Field Personnel: Kim Nguyen, Arthur Potts
Initial Water Level (ft, BTOC): 31.25
Well Depth (ft, BTOC): 39.75
Well Volume: 8.50' x 1.02 = 8.67 gal
Pump Intake Depth: Unknown
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1053	-	-	-	-	-	-	-	-	-	Pump On
1055 (3½")	31.29	1.5	–	21.30	0.839	7.12	0.14	11.49	101.7	*pH measured on Mettler Toledo
1057 (3½")	31.29	1.5	–	21.72	0.846	7.08	0.00	8.13	87.5	
1059	31.29	1.5	–	21.85	~~0.859~~	7.07	0.07	6.74	78.6	
1101	31.29	1.5	12	21.99	(FM) 0.849 0.852	7.06	0.00	6.35	73.6	
1103 (3¼")	31.27	1.5	–	22.09	0.855	7.06	0.33	6.11	71.1	
1105	31.25	1.5	–	22.19	0.859	7.05	0.19	(FM) ~~5.86~~	68.7	
1107	31.25	1.5	21	22.27	0.858	7.05	0.00	5.71	67.1	
1109	31.25	1.5	–	22.34	0.860	7.05	0.35	5.54	65.3	
1111	31.25	1.5	27	22.41	0.862	7.04	0.00	5.43	63.3	
1115	Collect CRCP-Holweger-053 (MS/MSD)									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

DTW @ NTN Well 1 = 27.60' BTOC @ 950 on 3/27/12

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 3/27/12

Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: NTN Well 2
Initial Water Level (ft, BTOC): 30.42

Well Diameter: 18 inches
Well Depth (ft, BTOC): 40.77

Screen Interval: Unknown
Well Volume: 10.35' x 13.21 = 136.72 gal

Pump/Purging Device: Private pump
Pump Intake Depth: Unknown

Sample Time: 1025 at spigot
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1008	-	-	-	-	-	-	-	-	-	Pump On
1010	36.94	~10	—	21.59	1.773	7.08	0.00	8.70	65.1	* pH measured on Mettler Toledo
1012	36.96	~10	—	21.59	1.772	7.06	0.00	8.08	61.9	
1014	36.96	~10	—	21.60	1.773	7.06	0.06	7.71	59.8	
1016	36.96	~10	—	21.61	1.775	7.07	0.00	7.42	58.2	
1018	36.94	~10		21.62	1.774	7.06	0.07	7.24	57.8	
1025	Collect	CRCP-NTNW2-050								
		CRCP-NTNW2-051								(DUP)

11¼"
11½"
11½"
11½"
11¼"

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.48	3.86	5.56	9.88	15.44	138.93

0945

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 3/26/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: Wisian Well 1
Initial Water Level (ft, BTOC): 49.33
Well Diameter: 8 inches
Well Depth (ft, BTOC): 65.10
Screen Interval: Unknown
Well Volume: 15.77' x 2.61 = 41.2 gal
Pump/Purging Device: Submersible pump
Pump Intake Depth: ~52' BTOC
Sample Time: 1020
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1 *	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0958	-	-	-	-	-	-	-	-	-	Pump On
~~0910~~ 1001	49.33	750	~1.0	21.99	0.818	6.82	1.11	6.38	48.7	*pH measured on Mettler
1004	49.33	750	~1.2	22.04	0.821	6.81	0.24	6.01	48.2	Toledo
1007	49.33	750	~1.6	22.07	0.818	6.79	0.22	5.67	49.0	Water is clear
1010	49.33	750	~2.4	22.05	0.820	6.79	0.03	5.39	49.7	
1013	49.33	750	~3.0	22.06	0.822	6.79	0.00	5.17	50.9	
1020	Collect CRCP-WisianW1-050									
1035	Collect CRCP-WisianW1-055 (EB)									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

0900

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 3/26/12

Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Wisian Well 2
Initial Water Level (ft, BTOC): 44.90

Well Diameter: 6 inches
Well Depth (ft, BTOC): 62.18

Screen Interval: Unknown
Well Volume: 17.28' x 1.47 = 25.4 gal

Pump/Purging Device: Submersible pump
Pump Intake Depth: ~50' BTOC

Sample Time: 0935
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) * +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0914	-	-	-	-	-	-	-	-	-	Pump On
0917	44.91	530	-	21.14	1.042	6.82	0.94	10.54	24.4	* pH measured on Mettler
0920	44.90	530	~1.0	21.84	1.061	6.75	0.75	6.86	27.3	Toledo unit
0923	44.90	530	-	21.87	1.062	6.73	0.53	5.93	28.4	water is clear
0926	44.90	530	~2.0	21.88	1.062	6.71	0.74	4.92	30.5	
0929	44.91	530	~3.0	21.91	1.061	6.71	1.98	4.40	30.5	
0935	Collect CRCP-WisianW2-050									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.58	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Location: Austin, TX
Well Identification: 58522 (Edgar)
Well Diameter: 4 inches
Screen Interval: Unknown
Pump/Purging Device: Private pump
Sample Time: 1435

Date: 5/7/12
Field Personnel: Kim Nguyen, Arthur Potts
Initial Water Level (ft, BTOC): 38.75
Well Depth (ft, BTOC): 56.36
Well Volume: 17.61 x 0.65 = 11.45 gal
Pump Intake Depth: Unknown
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(ml/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1417	-	-	-	-	-	-	-	-	-	Pump On
1419	38.75	1.5	3	23.21	1.231	6.89	0.00	3.72	71.9	Clear water
9.5' 1421	38.79	1.5	6	22.39	1.205	6.88	0.00	2.54	62.2	" "
1423	38.79	1.5	9	22.30	1.201	6.84	0.00	2.36	58.6	" "
1425 ~~1424~~	38.79	1.5	12	22.24	1.200	6.80	0.00	2.13	54.2	" "
1427	38.79	1.5	15	22.26	1.200	6.79	0.00	2.04	51.8	" "
1429	38.79	1.5	18	22.27	1.200	6.78	0.16	1.95	49.4	" "
1431	38.79	1.5	21	22.27	1.200	6.77	0.34	1.83	46.4	" "
1435	Collect CRCP-58522-060									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**

Date: 5/8/12

Location: **Austin, TX**

Field Personnel: **Kim Nguyen, Arthur Potts**

Well Identification: 221049 (Sarah King)

Initial Water Level (ft, BTOC): 31.21

Well Diameter: 5 inches

Well Depth (ft, BTOC): 43.98

Screen Interval: Unknown

Well Volume: 12.77 x 1.02 = 13.0 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1110

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	(gal/min) Purge Rate ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1055	-	-	-	-	-	-	-	-	-	Pump On
1057	31.58	6.5	13	22.29	0.733	7.28	1.04	7.05	72.3	Water is clear
1059	31.67	6.5	26	22.36	0.734	7.24	1.39	6.35	71.3	" " "
1101	31.63	6.5	39	22.30	0.732	7.21	1.65	5.96	70.9	" " "
1103	31.63	6.5	52	22.21	0.731	7.20	1.41	5.72	70.5	" " "
1105	31.63	6.5	65	22.14	0.729	7.20	1.81	5.55	69.7	" " "
1110	Collect CRCP-221049-060									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan
Date: 5/7/12
Location: Austin, TX
Field Personnel: Kim Nguyen, Arthur Potts
Well Identification: 5852213 (TX1)
Initial Water Level (ft, BTOC): 27.96
Well Diameter: 5 inches
Well Depth (ft, BTOC): 36.38
Screen Interval: Unknown
Well Volume: 8.42 x 1.02 = 8.6 gal
Pump/Purging Device: Submersible pump
Pump Intake Depth: —
Sample Time: 1000
Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(L) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0941	-	-	-	-	-	-	-	-	-	Pump On
0944	28.00	200	0.6	21.39	0.959	6.69	1.68	2.82	-86.6	Clear water
0947	28.00	250	1.35	21.79	0.965	6.62	1.37	2.32	-89.2	" "
0950	28.00	250	2.10	21.85	0.969	6.53	1.27	1.95	-103.6	" "
0953	28.00	250	2.85	21.69	0.966	6.51	1.76	1.78	-112.8	" "
0956	28.00	250	3.60	21.57	0.963	6.51	1.48	1.66	-123.0	" "
1000	Collect	CRCP-5852213-060								

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/7/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: 5852314 (Mansville WSC)

Initial Water Level (ft, BTOC): 36.25

Well Diameter: 12 inches

Well Depth (ft, BTOC): 60.00

Screen Interval: Unknown

Well Volume: 23.75 x 5.87 = 139 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1105 (at spigot)

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

10"
11.5"
2"

Time	Water Level (ft BTOC)	Purge Rate gal/min ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1052	-	-	-	-	-	-	-	-	-	Pump On
1054	40.83	~4	–	20.78	1.297	6.87	12.9	12.92	12.6	Pump is pumping 345 gpm
1056	40.96	~4	–	20.60	1.292	6.80	4.10	7.36	21.3	Sand accumulating @ bottom of
1058	41.04	~4	–	20.53	1.291	6.76	1.05	5.26	29.0	bucket
1100	41.13	~4	–	20.51	1.290	6.74	0.39	4.76	30.4	
1102	41.17	~4	3450	20.51	1.290	6.73	0.12	4.50	32.6	
1105	Collect	CRCP-5852314-0607								

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/8/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: ATF Well 1

Initial Water Level (ft, BTOC): 27.17

Well Diameter: 16 inches

Well Depth (ft, BTOC): 50.58

Screen Interval: Unknown

Well Volume: 23.41 x 10.44 = 244.4 gal

Pump/Purging Device: Private Pump

Pump Intake Depth: Unknown

Sample Time: (at spigot) 0905

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0851	-	-	-	-	-	-	-	-	-	Pump On
0853	—	5.5	—	21.25	1.444	7.00	0.00	4.94	43.2	Water is clear
0855	—	5.5	—	21.27	1.445	6.97	0.00	4.28	37.6	" " "
11" 0857	40.92	5.5	—	21.28	1.445	6.94	0.00	3.69	31.4	" " "
11" 0859	40.92	5.5	—	21.28	1.445	6.93	0.16	3.38	27.1	" " "
10.5" 0901	40.88	5.5		21.28	1.446	6.92	0.65	3.10	22.4	" " "
0905	Collect	CRCP-ATF1-060								

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/7/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Buchheit well

Initial Water Level (ft, BTOC): 25.33

Well Diameter: 4 inches

Well Depth (ft, BTOC): 30.75

Screen Interval: Unknown

Well Volume: 5.42 × 0.65 = 3.5 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1515

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (gal/min) ~~(mL/min)~~	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1500	-	-	-	-	-	-	-	-	-	Pump On
1502	25.46	5.5	11	23.29	0.975	6.83	0.21	7.51	96.1	Water is clear
1504	25.46	5.5	22	22.46	0.958	6.78	0.00	6.02	90.6	" " "
1506	25.46	5.5	33	22.32	0.958	6.78	0.00	5.40	87.7	" " "
1508	25.46	5.5	44	22.29	0.958	6.73	0.00	4.89	81.2	" " "
1510	25.46	5.5	55	22.29	0.959	6.71	0.00	4.69	78.3	" " "
1512	25.46	5.5	66	22.68	0.964	6.69	0.00	4.44	75.6	" " "
1515	Collect	CRCP-Buchheit-060								

5.5"

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.48	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/8/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Holweger well

Initial Water Level (ft, BTOC): 31.38

Well Diameter: 5 inches

Well Depth (ft, BTOC): 39.75

Screen Interval: Unknown

Well Volume: 8.37 x 1.02 = 8.54 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: 1035

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

5"

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1019	-	-	-	-	-	-	-	-	-	Pump On
1021	31.42	2.25	4.5	21.50	0.802	7.28	0.12	7.63	41.8	Water is clear
1023	31.42	2.25	9.0	21.56	0.802	7.25	0.29	6.82	41.9	" " "
1025	31.42	2.25	13.5	21.72	0.805	7.21	0.00	5.61	43.1	" " "
1027	31.42	2.25	18.0	21.79	0.806	7.19	0.17	5.34	44.1	" " "
1029	—	2.25	22.5	21.84	0.807	7.18	0.00	5.17	44.9	" " " ; WL meter stopped working
1031	31.42	2.25	27.0	21.87	0.808	7.18	0.00	5.01	45.8	" " "
1035	Collect	CRCP-Holweger-0663					(MS/MSD)			

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

836499770
836499779

NTN Well 1 - DTW = 27.96' BTOC @ 925 AM on 5/8/12

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/8/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: NTN Well 2

Initial Water Level (ft, BTOC): 30.33

Well Diameter: 18 inches

Well Depth (ft, BTOC): 40.77

Screen Interval: Unknown

Well Volume: 10.44 x 13.21 = 137.9 gal

Pump/Purging Device: Private pump

Pump Intake Depth: Unknown

Sample Time: (at spigot) 0955

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (gal/min) (mL/min)	Volume Purged (gal)	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
0935	-	-	-	-	-	-	-	-	-	Pump On
0930	—	~30	—	21.52	1.696	7.25	0.09	5.96	31.8	Water is clear
0940	—	~30	—	21.53	1.695	7.23	2.25	6.19	33.4	" " "
0942	—	~30	—	21.53	1.694	7.22	0.00	6.24	35.1	" " "
0944	—	~30	—	21.54	1.694	7.21	0.00	6.27	37.8	" " "
0946	—	~30	—	21.54	1.695	7.20	1.77	6.29	38.5	" " "
0948	—	~30	>390	21.54	1.694	7.21	0.86	6.23	39.5	" " "
										WL meter not working
0955	Collect	CRCP-NTNW2-060								
		CRCP-NTNW2-061								

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: Travis County - Colorado River Corridor Plan

Date: 5/7/12

Location: Austin, TX

Field Personnel: Kim Nguyen, Arthur Potts

Well Identification: Wisian Well 1

Initial Water Level (ft, BTOC): 49.54

Well Diameter: 8 inches

Well Depth (ft, BTOC): 65.10

Screen Interval: Unknown

Well Volume: 15.56 x 2.61 = 40.6gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~54

Sample Time: 1240 / 1250 (EB)

Analyses/Notes: Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	Volume Purged (L) ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1210	-	-	-	-	-	-	-	-	-	Pump On
1213	49.54	500	1.5	23.89	0.832	6.98	0.24	4.11	63.9	Clear water
1216	49.50	500	3.0	23.64	0.830	6.86	0.00	3.96	43.6	
1219	49.50	500	4.5	23.89	0.834	6.79	—	3.74	27.4	Pump stopped @ 1220
1226 ~~1222~~	49.50	650	6.45	23.00	0.824	6.84	Very 0.03 ~~100~~ (3)	3.98	44.1	
1229 ~~1225~~	49.50	650	8.4	22.64	0.814	6.74	~~0.03~~ 0.16 (6)	6.59	49.0	
1232	49.50	650	10.35	22.59	0.813	6.74	0.00	4.04	53.1	
1235	49.50	650	12.3	22.53	0.811	6.74	0.00	3.76	51.4	
1240	Collect CRCP-WisianW1-060									
1250	Collect CRCP-WisianW1-065 (EB)									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

Monitoring Well Purging Form

Project: **Travis County - Colorado River Corridor Plan**

Date: 5/7/12

Location: **Austin, TX**

Field Personnel: **Kim Nguyen, Arthur Potts**

Well Identification: Wisian Well 2

Initial Water Level (ft, BTOC): 44.83

Well Diameter: 6 **inches**

Well Depth (ft, BTOC): 62.18

Screen Interval: Unknown

Well Volume: 17.35 x 1.47 = 25.5 gal

Pump/Purging Device: Submersible pump

Pump Intake Depth: ~50' BTOC

Sample Time: 1325

Analyses/Notes: **Ammonia (EPA 350.1), Cl/F/N/SO_4 (EPA 300.0), Ca/Mg/K/Na (EPA 200.7), HCO_3/CO_3 (SM2320B), Total Suspended Solids (SM 2540D)**

Time	Water Level (ft BTOC)	Purge Rate (mL/min)	(4) Volume Purged ~~(gal)~~	Temperature (°C) +/- 1°C	Specific Conductivity (mS/cm) +/- 5%	pH (SU) +/- 0.1	Turbidity (NTU) <10 NTU or +/- 10%	DO (mg/L)	ORP (mV)	Comments
1307	-	-	-	-	-	-	-	-	-	Pump On
1310	44.83	1000	3.0	23.50	1.032	6.68	0.28	2.01	28.9	Water is clear
1313	44.83	400	4.2	23.13	1.028	6.72	0.08	2.12	41.7	* Problems with knob on
1316 (11.5')	44.96	400	5.4	23.22	1.029	6.69	0.00	1.97	41.4	low flow controller. Hard to get control of rate.
1319	44.96	400	6.6	23.31	1.030	6.68	0.24	1.94	42.6	
1322	44.96	400	7.8	23.88	1.039	6.68	0.18	1.90	42.8	
1325	Collect CRCP-WisianW2-0607									

Well Diameter (in)	2	3	4	5	6	8	10	30
Volume (gal/ft)	0.16	0.37	0.65	1.02	1.47	2.61	4.08	36.70
Volume (L/ft)	0.62	1.40	2.46	3.86	5.56	9.88	15.44	138.93

APPENDIX B

Laboratory Analytical Reports

URS

TO: Kevin Pasternak

FROM: Carol Lovett, Austin QA/QC Group

PROJECT: Colorado River Corridor (CRC)

DATE: May 31, 2012

SUBJECT: Data Validation Summary for the October 2011 through May 2012 Sampling Events

I have completed the data review and validation of the October 2011 through May 2012 sampling events. This was a general review of the results that were reported from one laboratory: Lower Colorado River Authority Environmental Laboratory Services, Austin, Texas. The quality control (QC) results that were submitted by the laboratory were reviewed to confirm that the analyses were performed according to the CRC Quality Assurance Project Plan, August 2011 and to assess the quality of the reported laboratory data.

The QC results indicate that the data are usable for the intended purposes. Additional observations are:

- Some matrix spike/matrix spike duplicate results for metals could not be evaluated since the concentrations in the parent samples were greater than four times the spike concentrations.

- Some analytes were detected in the equipment blanks (EBs) but most associated results were not qualified since the results in these samples were either greater than five times the EB concentrations or the analytes were not detected in the associated samples. However, the result for fluoride of 0.240 mg/L in sample CRCP-WisianW1-040 was within five times of the associated EB and was qualified with “B” as similar to the associated EB.

- The nitrate results for samples CRCP-NTNW2-020 and its field duplicate CRCP-NTNW2-021 were reported from analyses that were performed slightly past the holding time of 48 hours. The original analyses were performed within the holding time but the results exceeded the calibration range; therefore, the samples had to be reanalyzed with dilutions. No results were qualified since the diluted samples were analyzed about two hours past the holding time. Three other samples were analyzed for nitrate one day past the holding time due to dilutions. These results were qualified with "JL" as estimated/biased low and are presented in Table 1.

Table 1
Nitrate Results Qualified Due to Holding Time Exceedance

Sample Identification	Analyte	Result (mg/L)	Qualification	Reason
CRCP-5852314-060	Nitrate	11.3	JL	Sample analyzed one day past holding time
CRCP-WisianW1-060		8.88		
CRCP-WisianW2-060		12.3		

JL – Estimated/biased low
mg/L – Milligram per liter

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *October 28, 2011*

Invoice No: LB89073
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1110568 Order Name Colorado River Corridor - Grou Date Received 10/18/2011

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	5	1	$24.00	$120.00
AMMONIA as N	Ammonia-N	Aqueous	5	1	$15.00	$75.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	5	1	$72.00	$360.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	5	1	$15.00	$75.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	5	1	$48.00	$240.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	4	1	$12.00	$48.00

Subtotal: **$918.00**

Misc Charges: $0.00

INVOICE Total: **$918.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

October 28, 2011

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 107744
Order No.: 1110568

Dear Kevin Pasternak:

On 10/18/2011, LCRA Environmental Laboratory Services (ELS) received 5 sample(s) for analyses under Lab Order No. 1110568. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 22 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1110568

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1110568-001A	CRCP-Wisian W1-010		10/18/2011 10:10:00 AM	10/18/2011 4:30:00 PM
1110568-001B	CRCP-Wisian W1-010		10/18/2011 10:10:00 AM	10/18/2011 4:30:00 PM
1110568-001C	CRCP-Wisian W1-010		10/18/2011 10:10:00 AM	10/18/2011 4:30:00 PM
1110568-001D	CRCP-Wisian W1-010		10/18/2011 10:10:00 AM	10/18/2011 4:30:00 PM
1110568-002A	CRCP-Wisian W1-015		10/18/2011 10:20:00 AM	10/18/2011 4:30:00 PM
1110568-002B	CRCP-Wisian W1-015		10/18/2011 10:20:00 AM	10/18/2011 4:30:00 PM
1110568-002C	CRCP-Wisian W1-015		10/18/2011 10:20:00 AM	10/18/2011 4:30:00 PM
1110568-003A	CRCP-Glass-010		10/18/2011 11:20:00 AM	10/18/2011 4:30:00 PM
1110568-003B	CRCP-Glass-010		10/18/2011 11:20:00 AM	10/18/2011 4:30:00 PM
1110568-003C	CRCP-Glass-010		10/18/2011 11:20:00 AM	10/18/2011 4:30:00 PM
1110568-003D	CRCP-Glass-010		10/18/2011 11:20:00 AM	10/18/2011 4:30:00 PM
1110568-004A	CRCP-5852213-010		10/18/2011 1:30:00 PM	10/18/2011 4:30:00 PM
1110568-004B	CRCP-5852213-010		10/18/2011 1:30:00 PM	10/18/2011 4:30:00 PM
1110568-004C	CRCP-5852213-010		10/18/2011 1:30:00 PM	10/18/2011 4:30:00 PM
1110568-004D	CRCP-5852213-010		10/18/2011 1:30:00 PM	10/18/2011 4:30:00 PM
1110568-005A	CRCP-5852314-010		10/18/2011 2:55:00 PM	10/18/2011 4:30:00 PM
1110568-005B	CRCP-5852314-010		10/18/2011 2:55:00 PM	10/18/2011 4:30:00 PM
1110568-005C	CRCP-5852314-010		10/18/2011 2:55:00 PM	10/18/2011 4:30:00 PM
1110568-005D	CRCP-5852314-010		10/18/2011 2:55:00 PM	10/18/2011 4:30:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Wisian W1-010
Lab Order:	1110568	**Collection Date:**	10/18/2011 10:10:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110568-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	87.0	0.200		mg/L	1	10/24/2011 1:10:08 PM
Magnesium	11.0	0.200		mg/L	1	10/24/2011 1:10:08 PM
Potassium	2.64	0.200		mg/L	1	10/24/2011 1:10:08 PM
Sodium	56.8	0.600		mg/L	1	10/24/2011 1:10:08 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	18.5	1.00		mg/L	1	10/19/2011 12:05:00 PM
Fluoride	0.238	0.010		mg/L	1	10/19/2011 12:05:00 PM
Nitrogen, Nitrate (As N)	8.62	0.100		mg/L	10	10/19/2011 1:42:00 PM
Sulfate	27.2	1.00		mg/L	1	10/19/2011 12:05:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	308	2	A	mg/L CaCO3	1	10/19/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/19/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.3	1.0		mg/L	1	10/20/2011

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Wisian W1-015
Lab Order:	1110568	**Collection Date:**	10/18/2011 10:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110568-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	< 0.200	0.200		mg/L	1	10/24/2011 1:17:55 PM
Magnesium	< 0.200	0.200		mg/L	1	10/24/2011 1:17:55 PM
Potassium	< 0.200	0.200		mg/L	1	10/24/2011 1:17:55 PM
Sodium	< 0.600	0.600		mg/L	1	10/24/2011 1:17:55 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	< 1.00	1.00		mg/L	1	10/19/2011 12:21:00 PM
Fluoride	< 0.010	0.010		mg/L	1	10/19/2011 12:21:00 PM
Nitrogen, Nitrate (As N)	< 0.010	0.010		mg/L	1	10/19/2011 12:21:00 PM
Sulfate	< 1.00	1.00		mg/L	1	10/19/2011 12:21:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	2	2	A	mg/L CaCO3	1	10/19/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/19/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Glass-010
Lab Order:	1110568	**Collection Date:**	10/18/2011 11:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110568-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	3040	20.0		mg/L	100	10/27/2011 2:38:49 PM
Magnesium	73.2	0.200		mg/L	1	10/27/2011 1:08:17 PM
Potassium	22.1	0.200		mg/L	1	10/27/2011 1:08:17 PM
Sodium	58.3	0.600		mg/L	1	10/27/2011 1:08:17 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	18.6	1.00		mg/L	1	10/19/2011 12:37:00 PM
Fluoride	0.232	0.010		mg/L	1	10/19/2011 12:37:00 PM
Nitrogen, Nitrate (As N)	10.5	0.100	X	mg/L	10	10/19/2011 1:59:00 PM
Sulfate	32.5	1.00		mg/L	1	10/19/2011 12:37:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	882	2	A	mg/L CaCO3	1	10/19/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/19/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	3.54	0.100		mg/L	5	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	3120	50.0		mg/L	50	10/20/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-010
Lab Order:	1110568	**Collection Date:**	10/18/2011 1:30:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110568-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	130	0.200		mg/L	1	10/24/2011 1:23:24 PM
Magnesium	24.8	0.200		mg/L	1	10/24/2011 1:23:24 PM
Potassium	4.68	0.200		mg/L	1	10/24/2011 1:23:24 PM
Sodium	31.9	0.600		mg/L	1	10/24/2011 1:23:24 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	27.8	1.00		mg/L	1	10/19/2011 12:53:00 PM
Fluoride	0.293	0.010		mg/L	1	10/19/2011 12:53:00 PM
Nitrogen, Nitrate (As N)	0.070	0.010		mg/L	1	10/19/2011 12:53:00 PM
Sulfate	7.11	1.00		mg/L	1	10/19/2011 12:53:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	460	2	A	mg/L CaCO3	1	10/19/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/19/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	6.35	0.100		mg/L	5	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	60.0	10.0		mg/L	10	10/20/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-010
Lab Order:	1110568	**Collection Date:**	10/18/2011 2:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110568-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	137	0.200		mg/L	1	10/24/2011 1:31:11 PM
Magnesium	39.9	0.200		mg/L	1	10/24/2011 1:31:11 PM
Potassium	2.22	0.200		mg/L	1	10/24/2011 1:31:11 PM
Sodium	81.2	0.600		mg/L	1	10/24/2011 1:31:11 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	61.0	1.00		mg/L	1	10/19/2011 1:09:00 PM
Fluoride	0.235	0.010		mg/L	1	10/19/2011 1:09:00 PM
Nitrogen, Nitrate (As N)	10.8	0.100	X	mg/L	10	10/19/2011 2:15:00 PM
Sulfate	188	10.0		mg/L	10	10/19/2011 2:15:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	364	2	A	mg/L CaCO3	1	10/19/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/19/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	10/20/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1110568-003A, Batch R85929A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1110568-005A, Batch R85929A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-001BLFM, Batch R85992A: The calcium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-001BLFMD, Batch R85992A: The calcium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110582-003ALFM, Batch R86053A: The sodium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110582-003ALFMD, Batch R86053A: The sodium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85911

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **85911**
Client ID: **PBW**	Batch ID: **R85911**	TestNo: **SM2320 B**		Analysis Date: **10/19/2011**	SeqNo: **2903167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **85911**
Client ID: **PBW**	Batch ID: **R85911**	TestNo: **SM2320 B**		Analysis Date: **10/19/2011**	SeqNo: **2903168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1110547-001ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **85911**
Client ID: **ZZZZZZ**	Batch ID: **R85911**	TestNo: **SM2320 B**		Analysis Date: **10/19/2011**	SeqNo: **2903172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	205	2						197.8	3.77	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85920

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85920
Client ID: PBW	Batch ID: R85920	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2903434

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85920
Client ID: LCSW	Batch ID: R85920	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2903435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	98.0	10.0	100.0	0	98.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85920
Client ID: LCSS02	Batch ID: R85920	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2903436

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	100	10.0	100.0	0	100	0	2000	98.00	2.02	20	

Sample ID: 1110564-002BDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85920
Client ID: ZZZZZZ	Batch ID: R85920	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2903456

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	50.0	20.0						52.00	3.92	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85929A

Sample ID: IC_111019_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: ZZZZZZ	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903696

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111019_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: ZZZZZZ	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903697

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.8	1.00	30.00	0	103	90	110				

Sample ID: 1110568-002ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: CRCP-Wisian W1-01	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.1	1.00	20.00	0	95.6	80	120				
Fluoride	0.948	0.010	1.000	0	94.8	80	120				
Nitrogen, Nitrate (As N)	0.976	0.010	1.000	0	97.6	80	120				
Sulfate	19.3	1.00	20.00	0	96.3	80	120				

Sample ID: 1110568-002ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: CRCP-Wisian W1-01	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.1	1.00	20.00	0	95.6	0	2000	19.12	0.0371	20	
Fluoride	0.949	0.010	1.000	0	94.9	0	2000	0.9482	0.0633	20	
Nitrogen, Nitrate (As N)	0.979	0.010	1.000	0	97.9	0	2000	0.9765	0.245	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85929A

Sample ID: 1110568-002ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: CRCP-Wisian W1-01	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	19.3	1.00	20.00	0	96.3	0	2000	19.25	0.0514	20	

Sample ID: IC_111019_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: ZZZZZZ	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903712

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.2	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.8	1.00	30.00	0	103	90	110				

Sample ID: IC_111019_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: ZZZZZZ	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903713

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.8	1.00	30.00	0	103	90	110				

Sample ID: IC_111019_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85929
Client ID: ZZZZZZ	Batch ID: R85929A	TestNo: E300.0		Analysis Date: 10/19/2011	SeqNo: 2903714

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85971B

Sample ID: 1110622-002CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 85971
Client ID: ZZZZZZ	Batch ID: R85971B	TestNo: E350.1		Analysis Date: 10/21/2011	SeqNo: 2905208

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.903	0.020	1.000	0.01221	89.0	90	110				S

Sample ID: NH3_LFB2	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 85971
Client ID: ZZZZZZ	Batch ID: R85971B	TestNo: E350.1		Analysis Date: 10/21/2011	SeqNo: 2905209

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.951	0.020	1.000	0	95.1	90	110				

Sample ID: NH3_LRB2	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 85971
Client ID: ZZZZZZ	Batch ID: R85971B	TestNo: E350.1		Analysis Date: 10/21/2011	SeqNo: 2905211

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85992A

Sample ID: LFB-28571	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.82	0.200	10.00	0	98.2	85	115				
Magnesium	10.0	0.200	10.00	0	100	85	115				
Potassium	10.2	0.200	10.00	0	102	85	115				
Sodium	10.3	0.600	10.00	0	103	85	115				

Sample ID: LFBD-28571	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.84	0.200	10.00	0	98.4	0	2000	9.819	0.193	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	10.04	0.0118	20	
Potassium	10.3	0.200	10.00	0	103	0	2000	10.20	1.32	20	
Sodium	10.5	0.600	10.00	0	105	0	2000	10.33	1.67	20	

Sample ID: LRB-28571	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1110641-001BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905833

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.0	0.200	10.00	12.31	107	70	130				
Potassium	12.1	0.200	10.00	1.825	102	70	130				
Sodium	38.5	0.600	10.00	28.99	95.1	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85992A

Sample ID: 1110641-001BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905834

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	22.9	0.200	10.00	12.31	106	0	2000	23.01	0.626	20	
Potassium	12.0	0.200	10.00	1.825	102	0	2000	12.07	0.328	20	
Sodium	38.3	0.600	10.00	28.99	93.2	0	2000	38.50	0.478	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: CCB	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	97.9	0.200	100.0	0	97.9	90	110				
Magnesium	109	0.200	100.0	0	109	90	110				
Potassium	99.9	0.200	100.0	0	99.9	90	110				
Sodium	93.1	0.600	100.0	0	93.1	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85997

Sample ID: IC_111024_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: ZZZZZZ	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905888

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111024_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: ZZZZZZ	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905889

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.7	1.00	30.00	0	102	90	110				
Fluoride	0.974	0.010	1.000	0	97.4	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: 1110568-002ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: CRCP-Wisian W1-01	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905902

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.3	1.00	20.00	0	96.7	80	120				
Fluoride	0.947	0.010	1.000	0	94.7	80	120				
Nitrogen, Nitrate (As N)	0.989	0.010	1.000	0	98.9	80	120				
Sulfate	19.5	1.00	20.00	0	97.4	80	120				

Sample ID: 1110568-002ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: CRCP-Wisian W1-01	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905903

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.3	1.00	20.00	0	96.7	0	2000	19.12	1.10	20	
Fluoride	0.944	0.010	1.000	0	94.4	0	2000	0.9482	0.444	20	
Nitrogen, Nitrate (As N)	0.990	0.010	1.000	0	99.0	0	2000	0.9765	1.34	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85997

Sample ID: 1110568-002ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: CRCP-Wisian W1-01	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905903

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	19.5	1.00	20.00	0	97.4	0	2000	19.25	1.19	20	

Sample ID: IC_111024_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: ZZZZZZ	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905904

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	0.981	0.010	1.000	0	98.1	90	110				
Nitrogen, Nitrate (As N)	1.09	0.010	1.000	0	109	90	110				
Sulfate	31.0	1.00	30.00	0	103	90	110				

Sample ID: IC_111024_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: ZZZZZZ	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905905

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	0.980	0.010	1.000	0	98.0	90	110				
Nitrogen, Nitrate (As N)	1.09	0.010	1.000	0	109	90	110				
Sulfate	31.0	1.00	30.00	0	103	90	110				

Sample ID: IC_111024_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85997
Client ID: ZZZZZZ	Batch ID: R85997	TestNo: E300.0		Analysis Date: 10/24/2011	SeqNo: 2905906

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86053A

Sample ID: LFB-28587	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907403

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.65	0.200	10.00	0	96.5	85	115				
Magnesium	10.0	0.200	10.00	0	100	85	115				
Sodium	9.86	0.600	10.00	0	98.6	85	115				

Sample ID: LFBD-28587	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.63	0.200	10.00	0	96.3	0	2000	9.649	0.222	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	10.02	0.148	20	
Sodium	10.0	0.600	10.00	0	100	0	2000	9.863	1.79	20	

Sample ID: LRB-28587	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1110582-003ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907408

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	45.9	0.200	10.00	36.63	92.9	70	130				
Magnesium	19.1	0.200	10.00	8.534	106	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86053A

Sample ID: 1110582-003ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907409

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	46.3	0.200	10.00	36.63	97.0	0	2000	45.92	0.894	20	
Magnesium	19.2	0.200	10.00	8.534	106	0	2000	19.12	0.279	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86053
Client ID: CCB	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907414

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86053
Client ID: ZZZZZZ	Batch ID: R86053A	TestNo: E200.7		Analysis Date: 10/26/2011	SeqNo: 2907415

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	96.9	0.200	100.0	0	96.9	90	110				
Magnesium	105	0.200	100.0	0	105	90	110				
Sodium	110	0.600	100.0	0	110	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86082A

Sample ID: LFB-28587	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907982

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.7	0.200	10.00	0	107	85	115				
Magnesium	10.7	0.200	10.00	0	107	85	115				
Potassium	10.0	0.200	10.00	0	100	85	115				
Sodium	10.5	0.600	10.00	0	105	85	115				

Sample ID: LFBD-28587	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907983

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.5	0.200	10.00	0	105	0	2000	10.68	1.82	20	
Magnesium	10.5	0.200	10.00	0	105	0	2000	10.75	2.66	20	
Potassium	9.91	0.200	10.00	0	99.1	0	2000	10.01	1.00	20	
Sodium	10.2	0.600	10.00	0	102	0	2000	10.46	2.77	20	

Sample ID: LRB-28587	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1110582-003ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	19.1	0.200	10.00	8.534	106	70	130				
Potassium	15.5	0.200	10.00	4.945	106	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86082A

Sample ID: 1110582-003ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 10/25/2011	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	19.1	0.200	10.00	8.534	105	0	2000	19.12	0.234	20	
Potassium	15.4	0.200	10.00	4.945	105	0	2000	16.70	8.00	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86082
Client ID: CCB	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907992

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86082
Client ID: ZZZZZZ	Batch ID: R86082A	TestNo: E200.7		Analysis Date: 10/27/2011	SeqNo: 2907993

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	101	0.200	100.0	0	101	90	110				
Potassium	99.5	0.200	100.0	0	99.5	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110568
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86082B

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **86082**
Client ID: **CCB**	Batch ID: **R86082B**	TestNo: **E200.7**		Analysis Date: **10/27/2011**	SeqNo: **2907998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									

Sample ID: **IPC3**	SampType: **IPC**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **86082**
Client ID: **ZZZZZZ**	Batch ID: **R86082B**	TestNo: **E200.7**		Analysis Date: **10/27/2011**	SeqNo: **2907999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	102	0.200	100.0	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 11/1/11
Work Order No.: 1110568
COC No.: 107749
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd, Austin, TX 78729 — Sampled By: Arthur Potts, Kim Nguyen
Bill To: Travis County - Colorado River Corridor Plan — PO No.:
Phone No.: 512-454-4797 Fax No.: 512-454-8807 Method of Transport: Hand delivery TAT Requested: Standard Working days E-mail: kevin.pasternak@cwrs.com
Relinquished By: [signature] Date: 10/18/11 Time: 4:30 Received By: LCRA Date: 10/18/11 Time: 4:30 Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☑ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)
Regulatory Requirements: ☑ None ☐ NELAP ☐ _____
Received at ELS By: [signature] Date: 10/18/11 Time: 1630
☐ Received on Ice Temp: 2.0 °C
Login Review: [signature] Date: 10/18/11
ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles None)	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0 / SM4500-P E	E200.7 / SM2540D (TSS)	PRESERVATIVES	pH
001	CRCP-WisianW1-010	W	10/14/11	1010	4	Vary	Plast	*	*	*	H_2SO_4	
002	CRCP-WisianW1-015	W		1020	3	Vary	Plast	*	*	*		
003	CRCP-Glass-010	W		1120	4	Vary	Plast	*	*	*		
004	CRCP-585213-010	W		1330	4	Vary	Plast	*	*	*		
005	CRCP-585214-010	W		1455	4	Vary	Plast	*	*	*		

Special Instructions: _____
ELS Comments: Metals PRESERVED IN LAB 1:1 HNO3: 09/09/11 BY: CAM DATE/TIME: 10/18/11 @ 1900

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *October 28, 2011*

Invoice No: LB89074
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1110641 Order Name Colorado River Corridor - Grou Date Received 10/19/2011

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	7	1	$24.00	$168.00
AMMONIA as N	Ammonia-N	Aqueous	7	1	$15.00	$105.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	7	1	$72.00	$504.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	7	1	$15.00	$105.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	7	1	$48.00	$336.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	7	1	$12.00	$84.00

Subtotal: $1,302.00

Misc Charges: $0.00

INVOICE Total: $1,302.00

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services

The Solution Lab

October 28, 2011

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 107817
Order No.: 1110641

Dear Kevin Pasternak:

On 10/19/2011, LCRA Environmental Laboratory Services (ELS) received 7 sample(s) for analyses under Lab Order No. 1110641. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 26 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1110641

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1110641-001A	CRCP-221049-010		10/19/2011 8:40:00 AM	10/19/2011 4:00:00 PM
1110641-001B	CRCP-221049-010		10/19/2011 8:40:00 AM	10/19/2011 4:00:00 PM
1110641-001C	CRCP-221049-010		10/19/2011 8:40:00 AM	10/19/2011 4:00:00 PM
1110641-001D	CRCP-221049-010		10/19/2011 8:40:00 AM	10/19/2011 4:00:00 PM
1110641-002A	CRCP-Buchert-010		10/19/2011 10:00:00 AM	10/19/2011 4:00:00 PM
1110641-002B	CRCP-Buchert-010		10/19/2011 10:00:00 AM	10/19/2011 4:00:00 PM
1110641-002C	CRCP-Buchert-010		10/19/2011 10:00:00 AM	10/19/2011 4:00:00 PM
1110641-002D	CRCP-Buchert-010		10/19/2011 10:00:00 AM	10/19/2011 4:00:00 PM
1110641-003A	CRCP-58522-010		10/19/2011 11:50:00 AM	10/19/2011 4:00:00 PM
1110641-003B	CRCP-58522-010		10/19/2011 11:50:00 AM	10/19/2011 4:00:00 PM
1110641-003C	CRCP-58522-010		10/19/2011 11:50:00 AM	10/19/2011 4:00:00 PM
1110641-003D	CRCP-58522-010		10/19/2011 11:50:00 AM	10/19/2011 4:00:00 PM
1110641-004A	CRCP-NTNW2-010		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-004B	CRCP-NTNW2-010		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-004C	CRCP-NTNW2-010		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-004D	CRCP-NTNW2-010		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-005A	CRCP-NTNW2-011		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-005B	CRCP-NTNW2-011		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-005C	CRCP-NTNW2-011		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-005D	CRCP-NTNW2-011		10/19/2011 12:55:00 PM	10/19/2011 4:00:00 PM
1110641-006A	CRCP-ATF1-010		10/19/2011 1:55:00 PM	10/19/2011 4:00:00 PM
1110641-006B	CRCP-ATF1-010		10/19/2011 1:55:00 PM	10/19/2011 4:00:00 PM
1110641-006C	CRCP-ATF1-010		10/19/2011 1:55:00 PM	10/19/2011 4:00:00 PM
1110641-006D	CRCP-ATF1-010		10/19/2011 1:55:00 PM	10/19/2011 4:00:00 PM
1110641-007A	CRCP-Holweger-013		10/19/2011 2:55:00 PM	10/19/2011 4:00:00 PM
1110641-007B	CRCP-Holweger-013		10/19/2011 2:55:00 PM	10/19/2011 4:00:00 PM
1110641-007C	CRCP-Holweger-013		10/19/2011 2:55:00 PM	10/19/2011 4:00:00 PM
1110641-007D	CRCP-Holweger-013		10/19/2011 2:55:00 PM	10/19/2011 4:00:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-010
Lab Order:	1110641	**Collection Date:**	10/19/2011 8:40:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	99.0	0.200		mg/L	1	10/24/2011 1:39:15 PM
Magnesium	12.3	0.200		mg/L	1	10/24/2011 1:39:15 PM
Potassium	1.83	0.200		mg/L	1	10/24/2011 1:39:15 PM
Sodium	29.0	0.600		mg/L	1	10/24/2011 1:39:15 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	13.3	1.00		mg/L	1	10/20/2011 10:37:00 AM
Fluoride	0.267	0.010		mg/L	1	10/20/2011 10:37:00 AM
Nitrogen, Nitrate (As N)	13.6	0.100	X	mg/L	10	10/20/2011 5:40:00 PM
Sulfate	17.9	1.00		mg/L	1	10/20/2011 10:37:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	286	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	4.8	1.0		mg/L	1	10/20/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Buchert-010
Lab Order:	1110641	**Collection Date:**	10/19/2011 10:00:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	122	0.200		mg/L	1	10/24/2011 2:03:15 PM
Magnesium	12.8	0.200		mg/L	1	10/24/2011 2:03:15 PM
Potassium	2.39	0.200		mg/L	1	10/24/2011 2:03:15 PM
Sodium	55.2	0.600		mg/L	1	10/24/2011 2:03:15 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	36.8	1.00		mg/L	1	10/20/2011 10:54:00 AM
Fluoride	0.373	0.010		mg/L	1	10/20/2011 10:54:00 AM
Nitrogen, Nitrate (As N)	4.56	0.100		mg/L	10	10/20/2011 7:17:00 PM
Sulfate	76.0	10.0		mg/L	10	10/20/2011 7:17:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	319	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-010
Lab Order:	1110641	**Collection Date:**	10/19/2011 11:50:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	117	0.200		mg/L	1	10/24/2011 2:11:05 PM
Magnesium	37.5	0.200		mg/L	1	10/24/2011 2:11:05 PM
Potassium	2.02	0.200		mg/L	1	10/24/2011 2:11:05 PM
Sodium	69.5	0.600		mg/L	1	10/24/2011 2:11:05 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	89.5	10.0		mg/L	10	10/20/2011 7:33:00 PM
Fluoride	0.262	0.010		mg/L	1	10/20/2011 11:10:00 AM
Nitrogen, Nitrate (As N)	4.27	0.100		mg/L	10	10/20/2011 7:33:00 PM
Sulfate	77.3	1.00		mg/L	1	10/20/2011 11:10:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	382	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	3.4	1.1		mg/L	1.1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-010
Lab Order:	1110641	**Collection Date:**	10/19/2011 12:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	175	0.200		mg/L	1	10/24/2011 2:18:48 PM
Magnesium	56.5	0.200		mg/L	1	10/24/2011 2:18:48 PM
Potassium	2.24	0.200		mg/L	1	10/24/2011 2:18:48 PM
Sodium	41.7	0.600		mg/L	1	10/24/2011 2:18:48 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	39.6	1.00		mg/L	1	10/20/2011 11:26:00 AM
Fluoride	0.246	0.010		mg/L	1	10/20/2011 11:26:00 AM
Nitrogen, Nitrate (As N)	24.3	0.100	X	mg/L	10	10/20/2011 7:49:00 PM
Sulfate	266	10.0		mg/L	10	10/20/2011 7:49:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	382	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-011
Lab Order:	1110641	**Collection Date:**	10/19/2011 12:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	178	0.200		mg/L	1	10/24/2011 2:26:31 PM
Magnesium	57.6	0.200		mg/L	1	10/24/2011 2:26:31 PM
Potassium	2.24	0.200		mg/L	1	10/24/2011 2:26:31 PM
Sodium	41.9	0.600		mg/L	1	10/24/2011 2:26:31 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	34.3	5.00		mg/L	5	10/20/2011 8:05:00 PM
Fluoride	0.298	0.050		mg/L	5	10/20/2011 8:05:00 PM
Nitrogen, Nitrate (As N)	24.6	0.100	X	mg/L	10	10/21/2011 11:18:00 AM
Sulfate	271	5.00		mg/L	5	10/20/2011 8:05:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	375	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-010
Lab Order:	1110641	**Collection Date:**	10/19/2011 1:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	194	0.200		mg/L	1	10/24/2011 2:57:28 PM
Magnesium	46.2	0.200		mg/L	1	10/24/2011 2:57:28 PM
Potassium	3.48	0.200		mg/L	1	10/24/2011 2:57:28 PM
Sodium	43.2	0.600		mg/L	1	10/24/2011 2:57:28 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	71.3	5.00		mg/L	5	10/20/2011 8:21:00 PM
Fluoride	0.245	0.050		mg/L	5	10/20/2011 8:21:00 PM
Nitrogen, Nitrate (As N)	6.87	0.050		mg/L	5	10/20/2011 8:21:00 PM
Sulfate	148	5.00		mg/L	5	10/20/2011 8:21:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	478	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *28-Oct-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Holweger-013
Lab Order:	1110641	**Collection Date:**	10/19/2011 2:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1110641-007	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	117	0.200		mg/L	1	10/24/2011 3:05:12 PM
Magnesium	19.7	0.200		mg/L	1	10/24/2011 3:05:12 PM
Potassium	2.03	0.200		mg/L	1	10/24/2011 3:05:12 PM
Sodium	41.3	0.600		mg/L	1	10/24/2011 3:05:12 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	32.2	5.00		mg/L	5	10/20/2011 8:37:00 PM
Fluoride	0.301	0.050		mg/L	5	10/20/2011 8:37:00 PM
Nitrogen, Nitrate (As N)	21.6	0.100	X	mg/L	10	10/21/2011 11:34:00 AM
Sulfate	31.4	5.00		mg/L	5	10/20/2011 8:37:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	310	2	A	mg/L CaCO3	1	10/25/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	10/25/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	10/21/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	10/25/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1110641-001A, Batch R85953A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1110641-004A, Batch R85953B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1110641-005A, Batch R85982A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1110641-007A, Batch R85982A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-001BLFM, Batch R85992A: The calcium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-001BLFMD, Batch R85992A: The calcium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-007BLFM, Batch R85992B: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1110641-007BLFMD, Batch R85992B: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85929F

Sample ID: **1110623-001ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85929**
Client ID: **ZZZZZZ** Batch ID: **R85929F** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2903785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	55.6	1.00	20.00	36.52	95.3	80	120				
Fluoride	1.19	0.010	1.000	0.2499	93.7	80	120				
Nitrogen, Nitrate (As N)	1.00	0.010	1.000	0.03330	97.0	80	120				
Sulfate	44.7	1.00	20.00	24.23	102	80	120				

Sample ID: **1110623-001ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85929**
Client ID: **ZZZZZZ** Batch ID: **R85929F** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2903786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	55.6	1.00	20.00	36.52	95.3	0	2000	55.59	0.0263	20	
Fluoride	1.19	0.010	1.000	0.2499	93.7	0	2000	1.186	0.0506	20	
Nitrogen, Nitrate (As N)	1.00	0.010	1.000	0.03330	97.0	0	2000	1.003	0.0498	20	
Sulfate	44.7	1.00	20.00	24.23	102	0	2000	44.68	0.0107	20	

Sample ID: **IC_111019_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85929**
Client ID: **ZZZZZZ** Batch ID: **R85929F** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2903787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: **IC_111019_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85929**
Client ID: **ZZZZZZ** Batch ID: **R85929F** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2903788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85929F

Sample ID: **IC_111019_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **85929**
Client ID: **ZZZZZZ**	Batch ID: **R85929F**	TestNo: **E300.0**		Analysis Date: **10/20/2011**	SeqNo: **2903788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: **IC_111019_LRB**	SampType: **LRB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **85929**
Client ID: **ZZZZZZ**	Batch ID: **R85929F**	TestNo: **E300.0**		Analysis Date: **10/20/2011**	SeqNo: **2903789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85940

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85940
Client ID: PBW	Batch ID: R85940	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2904039

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85940
Client ID: LCSW	Batch ID: R85940	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2904044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	109	10.0	100.0	0	109	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85940
Client ID: LCSS02	Batch ID: R85940	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2904045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	118	10.0	100.0	0	118	0	2000	109.0	7.93	20	

Sample ID: 1110638-003ADUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85940
Client ID: ZZZZZZ	Batch ID: R85940	TestNo: SM2540D		Analysis Date: 10/20/2011	SeqNo: 2904052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	2500	1000						2800	11.3	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85953A

Sample ID: IC_111020_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: ZZZZZZ	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111020_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: ZZZZZZ	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904549

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: 1110641-001ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: CRCP-221049-010	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904562

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	214	10.0	200.0	14.23	100	80	120				
Fluoride	9.82	0.100	10.00	0.1680	96.5	80	120				
Nitrogen, Nitrate (As N)	23.5	0.100	10.00	13.55	99.5	80	120				
Sulfate	218	10.0	200.0	15.47	101	80	120				

Sample ID: 1110641-001ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: CRCP-221049-010	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	214	10.0	200.0	14.23	99.9	0	2000	214.1	0.0771	20	
Fluoride	9.83	0.100	10.00	0.1680	96.6	0	2000	9.821	0.0509	20	
Nitrogen, Nitrate (As N)	23.5	0.100	10.00	13.55	99.6	0	2000	23.50	0.0596	20	

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85953A

Sample ID: 1110641-001ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: CRCP-221049-010	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	218	10.0	200.0	15.47	101	0	2000	218.4	0.0256	20	

Sample ID: IC_111020_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: ZZZZZZ	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904564

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: IC_111020_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: ZZZZZZ	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: IC_111020_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85953
Client ID: ZZZZZZ	Batch ID: R85953A	TestNo: E300.0		Analysis Date: 10/20/2011	SeqNo: 2904566

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85953B

Sample ID: **1110641-007ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85953**
Client ID: **CRCP-Holweger-013** Batch ID: **R85953B** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2904577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	135	5.00	100.0	32.17	103	80	120				
Fluoride	5.01	0.050	5.000	0.3010	94.1	80	120				
Sulfate	135	5.00	100.0	31.43	103	80	120				

Sample ID: **1110641-007ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85953**
Client ID: **CRCP-Holweger-013** Batch ID: **R85953B** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2904578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	135	5.00	100.0	32.17	103	0	2000	134.8	0.0204	20	
Fluoride	5.01	0.050	5.000	0.3010	94.1	0	2000	5.006	0	20	
Sulfate	135	5.00	100.0	31.43	103	0	2000	134.6	0.0215	20	

Sample ID: **IC_111020_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85953**
Client ID: **ZZZZZZ** Batch ID: **R85953B** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2904579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.0	1.00	30.00	0	103	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.07	0.010	1.000	0	107	90	110				
Sulfate	31.5	1.00	30.00	0	105	90	110				

Sample ID: **IC_111020_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85953**
Client ID: **ZZZZZZ** Batch ID: **R85953B** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2904580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.0	1.00	30.00	0	103	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.07	0.010	1.000	0	107	90	110				
Sulfate	31.4	1.00	30.00	0	105	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85953B

Sample ID: **IC_111020_LRB** SampType: **LRB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **85953**
Client ID: **ZZZZZZ** Batch ID: **R85953B** TestNo: **E300.0** Analysis Date: **10/20/2011** SeqNo: **2904581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85971C

Sample ID: **1110641-001CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **CRCP-221049-010**	Batch ID: **R85971C**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.02	0.020	1.000	0	102	90	110				

Sample ID: **NH3_LFB3**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **ZZZZZZ**	Batch ID: **R85971C**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.987	0.020	1.000	0	98.7	90	110				

Sample ID: **NH3_LRB3**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **ZZZZZZ**	Batch ID: **R85971C**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905225**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85971D

Sample ID: **1110641-007CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **CRCP-Holweger-013**	Batch ID: **R85971D**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.933	0.020	1.000	0.01972	91.3	90	110				

Sample ID: **NH3_LFB4**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **ZZZZZZ**	Batch ID: **R85971D**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.969	0.020	1.000	0	96.9	90	110				

Sample ID: **NH3_LRB4**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **85971**
Client ID: **ZZZZZZ**	Batch ID: **R85971D**	TestNo: **E350.1**		Analysis Date: **10/21/2011**	SeqNo: **2905239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85982A

Sample ID: IC_111021_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: ZZZZZZ	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111021_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: ZZZZZZ	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	0.987	0.010	1.000	0	98.7	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.8	1.00	30.00	0	103	90	110				

Sample ID: 1110641-007ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: CRCP-Holweger-013	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	29.99	90.5	80	120				
Fluoride	8.79	0.100	10.00	0.3640	84.3	80	120				
Nitrogen, Nitrate (As N)	29.8	0.100	10.00	21.64	81.8	80	120				
Sulfate	211	10.0	200.0	31.03	90.2	80	120				

Sample ID: 1110641-007ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: CRCP-Holweger-013	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905614

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	29.99	90.6	0	2000	210.9	0.114	20	
Fluoride	8.87	0.100	10.00	0.3640	85.0	0	2000	8.792	0.849	20	
Nitrogen, Nitrate (As N)	29.8	0.100	10.00	21.64	81.7	0	2000	29.82	0.0537	20	

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85982A

Sample ID: 1110641-007ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: CRCP-Holweger-013	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905614

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	212	10.0	200.0	31.03	90.4	0	2000	211.4	0.168	20	

Sample ID: IC_111021_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: ZZZZZZ	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905615

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	0.999	0.010	1.000	0	99.9	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.8	1.00	30.00	0	103	90	110				

Sample ID: IC_111021_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: ZZZZZZ	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	0.998	0.010	1.000	0	99.8	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.9	1.00	30.00	0	103	90	110				

Sample ID: IC_111021_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 85982
Client ID: ZZZZZZ	Batch ID: R85982A	TestNo: E300.0		Analysis Date: 10/21/2011	SeqNo: 2905617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85992A

Sample ID: LFB-28571	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.82	0.200	10.00	0	98.2	85	115				
Magnesium	10.0	0.200	10.00	0	100	85	115				
Potassium	10.2	0.200	10.00	0	102	85	115				
Sodium	10.3	0.600	10.00	0	103	85	115				

Sample ID: LFBD-28571	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.84	0.200	10.00	0	98.4	0	2000	9.819	0.193	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	10.04	0.0118	20	
Potassium	10.3	0.200	10.00	0	103	0	2000	10.20	1.32	20	
Sodium	10.5	0.600	10.00	0	105	0	2000	10.33	1.67	20	

Sample ID: LRB-28571	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1110641-001BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: CRCP-221049-010	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905833

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.0	0.200	10.00	12.31	107	70	130				
Potassium	12.1	0.200	10.00	1.825	102	70	130				
Sodium	38.5	0.600	10.00	28.99	95.1	70	130				

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85992A

Sample ID: 1110641-001BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: CRCP-221049-010	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905834

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	22.9	0.200	10.00	12.31	106	0	2000	23.01	0.626	20	
Potassium	12.0	0.200	10.00	1.825	102	0	2000	12.07	0.328	20	
Sodium	38.3	0.600	10.00	28.99	93.2	0	2000	38.50	0.478	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: CCB	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992A	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	97.9	0.200	100.0	0	97.9	90	110				
Magnesium	109	0.200	100.0	0	109	90	110				
Potassium	99.9	0.200	100.0	0	99.9	90	110				
Sodium	93.1	0.600	100.0	0	93.1	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85992B

Sample ID: 1110641-007BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: CRCP-Holweger-013	Batch ID: R85992B	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	30.6	0.200	10.00	19.72	109	70	130				
Potassium	12.3	0.200	10.00	2.031	102	70	130				

Sample ID: 1110641-007BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 10/21/2011	RunNo: 85992
Client ID: CRCP-Holweger-013	Batch ID: R85992B	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	31.0	0.200	10.00	19.72	112	0	2000	30.59	1.23	20	
Potassium	12.2	0.200	10.00	2.031	102	0	2000	12.26	0.0640	20	

Sample ID: CCB3	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: CCB	Batch ID: R85992B	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC3	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 85992
Client ID: ZZZZZZ	Batch ID: R85992B	TestNo: E200.7		Analysis Date: 10/24/2011	SeqNo: 2905846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	97.0	0.200	100.0	0	97.0	90	110				
Magnesium	109	0.200	100.0	0	109	90	110				
Potassium	99.2	0.200	100.0	0	99.2	90	110				
Sodium	92.0	0.600	100.0	0	92.0	90	110				

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R85994

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85994
Client ID: PBW	Batch ID: R85994	TestNo: SM2540D		Analysis Date: 10/25/2011	SeqNo: 2905852

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85994
Client ID: LCSW	Batch ID: R85994	TestNo: SM2540D		Analysis Date: 10/25/2011	SeqNo: 2905853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	10.0	100.0	0	90.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85994
Client ID: LCSS02	Batch ID: R85994	TestNo: SM2540D		Analysis Date: 10/25/2011	SeqNo: 2905854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	10.0	100.0	0	90.0	0	2000	90.00	0	20	

Sample ID: 1110641-007DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 85994
Client ID: CRCP-Holweger-013	Batch ID: R85994	TestNo: SM2540D		Analysis Date: 10/25/2011	SeqNo: 2905861

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.1	1.1						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1110641
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86020

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86020**
Client ID: **PBW**	Batch ID: **R86020**	TestNo: **SM2320 B**		Analysis Date: **10/25/2011**	SeqNo: **2906589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1110641-007ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86020**
Client ID: **CRCP-Holweger-013**	Batch ID: **R86020**	TestNo: **SM2320 B**		Analysis Date: **10/25/2011**	SeqNo: **2906593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	314	2						309.8	1.41	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86020**
Client ID: **PBW**	Batch ID: **R86020**	TestNo: **SM2320 B**		Analysis Date: **10/25/2011**	SeqNo: **2906615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 11/2/11
Work Order No.: 1110641
COC No.: 107817
Page 1 of 1

Results To: (NAME) Kevin Pasternak (ADDRESS) 9400 Amberglen Blvd (CITY) Austin (STATE) TX (ZIP) 78729 Sampled By: A. Potts, K. Nguyen

Bill To: (NAME) Travis County - Colorado River Corridor Plan (ADDRESS) (CITY) (STATE) (ZIP) PO No.:

Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand delivery TAT Requested: Standard Working days E-mail: kevin.pasternak@cwis.com

Relinquished By: [signature] Date: 10/19/11 Time: 1600 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☒ Hardcopy ☒ E-mail ☐ Fax ☐ EDD (Generic)

Regulatory Requirements: ☒ None ☐ NELAP ☐ _____

Received at ELS By: [initials] Date: 10/19 Time: 1600
☒ Received on Ice Temp: 3.9 °C (+5)
Login Review: SB Date: 10/19/11

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles None)	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0/ SM4500	E200.7	SM2540B (TSS)	PRESERVATIVES	pH
001	CRCP-221049-010	W	10/19/11	0840	4	Vary	Plast	X	X	X	X	H_2SO_4	
002	CRCP-Buchert-010	↓	↓	1000	↓	↓	↓	↓	↓	↓	↓	↓	
003	CRCP-58522-010			1150									
004	CRCP-NTNW2-010			1255									
005	CRCP-NTNW2-011			1255									
006	CRCP-ATF1-010			1355	↓								
007	CRCP-Holweger-013	↓	↓	1455	5	↓	↓	↓	↓	↓	↓	MS/MSD	

Special Instructions: _____
ELS Comments: Metal samples PRESERVED IN LAB 1:1 HNO3 BY: AN DATE/TIME: 10/19/11 @ 1900

White - ELS Pink - Customer

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *December 08, 2011*

Invoice No: LB90240
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1111895 Order Name Colorado River Corridor - Grou Date Received 11/29/2011

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	6	1	$24.00	$144.00
AMMONIA as N	Ammonia-N	Aqueous	6	1	$15.00	$90.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	6	1	$72.00	$432.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na	Aqueous	6	1	$15.00	$90.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	6	1	$48.00	$288.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	6	1	$12.00	$72.00

Subtotal: **$1,116.00**

Misc Charges: $0.00

INVOICE Total: **$1,116.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

December 08, 2011

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 109064
Order No.: 1111895

Dear Kevin Pasternak:

On 11/29/2011, LCRA Environmental Laboratory Services (ELS) received 6 sample(s) for analyses under Lab Order No. 1111895. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 17 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1111895

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1111895-001A	CRCP-5852213-020		11/29/2011 10:10:00 AM	11/29/2011 4:15:00 PM
1111895-001B	CRCP-5852213-020		11/29/2011 10:10:00 AM	11/29/2011 4:15:00 PM
1111895-001C	CRCP-5852213-020		11/29/2011 10:10:00 AM	11/29/2011 4:15:00 PM
1111895-001D	CRCP-5852213-020		11/29/2011 10:10:00 AM	11/29/2011 4:15:00 PM
1111895-002A	CRCP-WISIANW1-020		11/29/2011 12:00:00 PM	11/29/2011 4:15:00 PM
1111895-002B	CRCP-WISIANW1-020		11/29/2011 12:00:00 PM	11/29/2011 4:15:00 PM
1111895-002C	CRCP-WISIANW1-020		11/29/2011 12:00:00 PM	11/29/2011 4:15:00 PM
1111895-002D	CRCP-WISIANW1-020		11/29/2011 12:00:00 PM	11/29/2011 4:15:00 PM
1111895-003A	CRCP-WISIANW1-025		11/29/2011 12:10:00 PM	11/29/2011 4:15:00 PM
1111895-003B	CRCP-WISIANW1-025		11/29/2011 12:10:00 PM	11/29/2011 4:15:00 PM
1111895-003C	CRCP-WISIANW1-025		11/29/2011 12:10:00 PM	11/29/2011 4:15:00 PM
1111895-003D	CRCP-WISIANW1-025		11/29/2011 12:10:00 PM	11/29/2011 4:15:00 PM
1111895-004A	CRCP-ATF1-020		11/29/2011 1:25:00 PM	11/29/2011 4:15:00 PM
1111895-004B	CRCP-ATF1-020		11/29/2011 1:25:00 PM	11/29/2011 4:15:00 PM
1111895-004C	CRCP-ATF1-020		11/29/2011 1:25:00 PM	11/29/2011 4:15:00 PM
1111895-004D	CRCP-ATF1-020		11/29/2011 1:25:00 PM	11/29/2011 4:15:00 PM
1111895-005A	CRCP-WISIANW2-020		11/29/2011 2:20:00 PM	11/29/2011 4:15:00 PM
1111895-005B	CRCP-WISIANW2-020		11/29/2011 2:20:00 PM	11/29/2011 4:15:00 PM
1111895-005C	CRCP-WISIANW2-020		11/29/2011 2:20:00 PM	11/29/2011 4:15:00 PM
1111895-005D	CRCP-WISIANW2-020		11/29/2011 2:20:00 PM	11/29/2011 4:15:00 PM
1111895-006A	CRCP-58522-020		11/29/2011 3:10:00 PM	11/29/2011 4:15:00 PM
1111895-006B	CRCP-58522-020		11/29/2011 3:10:00 PM	11/29/2011 4:15:00 PM
1111895-006C	CRCP-58522-020		11/29/2011 3:10:00 PM	11/29/2011 4:15:00 PM
1111895-006D	CRCP-58522-020		11/29/2011 3:10:00 PM	11/29/2011 4:15:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-020
Lab Order:	1111895	**Collection Date:**	11/29/2011 10:10:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	133	0.200		mg/L	1	12/7/2011 11:44:52 AM
Magnesium	21.2	0.200		mg/L	1	12/7/2011 11:44:52 AM
Potassium	4.70	0.200		mg/L	1	12/7/2011 11:44:52 AM
Sodium	28.9	0.600		mg/L	1	12/7/2011 11:44:52 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **JB**
Chloride	19.8	5.00		mg/L	5	11/30/2011 2:04:00 PM
Fluoride	0.360	0.050		mg/L	5	11/30/2011 2:04:00 PM
Nitrogen, Nitrate (As N)	< 0.050	0.050		mg/L	5	11/30/2011 2:04:00 PM
Sulfate	9.84	5.00		mg/L	5	11/30/2011 2:04:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	420	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	3.57	0.040		mg/L	2	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	18.2	2.2		mg/L	2.2	12/2/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIANW1-020
Lab Order:	1111895	**Collection Date:**	11/29/2011 12:00:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	91.4	0.200		mg/L	1	12/7/2011 11:52:39 AM
Magnesium	10.8	0.200		mg/L	1	12/7/2011 11:52:39 AM
Potassium	2.65	0.200		mg/L	1	12/7/2011 11:52:39 AM
Sodium	62.8	0.600		mg/L	1	12/7/2011 11:52:39 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **JB**
Chloride	14.5	5.00		mg/L	5	11/30/2011 2:20:00 PM
Fluoride	0.300	0.050		mg/L	5	11/30/2011 2:20:00 PM
Nitrogen, Nitrate (As N)	8.80	0.050		mg/L	5	11/30/2011 2:20:00 PM
Sulfate	24.2	5.00		mg/L	5	11/30/2011 2:20:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	305	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/2/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIANW1-025
Lab Order:	1111895	**Collection Date:**	11/29/2011 12:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	3.72	0.200		mg/L	1	12/7/2011 12:16:55 PM
Magnesium	< 0.200	0.200		mg/L	1	12/7/2011 12:16:55 PM
Potassium	< 0.200	0.200		mg/L	1	12/7/2011 12:16:55 PM
Sodium	< 0.600	0.600		mg/L	1	12/7/2011 12:16:55 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **JB**
Chloride	< 5.00	5.00		mg/L	5	11/30/2011 2:36:00 PM
Fluoride	< 0.050	0.050		mg/L	5	11/30/2011 2:36:00 PM
Nitrogen, Nitrate (As N)	0.225	0.050		mg/L	5	11/30/2011 2:36:00 PM
Sulfate	< 5.00	5.00		mg/L	5	11/30/2011 2:36:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	2	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.9	1.0		mg/L	1	12/2/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-020
Lab Order:	1111895	**Collection Date:**	11/29/2011 1:25:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	203	0.200		mg/L	1	12/7/2011 12:22:28 PM
Magnesium	45.0	0.200		mg/L	1	12/7/2011 12:22:28 PM
Potassium	3.57	0.200		mg/L	1	12/7/2011 12:22:28 PM
Sodium	46.3	0.600		mg/L	1	12/7/2011 12:22:28 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **JB**
Chloride	79.4	5.00		mg/L	5	11/30/2011 2:52:00 PM
Fluoride	0.230	0.050		mg/L	5	11/30/2011 2:52:00 PM
Nitrogen, Nitrate (As N)	6.46	0.050		mg/L	5	11/30/2011 2:52:00 PM
Sulfate	170	5.00		mg/L	5	11/30/2011 2:52:00 PM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	490	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/2/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIANW2-020
Lab Order:	1111895	**Collection Date:**	11/29/2011 2:20:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	95.7	0.200		mg/L	1	12/7/2011 12:30:27 PM
Magnesium	12.0	0.200		mg/L	1	12/7/2011 12:30:27 PM
Potassium	2.51	0.200		mg/L	1	12/7/2011 12:30:27 PM
Sodium	106	0.600		mg/L	1	12/7/2011 12:30:27 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **JB**
Chloride	12.2	5.00		mg/L	5	11/30/2011 3:08:00 PM
Fluoride	0.140	0.050		mg/L	5	11/30/2011 3:08:00 PM
Nitrogen, Nitrate (As N)	9.93	0.050		mg/L	5	11/30/2011 3:08:00 PM
Sulfate	30.0	5.00		mg/L	5	11/30/2011 3:08:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	391	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.6	1.0		mg/L	1	12/2/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *08-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-020
Lab Order:	1111895	**Collection Date:**	11/29/2011 3:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111895-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	122	0.200		mg/L	1	12/7/2011 12:38:18 PM
Magnesium	36.2	0.200		mg/L	1	12/7/2011 12:38:18 PM
Potassium	2.00	0.200		mg/L	1	12/7/2011 12:38:18 PM
Sodium	73.9	0.600		mg/L	1	12/7/2011 12:38:18 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **JB**
Chloride	87.8	5.00		mg/L	5	11/30/2011 3:24:00 PM
Fluoride	0.320	0.050		mg/L	5	11/30/2011 3:24:00 PM
Nitrogen, Nitrate (As N)	3.88	0.050		mg/L	5	11/30/2011 3:24:00 PM
Sulfate	81.0	5.00		mg/L	5	11/30/2011 3:24:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	374	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/5/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E200.7, SAMPLE 1111895-002BLFM, Batch R86955A: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1111895-002BLFMD, Batch R86955A: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86817A

Sample ID: IC_111130_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86817
Client ID: ZZZZZZ	Batch ID: R86817A	TestNo: E300.0		Analysis Date: 11/30/2011	SeqNo: 2934847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111130_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86817
Client ID: ZZZZZZ	Batch ID: R86817A	TestNo: E300.0		Analysis Date: 11/30/2011	SeqNo: 2934848

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Sample ID: IC_111130_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86817
Client ID: ZZZZZZ	Batch ID: R86817A	TestNo: E300.0		Analysis Date: 11/30/2011	SeqNo: 2934863

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.2	1.00	30.00	0	101	90	110				

Sample ID: IC_111130_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86817
Client ID: ZZZZZZ	Batch ID: R86817A	TestNo: E300.0		Analysis Date: 11/30/2011	SeqNo: 2934864

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86817A

Sample ID: **IC_111130_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **86817**
Client ID: **ZZZZZZ** Batch ID: **R86817A** TestNo: **E300.0** Analysis Date: **11/30/2011** SeqNo: **2934864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Sample ID: **IC_111130_LRB** SampType: **LRB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **86817**
Client ID: **ZZZZZZ** Batch ID: **R86817A** TestNo: **E300.0** Analysis Date: **11/30/2011** SeqNo: **2934865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: **1111903-001ALFM** SampType: **LFM** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **86817**
Client ID: **ZZZZZZ** Batch ID: **R86817A** TestNo: **E300.0** Analysis Date: **11/30/2011** SeqNo: **2934861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	119	5.00	100.0	15.42	103	80	120				
Fluoride	6.06	0.050	5.000	1.085	99.4	80	120				
Nitrogen, Nitrate (As N)	5.30	0.050	5.000	0	106	80	120				
Sulfate	146	5.00	100.0	36.69	109	80	120				

Sample ID: **1111903-001ALFMD** SampType: **LFMD** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **86817**
Client ID: **ZZZZZZ** Batch ID: **R86817A** TestNo: **E300.0** Analysis Date: **11/30/2011** SeqNo: **2934862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	119	5.00	100.0	15.42	103	0	2000	118.9	0.0336	20	
Fluoride	6.04	0.050	5.000	1.085	99.2	0	2000	6.055	0.165	20	
Nitrogen, Nitrate (As N)	5.31	0.050	5.000	0	106	0	2000	5.305	0.0942	20	
Sulfate	146	5.00	100.0	36.69	109	0	2000	145.6	0.0240	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86840

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86840
Client ID: PBW	Batch ID: R86840	TestNo: SM2540D		Analysis Date: 12/2/2011	SeqNo: 2935087

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86840
Client ID: LCSW	Batch ID: R86840	TestNo: SM2540D		Analysis Date: 12/2/2011	SeqNo: 2935088

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	112	10.0	100.0	0	112	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86840
Client ID: LCSS02	Batch ID: R86840	TestNo: SM2540D		Analysis Date: 12/2/2011	SeqNo: 2935089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	110	10.0	100.0	0	110	0	2000	112.0	1.80	20	

Sample ID: 1111895-001DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86840
Client ID: CRCP-5852213-020	Batch ID: R86840	TestNo: SM2540D		Analysis Date: 12/2/2011	SeqNo: 2935095

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	17.0	2.0						18.22	6.94	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86847B

Sample ID: **1111941-003DMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847B**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.996	0.020	1.000	0	99.6	90	110				

Sample ID: **NH3_LFB2**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847B**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.020	1.000	0	98.1	90	110				

Sample ID: **NH3_LRB2**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847B**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86859

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **PBW**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1111895-001ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **CRCP-5852213-020**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935938**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	427	2						420.3	1.56	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **PBW**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86865

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: PBW	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: LCSW	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	84.0	10.0	100.0	0	84.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: LCSS02	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	97.0	10.0	100.0	0	97.0	0	2000	84.00	14.4	20	

Sample ID: 1111965-005DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: ZZZZZZ	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936146

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86955A

Sample ID: LFB-28863	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: ZZZZZZ	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.5	0.200	10.00	0	105	85	115				
Magnesium	9.53	0.200	10.00	0	95.3	85	115				
Potassium	9.90	0.200	10.00	0	99.0	85	115				
Sodium	10.2	0.600	10.00	0	102	85	115				

Sample ID: LFBD-28863	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: ZZZZZZ	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937985

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.6	0.200	10.00	0	106	0	2000	10.48	1.30	20	
Magnesium	9.73	0.200	10.00	0	97.3	0	2000	9.527	2.09	20	
Potassium	10.2	0.200	10.00	0	102	0	2000	9.896	2.61	20	
Sodium	10.4	0.600	10.00	0	104	0	2000	10.17	1.87	20	

Sample ID: LRB-28863	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: ZZZZZZ	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1111895-002BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: CRCP-WISIANW1-02	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937992

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	20.8	0.200	10.00	10.81	100	70	130				
Potassium	13.0	0.200	10.00	2.648	104	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111895
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86955A

Sample ID: 1111895-002BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: CRCP-WISIANW1-02	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937993

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	20.5	0.200	10.00	10.81	97.0	0	2000	20.81	1.48	20	
Potassium	12.7	0.200	10.00	2.648	101	0	2000	13.01	2.08	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86955
Client ID: CCB	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937998

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86955
Client ID: ZZZZZZ	Batch ID: R86955A	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2937999

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	100	0.200	100.0	0	100	90	110				
Magnesium	105	0.200	100.0	0	105	90	110				
Potassium	103	0.200	100.0	0	103	90	110				
Sodium	101	0.600	100.0	0	101	90	110				

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 12/13/11
Work Order No.: 111895
COC No.: 109064
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin, TX 78729 — Sampled By: Kim Nguyen
(NAME, ADDRESS, CITY, STATE, ZIP)

Bill To: Travis County — PO No.:

Phone No.: 5124547797 Fax No.: 5124548807 Method of Transport: Hand Delivered TAT Requested: Normal Working days E-mail: kevin.pasternak@urs.com

Relinquished By: [signature] Date: 11/29/11 Time: 1615 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☐Hardcopy ☒E-mail ☐Fax ☐EDD (Generic)

Regulatory Requirements: ☒None ☐NELAP ☐ _____

Received at ELS By: [signature] Date: 11/29/11 Time: 1615
☒Received on Ice Temp: 2 · 6 °C T3
Login Review: MA Date: 12/1/11

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): (Cooler) Bottles None)	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E33C.1 Ammonia	E300 Cl, SO4, F	E200.7 Mg, K, Na, Ca	SM2340B					PRESERVATIVES	pH
001	CRCP-SB52213-020	W	11/29/11	1010	4	1 liter	Plast	X	X	X	X					HNO3, H2SO4	
002	-WislanW1-020			1200				X	X	X	X						
003	-WislanW1-025			1210				X	X	X	X						
004	-ATF1-020			1325				X	X	X	X						
005	-WislanW2-020			1420				X	X	X	X						
006	-SB522-020			1510				X	X	X	X						

Special Instructions: _____
ELS Comments: _____

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *December 09, 2011*

Invoice No: LB90247
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1111965 Order Name Colorado River Corridor - Grou Date Received 11/30/2011

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	6	1	$24.00	$144.00
AMMONIA as N	Ammonia-N	Aqueous	6	1	$15.00	$90.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	6	1	$72.00	$432.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	6	1	$15.00	$90.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	6	1	$48.00	$288.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	6	1	$12.00	$72.00

Subtotal: **$1,116.00**

Misc Charges: $0.00

INVOICE Total: **$1,116.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

December 09, 2011

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 109134
Order No.: 1111965

Dear Kevin Pasternak:

On 11/30/2011, LCRA Environmental Laboratory Services (ELS) received 6 sample(s) for analyses under Lab Order No. 1111965. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 21 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1111965

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1111965-001A	CRCP-221049-020		11/30/2011 8:15:00 AM	11/30/2011 3:00:00 PM
1111965-001B	CRCP-221049-020		11/30/2011 8:15:00 AM	11/30/2011 3:00:00 PM
1111965-001C	CRCP-221049-020		11/30/2011 8:15:00 AM	11/30/2011 3:00:00 PM
1111965-001D	CRCP-221049-020		11/30/2011 8:15:00 AM	11/30/2011 3:00:00 PM
1111965-002A	CRCP-NTNW2-020		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-002B	CRCP-NTNW2-020		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-002C	CRCP-NTNW2-020		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-002D	CRCP-NTNW2-020		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-003A	CRCP-NTNW2-021		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-003B	CRCP-NTNW2-021		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-003C	CRCP-NTNW2-021		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-003D	CRCP-NTNW2-021		11/30/2011 9:30:00 AM	11/30/2011 3:00:00 PM
1111965-004A	CRCP-5852314-020		11/30/2011 10:35:00 AM	11/30/2011 3:00:00 PM
1111965-004B	CRCP-5852314-020		11/30/2011 10:35:00 AM	11/30/2011 3:00:00 PM
1111965-004C	CRCP-5852314-020		11/30/2011 10:35:00 AM	11/30/2011 3:00:00 PM
1111965-004D	CRCP-5852314-020		11/30/2011 10:35:00 AM	11/30/2011 3:00:00 PM
1111965-005A	CRCP-HOLWEGER-023		11/30/2011 12:10:00 PM	11/30/2011 3:00:00 PM
1111965-005B	CRCP-HOLWEGER-023		11/30/2011 12:10:00 PM	11/30/2011 3:00:00 PM
1111965-005C	CRCP-HOLWEGER-023		11/30/2011 12:10:00 PM	11/30/2011 3:00:00 PM
1111965-005D	CRCP-HOLWEGER-023		11/30/2011 12:10:00 PM	11/30/2011 3:00:00 PM
1111965-006A	CRCP-BUCHHEIT-020		11/30/2011 2:10:00 PM	11/30/2011 3:00:00 PM
1111965-006B	CRCP-BUCHHEIT-020		11/30/2011 2:10:00 PM	11/30/2011 3:00:00 PM
1111965-006C	CRCP-BUCHHEIT-020		11/30/2011 2:10:00 PM	11/30/2011 3:00:00 PM
1111965-006D	CRCP-BUCHHEIT-020		11/30/2011 2:10:00 PM	11/30/2011 3:00:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-020
Lab Order:	1111965	**Collection Date:**	11/30/2011 8:15:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	106	0.200		mg/L	1	12/7/2011 1:37:28 PM
Magnesium	13.1	0.200		mg/L	1	12/7/2011 1:37:28 PM
Potassium	2.01	0.200		mg/L	1	12/7/2011 1:37:28 PM
Sodium	29.4	0.600		mg/L	1	12/7/2011 1:37:28 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	13.7	1.00		mg/L	1	12/1/2011 10:13:00 PM
Fluoride	0.266	0.010		mg/L	1	12/1/2011 10:13:00 PM
Nitrogen, Nitrate (As N)	14.2	0.100	HX	mg/L	10	12/2/2011 11:35:00 AM
Nitrogen, Nitrate (As N)	11.3	0.010	EX	mg/L	1	12/1/2011 10:13:00 PM
Sulfate	17.8	1.00		mg/L	1	12/1/2011 10:13:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	285	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	11.2	1.1		mg/L	1.1	12/1/2011

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-020
Lab Order:	1111965	**Collection Date:**	11/30/2011 9:30:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	192	0.200		mg/L	1	12/7/2011 1:45:15 PM
Magnesium	62.2	0.200		mg/L	1	12/7/2011 1:45:15 PM
Potassium	2.31	0.200		mg/L	1	12/7/2011 1:45:15 PM
Sodium	46.2	0.600		mg/L	1	12/7/2011 1:45:15 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	41.3	1.00		mg/L	1	12/1/2011 10:29:00 PM
Fluoride	0.264	0.010		mg/L	1	12/1/2011 10:29:00 PM
Nitrogen, Nitrate (As N)	27.0	0.100	HX	mg/L	10	12/2/2011 11:51:00 AM
Nitrogen, Nitrate (As N)	17.9	0.010	EX	mg/L	1	12/1/2011 10:29:00 PM
Sulfate	302	10.0		mg/L	10	12/2/2011 11:51:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	340	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/5/2011

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-021
Lab Order:	1111965	**Collection Date:**	11/30/2011 9:30:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	193	0.200		mg/L	1	12/7/2011 1:53:18 PM
Magnesium	63.3	0.200		mg/L	1	12/7/2011 1:53:18 PM
Potassium	2.28	0.200		mg/L	1	12/7/2011 1:53:18 PM
Sodium	46.5	0.600		mg/L	1	12/7/2011 1:53:18 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	41.4	1.00		mg/L	1	12/1/2011 10:45:00 PM
Fluoride	0.270	0.010		mg/L	1	12/1/2011 10:45:00 PM
Nitrogen, Nitrate (As N)	26.7	0.100	HX	mg/L	10	12/2/2011 12:07:00 PM
Nitrogen, Nitrate (As N)	17.9	0.010	EX	mg/L	1	12/1/2011 10:45:00 PM
Sulfate	299	10.0		mg/L	10	12/2/2011 12:07:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	341	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/5/2011

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-020
Lab Order:	1111965	**Collection Date:**	11/30/2011 10:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	140	0.200		mg/L	1	12/7/2011 2:01:21 PM
Magnesium	40.7	0.200		mg/L	1	12/7/2011 2:01:21 PM
Potassium	2.16	0.200		mg/L	1	12/7/2011 2:01:21 PM
Sodium	86.1	0.600		mg/L	1	12/7/2011 2:01:21 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	60.9	1.00		mg/L	1	12/2/2011 12:22:00 AM
Fluoride	0.241	0.010		mg/L	1	12/2/2011 12:22:00 AM
Nitrogen, Nitrate (As N)	11.2	0.100	X	mg/L	10	12/2/2011 10:27:00 AM
Sulfate	190	10.0		mg/L	10	12/2/2011 10:27:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	356	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	12/5/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-HOLWEGER-023
Lab Order:	1111965	**Collection Date:**	11/30/2011 12:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	114	0.200		mg/L	1	12/7/2011 2:09:21 PM
Magnesium	18.3	0.200		mg/L	1	12/7/2011 2:09:21 PM
Potassium	1.88	0.200		mg/L	1	12/7/2011 2:09:21 PM
Sodium	45.2	0.600		mg/L	1	12/7/2011 2:09:21 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	32.6	1.00		mg/L	1	12/2/2011 12:38:00 AM
Fluoride	0.286	0.010		mg/L	1	12/2/2011 12:38:00 AM
Nitrogen, Nitrate (As N)	20.7	0.100	X	mg/L	10	12/2/2011 11:03:00 AM
Sulfate	34.1	1.00		mg/L	1	12/2/2011 12:38:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	300	2	A	mg/L CaCO3	1	12/6/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/6/2011
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	12/5/2011

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *09-Dec-11*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-BUCHHEIT-020
Lab Order:	1111965	**Collection Date:**	11/30/2011 2:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1111965-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	117	0.200		mg/L	1	12/7/2011 2:33:39 PM
Magnesium	12.4	0.200		mg/L	1	12/7/2011 2:33:39 PM
Potassium	2.30	0.200		mg/L	1	12/7/2011 2:33:39 PM
Sodium	58.1	0.600		mg/L	1	12/7/2011 2:33:39 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.0	1.00		mg/L	1	12/2/2011 12:54:00 AM
Fluoride	0.382	0.010		mg/L	1	12/2/2011 12:54:00 AM
Nitrogen, Nitrate (As N)	4.70	0.100		mg/L	10	12/2/2011 11:19:00 AM
Sulfate	78.2	10.0		mg/L	10	12/2/2011 11:19:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	311	2	A	mg/L CaCO3	1	12/1/2011
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	12/1/2011
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	12/2/2011
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	12/5/2011

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

CASE NARRATIVE

Analytical Comments for METHOD E300.0, SAMPLES 1111965-001A through 1111965-003A, Batch R86861A: Nitrogen, Nitrate (As N) results reported as Estimated (E flag) from the 1x analysis and past 48-hour method hold time (H flag) from the 10x dilution analysis. Both results were included in the final report as per client's request.

Analytical Comments for METHOD E300.0, SAMPLE 1111965-001A through SAMPLE 1111965-005A, Batch R86861A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1111965-005BLFM, Batch R86955B: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1111965-005BLFMD, Batch R86955B: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86809

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **86809**
Client ID: **PBW**	Batch ID: **R86809**	TestNo: **SM2540D**		Analysis Date: **12/1/2011**	SeqNo: **2934252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **86809**
Client ID: **LCSW**	Batch ID: **R86809**	TestNo: **SM2540D**		Analysis Date: **12/1/2011**	SeqNo: **2934253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	113	10.0	100.0	0	113	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **86809**
Client ID: **LCSS02**	Batch ID: **R86809**	TestNo: **SM2540D**		Analysis Date: **12/1/2011**	SeqNo: **2934254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	117	10.0	100.0	0	117	0	2000	113.0	3.48	20	

Sample ID: **1111961-004ADUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **86809**
Client ID: **ZZZZZZ**	Batch ID: **R86809**	TestNo: **SM2540D**		Analysis Date: **12/1/2011**	SeqNo: **2934263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	9600	1000						10400	8.00	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86841B

Sample ID: 1111965-003ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: CRCP-NTNW2-021	Batch ID: R86841B	TestNo: E300.0		Analysis Date: 12/1/2011	SeqNo: 2935130

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	60.3	1.00	20.00	41.38	94.4	80	120				
Fluoride	1.30	0.010	1.000	0.2700	103	80	120				

Sample ID: 1111965-003ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: CRCP-NTNW2-021	Batch ID: R86841B	TestNo: E300.0		Analysis Date: 12/1/2011	SeqNo: 2935131

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	60.3	1.00	20.00	41.38	94.4	0	2000	60.26	0.00332	20	
Fluoride	1.30	0.010	1.000	0.2700	103	0	2000	1.300	0.0770	20	

Sample ID: IC_111201_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: ZZZZZZ	Batch ID: R86841B	TestNo: E300.0		Analysis Date: 12/1/2011	SeqNo: 2935132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Sample ID: IC_111201_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: ZZZZZZ	Batch ID: R86841B	TestNo: E300.0		Analysis Date: 12/1/2011	SeqNo: 2935133

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86841B

Sample ID: **IC_111201_LRB**	SampType: **LRB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **86841**
Client ID: **ZZZZZZ**	Batch ID: **R86841B**	TestNo: **E300.0**		Analysis Date: **12/2/2011**	SeqNo: **2935134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86841C

Sample ID: 1111965-005ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: CRCP-HOLWEGER-	Batch ID: R86841C	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2935145

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	55.9	1.00	20.00	32.61	116	80	120				
Fluoride	1.36	0.010	1.000	0.2860	107	80	120				

Sample ID: 1111965-005ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: CRCP-HOLWEGER-	Batch ID: R86841C	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2935146

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	55.8	1.00	20.00	32.61	116	0	2000	55.86	0.134	20	
Fluoride	1.36	0.010	1.000	0.2860	107	0	2000	1.356	0.0738	20	

Sample ID: IC_111201_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: ZZZZZZ	Batch ID: R86841C	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2935147

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Sample ID: IC_111201_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86841
Client ID: ZZZZZZ	Batch ID: R86841C	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2935148

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86841C

Sample ID: **IC_111201_LRB** SampType: **LRB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **86841**
Client ID: **ZZZZZZ** Batch ID: **R86841C** TestNo: **E300.0** Analysis Date: **12/2/2011** SeqNo: **2935149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86847C

Sample ID: **1112040-002CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847C**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935344**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.940	0.020	1.000	0.05519	88.5	90	110				S

Sample ID: **NH3_LFB3**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847C**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.968	0.020	1.000	0	96.8	90	110				

Sample ID: **NH3_LRB3**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **86847**
Client ID: **ZZZZZZ**	Batch ID: **R86847C**	TestNo: **E350.1**		Analysis Date: **12/2/2011**	SeqNo: **2935347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86859

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **PBW**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1111895-001ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **ZZZZZZ**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935938**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	427	2						420.3	1.56	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86859**
Client ID: **PBW**	Batch ID: **R86859**	TestNo: **SM2320 B**		Analysis Date: **12/1/2011**	SeqNo: **2935960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86861A

Sample ID: IC_111202_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936049

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_111202_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936050

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Sample ID: 1112055-001ALFM	SampType: LFM	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936063

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.26	0.050	5.000	0.2350	100	80	120				
Nitrogen, Nitrate (As N)	5.12	0.050	5.000	0	102	80	120				
Sulfate	138	5.00	100.0	34.92	103	80	120				

Sample ID: 1112055-001ALFMD	SampType: LFMD	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936064

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.28	0.050	5.000	0.2350	101	0	2000	5.255	0.380	20	
Nitrogen, Nitrate (As N)	5.12	0.050	5.000	0	102	0	2000	5.120	0	20	
Sulfate	138	5.00	100.0	34.92	103	0	2000	138.2	0.00724	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86861A

Sample ID: IC_111202_LFB	SampType: LFB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936065

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.7	1.00	30.00	0	102	90	110				

Sample ID: IC_111202_IPC	SampType: IPC	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	30.7	1.00	30.00	0	102	90	110				

Sample ID: IC_111202_LRB	SampType: LRB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 86861
Client ID: ZZZZZZ	Batch ID: R86861A	TestNo: E300.0		Analysis Date: 12/2/2011	SeqNo: 2936067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86865

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: PBW	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: LCSW	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	84.0	10.0	100.0	0	84.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: LCSS02	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	97.0	10.0	100.0	0	97.0	0	2000	84.00	14.4	20	

Sample ID: 1111965-005DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 86865
Client ID: CRCP-HOLWEGER-	Batch ID: R86865	TestNo: SM2540D		Analysis Date: 12/5/2011	SeqNo: 2936146

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86913

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86913**
Client ID: **PBW**	Batch ID: **R86913**	TestNo: **SM2320 B**		Analysis Date: **12/6/2011**	SeqNo: **2937361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1111965-005ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86913**
Client ID: **CRCP-HOLWEGER-**	Batch ID: **R86913**	TestNo: **SM2320 B**		Analysis Date: **12/6/2011**	SeqNo: **2937365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	304	2						299.6	1.36	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **86913**
Client ID: **PBW**	Batch ID: **R86913**	TestNo: **SM2320 B**		Analysis Date: **12/6/2011**	SeqNo: **2937387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1111965
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R86955B

Sample ID: 1111965-005BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: CRCP-HOLWEGER-	Batch ID: R86955B	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2938007

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	29.8	0.200	10.00	18.30	115	70	130				
Potassium	12.9	0.200	10.00	1.883	110	70	130				

Sample ID: 1111965-005BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 12/6/2011	RunNo: 86955
Client ID: CRCP-HOLWEGER-	Batch ID: R86955B	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2938008

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	29.7	0.200	10.00	18.30	114	0	2000	29.79	0.406	20	
Potassium	13.0	0.200	10.00	1.883	111	0	2000	12.92	0.409	20	

Sample ID: CCB3	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86955
Client ID: CCB	Batch ID: R86955B	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2938010

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC3	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 86955
Client ID: ZZZZZZ	Batch ID: R86955B	TestNo: E200.7		Analysis Date: 12/7/2011	SeqNo: 2938011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	98.8	0.200	100.0	0	98.8	90	110				
Magnesium	108	0.200	100.0	0	108	90	110				
Potassium	107	0.200	100.0	0	107	90	110				
Sodium	103	0.600	100.0	0	103	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 12/14/11
Work Order No.: 1111965
COC No.: 109134
Page 1 of 1

Results To: (NAME) Kevin Pasternak (ADDRESS) 9400 Amberglen Blvd (CITY) Austin (STATE) TX (ZIP) 78729 Sampled By: Kim Nguyen, Arthur P.
Bill To: (NAME) Travis County (ADDRESS) PO No.:
Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand Deliver TAT Requested: Normal Working days E-mail: kevin.pasternak@us.com
Relinquished By: Date: 11/30/11 Time: 1500 Received By: Date: Time: Relinquished By: Date: Time:

Report Requirements: ☐ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)
Regulatory Requirements: ☑ None ☐ NELAP ☐ _____
Received at ELS By: Date: 11/30/11 Time: 1500
☒ Received on Ice Temp: 1-5 °C T3
Login Review: Date: 11-30-11
ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): (VM) Cooler Bottles None)	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1 Ammonia; E300.0/SM4500	E200.7 Ca, Mg, K, Na SM3120B	PRESERVATIVES	pH
001	CRCP-221049-020	W	11/30/11	0815	4	Vary	Plast	X	X	HNO_3 and H_2SO_4	
002	-NTNW2-020	↓	↓	0930	↓	↓	↓	X	X	↓	
003	-NTNW2-021			0930				X	X		
004	-5852314-020			1035				X	X	HNO_3 ; H_2S	
005	-Holweger-023			1210	5			X	X	(MS/MSD)	
006	-Buchheit-020	↓	↓	~~1610~~ 1410 (VM)	4	↓	↓	X	X	↓	

Special Instructions: MS/MSD on CRCP-Holweger-023; Need to add HNO_3 and H_2SO_4 acid to CRCP-Buchheit-0
ELS Comments: Sample at the lab.

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *January 17, 2012*

Invoice No: LB91300
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1201064 Order Name Colorado River Corridor - Grou Date Received 1/4/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY		Aqueous	5	1	$24.00	$120.00
AMMONIA as N		Aqueous	5	1	$15.00	$75.00
ANIONS by ION CHROMATOGRAPHY		Aqueous	5	1	$72.00	$360.00
AQPREP TOTAL RECOVERABLE METALS: I		Aqueous	5	1	$15.00	$75.00
ICP METALS, TOTAL RECOVERABLE		Aqueous	5	1	$48.00	$240.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	4	1	$12.00	$48.00

Subtotal: **$918.00**

Misc Charges: $0.00

INVOICE Total: **$918.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

January 17, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 110227
Order No.: 1201064

Dear Kevin Pasternak:

On 1/4/2012, LCRA Environmental Laboratory Services (ELS) received 5 sample(s) for analyses under Lab Order No. 1201064. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 21 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1201064

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1201064-001A	CRCP-5852314-030		1/4/2012 11:15:00 AM	1/4/2012 4:30:00 PM
1201064-001B	CRCP-5852314-030		1/4/2012 11:15:00 AM	1/4/2012 4:30:00 PM
1201064-001C	CRCP-5852314-030		1/4/2012 11:15:00 AM	1/4/2012 4:30:00 PM
1201064-001D	CRCP-5852314-030		1/4/2012 11:15:00 AM	1/4/2012 4:30:00 PM
1201064-002A	CRCP-WISIAN2-030		1/4/2012 12:50:00 PM	1/4/2012 4:30:00 PM
1201064-002B	CRCP-WISIAN2-030		1/4/2012 12:50:00 PM	1/4/2012 4:30:00 PM
1201064-002C	CRCP-WISIAN2-030		1/4/2012 12:50:00 PM	1/4/2012 4:30:00 PM
1201064-002D	CRCP-WISIAN2-030		1/4/2012 12:50:00 PM	1/4/2012 4:30:00 PM
1201064-003A	CRCP-WISIANW1-030		1/4/2012 1:55:00 PM	1/4/2012 4:30:00 PM
1201064-003B	CRCP-WISIANW1-030		1/4/2012 1:55:00 PM	1/4/2012 4:30:00 PM
1201064-003C	CRCP-WISIANW1-030		1/4/2012 1:55:00 PM	1/4/2012 4:30:00 PM
1201064-003D	CRCP-WISIANW1-030		1/4/2012 1:55:00 PM	1/4/2012 4:30:00 PM
1201064-004A	CRCP-WISIANW1-035		1/4/2012 2:10:00 PM	1/4/2012 4:30:00 PM
1201064-004B	CRCP-WISIANW1-035		1/4/2012 2:10:00 PM	1/4/2012 4:30:00 PM
1201064-004C	CRCP-WISIANW1-035		1/4/2012 2:10:00 PM	1/4/2012 4:30:00 PM
1201064-005A	CRCP-5852213-030		1/4/2012 3:25:00 PM	1/4/2012 4:30:00 PM
1201064-005B	CRCP-5852213-030		1/4/2012 3:25:00 PM	1/4/2012 4:30:00 PM
1201064-005C	CRCP-5852213-030		1/4/2012 3:25:00 PM	1/4/2012 4:30:00 PM
1201064-005D	CRCP-5852213-030		1/4/2012 3:25:00 PM	1/4/2012 4:30:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-030
Lab Order:	1201064	**Collection Date:**	1/4/2012 11:15:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201064-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	138	0.200		mg/L	1	1/9/2012 2:47:29 PM
Magnesium	36.8	0.200		mg/L	1	1/9/2012 2:47:29 PM
Potassium	2.21	0.200		mg/L	1	1/9/2012 2:47:29 PM
Sodium	88.4	0.600		mg/L	1	1/9/2012 2:47:29 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	52.2	10.0		mg/L	10	1/4/2012 5:42:00 PM
Fluoride	0.300	0.100		mg/L	10	1/4/2012 5:42:00 PM
Nitrogen, Nitrate (As N)	11.1	0.100	X	mg/L	10	1/4/2012 5:42:00 PM
Sulfate	187	10.0		mg/L	10	1/4/2012 5:42:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	364	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.7	1.0		mg/L	1	1/5/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIAN2-030
Lab Order:	1201064	**Collection Date:**	1/4/2012 12:50:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201064-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	88.3	0.200		mg/L	1	1/9/2012 2:55:32 PM
Magnesium	10.7	0.200		mg/L	1	1/9/2012 2:55:32 PM
Potassium	2.41	0.200		mg/L	1	1/9/2012 2:55:32 PM
Sodium	109	0.600		mg/L	1	1/9/2012 2:55:32 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	11.6	10.0		mg/L	10	1/4/2012 5:58:00 PM
Fluoride	< 0.050	0.050		mg/L	5	1/5/2012 9:12:00 PM
Nitrogen, Nitrate (As N)	9.07	0.100		mg/L	10	1/4/2012 5:58:00 PM
Sulfate	31.2	10.0		mg/L	10	1/4/2012 5:58:00 PM
ALKALINITY			**SM2320 B**			Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	455	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	1/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIANW1-030
Lab Order:	1201064	**Collection Date:**	1/4/2012 1:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201064-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	86.6	0.200		mg/L	1	1/9/2012 3:03:28 PM
Magnesium	10.1	0.200		mg/L	1	1/9/2012 3:03:28 PM
Potassium	2.61	0.200		mg/L	1	1/9/2012 3:03:28 PM
Sodium	66.1	0.600		mg/L	1	1/9/2012 3:03:28 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	13.8	10.0		mg/L	10	1/4/2012 6:15:00 PM
Fluoride	0.330	0.100		mg/L	10	1/4/2012 6:15:00 PM
Nitrogen, Nitrate (As N)	8.78	0.100		mg/L	10	1/4/2012 6:15:00 PM
Sulfate	24.8	10.0		mg/L	10	1/4/2012 6:15:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	356	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.5	1.0		mg/L	1	1/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WISIANW1-035
Lab Order:	1201064	**Collection Date:**	1/4/2012 2:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201064-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	0.696	0.200		mg/L	1	1/9/2012 3:11:24 PM
Magnesium	< 0.200	0.200		mg/L	1	1/9/2012 3:11:24 PM
Potassium	< 0.200	0.200		mg/L	1	1/9/2012 3:11:24 PM
Sodium	< 0.600	0.600		mg/L	1	1/9/2012 3:11:24 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	< 5.00	5.00		mg/L	5	1/5/2012 9:28:00 PM
Fluoride	< 0.050	0.050		mg/L	5	1/5/2012 9:28:00 PM
Nitrogen, Nitrate (As N)	< 0.050	0.050		mg/L	5	1/5/2012 9:28:00 PM
Sulfate	< 5.00	5.00		mg/L	5	1/5/2012 9:28:00 PM
ALKALINITY			**SM2320 B**			Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	< 20	20	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 20	20	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-030
Lab Order:	1201064	**Collection Date:**	1/4/2012 3:25:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201064-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	128	0.200		mg/L	1	1/9/2012 3:16:54 PM
Magnesium	20.2	0.200		mg/L	1	1/9/2012 3:16:54 PM
Potassium	4.35	0.200		mg/L	1	1/9/2012 3:16:54 PM
Sodium	30.0	0.600		mg/L	1	1/9/2012 3:16:54 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	16.5	10.0		mg/L	10	1/4/2012 6:49:00 PM
Fluoride	0.390	0.100		mg/L	10	1/4/2012 6:49:00 PM
Nitrogen, Nitrate (As N)	< 0.050	0.050		mg/L	5	1/5/2012 11:17:00 AM
Sulfate	28.4	10.0		mg/L	10	1/4/2012 6:49:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	404	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	1.90	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	25.4	2.9		mg/L	2.9	1/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

CASE NARRATIVE

Analytical Comments for METHOD E300.0, SAMPLE 1201064-001A, Batch R87484: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1201037-001AMS, Batch R87551B: The sodium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1201037-001AMSD, Batch R87551B: The sodium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87484

Sample ID: **IC_120104_LRB**	SampType: **LRB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **87484**
Client ID: **ZZZZZZ**	Batch ID: **R87484**	TestNo: **E300.0**		Analysis Date: **1/4/2012**	SeqNo: **2957774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: **IC_120104_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **87484**
Client ID: **ZZZZZZ**	Batch ID: **R87484**	TestNo: **E300.0**		Analysis Date: **1/4/2012**	SeqNo: **2957775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.1	1.00	30.00	0	100	90	110				
Fluoride	0.991	0.010	1.000	0	99.1	90	110				
Nitrogen, Nitrate (As N)	1.00	0.010	1.000	0	100	90	110				
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: **1201063-001KLFM**	SampType: **LFM**	TestCode: **300_48H_DW**	Units: **mg/L**	Prep Date:	RunNo: **87484**
Client ID: **ZZZZZZ**	Batch ID: **R87484**	TestNo: **E300.0**		Analysis Date: **1/4/2012**	SeqNo: **2957788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	186	5.00	100.0	84.30	101	80	120				
Fluoride	5.26	0.050	5.000	0.2100	101	80	120				
Sulfate	129	5.00	100.0	28.57	101	80	120				

Sample ID: **1201063-001KLFMD**	SampType: **LFMD**	TestCode: **300_48H_DW**	Units: **mg/L**	Prep Date:	RunNo: **87484**
Client ID: **ZZZZZZ**	Batch ID: **R87484**	TestNo: **E300.0**		Analysis Date: **1/4/2012**	SeqNo: **2957789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	186	5.00	100.0	84.30	102	0	2000	185.7	0.0996	20	
Fluoride	5.25	0.050	5.000	0.2100	101	0	2000	5.260	0.286	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87484

Sample ID: 1201063-001KLFMD	SampType: LFMD	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87484
Client ID: ZZZZZZ	Batch ID: R87484	TestNo: E300.0		Analysis Date: 1/4/2012	SeqNo: 2957789

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	130	5.00	100.0	28.57	101	0	2000	129.4	0.228	20	

Sample ID: IC_120104_LFB	SampType: LFB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87484
Client ID: ZZZZZZ	Batch ID: R87484	TestNo: E300.0		Analysis Date: 1/4/2012	SeqNo: 2957790

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.2	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	0.999	0.010	1.000	0	99.9	90	110				
Sulfate	30.1	1.00	30.00	0	100	90	110				

Sample ID: IC_120104_IPC	SampType: IPC	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87484
Client ID: ZZZZZZ	Batch ID: R87484	TestNo: E300.0		Analysis Date: 1/4/2012	SeqNo: 2957791

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.2	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	0.998	0.010	1.000	0	99.8	90	110				
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: IC_120104_LRB	SampType: LRB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87484
Client ID: ZZZZZZ	Batch ID: R87484	TestNo: E300.0		Analysis Date: 1/4/2012	SeqNo: 2957792

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87489

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87489
Client ID: PBW	Batch ID: R87489	TestNo: SM2540D		Analysis Date: 1/5/2012	SeqNo: 2957824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87489
Client ID: LCSW	Batch ID: R87489	TestNo: SM2540D		Analysis Date: 1/5/2012	SeqNo: 2957825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	20.0	100.0	0	90.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87489
Client ID: LCSS02	Batch ID: R87489	TestNo: SM2540D		Analysis Date: 1/5/2012	SeqNo: 2957826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	84.0	20.0	100.0	0	84.0	0	2000	90.00	6.90	20	

Sample ID: 1201045-001ADUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87489
Client ID: ZZZZZZ	Batch ID: R87489	TestNo: SM2540D		Analysis Date: 1/5/2012	SeqNo: 2957828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	3600	1000						3600	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517A

Sample ID: IC_120105_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_120105_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.1	1.00	30.00	0	100	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.2	1.00	30.00	0	101	90	110				

Sample ID: 1201093-001ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	36.6	1.00	20.00	16.47	100	80	120				
Fluoride	1.98	0.010	1.000	1.248	73.4	80	120				S

Sample ID: 1201093-001ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958593

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	36.6	1.00	20.00	16.47	100	0	2000	36.57	0.0492	20	
Fluoride	1.96	0.010	1.000	1.248	71.1	0	2000	1.982	1.18	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517A

Sample ID: IC_120105_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958594

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	0.994	0.010	1.000	0	99.4	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.5	1.00	30.00	0	102	90	110				

Sample ID: IC_120105_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	0.997	0.010	1.000	0	99.7	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	30.6	1.00	30.00	0	102	90	110				

Sample ID: IC_120105_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517A	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517B

Sample ID: **1201120-001ALFM** SampType: **LFM** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	118	5.00	100.0	18.92	99.2	80	120				
Fluoride	5.26	0.050	5.000	0.4710	95.8	80	120				
Nitrogen, Nitrate (As N)	8.33	0.050	5.000	3.638	93.9	80	120				
Sulfate	105	5.00	100.0	9.749	95.5	80	120				

Sample ID: **1201120-001ALFMD** SampType: **LFMD** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	118	5.00	100.0	18.92	99.3	0	2000	118.2	0.0605	20	
Fluoride	5.28	0.050	5.000	0.4710	96.1	0	2000	5.260	0.294	20	
Nitrogen, Nitrate (As N)	8.31	0.050	5.000	3.638	93.5	0	2000	8.334	0.276	20	
Sulfate	105	5.00	100.0	9.749	95.6	0	2000	105.3	0.0437	20	

Sample ID: **IC_120105_LFB** SampType: **LFB** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.1	1.00	30.00	0	100	90	110				
Fluoride	0.995	0.010	1.000	0	99.5	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: **IC_120105_IPC** SampType: **IPC** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.2	1.00	30.00	0	101	90	110				
Fluoride	0.996	0.010	1.000	0	99.6	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517B

Sample ID: IC_120105_IPC	SampType: IPC	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517B	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958610

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: IC_120105_LRB	SampType: LRB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87517
Client ID: ZZZZZZ	Batch ID: R87517B	TestNo: E300.0		Analysis Date: 1/5/2012	SeqNo: 2958611

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87539

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87539
Client ID: PBW	Batch ID: R87539	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87539
Client ID: LCSW	Batch ID: R87539	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958940

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	84.0	20.0	100.0	0	84.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87539
Client ID: LCSS02	Batch ID: R87539	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958941

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	92.0	20.0	100.0	0	92.0	0	2000	84.00	9.09	20	

Sample ID: 1201092-004ADUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87539
Client ID: ZZZZZZ	Batch ID: R87539	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	20.2	2.1						20.00	1.06	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87551B

Sample ID: LFB-29062	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 1/6/2012	RunNo: 87551
Client ID: ZZZZZZ	Batch ID: R87551B	TestNo: E200.7		Analysis Date: 1/9/2012	SeqNo: 2959373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.4	0.200	10.00	0	104	85	115				
Magnesium	9.63	0.200	10.00	0	96.3	85	115				
Potassium	10.9	0.200	10.00	0	109	85	115				
Sodium	11.4	0.600	10.00	0	114	85	115				

Sample ID: LFBD-29062	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 1/6/2012	RunNo: 87551
Client ID: ZZZZZZ	Batch ID: R87551B	TestNo: E200.7		Analysis Date: 1/9/2012	SeqNo: 2959374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.2	0.200	10.00	0	102	0	2000	10.35	1.60	20	
Magnesium	9.48	0.200	10.00	0	94.8	0	2000	9.631	1.54	20	
Potassium	10.8	0.200	10.00	0	108	0	2000	10.87	0.892	20	
Sodium	11.3	0.600	10.00	0	113	0	2000	11.45	1.20	20	

Sample ID: LRB-29062	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 1/6/2012	RunNo: 87551
Client ID: ZZZZZZ	Batch ID: R87551B	TestNo: E200.7		Analysis Date: 1/9/2012	SeqNo: 2959375

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1201037-001ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 1/6/2012	RunNo: 87551
Client ID: ZZZZZZ	Batch ID: R87551B	TestNo: E200.7		Analysis Date: 1/9/2012	SeqNo: 2959378

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	29.1	0.200	10.00	18.86	102	70	130				
Magnesium	32.8	0.200	10.00	23.43	93.3	70	130				
Potassium	17.3	0.200	10.00	6.815	105	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87551B

Sample ID: **1201037-001ALFMD**	SampType: **LFMD**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **1/6/2012**	RunNo: **87551**
Client ID: **ZZZZZZ**	Batch ID: **R87551B**	TestNo: **E200.7**		Analysis Date: **1/9/2012**	SeqNo: **2959379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	29.5	0.200	10.00	18.86	106	0	2000	29.05	1.38	20	
Magnesium	33.5	0.200	10.00	23.43	100	0	2000	32.76	2.08	20	
Potassium	17.5	0.200	10.00	6.815	107	0	2000	17.27	1.28	20	

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **87551**
Client ID: **CCB**	Batch ID: **R87551B**	TestNo: **E200.7**		Analysis Date: **1/9/2012**	SeqNo: **2959387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87597

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **PBW**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **PBW**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1201011-001BDUP**	SampType: **DUP**	TestCode: **ALK_DW**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **ZZZZZZ**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	188	2						186.4	0.748	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87606A

Sample ID: NH3_MBLK	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606A	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Sample ID: NH3_IPC	SampType: IPC	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606A	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.020	1.000	0	101	90	110				

Sample ID: NH3_QCS	SampType: ICV	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ICV	Batch ID: R87606A	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.020	1.000	0	101	90	110				

Sample ID: 1201092-004CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606A	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960591

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.07	0.020	1.000	0.1252	94.9	90	110				

Sample ID: NH3_LFB1	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606A	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.950	0.020	1.000	0	95.0	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201064
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87606A

Sample ID: **NH3_LRB1** SampType: **LRB** TestCode: **NH3-N** Units: **mg/L** Prep Date: RunNo: **87606**
Client ID: **ZZZZZZ** Batch ID: **R87606A** TestNo: **E350.1** Analysis Date: **1/11/2012** SeqNo: **2960594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 1/18/2012
Work Order No.: 1201064
COC No.: 110287
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin TX 78729 Sampled By: Kim Nguyen
(NAME ADDRESS CITY STATE ZIP)
Bill To: Travis County PO No.:
(NAME ADDRESS)
Phone No.: 4544797 Fax No.: 4548867 Method of Transport: Hand Deliver TAT Requested: Normal Working days E-mail: kevin.pasternak@us.com
Relinquished By: Date: 1/4/12 Time: 1630 Received By: Date: Time: Relinquished By: Date: Time:

Report Requirements
☐ Hardcopy ☑ E-mail ☐ Fax
☐ EDD (Generic)

Regulatory Requirements
☑ None ☐ NELAP
☐ _____

Received at ELS By: Date: Time: 1630
☐ Received on Ice Temp: 6.0 °C (CF)
Login Review: SR Date: 1-4-12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION Custody Seals (circle): Cooler Bottles None	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED - Place an "x" in the box below to indicate request. E350.1 Ammonia	E300.0/SM4500	E200.7 Ca, Mg, K, Na	SM2540D (TSS)					PRESERVATIVES	pH
001	CRCP-5852314-030	W	1/4/12	1115	4	Vary	Plast	1	1	1	1					HNO_3, H_2SO_4	✓
002	CRCP-WISIAN2-030	↓	↓	1250	↓	↓	↓	1	1	1	1					↓	
003	CRCP-WisianW1-030			1355				1	1	1	1						
004	CRCP-WisianW1-035			1410	3			1	1	1							
005	CRCP-5852213-030	↓	↓	1525	4	↓	↓	1	1	1	1					↓	
												ELECTRONIC COPY SENT					

Special Instructions: Nitrates may be high (>10mg/L) at CRCP-5852314-030 → adjust dilution factor for quantitation range
ELS Comments: _____

White - ELS Pink - Customer

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *January 20, 2012*

Invoice No: LB91391
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1201119 Order Name Colorado River Corridor - Grou Date Received 1/5/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	7	1	$24.00	$168.00
AMMONIA as N	Ammonia-N	Aqueous	7	1	$15.00	$105.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	7	1	$72.00	$504.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na	Aqueous	7	1	$15.00	$105.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	7	1	$48.00	$336.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	7	1	$12.00	$84.00

Subtotal: **$1,302.00**

Misc Charges: $0.00

INVOICE Total: **$1,302.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

January 20, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 110282
Order No.: 1201119

Dear Kevin Pasternak:

On 1/5/2012, LCRA Environmental Laboratory Services (ELS) received 7 sample(s) for analyses under Lab Order No. 1201119. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 21 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1201119

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1201119-001A	CRCP-221049-030		1/5/2012 8:30:00 AM	1/5/2012 1:40:00 PM
1201119-001B	CRCP-221049-030		1/5/2012 8:30:00 AM	1/5/2012 1:40:00 PM
1201119-001C	CRCP-221049-030		1/5/2012 8:30:00 AM	1/5/2012 1:40:00 PM
1201119-001D	CRCP-221049-030		1/5/2012 8:30:00 AM	1/5/2012 1:40:00 PM
1201119-002A	CRCP-ATF1-030		1/5/2012 9:50:00 AM	1/5/2012 1:40:00 PM
1201119-002B	CRCP-ATF1-030		1/5/2012 9:50:00 AM	1/5/2012 1:40:00 PM
1201119-002C	CRCP-ATF1-030		1/5/2012 9:50:00 AM	1/5/2012 1:40:00 PM
1201119-002D	CRCP-ATF1-030		1/5/2012 9:50:00 AM	1/5/2012 1:40:00 PM
1201119-003A	CRCP-NTNW2-030		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-003B	CRCP-NTNW2-030		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-003C	CRCP-NTNW2-030		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-003D	CRCP-NTNW2-030		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-004A	CRCP-NTNW2-031		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-004B	CRCP-NTNW2-031		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-004C	CRCP-NTNW2-031		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-004D	CRCP-NTNW2-031		1/5/2012 10:40:00 AM	1/5/2012 1:40:00 PM
1201119-005A	CRCP-Holweger-033		1/5/2012 11:45:00 AM	1/5/2012 1:40:00 PM
1201119-005B	CRCP-Holweger-033		1/5/2012 11:45:00 AM	1/5/2012 1:40:00 PM
1201119-005C	CRCP-Holweger-033		1/5/2012 11:45:00 AM	1/5/2012 1:40:00 PM
1201119-005D	CRCP-Holweger-033		1/5/2012 11:45:00 AM	1/5/2012 1:40:00 PM
1201119-006A	CRCP-Buchheit-030		1/5/2012 12:15:00 PM	1/5/2012 1:40:00 PM
1201119-006B	CRCP-Buchheit-030		1/5/2012 12:15:00 PM	1/5/2012 1:40:00 PM
1201119-006C	CRCP-Buchheit-030		1/5/2012 12:15:00 PM	1/5/2012 1:40:00 PM
1201119-006D	CRCP-Buchheit-030		1/5/2012 12:15:00 PM	1/5/2012 1:40:00 PM
1201119-007A	CRCP-58522-030		1/5/2012 12:50:00 PM	1/5/2012 1:40:00 PM
1201119-007B	CRCP-58522-030		1/5/2012 12:50:00 PM	1/5/2012 1:40:00 PM
1201119-007C	CRCP-58522-030		1/5/2012 12:50:00 PM	1/5/2012 1:40:00 PM
1201119-007D	CRCP-58522-030		1/5/2012 12:50:00 PM	1/5/2012 1:40:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-030
Lab Order:	1201119	**Collection Date:**	1/5/2012 8:30:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	104	0.200		mg/L	1	1/12/2012 1:11:16 PM
Magnesium	11.9	0.200		mg/L	1	1/12/2012 1:11:16 PM
Potassium	1.90	0.200		mg/L	1	1/12/2012 1:11:16 PM
Sodium	30.3	0.600		mg/L	1	1/12/2012 1:11:16 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	11.1	5.00		mg/L	5	1/5/2012 6:57:00 PM
Fluoride	0.265	0.050		mg/L	5	1/5/2012 6:57:00 PM
Nitrogen, Nitrate (As N)	13.1	0.050	X	mg/L	5	1/5/2012 6:57:00 PM
Sulfate	16.4	5.00		mg/L	5	1/5/2012 6:57:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	320	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	17.9	1.4		mg/L	1.4	1/9/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-030
Lab Order:	1201119	**Collection Date:**	1/5/2012 9:50:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	220	0.200		mg/L	1	1/12/2012 1:18:49 PM
Magnesium	47.3	0.200		mg/L	1	1/12/2012 1:18:49 PM
Potassium	4.01	0.200		mg/L	1	1/12/2012 1:18:49 PM
Sodium	53.2	0.600		mg/L	1	1/12/2012 1:18:49 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	81.3	5.00		mg/L	5	1/5/2012 7:14:00 PM
Fluoride	0.200	0.050		mg/L	5	1/5/2012 7:14:00 PM
Nitrogen, Nitrate (As N)	6.76	0.050		mg/L	5	1/5/2012 7:14:00 PM
Sulfate	171	5.00		mg/L	5	1/5/2012 7:14:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	544	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	1/9/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-030
Lab Order:	1201119	**Collection Date:**	1/5/2012 10:40:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	202	0.200		mg/L	1	1/12/2012 1:26:47 PM
Magnesium	61.4	0.200		mg/L	1	1/12/2012 1:26:47 PM
Potassium	2.32	0.200		mg/L	1	1/12/2012 1:26:47 PM
Sodium	47.3	0.600		mg/L	1	1/12/2012 1:26:47 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.4	5.00		mg/L	5	1/5/2012 7:31:00 PM
Fluoride	0.290	0.050		mg/L	5	1/5/2012 7:31:00 PM
Nitrogen, Nitrate (As N)	28.2	0.250	X	mg/L	25	1/6/2012 2:03:00 PM
Sulfate	322	5.00		mg/L	5	1/5/2012 7:31:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	367	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	1/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-031
Lab Order:	1201119	**Collection Date:**	1/5/2012 10:40:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	204	0.200		mg/L	1	1/12/2012 1:34:43 PM
Magnesium	62.5	0.200		mg/L	1	1/12/2012 1:34:43 PM
Potassium	2.35	0.200		mg/L	1	1/12/2012 1:34:43 PM
Sodium	46.7	0.600		mg/L	1	1/12/2012 1:34:43 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.9	5.00		mg/L	5	1/5/2012 7:47:00 PM
Fluoride	0.280	0.050		mg/L	5	1/5/2012 7:47:00 PM
Nitrogen, Nitrate (As N)	27.9	0.250	X	mg/L	25	1/6/2012 2:20:00 PM
Sulfate	326	5.00		mg/L	5	1/5/2012 7:47:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	358	2	A	mg/L CaCO3	1	1/10/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/10/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	1/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Holweger-033
Lab Order:	1201119	**Collection Date:**	1/5/2012 11:45:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	112	0.200		mg/L	1	1/12/2012 1:42:42 PM
Magnesium	16.8	0.200		mg/L	1	1/12/2012 1:42:42 PM
Potassium	2.00	0.200		mg/L	1	1/12/2012 1:42:42 PM
Sodium	40.2	0.600		mg/L	1	1/12/2012 1:42:42 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	20.6	5.00		mg/L	5	1/5/2012 8:04:00 PM
Fluoride	0.296	0.050		mg/L	5	1/5/2012 8:04:00 PM
Nitrogen, Nitrate (As N)	17.8	0.250	X	mg/L	25	1/6/2012 2:36:00 PM
Sulfate	27.0	5.00		mg/L	5	1/5/2012 8:04:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	311	2	A	mg/L CaCO3	1	1/13/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/13/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	1/10/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Buchheit-030
Lab Order:	1201119	**Collection Date:**	1/5/2012 12:15:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	128	0.200		mg/L	1	1/12/2012 1:50:29 PM
Magnesium	12.8	0.200		mg/L	1	1/12/2012 1:50:29 PM
Potassium	2.54	0.200		mg/L	1	1/12/2012 1:50:29 PM
Sodium	57.4	0.600		mg/L	1	1/12/2012 1:50:29 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	31.8	5.00		mg/L	5	1/5/2012 8:21:00 PM
Fluoride	0.389	0.050		mg/L	5	1/5/2012 8:21:00 PM
Nitrogen, Nitrate (As N)	4.26	0.050		mg/L	5	1/5/2012 8:21:00 PM
Sulfate	80.3	5.00		mg/L	5	1/5/2012 8:21:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	363	2	A	mg/L CaCO3	1	1/13/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/13/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	1/10/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *20-Jan-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-030
Lab Order:	1201119	**Collection Date:**	1/5/2012 12:50:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1201119-007	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	124	0.200		mg/L	1	1/12/2012 1:58:15 PM
Magnesium	36.9	0.200		mg/L	1	1/12/2012 1:58:15 PM
Potassium	2.23	0.200		mg/L	1	1/12/2012 1:58:15 PM
Sodium	71.1	0.600		mg/L	1	1/12/2012 1:58:15 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	88.2	5.00		mg/L	5	1/5/2012 8:38:00 PM
Fluoride	0.277	0.050		mg/L	5	1/5/2012 8:38:00 PM
Nitrogen, Nitrate (As N)	3.73	0.050		mg/L	5	1/5/2012 8:38:00 PM
Sulfate	81.3	5.00		mg/L	5	1/5/2012 8:38:00 PM
ALKALINITY		**SM2320 B**				Analyst: **WR**
Alkalinity, Bicarbonate (As CaCO3)	378	2	A	mg/L CaCO3	1	1/13/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	1/13/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	1/11/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	1/10/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

CASE NARRATIVE

Analytical Comments for METHOD E300.0, SAMPLE 1201119-001A, Batch R87517B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1201119-003A, Batch R87545A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1201119-004A, Batch R87545A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1201119-005A, Batch R87545A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1201077-002ALFM, Batch R87644B: The sodium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1201077-002ALFMD, Batch R87644B: The sodium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517B

Sample ID: **1201120-001ALFM** SampType: **LFM** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	118	5.00	100.0	18.92	99.2	80	120				
Fluoride	5.26	0.050	5.000	0.4710	95.8	80	120				
Nitrogen, Nitrate (As N)	8.33	0.050	5.000	3.638	93.9	80	120				
Sulfate	105	5.00	100.0	9.749	95.5	80	120				

Sample ID: **1201120-001ALFMD** SampType: **LFMD** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	118	5.00	100.0	18.92	99.3	0	2000	118.2	0.0605	20	
Fluoride	5.28	0.050	5.000	0.4710	96.1	0	2000	5.260	0.294	20	
Nitrogen, Nitrate (As N)	8.31	0.050	5.000	3.638	93.5	0	2000	8.334	0.276	20	
Sulfate	105	5.00	100.0	9.749	95.6	0	2000	105.3	0.0437	20	

Sample ID: **IC_120105_LFB** SampType: **LFB** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.1	1.00	30.00	0	100	90	110				
Fluoride	0.995	0.010	1.000	0	99.5	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: **IC_120105_IPC** SampType: **IPC** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.2	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87517B

Sample ID: **IC_120105_IPC** SampType: **IPC** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.996	0.010	1.000	0	99.6	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	30.0	1.00	30.00	0	100	90	110				

Sample ID: **IC_120105_LRB** SampType: **LRB** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87517**
Client ID: **ZZZZZZ** Batch ID: **R87517B** TestNo: **E300.0** Analysis Date: **1/5/2012** SeqNo: **2958611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87541

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87541
Client ID: PBW	Batch ID: R87541	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958953

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87541
Client ID: LCSW	Batch ID: R87541	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958954

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	94.0	20.0	100.0	0	94.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87541
Client ID: LCSS02	Batch ID: R87541	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958955

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	20.0	100.0	0	90.0	0	2000	94.00	4.35	20	

Sample ID: 1201112-002BDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87541
Client ID: ZZZZZZ	Batch ID: R87541	TestNo: SM2540D		Analysis Date: 1/9/2012	SeqNo: 2958958

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	234	20.0						238.0	1.69	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87545A

Sample ID: IC_120106_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87545
Client ID: ZZZZZZ	Batch ID: R87545A	TestNo: E300.0		Analysis Date: 1/6/2012	SeqNo: 2959260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_120106_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 87545
Client ID: ZZZZZZ	Batch ID: R87545A	TestNo: E300.0		Analysis Date: 1/6/2012	SeqNo: 2959261

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.1	1.00	30.00	0	100	90	110				
Fluoride	0.992	0.010	1.000	0	99.2	90	110				
Nitrogen, Nitrate (As N)	0.995	0.010	1.000	0	99.5	90	110				
Sulfate	30.0	1.00	30.00	0	99.9	90	110				

Sample ID: 1201135-002ALFM	SampType: LFM	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87545
Client ID: ZZZZZZ	Batch ID: R87545A	TestNo: E300.0		Analysis Date: 1/6/2012	SeqNo: 2959274

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	117	5.00	100.0	14.82	102	80	120				
Fluoride	5.17	0.050	5.000	0.2350	98.7	80	120				
Nitrogen, Nitrate (As N)	6.72	0.050	5.000	1.810	98.3	80	120				
Sulfate	125	5.00	100.0	24.46	100	80	120				

Sample ID: 1201135-002ALFMD	SampType: LFMD	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 87545
Client ID: ZZZZZZ	Batch ID: R87545A	TestNo: E300.0		Analysis Date: 1/6/2012	SeqNo: 2959275

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	117	5.00	100.0	14.82	103	0	2000	117.0	0.286	20	
Fluoride	5.17	0.050	5.000	0.2350	98.7	0	2000	5.170	0	20	
Nitrogen, Nitrate (As N)	6.74	0.050	5.000	1.810	98.5	0	2000	6.725	0.149	20	

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87545A

Sample ID: **1201135-002ALFMD** SampType: **LFMD** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87545**
Client ID: **ZZZZZZ** Batch ID: **R87545A** TestNo: **E300.0** Analysis Date: **1/6/2012** SeqNo: **2959275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	125	5.00	100.0	24.46	100	0	2000	124.9	0.0240	20	

Sample ID: **IC_120106_LFB** SampType: **LFB** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87545**
Client ID: **ZZZZZZ** Batch ID: **R87545A** TestNo: **E300.0** Analysis Date: **1/6/2012** SeqNo: **2959276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.00	0.010	1.000	0	100	90	110				
Sulfate	30.2	1.00	30.00	0	101	90	110				

Sample ID: **IC_120106_IPC** SampType: **IPC** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87545**
Client ID: **ZZZZZZ** Batch ID: **R87545A** TestNo: **E300.0** Analysis Date: **1/6/2012** SeqNo: **2959277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.00	0.010	1.000	0	100	90	110				
Nitrogen, Nitrate (As N)	1.00	0.010	1.000	0	100	90	110				
Sulfate	30.2	1.00	30.00	0	101	90	110				

Sample ID: **IC_120106_LRB** SampType: **LRB** TestCode: **300_48H_DW** Units: **mg/L** Prep Date: RunNo: **87545**
Client ID: **ZZZZZZ** Batch ID: **R87545A** TestNo: **E300.0** Analysis Date: **1/6/2012** SeqNo: **2959278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87556

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87556
Client ID: PBW	Batch ID: R87556	TestNo: SM2540D		Analysis Date: 1/10/2012	SeqNo: 2959428

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87556
Client ID: LCSW	Batch ID: R87556	TestNo: SM2540D		Analysis Date: 1/10/2012	SeqNo: 2959429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	108	20.0	100.0	0	108	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87556
Client ID: LCSS02	Batch ID: R87556	TestNo: SM2540D		Analysis Date: 1/10/2012	SeqNo: 2959430

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	108	20.0	100.0	0	108	0	2000	108.0	0	20	

Sample ID: 1201119-005DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 87556
Client ID: CRCP-Holweger-033	Batch ID: R87556	TestNo: SM2540D		Analysis Date: 1/10/2012	SeqNo: 2959454

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.1	1.1						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87597

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **PBW**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **PBW**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1201011-001BDUP**	SampType: **DUP**	TestCode: **ALK_DW**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87597**
Client ID: **ZZZZZZ**	Batch ID: **R87597**	TestNo: **SM2320 B**		Analysis Date: **1/10/2012**	SeqNo: **2960461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	188	2						186.4	0.748	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87606B

Sample ID: 1201119-007CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: CRCP-58522-030	Batch ID: R87606B	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.922	0.020	1.000	0	92.2	90	110				

Sample ID: NH3_LFB2	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606B	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.947	0.020	1.000	0	94.7	90	110				

Sample ID: NH3_LRB2	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 87606
Client ID: ZZZZZZ	Batch ID: R87606B	TestNo: E350.1		Analysis Date: 1/11/2012	SeqNo: 2960608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87644B

Sample ID: LFB-29072	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 1/9/2012	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961322

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.6	0.200	10.00	0	106	85	115				
Magnesium	9.70	0.200	10.00	0	97.0	85	115				
Potassium	10.2	0.200	10.00	0	102	85	115				
Sodium	10.4	0.600	10.00	0	104	85	115				

Sample ID: LFBD-29072	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 1/9/2012	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961323

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.5	0.200	10.00	0	105	0	2000	10.65	1.39	20	
Magnesium	9.62	0.200	10.00	0	96.2	0	2000	9.698	0.771	20	
Potassium	10.2	0.200	10.00	0	102	0	2000	10.25	0.536	20	
Sodium	10.3	0.600	10.00	0	103	0	2000	10.42	0.907	20	

Sample ID: LRB-29072	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 1/9/2012	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1201077-002ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 1/9/2012	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961327

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.4	0.200	10.00	2.673	107	70	130				
Magnesium	10.5	0.200	10.00	0.4345	101	70	130				
Potassium	11.6	0.200	10.00	0.9241	107	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87644B

Sample ID: 1201077-002ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 1/9/2012	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961328

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.1	0.200	10.00	2.673	104	0	2000	13.37	2.44	20	
Magnesium	10.2	0.200	10.00	0.4345	98.1	0	2000	10.52	2.67	20	
Potassium	11.3	0.200	10.00	0.9241	104	0	2000	11.60	2.51	20	

Sample ID: CCB3	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 87644
Client ID: CCB	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961338

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	0.270	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC3	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 87644
Client ID: ZZZZZZ	Batch ID: R87644B	TestNo: E200.7		Analysis Date: 1/12/2012	SeqNo: 2961339

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103	0.200	100.0	0	103	90	110				
Magnesium	104	0.200	100.0	0	104	90	110				
Potassium	102	0.200	100.0	0	102	90	110				
Sodium	96.8	0.600	100.0	0	96.8	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1201119
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R87742

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87742**
Client ID: **PBW**	Batch ID: **R87742**	TestNo: **SM2320 B**		Analysis Date: **1/13/2012**	SeqNo: **2964803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1201119-005ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87742**
Client ID: **CRCP-Holweger-033**	Batch ID: **R87742**	TestNo: **SM2320 B**		Analysis Date: **1/13/2012**	SeqNo: **2964807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	311	2						310.9	0.0965	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **87742**
Client ID: **PBW**	Batch ID: **R87742**	TestNo: **SM2320 B**		Analysis Date: **1/13/2012**	SeqNo: **2964829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 1/19/12
Work Order No.: 120119
COC No.: 11282
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin TX 78729 (NAME, ADDRESS, CITY, STATE, ZIP) Sampled By: Kim Nguyen

Bill To: Travis County (NAME, ADDRESS, CITY, STATE, ZIP) PO No.:

Phone No.: 454 4797 Fax No.: 454 8807 Method of Transport: Hand Deliver TAT Requested: Normal Working days E-mail: kevin.pasternak@cwis.cc

Relinquished By: [signature] Date: 1/5/12 Time: ~~1400~~ 1340 (EW) Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☐ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)

Regulatory Requirements: ☑ None ☐ NELAP ☐ _____

Received at ELS By: [signature] Date: 1/5/12 Time: 1340
☐ Received on Ice Temp: 5.6 °C (4)
Login Review: [signature] Date: 1/6/12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles None)	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1 (Ammonia)	E300.0 SM3260	E200.7 (Ca Mg K Na) SM2340B (Hess)						PRESERVATIVES	pH
001 **	CRCP-221049-030	W	1/5/12	830	4	Vary	Plast	1	1	1	1					HNO_3, H_2SO_4	
002	CRCP-ATF1-030	↓	↓	950	↓	↓	↓	1	1	1	1					↓	
003 **	CRCP-NTNW2-030			1040				1	1	1	1						
004 **	CRCP-NTNW2-031			1040				1	1	1	1						
005 **	CRCP-Holweger-033			1145	5			1	1	1	2						
006	CRCP-Buchheit-030			1215	4			1	1	1	1						
007	CRCP-58522-030	↓	↓	1250	4	↓	↓	1	1	1	1					↓	

Special Instructions: ** Nitrates may be high (>10 mg/L) → adjust dilution factor for quantification range; MS/MSD on CRCP-Holweger-033
ELS Comments: cooler 19

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *February 22, 2012*

Invoice No: LB92060
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022

Work Order: 1202430 Order Name Colorado River Corridor - Grou Date Received 2/15/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	7	1	$24.00	$168.00
AMMONIA as N	Ammonia-N	Aqueous	7	1	$15.00	$105.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	7	1	$72.00	$504.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	7	1	$15.00	$105.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	7	1	$48.00	$336.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	6	1	$12.00	$72.00

Subtotal: $1,290.00

Misc Charges: $0.00

INVOICE Total: $1,290.00

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

February 22, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 111295
Order No.: 1202430

Dear Kevin Pasternak:

On 2/15/2012, LCRA Environmental Laboratory Services (ELS) received 7 sample(s) for analyses under Lab Order No. 1202430. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 19 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1202430

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1202430-001A	CRCP-ATF1-040		2/15/2012 9:20:00 AM	2/15/2012 3:15:00 PM
1202430-001B	CRCP-ATF1-040		2/15/2012 9:20:00 AM	2/15/2012 3:15:00 PM
1202430-001C	CRCP-ATF1-040		2/15/2012 9:20:00 AM	2/15/2012 3:15:00 PM
1202430-001D	CRCP-ATF1-040		2/15/2012 9:20:00 AM	2/15/2012 3:15:00 PM
1202430-002A	CRCP-5852213-040		2/15/2012 10:20:00 AM	2/15/2012 3:15:00 PM
1202430-002B	CRCP-5852213-040		2/15/2012 10:20:00 AM	2/15/2012 3:15:00 PM
1202430-002C	CRCP-5852213-040		2/15/2012 10:20:00 AM	2/15/2012 3:15:00 PM
1202430-002D	CRCP-5852213-040		2/15/2012 10:20:00 AM	2/15/2012 3:15:00 PM
1202430-003A	CRCP-WisianW1-040		2/15/2012 11:20:00 AM	2/15/2012 3:15:00 PM
1202430-003B	CRCP-WisianW1-040		2/15/2012 11:20:00 AM	2/15/2012 3:15:00 PM
1202430-003C	CRCP-WisianW1-040		2/15/2012 11:20:00 AM	2/15/2012 3:15:00 PM
1202430-003D	CRCP-WisianW1-040		2/15/2012 11:20:00 AM	2/15/2012 3:15:00 PM
1202430-004A	CRCP-WisianW1-045		2/15/2012 11:35:00 AM	2/15/2012 3:15:00 PM
1202430-004B	CRCP-WisianW1-045		2/15/2012 11:35:00 AM	2/15/2012 3:15:00 PM
1202430-004C	CRCP-WisianW1-045		2/15/2012 11:35:00 AM	2/15/2012 3:15:00 PM
1202430-005A	CRCP-WisianW2-040		2/15/2012 12:15:00 PM	2/15/2012 3:15:00 PM
1202430-005B	CRCP-WisianW2-040		2/15/2012 12:15:00 PM	2/15/2012 3:15:00 PM
1202430-005C	CRCP-WisianW2-040		2/15/2012 12:15:00 PM	2/15/2012 3:15:00 PM
1202430-005D	CRCP-WisianW2-040		2/15/2012 12:15:00 PM	2/15/2012 3:15:00 PM
1202430-006A	CRCP-58522-040		2/15/2012 1:50:00 PM	2/15/2012 3:15:00 PM
1202430-006B	CRCP-58522-040		2/15/2012 1:50:00 PM	2/15/2012 3:15:00 PM
1202430-006C	CRCP-58522-040		2/15/2012 1:50:00 PM	2/15/2012 3:15:00 PM
1202430-006D	CRCP-58522-040		2/15/2012 1:50:00 PM	2/15/2012 3:15:00 PM
1202430-007A	CRCP-221049-040		2/15/2012 2:45:00 PM	2/15/2012 3:15:00 PM
1202430-007B	CRCP-221049-040		2/15/2012 2:45:00 PM	2/15/2012 3:15:00 PM
1202430-007C	CRCP-221049-040		2/15/2012 2:45:00 PM	2/15/2012 3:15:00 PM
1202430-007D	CRCP-221049-040		2/15/2012 2:45:00 PM	2/15/2012 3:15:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 9:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	210	0.200		mg/L	1	2/17/2012 12:30:53 PM
Magnesium	46.0	0.200		mg/L	1	2/17/2012 12:30:53 PM
Potassium	4.42	0.200		mg/L	1	2/17/2012 12:30:53 PM
Sodium	54.1	0.600		mg/L	1	2/17/2012 12:30:53 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	83.0	10.0		mg/L	10	2/16/2012 3:26:00 AM
Fluoride	0.224	0.010		mg/L	1	2/16/2012 1:29:00 AM
Nitrogen, Nitrate (As N)	6.68	0.100		mg/L	10	2/16/2012 3:26:00 AM
Sulfate	184	10.0		mg/L	10	2/16/2012 3:26:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	515	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	2/17/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 10:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	129	0.200		mg/L	1	2/17/2012 12:38:54 PM
Magnesium	20.1	0.200		mg/L	1	2/17/2012 12:38:54 PM
Potassium	6.01	0.200		mg/L	1	2/17/2012 12:38:54 PM
Sodium	25.5	0.600		mg/L	1	2/17/2012 12:38:54 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	15.6	1.00		mg/L	1	2/16/2012 1:45:00 AM
Fluoride	0.239	0.010		mg/L	1	2/16/2012 1:45:00 AM
Nitrogen, Nitrate (As N)	< 0.010	0.010		mg/L	1	2/16/2012 1:45:00 AM
Sulfate	34.1	1.00		mg/L	1	2/16/2012 1:45:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	527	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	1.52	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	73.7	3.3		mg/L	3.3	2/17/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 11:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	90.2	0.200		mg/L	1	2/17/2012 12:46:39 PM
Magnesium	10.8	0.200		mg/L	1	2/17/2012 12:46:39 PM
Potassium	2.89	0.200		mg/L	1	2/17/2012 12:46:39 PM
Sodium	63.1	0.600		mg/L	1	2/17/2012 12:46:39 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	19.2	1.00		mg/L	1	2/16/2012 2:02:00 AM
Fluoride	0.240	0.010		mg/L	1	2/16/2012 2:02:00 AM
Nitrogen, Nitrate (As N)	8.87	0.100		mg/L	10	2/16/2012 4:00:00 AM
Sulfate	27.5	1.00		mg/L	1	2/16/2012 2:02:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	327	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.4	1.0		mg/L	1	2/17/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-045
Lab Order:	1202430	**Collection Date:**	2/15/2012 11:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	0.346	0.200		mg/L	1	2/17/2012 1:10:38 PM
Magnesium	< 0.200	0.200		mg/L	1	2/17/2012 1:10:38 PM
Potassium	< 0.200	0.200		mg/L	1	2/17/2012 1:10:38 PM
Sodium	< 0.600	0.600		mg/L	1	2/17/2012 1:10:38 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	< 1.00	1.00		mg/L	1	2/16/2012 2:19:00 AM
Fluoride	0.059	0.010		mg/L	1	2/16/2012 2:19:00 AM
Nitrogen, Nitrate (As N)	0.025	0.010		mg/L	1	2/16/2012 2:19:00 AM
Sulfate	< 1.00	1.00		mg/L	1	2/16/2012 2:19:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	3	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW2-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 12:15:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	83.9	0.200		mg/L	1	2/17/2012 1:16:07 PM
Magnesium	10.2	0.200		mg/L	1	2/17/2012 1:16:07 PM
Potassium	2.46	0.200		mg/L	1	2/17/2012 1:16:07 PM
Sodium	115	0.600		mg/L	1	2/17/2012 1:16:07 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	14.2	1.00		mg/L	1	2/16/2012 2:36:00 AM
Fluoride	0.142	0.010		mg/L	1	2/16/2012 2:36:00 AM
Nitrogen, Nitrate (As N)	12.5	0.100	X	mg/L	10	2/16/2012 11:50:00 AM
Sulfate	36.2	1.00		mg/L	1	2/16/2012 2:36:00 AM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	400	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS			**SM2540D**			Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.8	1.0		mg/L	1	2/17/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 1:50:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	111	0.200		mg/L	1	2/17/2012 1:24:06 PM
Magnesium	32.1	0.200		mg/L	1	2/17/2012 1:24:06 PM
Potassium	1.98	0.200		mg/L	1	2/17/2012 1:24:06 PM
Sodium	73.8	0.600		mg/L	1	2/17/2012 1:24:06 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	99.6	5.00		mg/L	5	2/16/2012 12:06:00 PM
Fluoride	0.253	0.010		mg/L	1	2/16/2012 2:53:00 AM
Nitrogen, Nitrate (As N)	3.36	0.050		mg/L	5	2/16/2012 12:06:00 PM
Sulfate	81.2	5.00		mg/L	5	2/16/2012 12:06:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	259	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.9	1.0		mg/L	1	2/17/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *22-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-040
Lab Order:	1202430	**Collection Date:**	2/15/2012 2:45:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202430-007	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	92.7	0.200		mg/L	1	2/17/2012 1:31:55 PM
Magnesium	10.9	0.200		mg/L	1	2/17/2012 1:31:55 PM
Potassium	1.80	0.200		mg/L	1	2/17/2012 1:31:55 PM
Sodium	30.0	0.600		mg/L	1	2/17/2012 1:31:55 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	14.2	1.00		mg/L	1	2/16/2012 3:10:00 AM
Fluoride	0.264	0.010		mg/L	1	2/16/2012 3:10:00 AM
Nitrogen, Nitrate (As N)	13.6	0.100	X	mg/L	10	2/16/2012 12:23:00 PM
Sulfate	18.5	1.00		mg/L	1	2/16/2012 3:10:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	290	2	A	mg/L CaCO3	1	2/17/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/17/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/16/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	7.1	1.0		mg/L	1	2/17/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E200.7, SAMPLE 1202430-003BLFM, Batch R88601B: The calcium and sodiumd LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1202430-003BLFMD, Batch R88601B: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E300.0, SAMPLE 1202430-005A, Batch R88582A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1202430-007A, Batch R88582A: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88554D

Sample ID: **1202430-007ALFM**	SampType: **LFM**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88554**
Client ID: **CRCP-221049-040**	Batch ID: **R88554D**	TestNo: **E300.0**		Analysis Date: **2/16/2012**	SeqNo: **2993152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.2	1.00	20.00	14.22	105	80	120				
Fluoride	1.29	0.010	1.000	0.2640	102	80	120				
Sulfate	39.6	1.00	20.00	18.53	105	80	120				

Sample ID: **1202430-007ALFMD**	SampType: **LFMD**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88554**
Client ID: **CRCP-221049-040**	Batch ID: **R88554D**	TestNo: **E300.0**		Analysis Date: **2/16/2012**	SeqNo: **2993153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.2	1.00	20.00	14.22	105	0	2000	35.23	0.0204	20	
Fluoride	1.29	0.010	1.000	0.2640	102	0	2000	1.285	0	20	
Sulfate	39.6	1.00	20.00	18.53	105	0	2000	39.60	0.0470	20	

Sample ID: **IC_120215_LFB**	SampType: **LFB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88554**
Client ID: **ZZZZZZ**	Batch ID: **R88554D**	TestNo: **E300.0**		Analysis Date: **2/16/2012**	SeqNo: **2993154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.5	1.00	30.00	0	105	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	31.4	1.00	30.00	0	105	90	110				

Sample ID: **IC_120215_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88554**
Client ID: **ZZZZZZ**	Batch ID: **R88554D**	TestNo: **E300.0**		Analysis Date: **2/16/2012**	SeqNo: **2993155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.4	1.00	30.00	0	105	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88554D

Sample ID: IC_120215_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 88554
Client ID: ZZZZZZ	Batch ID: R88554D	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2993155

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	31.4	1.00	30.00	0	105	90	110				

Sample ID: IC_120215_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 88554
Client ID: ZZZZZZ	Batch ID: R88554D	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2993156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88579

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88579
Client ID: PBW	Batch ID: R88579	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88579
Client ID: LCSW	Batch ID: R88579	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	20.0	100.0	0	90.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88579
Client ID: LCSS02	Batch ID: R88579	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994296

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	20.0	100.0	0	90.0	0	2000	90.00	0	20	

Sample ID: 1202423-006ADUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88579
Client ID: ZZZZZZ	Batch ID: R88579	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994302

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	11400	1000						11300	0.881	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88580

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88580
Client ID: PBW	Batch ID: R88580	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994308

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88580
Client ID: LCSW	Batch ID: R88580	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994309

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	92.0	20.0	100.0	0	92.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88580
Client ID: LCSS02	Batch ID: R88580	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994310

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	84.0	20.0	100.0	0	84.0	0	2000	92.00	9.09	20	

Sample ID: 1202473-002BDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88580
Client ID: ZZZZZZ	Batch ID: R88580	TestNo: SM2540D		Analysis Date: 2/17/2012	SeqNo: 2994321

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	270	50.0						286.0	5.76	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88582A

Sample ID: IC_120216_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Sample ID: IC_120216_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994440

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.5	1.00	30.00	0	105	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	31.5	1.00	30.00	0	105	90	110				

Sample ID: 1202451-001ALFM	SampType: LFM	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	241	5.00	100.0	140.5	100	80	120				
Fluoride	5.46	0.050	5.000	0.3150	103	80	120				
Sulfate	196	5.00	100.0	86.22	110	80	120				

Sample ID: 1202451-001ALFMD	SampType: LFMD	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994454

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	241	5.00	100.0	140.5	100	0	2000	240.6	0.0769	20	
Fluoride	5.47	0.050	5.000	0.3150	103	0	2000	5.455	0.275	20	
Sulfate	196	5.00	100.0	86.22	110	0	2000	195.8	0.00511	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88582A

Sample ID: IC_120216_LFB	SampType: LFB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.8	1.00	30.00	0	106	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	31.7	1.00	30.00	0	106	90	110				

Sample ID: IC_120216_IPC	SampType: IPC	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994456

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.8	1.00	30.00	0	106	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	31.6	1.00	30.00	0	105	90	110				

Sample ID: IC_120216_LRB	SampType: LRB	TestCode: 300_48H_DW	Units: mg/L	Prep Date:	RunNo: 88582
Client ID: ZZZZZZ	Batch ID: R88582A	TestNo: E300.0		Analysis Date: 2/16/2012	SeqNo: 2994457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88597M

Sample ID: 1202431-002CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88597
Client ID: ZZZZZZ	Batch ID: R88597M	TestNo: E350.1		Analysis Date: 2/16/2012	SeqNo: 2995149

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.39	0.020	1.000	0.4374	95.4	90	110				

Sample ID: NH3_LFB13	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88597
Client ID: ZZZZZZ	Batch ID: R88597M	TestNo: E350.1		Analysis Date: 2/16/2012	SeqNo: 2995150

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.971	0.020	1.000	0	97.1	90	110				

Sample ID: NH3_LRB13	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88597
Client ID: ZZZZZZ	Batch ID: R88597M	TestNo: E350.1		Analysis Date: 2/16/2012	SeqNo: 2995152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88601B

Sample ID: 1202430-003BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 2/16/2012	RunNo: 88601
Client ID: CRCP-WisianW1-04	Batch ID: R88601B	TestNo: E200.7		Analysis Date: 2/17/2012	SeqNo: 2995313

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	20.2	0.200	10.00	10.78	94.1	70	130				
Potassium	13.3	0.200	10.00	2.886	105	70	130				

Sample ID: 1202430-003BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 2/16/2012	RunNo: 88601
Client ID: CRCP-WisianW1-04	Batch ID: R88601B	TestNo: E200.7		Analysis Date: 2/17/2012	SeqNo: 2995314

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	20.0	0.200	10.00	10.78	92.7	0	2000	20.19	0.696	20	
Potassium	13.1	0.200	10.00	2.886	103	0	2000	13.34	1.43	20	

Sample ID: CCB3	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 88601
Client ID: CCB	Batch ID: R88601B	TestNo: E200.7		Analysis Date: 2/17/2012	SeqNo: 2995319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC3	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 88601
Client ID: ZZZZZZ	Batch ID: R88601B	TestNo: E200.7		Analysis Date: 2/17/2012	SeqNo: 2995320

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	95.4	0.200	100.0	0	95.4	90	110				
Magnesium	97.0	0.200	100.0	0	97.0	90	110				
Potassium	98.7	0.200	100.0	0	98.7	90	110				
Sodium	97.5	0.600	100.0	0	97.5	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202430
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88619

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88619**
Client ID: **PBW**	Batch ID: **R88619**	TestNo: **SM2320 B**		Analysis Date: **2/17/2012**	SeqNo: **2996012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88619**
Client ID: **PBW**	Batch ID: **R88619**	TestNo: **SM2320 B**		Analysis Date: **2/17/2012**	SeqNo: **2996038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1202256-002ADUP**	SampType: **DUP**	TestCode: **ALK_DW**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88619**
Client ID: **ZZZZZZ**	Batch ID: **R88619**	TestNo: **SM2320 B**		Analysis Date: **2/17/2012**	SeqNo: **2996016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2						0	0	0	A
Alkalinity, Carbonate (As CaCO3)	65	2						66.70	2.03	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 2/29/12
Work Order No.: 1808430
COC No.: 111295
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin, TX 78729 (NAME, ADDRESS, CITY, STATE, ZIP) — Sampled By: K.Nguyen, A.Potts

Bill To: Travis County - Colorado River Corridor Plan — PO No.:

Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand Delivered TAT Requested: Normal Working days E-mail: kevin.pasternak@cus.co

Relinquished By: [signature] Date: 2/15/12 Time: 1515 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☑ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)

Regulatory Requirements: ☑ None ☐ NELAP ☐ _____

Received at ELS By: [signature] Date: 2/15/12 Time: 1515
☑ Received on Ice Temp: 6.0°C (CF 0.2)
Login Review: [signature] Date: 2/16/12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0	E200.7	SM2540D	PRESERVATIVES	pH
001	CRCP-ATF1-040	W	2/15/12	0920	4	Var 4	Plastic	X	X	X	X	HNO_3 H_2SO_4	
002	CRCP-5852213-040	↓	↓	1020	↓	↓	↓	↓	↓	↓	↓	↓	
003	CRCP-WislanW1-040			1120				↓	↓	↓	↓		
004	CRCP-WislanW1-045			1135	3			X	X	X			
005	CRCP-WislanW2-040			1215	4			X	X	X	X		
006	CRCP-58522-040			1350	↓	↓	↓	↓	↓	↓	↓		
007	CRCP-221049-040	↓	↓	1445	↓	↓	↓	↓	↓	↓	↓	↓	

Special Instructions: _____
ELS Comments: Cooler 113

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *February 27, 2012*

Invoice No: LB92199
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1202474 Order Name Colorado River Corridor - Grou Date Received 2/16/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	5	1	$24.00	$120.00
AMMONIA as N	Ammonia-N	Aqueous	5	1	$15.00	$75.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	5	1	$72.00	$360.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	5	1	$15.00	$75.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	5	1	$48.00	$240.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	5	1	$12.00	$60.00

Subtotal: **$930.00**

Misc Charges: $0.00

INVOICE Total: **$930.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

February 27, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 111339
Order No.: 1202474

Dear Kevin Pasternak:

On 2/16/2012, LCRA Environmental Laboratory Services (ELS) received 5 sample(s) for analyses under Lab Order No. 1202474. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 17 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

Certificate: T104704218-11-5

ACCREDITED IN ACCORDANCE WITH nelac

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1202474

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1202474-001A	CRCP-Buchheit-40		2/16/2012 8:50:00 AM	2/16/2012 12:20:00 PM
1202474-001B	CRCP-Buchheit-40		2/16/2012 8:50:00 AM	2/16/2012 12:20:00 PM
1202474-001C	CRCP-Buchheit-40		2/16/2012 8:50:00 AM	2/16/2012 12:20:00 PM
1202474-001D	CRCP-Buchheit-40		2/16/2012 8:50:00 AM	2/16/2012 12:20:00 PM
1202474-002A	CRCP-Holweger-043		2/16/2012 9:35:00 AM	2/16/2012 12:20:00 PM
1202474-002B	CRCP-Holweger-043		2/16/2012 9:35:00 AM	2/16/2012 12:20:00 PM
1202474-002C	CRCP-Holweger-043		2/16/2012 9:35:00 AM	2/16/2012 12:20:00 PM
1202474-002D	CRCP-Holweger-043		2/16/2012 9:35:00 AM	2/16/2012 12:20:00 PM
1202474-003A	CRCP-5852314-040		2/16/2012 10:20:00 AM	2/16/2012 12:20:00 PM
1202474-003B	CRCP-5852314-040		2/16/2012 10:20:00 AM	2/16/2012 12:20:00 PM
1202474-003C	CRCP-5852314-040		2/16/2012 10:20:00 AM	2/16/2012 12:20:00 PM
1202474-003D	CRCP-5852314-040		2/16/2012 10:20:00 AM	2/16/2012 12:20:00 PM
1202474-004A	CRCP-NTNW2-040		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-004B	CRCP-NTNW2-040		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-004C	CRCP-NTNW2-040		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-004D	CRCP-NTNW2-040		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-005A	CRCP-NTNW2-041		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-005B	CRCP-NTNW2-041		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-005C	CRCP-NTNW2-041		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM
1202474-005D	CRCP-NTNW2-041		2/16/2012 11:45:00 AM	2/16/2012 12:20:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Buchheit-40
Lab Order:	1202474	**Collection Date:**	2/16/2012 8:50:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202474-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	120	0.200		mg/L	1	2/20/2012 11:38:14 AM
Magnesium	11.4	0.200		mg/L	1	2/20/2012 11:38:14 AM
Potassium	2.39	0.200		mg/L	1	2/20/2012 11:38:14 AM
Sodium	61.5	0.600		mg/L	1	2/20/2012 11:38:14 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.6	1.00		mg/L	1	2/16/2012 11:53:00 PM
Fluoride	0.381	0.010		mg/L	1	2/16/2012 11:53:00 PM
Nitrogen, Nitrate (As N)	4.02	0.050		mg/L	5	2/17/2012 1:51:00 AM
Sulfate	84.3	5.00		mg/L	5	2/17/2012 1:51:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	312	2	A	mg/L CaCO3	1	2/23/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/23/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/23/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	2/21/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Holweger-043
Lab Order:	1202474	**Collection Date:**	2/16/2012 9:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202474-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	105	0.200		mg/L	1	2/20/2012 11:46:01 AM
Magnesium	15.5	0.200		mg/L	1	2/20/2012 11:46:01 AM
Potassium	1.99	0.200		mg/L	1	2/20/2012 11:46:01 AM
Sodium	44.0	0.600		mg/L	1	2/20/2012 11:46:01 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	17.7	1.00		mg/L	1	2/17/2012 12:10:00 AM
Fluoride	0.296	0.010		mg/L	1	2/17/2012 12:10:00 AM
Nitrogen, Nitrate (As N)	16.5	0.250	X	mg/L	25	2/17/2012 6:59:00 PM
Sulfate	26.1	1.00		mg/L	1	2/17/2012 12:10:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	289	2	A	mg/L CaCO3	1	2/23/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/23/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/23/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	2/21/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-040
Lab Order:	1202474	**Collection Date:**	2/16/2012 10:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202474-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	134	0.200		mg/L	1	2/20/2012 12:10:17 PM
Magnesium	38.9	0.200		mg/L	1	2/20/2012 12:10:17 PM
Potassium	2.12	0.200		mg/L	1	2/20/2012 12:10:17 PM
Sodium	94.5	0.600		mg/L	1	2/20/2012 12:10:17 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	63.8	1.00		mg/L	1	2/17/2012 12:26:00 AM
Fluoride	0.259	0.010		mg/L	1	2/17/2012 12:26:00 AM
Nitrogen, Nitrate (As N)	11.0	0.050	X	mg/L	5	2/17/2012 2:24:00 AM
Sulfate	207	5.00		mg/L	5	2/17/2012 2:24:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	349	2	A	mg/L CaCO3	1	2/23/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/23/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/23/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.1	1.0		mg/L	1	2/21/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-040
Lab Order:	1202474	**Collection Date:**	2/16/2012 11:45:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202474-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	202	0.200		mg/L	1	2/20/2012 12:18:20 PM
Magnesium	63.8	0.200		mg/L	1	2/20/2012 12:18:20 PM
Potassium	2.42	0.200		mg/L	1	2/20/2012 12:18:20 PM
Sodium	52.6	0.600		mg/L	1	2/20/2012 12:18:20 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	44.9	1.00		mg/L	1	2/17/2012 12:43:00 AM
Fluoride	0.348	0.010		mg/L	1	2/17/2012 12:43:00 AM
Nitrogen, Nitrate (As N)	34.7	0.250	X	mg/L	25	2/17/2012 7:15:00 PM
Sulfate	364	5.00		mg/L	5	2/16/2012 9:38:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	337	2	A	mg/L CaCO3	1	2/23/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/23/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	0.027	0.020		mg/L	1	2/23/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	2/21/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *27-Feb-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-041
Lab Order:	1202474	**Collection Date:**	2/16/2012 11:45:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1202474-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	196	0.200		mg/L	1	2/20/2012 12:26:25 PM
Magnesium	63.5	0.200		mg/L	1	2/20/2012 12:26:25 PM
Potassium	2.43	0.200		mg/L	1	2/20/2012 12:26:25 PM
Sodium	55.4	0.600		mg/L	1	2/20/2012 12:26:25 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	44.9	1.00		mg/L	1	2/17/2012 1:00:00 AM
Fluoride	0.346	0.010		mg/L	1	2/17/2012 1:00:00 AM
Nitrogen, Nitrate (As N)	30.4	0.250	X	mg/L	25	2/17/2012 7:32:00 PM
Sulfate	365	5.00		mg/L	5	2/16/2012 9:55:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	342	2	A	mg/L CaCO3	1	2/23/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	2/23/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	2/23/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	2/21/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1202474-002A, Batch R88624B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1202474-003A, Batch R88582: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1202474-004A, Batch R88624B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1202474-005A, Batch R88624B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1202474-002BLFM, Batch R88637A: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1202474-002BLFMD, Batch R88637A: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88582

Sample ID: **1202474-005ALFM**	SampType: **LFM**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88582**
Client ID: **CRCP-NTNW2-041**	Batch ID: **R88582**	TestNo: **E300.0**		Analysis Date: **2/17/2012**	SeqNo: **2994498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.3	1.00	20.00	40.02	117	80	120				
Fluoride	1.34	0.010	1.000	0.3200	102	80	120				

Sample ID: **1202474-005ALFMD**	SampType: **LFMD**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88582**
Client ID: **CRCP-NTNW2-041**	Batch ID: **R88582**	TestNo: **E300.0**		Analysis Date: **2/17/2012**	SeqNo: **2994499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.3	1.00	20.00	40.02	116	0	2000	63.32	0.0284	20	
Fluoride	1.34	0.010	1.000	0.3200	102	0	2000	1.337	0.373	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88624B

Sample ID: **1202474-002ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **88624**
Client ID: **CRCP-Holweger-043** Batch ID: **R88624B** TestNo: **E300.0** Analysis Date: **2/17/2012** SeqNo: **2996130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	534	25.0	500.0	12.93	104	80	120				
Fluoride	26.4	0.250	25.00	0	106	80	120				
Nitrogen, Nitrate (As N)	42.1	0.250	25.00	16.54	102	80	120				
Sulfate	544	25.0	500.0	22.98	104	80	120				

Sample ID: **1202474-002ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **88624**
Client ID: **CRCP-Holweger-043** Batch ID: **R88624B** TestNo: **E300.0** Analysis Date: **2/17/2012** SeqNo: **2996131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	534	25.0	500.0	12.93	104	0	2000	534.1	0.0131	20	
Fluoride	26.4	0.250	25.00	0	106	0	2000	26.44	0.0946	20	
Nitrogen, Nitrate (As N)	42.1	0.250	25.00	16.54	102	0	2000	42.06	0.0178	20	
Sulfate	544	25.0	500.0	22.98	104	0	2000	543.6	0.0464	20	

Sample ID: **IC_120217_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **88624**
Client ID: **ZZZZZZ** Batch ID: **R88624B** TestNo: **E300.0** Analysis Date: **2/17/2012** SeqNo: **2996132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	31.1	1.00	30.00	0	104	90	110				

Sample ID: **IC_120217_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **88624**
Client ID: **ZZZZZZ** Batch ID: **R88624B** TestNo: **E300.0** Analysis Date: **2/17/2012** SeqNo: **2996133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	1.03	0.010	1.000	0	103	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88624B

Sample ID: **IC_120217_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88624**
Client ID: **ZZZZZZ**	Batch ID: **R88624B**	TestNo: **E300.0**		Analysis Date: **2/17/2012**	SeqNo: **2996133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	31.1	1.00	30.00	0	104	90	110				

Sample ID: **IC_120217_LRB**	SampType: **LRB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **88624**
Client ID: **ZZZZZZ**	Batch ID: **R88624B**	TestNo: **E300.0**		Analysis Date: **2/17/2012**	SeqNo: **2996134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88637A

Sample ID: LFB-29387	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 2/17/2012	RunNo: 88637
Client ID: ZZZZZZ	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996545

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.95	0.200	10.00	0	99.5	85	115				
Magnesium	9.20	0.200	10.00	0	92.0	85	115				
Potassium	9.77	0.200	10.00	0	97.7	85	115				
Sodium	10.4	0.600	10.00	0	104	85	115				

Sample ID: LFBD-29387	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 2/17/2012	RunNo: 88637
Client ID: ZZZZZZ	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.0	0.200	10.00	0	100	0	2000	9.952	0.646	20	
Magnesium	9.32	0.200	10.00	0	93.2	0	2000	9.205	1.22	20	
Potassium	9.91	0.200	10.00	0	99.1	0	2000	9.771	1.43	20	
Sodium	10.6	0.600	10.00	0	106	0	2000	10.37	1.94	20	

Sample ID: LRB-29387	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 2/17/2012	RunNo: 88637
Client ID: ZZZZZZ	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996547

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1202474-002BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 2/17/2012	RunNo: 88637
Client ID: CRCP-Holweger-043	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996552

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.8	0.200	10.00	15.48	93.6	70	130				
Potassium	12.6	0.200	10.00	1.995	106	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88637A

Sample ID: 1202474-002BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 2/17/2012	RunNo: 88637
Client ID: CRCP-Holweger-043	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996553

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	25.0	0.200	10.00	15.48	94.8	0	2000	24.84	0.481	20	
Potassium	12.7	0.200	10.00	1.995	107	0	2000	12.63	0.766	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 88637
Client ID: CCB	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996558

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 88637
Client ID: ZZZZZZ	Batch ID: R88637A	TestNo: E200.7		Analysis Date: 2/20/2012	SeqNo: 2996559

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	96.5	0.200	100.0	0	96.5	90	110				
Magnesium	96.2	0.200	100.0	0	96.2	90	110				
Potassium	106	0.200	100.0	0	106	90	110				
Sodium	109	0.600	100.0	0	109	90	110				

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88648

Sample ID: MBLK	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88648
Client ID: PBW	Batch ID: R88648	TestNo: SM2540D		Analysis Date: 2/21/2012	SeqNo: 2996796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: LCS	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88648
Client ID: LCSW	Batch ID: R88648	TestNo: SM2540D		Analysis Date: 2/21/2012	SeqNo: 2996797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	98.0	20.0	100.0	0	98.0	80	120				

Sample ID: LCSD	SampType: LCSD	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88648
Client ID: LCSS02	Batch ID: R88648	TestNo: SM2540D		Analysis Date: 2/21/2012	SeqNo: 2996798

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	100	20.0	100.0	0	100	0	2000	98.00	2.02	20	

Sample ID: 1202474-002DDUP	SampType: DUP	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 88648
Client ID: CRCP-Holweger-043	Batch ID: R88648	TestNo: SM2540D		Analysis Date: 2/21/2012	SeqNo: 2996810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88791

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88791**
Client ID: **PBW**	Batch ID: **R88791**	TestNo: **SM2320 B**		Analysis Date: **2/23/2012**	SeqNo: **3000736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88791**
Client ID: **PBW**	Batch ID: **R88791**	TestNo: **SM2320 B**		Analysis Date: **2/23/2012**	SeqNo: **3000737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1202474-002ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **88791**
Client ID: **CRCP-Holweger-043**	Batch ID: **R88791**	TestNo: **SM2320 B**		Analysis Date: **2/23/2012**	SeqNo: **3000741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	295	2						289.1	1.99	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88810A

Sample ID: NH3_MBLK	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88810
Client ID: ZZZZZZ	Batch ID: R88810A	TestNo: E350.1		Analysis Date: 2/23/2012	SeqNo: 3001261

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Sample ID: NH3_IPC	SampType: IPC	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88810
Client ID: ZZZZZZ	Batch ID: R88810A	TestNo: E350.1		Analysis Date: 2/23/2012	SeqNo: 3001262

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.04	0.020	1.000	0	104	90	110				

Sample ID: NH3_QCS	SampType: ICV	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88810
Client ID: ICV	Batch ID: R88810A	TestNo: E350.1		Analysis Date: 2/23/2012	SeqNo: 3001263

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.020	1.000	0	103	90	110				

Sample ID: 1202474-002CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88810
Client ID: CRCP-Holweger-043	Batch ID: R88810A	TestNo: E350.1		Analysis Date: 2/23/2012	SeqNo: 3001275

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.999	0.020	1.000	0	99.9	90	110				

Sample ID: NH3_LFB1	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 88810
Client ID: ZZZZZZ	Batch ID: R88810A	TestNo: E350.1		Analysis Date: 2/23/2012	SeqNo: 3001276

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.975	0.020	1.000	0	97.5	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1202474
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R88810A

Sample ID: **NH3_LRB1**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:					RunNo: **88810**		
Client ID: **ZZZZZZ**	Batch ID: **R88810A**	TestNo: **E350.1**		Analysis Date: **2/23/2012**					SeqNo: **3001278**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
the Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 3/1/12
Work Order No.: 1802474
COC No.: 111339
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin, TX 78729 Sampled By: K.Nguyen, A. Potts
(NAME ADDRESS CITY STATE ZIP)

Bill To: Travis County - Colorado River Corridor Plan PO No.:
(NAME ADDRESS CITY STATE ZIP)

Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand Delivery TAT Requested: Standard Working days E-mail: kevin.pasternak@cwa.c

Relinquished By: [signature] Date: 2/16/12 Time: 1220 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements
☐ Hardcopy ☑ E-mail ☐ Fax
☐ EDD (Generic)

Regulatory Requirements
☑ None ☐ NELAP
☐ _____

Received at ELS By: [signature] Date: 2/16/12 Time: 1220
☒ Received on Ice Temp: 5.1 °C TY
Login Review: [signature] Date: 2/16/12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED - E350.1	E300.0 / SM4500B	E200.7	SM2540D	PRESERVATIVES	pH
001	CRCP-Buchheit-040	W	2/14/12	0850	4	Vary	Plast	X	X	X	X	HNO_3 H_2SO_4	
002	CRCP-Holweger-043	↓	↓	0935	5	↓	↓	X	X	X	X	↓	
003	CRCP-5852314-040	↓	↓	1020	4	↓	↓	X	X	X	X	↓	
004	CRCP-NTNW2-040	↓	↓	1145	4	↓	↓	X	X	X	X	↓	
005	CRCP-NTNW2-041	↓	↓	1145	4	↓	↓	X	X	X	X	↓	

Special Instructions: MS/MSD on CRCP-Holweger-043.
ELS Comments: _____

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *April 06, 2012*

Invoice No: LB93337
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1203826 Order Name Colorado River Corridor - Grou Date Received 3/26/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	6	1	$24.00	$144.00
AMMONIA as N	Ammonia-N	Aqueous	6	1	$15.00	$90.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	6	1	$72.00	$432.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	6	1	$15.00	$90.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	6	1	$48.00	$288.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	5	1	$12.00	$60.00

Subtotal: $1,104.00

Misc Charges: $0.00

INVOICE Total: $1,104.00

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

April 06, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 112471
Order No.: 1203826

Dear Kevin Pasternak:

On 3/26/2012, LCRA Environmental Laboratory Services (ELS) received 6 sample(s) for analyses under Lab Order No. 1203826. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 19 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

NELAP ACCREDITED TNI LABORATORY

T104704218-12-6

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1203826

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1203826-001A	CRCP-WisianW1-050		3/26/2012 10:20:00 AM	3/26/2012 3:43:00 PM
1203826-001B	CRCP-WisianW1-050		3/26/2012 10:20:00 AM	3/26/2012 3:43:00 PM
1203826-001C	CRCP-WisianW1-050		3/26/2012 10:20:00 AM	3/26/2012 3:43:00 PM
1203826-001D	CRCP-WisianW1-050		3/26/2012 10:20:00 AM	3/26/2012 3:43:00 PM
1203826-002A	CRCP-WisianW2-050		3/26/2012 9:35:00 AM	3/26/2012 3:43:00 PM
1203826-002B	CRCP-WisianW2-050		3/26/2012 9:35:00 AM	3/26/2012 3:43:00 PM
1203826-002C	CRCP-WisianW2-050		3/26/2012 9:35:00 AM	3/26/2012 3:43:00 PM
1203826-002D	CRCP-WisianW2-050		3/26/2012 9:35:00 AM	3/26/2012 3:43:00 PM
1203826-003A	CRCP-5852213-050		3/26/2012 12:10:00 PM	3/26/2012 3:43:00 PM
1203826-003B	CRCP-5852213-050		3/26/2012 12:10:00 PM	3/26/2012 3:43:00 PM
1203826-003C	CRCP-5852213-050		3/26/2012 12:10:00 PM	3/26/2012 3:43:00 PM
1203826-003D	CRCP-5852213-050		3/26/2012 12:10:00 PM	3/26/2012 3:43:00 PM
1203826-004A	CRCP-WisianW1-055		3/26/2012 10:35:00 AM	3/26/2012 3:43:00 PM
1203826-004B	CRCP-WisianW1-055		3/26/2012 10:35:00 AM	3/26/2012 3:43:00 PM
1203826-004C	CRCP-WisianW1-055		3/26/2012 10:35:00 AM	3/26/2012 3:43:00 PM
1203826-005A	CRCP-5852314-050		3/26/2012 1:50:00 PM	3/26/2012 3:43:00 PM
1203826-005B	CRCP-5852314-050		3/26/2012 1:50:00 PM	3/26/2012 3:43:00 PM
1203826-005C	CRCP-5852314-050		3/26/2012 1:50:00 PM	3/26/2012 3:43:00 PM
1203826-005D	CRCP-5852314-050		3/26/2012 1:50:00 PM	3/26/2012 3:43:00 PM
1203826-006A	CRCP-Buchheit-050		3/26/2012 3:20:00 PM	3/26/2012 3:43:00 PM
1203826-006B	CRCP-Buchheit-050		3/26/2012 3:20:00 PM	3/26/2012 3:43:00 PM
1203826-006C	CRCP-Buchheit-050		3/26/2012 3:20:00 PM	3/26/2012 3:43:00 PM
1203826-006D	CRCP-Buchheit-050		3/26/2012 3:20:00 PM	3/26/2012 3:43:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-050
Lab Order:	1203826	**Collection Date:**	3/26/2012 10:20:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	89.5	0.200		mg/L	1	4/4/2012 11:32:45 AM
Magnesium	10.1	0.200		mg/L	1	4/4/2012 11:32:45 AM
Potassium	3.04	0.200		mg/L	1	4/4/2012 11:32:45 AM
Sodium	54.0	0.600		mg/L	1	4/4/2012 11:32:45 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	12.7	10.0		mg/L	10	3/27/2012 9:56:00 PM
Fluoride	0.410	0.100		mg/L	10	3/27/2012 9:56:00 PM
Nitrogen, Nitrate (As N)	8.03	0.100		mg/L	10	3/27/2012 9:56:00 PM
Sulfate	21.2	10.0		mg/L	10	3/27/2012 9:56:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	300	2	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW2-050
Lab Order:	1203826	**Collection Date:**	3/26/2012 9:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	90.7	0.200		mg/L	1	4/4/2012 11:40:28 AM
Magnesium	10.8	0.200		mg/L	1	4/4/2012 11:40:28 AM
Potassium	2.47	0.200		mg/L	1	4/4/2012 11:40:28 AM
Sodium	118	0.600		mg/L	1	4/4/2012 11:40:28 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	10.6	10.0		mg/L	10	3/27/2012 11:37:00 PM
Fluoride	0.110	0.100		mg/L	10	3/27/2012 11:37:00 PM
Nitrogen, Nitrate (As N)	11.3	0.100	X	mg/L	10	3/27/2012 11:37:00 PM
Sulfate	27.9	10.0		mg/L	10	3/27/2012 11:37:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	418	2	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-050
Lab Order:	1203826	**Collection Date:**	3/26/2012 12:10:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	150	0.200		mg/L	1	4/4/2012 11:48:29 AM
Magnesium	23.2	0.200		mg/L	1	4/4/2012 11:48:29 AM
Potassium	4.41	0.200		mg/L	1	4/4/2012 11:48:29 AM
Sodium	25.5	0.600		mg/L	1	4/4/2012 11:48:29 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	15.2	10.0		mg/L	10	3/27/2012 11:53:00 PM
Fluoride	0.230	0.100		mg/L	10	3/27/2012 11:53:00 PM
Nitrogen, Nitrate (As N)	< 0.100	0.100		mg/L	10	3/27/2012 11:53:00 PM
Sulfate	37.4	10.0		mg/L	10	3/27/2012 11:53:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	425	2	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	0.909	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	5.9	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-055
Lab Order:	1203826	**Collection Date:**	3/26/2012 10:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	0.241	0.200		mg/L	1	4/4/2012 11:56:13 AM
Magnesium	< 0.200	0.200		mg/L	1	4/4/2012 11:56:13 AM
Potassium	< 0.200	0.200		mg/L	1	4/4/2012 11:56:13 AM
Sodium	< 0.600	0.600		mg/L	1	4/4/2012 11:56:13 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	< 10.0	10.0		mg/L	10	3/28/2012 12:10:00 AM
Fluoride	< 0.100	0.100		mg/L	10	3/28/2012 12:10:00 AM
Nitrogen, Nitrate (As N)	< 0.100	0.100		mg/L	10	3/28/2012 12:10:00 AM
Sulfate	< 10.0	10.0		mg/L	10	3/28/2012 12:10:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	< 20	20	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 20	20	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-050
Lab Order:	1203826	**Collection Date:**	3/26/2012 1:50:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	139	0.200		mg/L	1	4/4/2012 12:01:43 PM
Magnesium	40.7	0.200		mg/L	1	4/4/2012 12:01:43 PM
Potassium	1.98	0.200		mg/L	1	4/4/2012 12:01:43 PM
Sodium	85.8	0.600		mg/L	1	4/4/2012 12:01:43 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	53.3	10.0		mg/L	10	3/28/2012 12:27:00 AM
Fluoride	0.170	0.100		mg/L	10	3/28/2012 12:27:00 AM
Nitrogen, Nitrate (As N)	10.7	0.100	X	mg/L	10	3/28/2012 12:27:00 AM
Sulfate	192	10.0		mg/L	10	3/28/2012 12:27:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	368	2	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.3	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *06-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Buchheit-050
Lab Order:	1203826	**Collection Date:**	3/26/2012 3:20:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203826-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	132	0.200		mg/L	1	4/4/2012 12:10:08 PM
Magnesium	12.3	0.200		mg/L	1	4/4/2012 12:10:08 PM
Potassium	2.40	0.200		mg/L	1	4/4/2012 12:10:08 PM
Sodium	56.4	0.600		mg/L	1	4/4/2012 12:10:08 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.3	10.0		mg/L	10	3/28/2012 12:44:00 AM
Fluoride	0.280	0.100		mg/L	10	3/28/2012 12:44:00 AM
Nitrogen, Nitrate (As N)	3.73	0.100		mg/L	10	3/28/2012 12:44:00 AM
Sulfate	77.2	10.0		mg/L	10	3/28/2012 12:44:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	327	2	A	mg/L CaCO3	1	4/2/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	4/2/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1203826-002A, Batch R89485C: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1203826-005A, Batch R89485C: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1203826-006BLFM, Batch R89718A: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1203826-006BLFMD, Batch R89718A: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89484

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **PBW**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **LCSW**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	100	20.0	100.0	0	100	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **LCSS02**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	96.0	20.0	100.0	0	96.0	0	2000	100.0	4.08	20	

Sample ID: **1203827-001KDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **ZZZZZZ**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	21.0	5.0						21.75	3.51	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485B

Sample ID: **1203826-001ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **CRCP-WisianW1-05** Batch ID: **R89485B** TestNo: **E300.0** Analysis Date: **3/27/2012** SeqNo: **3021734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	12.68	99.7	80	120				
Fluoride	10.3	0.100	10.00	0.4100	99.3	80	120				
Nitrogen, Nitrate (As N)	18.0	0.100	10.00	8.030	99.3	80	120				
Sulfate	217	10.0	200.0	21.20	97.8	80	120				

Sample ID: **1203826-001ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **CRCP-WisianW1-05** Batch ID: **R89485B** TestNo: **E300.0** Analysis Date: **3/27/2012** SeqNo: **3021735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	12.68	99.6	0	2000	212.0	0.0991	20	
Fluoride	10.3	0.100	10.00	0.4100	99.2	0	2000	10.34	0.0968	20	
Nitrogen, Nitrate (As N)	18.0	0.100	10.00	8.030	99.2	0	2000	17.96	0.0557	20	
Sulfate	217	10.0	200.0	21.20	97.7	0	2000	216.8	0.120	20	

Sample ID: **IC_120327_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485B** TestNo: **E300.0** Analysis Date: **3/27/2012** SeqNo: **3021736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	29.7	1.00	30.00	0	98.9	90	110				

Sample ID: **IC_120327_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485B** TestNo: **E300.0** Analysis Date: **3/27/2012** SeqNo: **3021737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.02	0.010	1.000	0	102	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485B

Sample ID: **IC_120327_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **89485**
Client ID: **ZZZZZZ**	Batch ID: **R89485B**	TestNo: **E300.0**		Analysis Date: **3/27/2012**	SeqNo: **3021737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	29.6	1.00	30.00	0	98.8	90	110				

Sample ID: **IC_120327_LRB**	SampType: **LRB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **89485**
Client ID: **ZZZZZZ**	Batch ID: **R89485B**	TestNo: **E300.0**		Analysis Date: **3/27/2012**	SeqNo: **3021738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485C

Sample ID: **1203848-004ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	11.76	99.5	80	120				
Fluoride	10.4	0.100	10.00	0.4300	99.4	80	120				
Nitrogen, Nitrate (As N)	25.0	0.100	10.00	15.22	97.3	80	120				
Sulfate	221	10.0	200.0	23.82	98.5	80	120				

Sample ID: **1203848-004ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	11.76	99.5	0	2000	210.7	0.0522	20	
Fluoride	10.4	0.100	10.00	0.4300	99.4	0	2000	10.37	0	20	
Nitrogen, Nitrate (As N)	24.9	0.100	10.00	15.22	97.1	0	2000	24.95	0.0802	20	
Sulfate	221	10.0	200.0	23.82	98.5	0	2000	220.8	0.0272	20	

Sample ID: **IC_120327_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	29.7	1.00	30.00	0	98.8	90	110				

Sample ID: **IC_120327_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485C

Sample ID: IC_120327_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89485
Client ID: ZZZZZZ	Batch ID: R89485C	TestNo: E300.0		Analysis Date: 3/28/2012	SeqNo: 3021752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	29.7	1.00	30.00	0	98.9	90	110				

Sample ID: IC_120327_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89485
Client ID: ZZZZZZ	Batch ID: R89485C	TestNo: E300.0		Analysis Date: 3/28/2012	SeqNo: 3021753

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89578B

Sample ID: 1203826-002CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: CRCP-WisianW2-05	Batch ID: R89578B	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.020	1.000	0	101	90	110				

Sample ID: NH3_LFB2	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578B	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024735

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.963	0.020	1.000	0	96.3	90	110				

Sample ID: NH3_LRB2	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578B	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024737

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89578C

Sample ID: 1203848-005CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024748

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.05	0.020	1.000	0	105	90	110				

Sample ID: NH3_LFB3	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.020	1.000	0	97.6	90	110				

Sample ID: NH3_LRB3	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89649

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89649**
Client ID: **PBW**	Batch ID: **R89649**	TestNo: **SM2320 B**		Analysis Date: **4/2/2012**	SeqNo: **3027371**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1203826-001ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89649**
Client ID: **CRCP-WisianW1-05**	Batch ID: **R89649**	TestNo: **SM2320 B**		Analysis Date: **4/2/2012**	SeqNo: **3027375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	302	2						299.6	0.963	0	A
Alkalinity, Carbonate (As CaCO3)	< 2	2						0	0	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89649**
Client ID: **PBW**	Batch ID: **R89649**	TestNo: **SM2320 B**		Analysis Date: **4/2/2012**	SeqNo: **3027397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89718A

Sample ID: LFB-29684	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 4/3/2012	RunNo: 89718
Client ID: ZZZZZZ	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028690

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.3	0.200	10.00	0	103	85	115				
Magnesium	9.73	0.200	10.00	0	97.3	85	115				
Potassium	9.95	0.200	10.00	0	99.5	85	115				
Sodium	10.2	0.600	10.00	0	102	85	115				

Sample ID: LFBD-29684	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 4/3/2012	RunNo: 89718
Client ID: ZZZZZZ	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028691

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.3	0.200	10.00	0	103	0	2000	10.29	0.0999	20	
Magnesium	9.71	0.200	10.00	0	97.1	0	2000	9.726	0.119	20	
Potassium	9.97	0.200	10.00	0	99.7	0	2000	9.946	0.206	20	
Sodium	10.4	0.600	10.00	0	104	0	2000	10.23	1.51	20	

Sample ID: LRB-29684	SampType: LRB	TestCode: 200.7	Units: mg/L	Prep Date: 4/3/2012	RunNo: 89718
Client ID: ZZZZZZ	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028692

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: 1203826-006BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 4/3/2012	RunNo: 89718
Client ID: CRCP-Buchheit-050	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028699

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	21.9	0.200	10.00	12.31	95.6	70	130				
Potassium	12.5	0.200	10.00	2.397	101	70	130				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203826
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89718A

Sample ID: 1203826-006BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 4/3/2012	RunNo: 89718
Client ID: CRCP-Buchheit-050	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028700

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	22.9	0.200	10.00	12.31	105	0	2000	21.87	4.41	20	
Potassium	12.8	0.200	10.00	2.397	105	0	2000	12.49	2.87	20	

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 89718
Client ID: CCB	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028705

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 89718
Client ID: ZZZZZZ	Batch ID: R89718A	TestNo: E200.7		Analysis Date: 4/4/2012	SeqNo: 3028706

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103	0.200	100.0	0	103	90	110				
Magnesium	99.2	0.200	100.0	0	99.2	90	110				
Potassium	97.5	0.200	100.0	0	97.5	90	110				
Sodium	99.8	0.600	100.0	0	99.8	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 4/9/12
Work Order No.: 1203826
COC No.: 11247
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin TX 78729 Sampled By: K Nguyen, A. Potts
(NAME, ADDRESS, CITY, STATE, ZIP)

Bill To: Travis County CRCP PO No.:
(NAME, ADDRESS)

Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand Delivery TAT Requested: Normal Working days E-mail: kevin.pasternak@cwa.com

Relinquished By: [signature] Date: 3/26/12 Time: 1543 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements
☐ Hardcopy ☑ E-mail ☐ Fax
☐ EDD (Generic)

Regulatory Requirements
☑ None ☐ NELAP
☐ _____

Received at ELS By: [signature] Date: 3/26 Time: 1543
☒ Received on Ice Temp: 1.5 °C t4
Login Review: _____ Date: _____

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0/SM2320B	E200.7	SM2540D	PRESERVATIVES	pH
001	CRCP-WisianW1-050	W	3/24/12	1020	4	VAR	Plast	X	X	X	X	HNO_3/H_2SO_4	
002	CRCP-WisianW2-050	"	"	0935	"	"	"	"	"	"	"	"	
003	CRCP-SB52213-050	"	"	1210	"	"	"				"		
004	CRCP-WisianW1-055	"	"	1035	3	"	"						
005	CRCP-SB52314-050	"	"	1350	4	"	"				X		
006	CRCP-Buchheit-050	"	"	1520	"	"	"	"	"	"	"	"	

Special Instructions: E350.1 - Ammonia; E300.0/SM2320B - Cl, F, SO_4, NO_3, carb, bicarb; E200.7 - Ca, Mg, K, Na; SM2540D - TSS
ELS Comments: cooler #13

White - ELS Pink - Customer

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *April 03, 2012*

Invoice No: LB93215
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022

Work Order: 1203848 Order Name Colorado River Corridor - Grou Date Received 3/27/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	6	1	$24.00	$144.00
AMMONIA as N	Ammonia-N	Aqueous	6	1	$15.00	$90.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	6	1	$72.00	$432.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	6	1	$15.00	$90.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	6	1	$48.00	$288.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	6	1	$12.00	$72.00

Subtotal: **$1,116.00**

Misc Charges: $0.00

INVOICE Total: **$1,116.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

April 03, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 112493
Order No.: 1203848

Dear Kevin Pasternak:

On 3/27/2012, LCRA Environmental Laboratory Services (ELS) received 6 sample(s) for analyses under Lab Order No. 1203848. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 21 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

NELAP ACCREDITED TNI LABORATORY

T104704218-12-6

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1203848

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1203848-001A	CRCP-ATF1-050		3/27/2012 9:40:00 AM	3/27/2012 2:00:00 PM
1203848-001B	CRCP-ATF1-050		3/27/2012 9:40:00 AM	3/27/2012 2:00:00 PM
1203848-001C	CRCP-ATF1-050		3/27/2012 9:40:00 AM	3/27/2012 2:00:00 PM
1203848-001D	CRCP-ATF1-050		3/27/2012 9:40:00 AM	3/27/2012 2:00:00 PM
1203848-002A	CRCP-NTNW2-050		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-002B	CRCP-NTNW2-050		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-002C	CRCP-NTNW2-050		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-002D	CRCP-NTNW2-050		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-003A	CRCP-NTNW2-051		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-003B	CRCP-NTNW2-051		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-003C	CRCP-NTNW2-051		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-003D	CRCP-NTNW2-051		3/27/2012 10:25:00 AM	3/27/2012 2:00:00 PM
1203848-004A	CRCP-HOLWEGER-053		3/27/2012 11:15:00 AM	3/27/2012 2:00:00 PM
1203848-004B	CRCP-HOLWEGER-053		3/27/2012 11:15:00 AM	3/27/2012 2:00:00 PM
1203848-004C	CRCP-HOLWEGER-053		3/27/2012 11:15:00 AM	3/27/2012 2:00:00 PM
1203848-004D	CRCP-HOLWEGER-053		3/27/2012 11:15:00 AM	3/27/2012 2:00:00 PM
1203848-005A	CRCP-58522-050		3/27/2012 12:55:00 PM	3/27/2012 2:00:00 PM
1203848-005B	CRCP-58522-050		3/27/2012 12:55:00 PM	3/27/2012 2:00:00 PM
1203848-005C	CRCP-58522-050		3/27/2012 12:55:00 PM	3/27/2012 2:00:00 PM
1203848-005D	CRCP-58522-050		3/27/2012 12:55:00 PM	3/27/2012 2:00:00 PM
1203848-006A	CRCP-221049-050		3/27/2012 1:30:00 PM	3/27/2012 2:00:00 PM
1203848-006B	CRCP-221049-050		3/27/2012 1:30:00 PM	3/27/2012 2:00:00 PM
1203848-006C	CRCP-221049-050		3/27/2012 1:30:00 PM	3/27/2012 2:00:00 PM
1203848-006D	CRCP-221049-050		3/27/2012 1:30:00 PM	3/27/2012 2:00:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-050
Lab Order:	1203848	**Collection Date:**	3/27/2012 9:40:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	222	0.200		mg/L	1	4/2/2012 1:57:01 PM
Magnesium	46.8	0.200		mg/L	1	4/2/2012 1:57:01 PM
Potassium	4.49	0.200		mg/L	1	4/2/2012 1:57:01 PM
Sodium	57.4	0.600		mg/L	1	4/2/2012 1:57:01 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	83.6	10.0		mg/L	10	3/28/2012 1:18:00 AM
Fluoride	0.140	0.100		mg/L	10	3/28/2012 1:18:00 AM
Nitrogen, Nitrate (As N)	4.86	0.100		mg/L	10	3/28/2012 1:18:00 AM
Sulfate	175	10.0		mg/L	10	3/28/2012 1:18:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	496	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.7	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-050
Lab Order:	1203848	**Collection Date:**	3/27/2012 10:25:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	216	0.200		mg/L	1	4/2/2012 2:05:04 PM
Magnesium	68.4	0.200		mg/L	1	4/2/2012 2:05:04 PM
Potassium	2.33	0.200		mg/L	1	4/2/2012 2:05:04 PM
Sodium	48.4	0.600		mg/L	1	4/2/2012 2:05:04 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	35.6	10.0		mg/L	10	3/28/2012 1:34:00 AM
Fluoride	0.200	0.100		mg/L	10	3/28/2012 1:34:00 AM
Nitrogen, Nitrate (As N)	29.4	0.250	X	mg/L	25	3/28/2012 11:47:00 PM
Sulfate	389	10.0		mg/L	10	3/28/2012 1:34:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	336	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.1	1.1		mg/L	1.1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-051
Lab Order:	1203848	**Collection Date:**	3/27/2012 10:25:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	221	0.200		mg/L	1	4/2/2012 2:13:08 PM
Magnesium	69.4	0.200		mg/L	1	4/2/2012 2:13:08 PM
Potassium	2.43	0.200		mg/L	1	4/2/2012 2:13:08 PM
Sodium	48.8	0.600		mg/L	1	4/2/2012 2:13:08 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	35.2	10.0		mg/L	10	3/28/2012 1:51:00 AM
Fluoride	0.190	0.100		mg/L	10	3/28/2012 1:51:00 AM
Nitrogen, Nitrate (As N)	29.4	0.250	X	mg/L	25	3/29/2012 12:04:00 AM
Sulfate	385	10.0		mg/L	10	3/28/2012 1:51:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	356	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-HOLWEGER-053
Lab Order:	1203848	**Collection Date:**	3/27/2012 11:15:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	105	0.200		mg/L	1	4/2/2012 2:21:13 PM
Magnesium	15.3	0.200		mg/L	1	4/2/2012 2:21:13 PM
Potassium	1.98	0.200		mg/L	1	4/2/2012 2:21:13 PM
Sodium	37.5	0.600		mg/L	1	4/2/2012 2:21:13 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	11.8	10.0		mg/L	10	3/28/2012 2:08:00 AM
Fluoride	0.430	0.100		mg/L	10	3/28/2012 2:08:00 AM
Nitrogen, Nitrate (As N)	15.2	0.100	X	mg/L	10	3/28/2012 2:08:00 AM
Sulfate	23.8	10.0		mg/L	10	3/28/2012 2:08:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	314	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-050
Lab Order:	1203848	**Collection Date:**	3/27/2012 12:55:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	120	0.200		mg/L	1	4/2/2012 2:29:12 PM
Magnesium	33.1	0.200		mg/L	1	4/2/2012 2:29:12 PM
Potassium	2.14	0.200		mg/L	1	4/2/2012 2:29:12 PM
Sodium	75.2	0.600		mg/L	1	4/2/2012 2:29:12 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	92.1	10.0		mg/L	10	3/28/2012 3:49:00 AM
Fluoride	0.200	0.100		mg/L	10	3/28/2012 3:49:00 AM
Nitrogen, Nitrate (As N)	2.42	0.100		mg/L	10	3/28/2012 3:49:00 AM
Sulfate	76.1	10.0		mg/L	10	3/28/2012 3:49:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	335	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	3.8	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *03-Apr-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-050
Lab Order:	1203848	**Collection Date:**	3/27/2012 1:30:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1203848-006	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	102	0.200		mg/L	1	4/2/2012 2:37:18 PM
Magnesium	11.5	0.200		mg/L	1	4/2/2012 2:37:18 PM
Potassium	1.88	0.200		mg/L	1	4/2/2012 2:37:18 PM
Sodium	30.5	0.600		mg/L	1	4/2/2012 2:37:18 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	10.2	10.0		mg/L	10	3/28/2012 4:06:00 AM
Fluoride	0.180	0.100		mg/L	10	3/28/2012 4:06:00 AM
Nitrogen, Nitrate (As N)	12.9	0.100	X	mg/L	10	3/28/2012 4:06:00 AM
Sulfate	14.9	10.0		mg/L	10	3/28/2012 4:06:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	268	2	A	mg/L CaCO3	1	3/29/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	3/29/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	3/29/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	3.8	1.0		mg/L	1	3/28/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1203848-002A, Batch R89527C: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1203848-003A, Batch R89527C: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1203848-004A, Batch R89485C: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1203848-006A, Batch R89485D: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1203848-006BLFM, Batch R89645B: The calcium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1203848-006BLFMD, Batch R89645B: The calcium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89484

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **PBW**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **LCSW**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	100	20.0	100.0	0	100	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **LCSS02**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	96.0	20.0	100.0	0	96.0	0	2000	100.0	4.08	20	

Sample ID: **1203827-001KDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89484**
Client ID: **ZZZZZZ**	Batch ID: **R89484**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	21.0	5.0						21.75	3.51	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485C

Sample ID: **1203848-004ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **CRCP-HOLWEGER-** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	11.76	99.5	80	120				
Fluoride	10.4	0.100	10.00	0.4300	99.4	80	120				
Nitrogen, Nitrate (As N)	25.0	0.100	10.00	15.22	97.3	80	120				
Sulfate	221	10.0	200.0	23.82	98.5	80	120				

Sample ID: **1203848-004ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **CRCP-HOLWEGER-** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	11.76	99.5	0	2000	210.7	0.0522	20	
Fluoride	10.4	0.100	10.00	0.4300	99.4	0	2000	10.37	0	20	
Nitrogen, Nitrate (As N)	24.9	0.100	10.00	15.22	97.1	0	2000	24.95	0.0802	20	
Sulfate	221	10.0	200.0	23.82	98.5	0	2000	220.8	0.0272	20	

Sample ID: **IC_120327_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	29.7	1.00	30.00	0	98.8	90	110				

Sample ID: **IC_120327_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485C** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485C

Sample ID: IC_120327_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89485
Client ID: ZZZZZZ	Batch ID: R89485C	TestNo: E300.0		Analysis Date: 3/28/2012	SeqNo: 3021752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	29.7	1.00	30.00	0	98.9	90	110				

Sample ID: IC_120327_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89485
Client ID: ZZZZZZ	Batch ID: R89485C	TestNo: E300.0		Analysis Date: 3/28/2012	SeqNo: 3021753

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485D

Sample ID: **1203820-008ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485D** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.5	1.00	20.00	25.90	98.0	80	120				
Fluoride	1.01	0.010	1.000	0.03400	97.4	80	120				
Sulfate	44.1	1.00	20.00	24.09	100	80	120				

Sample ID: **1203820-008ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485D** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.5	1.00	20.00	25.90	98.0	0	2000	45.50	0.0264	20	
Fluoride	1.01	0.010	1.000	0.03400	97.6	0	2000	1.008	0.198	20	
Sulfate	44.1	1.00	20.00	24.09	100	0	2000	44.14	0.00906	20	

Sample ID: **IC_120327_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485D** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.01	0.010	1.000	0	101	90	110				
Sulfate	29.6	1.00	30.00	0	98.7	90	110				

Sample ID: **IC_120327_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485D** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.3	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	29.6	1.00	30.00	0	98.7	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89485D

Sample ID: **IC_120327_LRB** SampType: **LRB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **89485**
Client ID: **ZZZZZZ** Batch ID: **R89485D** TestNo: **E300.0** Analysis Date: **3/28/2012** SeqNo: **3021768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89487

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89487**
Client ID: **PBW**	Batch ID: **R89487**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0									

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89487**
Client ID: **LCSW**	Batch ID: **R89487**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	98.0	20.0	100.0	0	98.0	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89487**
Client ID: **LCSS02**	Batch ID: **R89487**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	90.0	20.0	100.0	0	90.0	0	2000	98.00	8.51	20	

Sample ID: **1203848-004DDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **89487**
Client ID: **CRCP-HOLWEGER-**	Batch ID: **R89487**	TestNo: **SM2540D**		Analysis Date: **3/28/2012**	SeqNo: **3021802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89527C

Sample ID: 1203820-003ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023307

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	199	10.0	200.0	5.886	96.7	80	120				
Fluoride	10.1	0.100	10.00	0.07700	99.8	80	120				
Nitrogen, Nitrate (As N)	13.4	0.100	10.00	3.548	98.2	80	120				
Sulfate	207	10.0	200.0	6.202	100	80	120				

Sample ID: 1203820-003ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023308

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	199	10.0	200.0	5.886	96.7	0	2000	199.4	0.0140	20	
Fluoride	10.0	0.100	10.00	0.07700	99.5	0	2000	10.06	0.279	20	
Nitrogen, Nitrate (As N)	13.4	0.100	10.00	3.548	98.1	0	2000	13.36	0.0150	20	
Sulfate	207	10.0	200.0	6.202	100	0	2000	206.8	0.0832	20	

Sample ID: IC_120328_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023309

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				
Sulfate	29.7	1.00	30.00	0	99.0	90	110				

Sample ID: IC_120328_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023310

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.01	0.010	1.000	0	101	90	110				
Nitrogen, Nitrate (As N)	1.02	0.010	1.000	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89527C

Sample ID: IC_120328_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023310

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	29.7	1.00	30.00	0	98.8	90	110				

Sample ID: IC_120328_LRB	SampType: LRB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 89527
Client ID: ZZZZZZ	Batch ID: R89527C	TestNo: E300.0		Analysis Date: 3/29/2012	SeqNo: 3023311

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 1.00	1.00									
Fluoride	< 0.010	0.010									
Nitrogen, Nitrate (As N)	< 0.010	0.010									
Sulfate	< 1.00	1.00									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89554

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89554**
Client ID: **PBW**	Batch ID: **R89554**	TestNo: **SM2320 B**		Analysis Date: **3/29/2012**	SeqNo: **3024584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Sample ID: **1203842-001ADUP**	SampType: **DUP**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89554**
Client ID: **ZZZZZZ**	Batch ID: **R89554**	TestNo: **SM2320 B**		Analysis Date: **3/29/2012**	SeqNo: **3024588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	311	2						306.2	1.48	0	A
Alkalinity, Carbonate (As CaCO3)	11	2						10.72	5.69	0	A

Sample ID: **Blank**	SampType: **MBLK**	TestCode: **ALK**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **89554**
Client ID: **PBW**	Batch ID: **R89554**	TestNo: **SM2320 B**		Analysis Date: **3/29/2012**	SeqNo: **3024610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2	2									A
Alkalinity, Carbonate (As CaCO3)	< 2	2									A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89578C

Sample ID: 1203848-005CMS	SampType: MS	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: CRCP-58522-050	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024748

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.05	0.020	1.000	0	105	90	110				

Sample ID: NH3_LFB3	SampType: LFB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.020	1.000	0	97.6	90	110				

Sample ID: NH3_LRB3	SampType: LRB	TestCode: NH3-N	Units: mg/L	Prep Date:	RunNo: 89578
Client ID: ZZZZZZ	Batch ID: R89578C	TestNo: E350.1		Analysis Date: 3/29/2012	SeqNo: 3024751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89578D

Sample ID: **1203908-005CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:				RunNo: **89578**		
Client ID: **ZZZZZZ**	Batch ID: **R89578D**	TestNo: **E350.1**		Analysis Date: **3/29/2012**				SeqNo: **3024762**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.06	0.020	1.000	0.01871	104	90	110				

Sample ID: **NH3_LFB4**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:				RunNo: **89578**		
Client ID: **ZZZZZZ**	Batch ID: **R89578D**	TestNo: **E350.1**		Analysis Date: **3/29/2012**				SeqNo: **3024763**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.940	0.020	1.000	0	94.0	90	110				

Sample ID: **NH3_LRB4**	SampType: **LRB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:				RunNo: **89578**		
Client ID: **ZZZZZZ**	Batch ID: **R89578D**	TestNo: **E350.1**		Analysis Date: **3/29/2012**				SeqNo: **3024765**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.020	0.020									

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1203848
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R89645B

Sample ID: **1203848-006BLFM** SampType: **LFM** TestCode: **200.7** Units: **mg/L** Prep Date: **3/30/2012** RunNo: **89645**
Client ID: **CRCP-221049-050** Batch ID: **R89645B** TestNo: **E200.7** Analysis Date: **4/2/2012** SeqNo: **3026306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	21.8	0.200	10.00	11.53	103	70	130				
Potassium	12.3	0.200	10.00	1.878	104	70	130				
Sodium	41.6	0.600	10.00	30.54	110	70	130				

Sample ID: **1203848-006BLFMD** SampType: **LFMD** TestCode: **200.7** Units: **mg/L** Prep Date: **3/30/2012** RunNo: **89645**
Client ID: **CRCP-221049-050** Batch ID: **R89645B** TestNo: **E200.7** Analysis Date: **4/2/2012** SeqNo: **3026307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	21.6	0.200	10.00	11.53	100	0	2000	21.79	0.991	20	
Potassium	12.2	0.200	10.00	1.878	103	0	2000	12.25	0.824	20	
Sodium	40.9	0.600	10.00	30.54	103	0	2000	41.55	1.64	20	

Sample ID: **CCB3** SampType: **CCB** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **89645**
Client ID: **CCB** Batch ID: **R89645B** TestNo: **E200.7** Analysis Date: **4/2/2012** SeqNo: **3026309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: **IPC3** SampType: **IPC** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **89645**
Client ID: **ZZZZZZ** Batch ID: **R89645B** TestNo: **E200.7** Analysis Date: **4/2/2012** SeqNo: **3026310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	102	0.200	100.0	0	102	90	110				
Magnesium	98.3	0.200	100.0	0	98.3	90	110				
Potassium	99.0	0.200	100.0	0	99.0	90	110				
Sodium	101	0.600	100.0	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS) CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 4/10/12
Work Order No.: 1203848
COC No.: 11293
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin, TX 78729 (NAME, ADDRESS, CITY, STATE, ZIP) — Sampled By: K. Nguyen, A. Potts

Bill To: Travis County CRCP (NAME, ADDRESS) — PO No.:

Phone No.: 5124544791 Fax No.: 5124548807 Method of Transport: Hand Delivery (CITY) TAT Requested: Normal (STATE, ZIP) Working days E-mail: kevin.pasternak@cwa.com

Relinquished By: [signature] Date: 3/27/12 Time: 1400 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☐ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)

Regulatory Requirements: ☑ None ☐ NELAP ☐ _____

Received at ELS By: [signature] Date: 3/27/12 Time: 1405
☒ Received on Ice Temp: 3.7 °C TT
Login Review: [signature] Date: 3-27-12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0/SM23208	E200.7	SM2540D					PRESERVATIVES	pH
001	CRCP-ATF1-050	W	3/27/12	0940	4	Vary	Plast	X	X	X	X					HNO_3/H_2SO_4	
002	CRCP-NTNW2-050	↓	↓	1025	↓	↓	↓	X	X	X	X					↓	
003	CRCP-NTNW2-051			1025				X	X	X	X						
004	CRCP-Holweger-053			1115	5			X	X	X	X						
005	CRCP-58522-050			1255	4			X	X	X	X						
006	CRCP-221049-050			1330	↓	↓	↓	X	X	X	X					↓	

Special Instructions: E350.1-Ammonia; E300.0/SM23208-Cl, F, SO_4, NO_3, carb, bicarb; E200.7-Ca, Mg, K, Na; SM2540D-TSS
ELS Comments: MS/MSD on CRCP-Holweger-053.
Cooler #33

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *May 17, 2012*

Invoice No: LB94323
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1205188 Order Name Colorado River Corridor - Grou Date Received 5/7/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	7	1	$24.00	$168.00
AMMONIA as N	Ammonia-N	Aqueous	7	1	$15.00	$105.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	7	1	$72.00	$504.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep.Ca,Mg,Na,	Aqueous	7	1	$15.00	$105.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	7	1	$48.00	$336.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	6	1	$12.00	$72.00

Subtotal: **$1,290.00**

Misc Charges: $0.00

INVOICE Total: **$1,290.00**

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

May 17, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 113617
Order No.: 1205188

Dear Kevin Pasternak:

On 5/7/2012, LCRA Environmental Laboratory Services (ELS) received 7 sample(s) for analyses under Lab Order No. 1205188. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 26 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

NELAP ACCREDITED TNI LABORATORY

T104704218-12-6

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1205188

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1205188-001A	CRCP-5852213-060	5852213-60	5/7/2012 10:00:00 AM	5/7/2012 3:50:00 PM
1205188-001B	CRCP-5852213-060	5852213-60	5/7/2012 10:00:00 AM	5/7/2012 3:50:00 PM
1205188-001C	CRCP-5852213-060	5852213-60	5/7/2012 10:00:00 AM	5/7/2012 3:50:00 PM
1205188-001D	CRCP-5852213-060	5852213-60	5/7/2012 10:00:00 AM	5/7/2012 3:50:00 PM
1205188-002A	CRCP-5852314-060	5852213-60	5/7/2012 11:05:00 AM	5/7/2012 3:50:00 PM
1205188-002B	CRCP-5852314-060	5852213-60	5/7/2012 11:05:00 AM	5/7/2012 3:50:00 PM
1205188-002C	CRCP-5852314-060	5852213-60	5/7/2012 11:05:00 AM	5/7/2012 3:50:00 PM
1205188-002D	CRCP-5852314-060	5852213-60	5/7/2012 11:05:00 AM	5/7/2012 3:50:00 PM
1205188-003A	CRCP-WisianW1-060	WisianW1-060	5/7/2012 12:40:00 PM	5/7/2012 3:50:00 PM
1205188-003B	CRCP-WisianW1-060	WisianW1-060	5/7/2012 12:40:00 PM	5/7/2012 3:50:00 PM
1205188-003C	CRCP-WisianW1-060	WisianW1-060	5/7/2012 12:40:00 PM	5/7/2012 3:50:00 PM
1205188-003D	CRCP-WisianW1-060	WisianW1-060	5/7/2012 12:40:00 PM	5/7/2012 3:50:00 PM
1205188-004A	CRCP-WisianW1-065	WisianW1-065	5/7/2012 12:50:00 PM	5/7/2012 3:50:00 PM
1205188-004B	CRCP-WisianW1-065	WisianW1-065	5/7/2012 12:50:00 PM	5/7/2012 3:50:00 PM
1205188-004C	CRCP-WisianW1-065	WisianW1-065	5/7/2012 12:50:00 PM	5/7/2012 3:50:00 PM
1205188-005A	CRCP-WisianW2-060	WisianW2-060	5/7/2012 1:25:00 PM	5/7/2012 3:50:00 PM
1205188-005B	CRCP-WisianW2-060	WisianW2-060	5/7/2012 1:25:00 PM	5/7/2012 3:50:00 PM
1205188-005C	CRCP-WisianW2-060	WisianW2-060	5/7/2012 1:25:00 PM	5/7/2012 3:50:00 PM
1205188-005D	CRCP-WisianW2-060	WisianW2-060	5/7/2012 1:25:00 PM	5/7/2012 3:50:00 PM
1205188-006A	CRCP-58522-060	58522-060	5/7/2012 2:35:00 PM	5/7/2012 3:50:00 PM
1205188-006B	CRCP-58522-060	58522-060	5/7/2012 2:35:00 PM	5/7/2012 3:50:00 PM
1205188-006C	CRCP-58522-060	58522-060	5/7/2012 2:35:00 PM	5/7/2012 3:50:00 PM
1205188-006D	CRCP-58522-060	58522-060	5/7/2012 2:35:00 PM	5/7/2012 3:50:00 PM
1205188-007A	CRCP-Buchheit-060	Buchheit-060	5/7/2012 3:15:00 PM	5/7/2012 3:50:00 PM
1205188-007B	CRCP-Buchheit-060	Buchheit-060	5/7/2012 3:15:00 PM	5/7/2012 3:50:00 PM
1205188-007C	CRCP-Buchheit-060	Buchheit-060	5/7/2012 3:15:00 PM	5/7/2012 3:50:00 PM
1205188-007D	CRCP-Buchheit-060	Buchheit-060	5/7/2012 3:15:00 PM	5/7/2012 3:50:00 PM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852213-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 10:00:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-001	**Tag No:**	5852213-60

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	150	0.200		mg/L	1	5/14/2012 2:01:51 PM
Magnesium	23.6	0.200		mg/L	1	5/14/2012 2:01:51 PM
Potassium	4.62	0.200		mg/L	1	5/14/2012 2:01:51 PM
Sodium	22.6	0.600		mg/L	1	5/14/2012 2:01:51 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	18.5	1.00		mg/L	1	5/8/2012 7:25:00 PM
Fluoride	0.332	0.010		mg/L	1	5/8/2012 7:25:00 PM
Nitrogen, Nitrate (As N)	0.025	0.010		mg/L	1	5/8/2012 7:25:00 PM
Sulfate	14.6	1.00		mg/L	1	5/8/2012 7:25:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	455	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	1.22	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	7.0	2.0		mg/L	2	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-5852314-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 11:05:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-002	**Tag No:**	5852213-60

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	154	0.200		mg/L	1	5/14/2012 2:09:44 PM
Magnesium	42.5	0.200		mg/L	1	5/14/2012 2:09:44 PM
Potassium	2.53	0.200		mg/L	1	5/14/2012 2:09:44 PM
Sodium	79.4	0.600		mg/L	1	5/14/2012 2:09:44 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	61.3	1.00		mg/L	1	5/8/2012 7:43:00 PM
Fluoride	0.245	0.010		mg/L	1	5/8/2012 7:43:00 PM
Nitrogen, Nitrate (As N)	11.3	0.100	HX	mg/L	10	5/10/2012 9:06:00 PM
Nitrogen, Nitrate (As N)	10.3	0.010	EX	mg/L	1	5/8/2012 7:43:00 PM
Sulfate	192	10.0		mg/L	10	5/10/2012 9:06:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	353	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.2	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 12:40:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-003	**Tag No:**	WISIANW1-060

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	92.2	0.200		mg/L	1	5/14/2012 2:17:43 PM
Magnesium	10.8	0.200		mg/L	1	5/14/2012 2:17:43 PM
Potassium	2.79	0.200		mg/L	1	5/14/2012 2:17:43 PM
Sodium	53.9	0.600		mg/L	1	5/14/2012 2:17:43 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	17.3	1.00		mg/L	1	5/8/2012 8:00:00 PM
Fluoride	0.236	0.010		mg/L	1	5/8/2012 8:00:00 PM
Nitrogen, Nitrate (As N)	8.88	0.100	H	mg/L	10	5/10/2012 9:24:00 PM
Nitrogen, Nitrate (As N)	8.38	0.010	E	mg/L	1	5/8/2012 8:00:00 PM
Sulfate	27.5	1.00		mg/L	1	5/8/2012 8:00:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	310	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW1-065
Lab Order:	1205188	**Collection Date:**	5/7/2012 12:50:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-004	**Tag No:**	WISIANW1-065

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE			**E200.7**			Analyst: **MV**
Calcium	0.665	0.200		mg/L	1	5/14/2012 2:25:13 PM
Magnesium	< 0.200	0.200		mg/L	1	5/14/2012 2:25:13 PM
Potassium	0.545	0.200		mg/L	1	5/14/2012 2:25:13 PM
Sodium	< 0.600	0.600		mg/L	1	5/14/2012 2:25:13 PM
ANIONS BY ION CHROMATOGRAPHY			**E300.0**			Analyst: **WR**
Chloride	< 1.00	1.00		mg/L	1	5/8/2012 8:17:00 PM
Fluoride	< 0.010	0.010		mg/L	1	5/8/2012 8:17:00 PM
Nitrogen, Nitrate (As N)	0.080	0.010		mg/L	1	5/8/2012 8:17:00 PM
Sulfate	< 1.00	1.00		mg/L	1	5/8/2012 8:17:00 PM
ALKALINITY			**SM2320 B**			Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	3	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N			**E350.1**			Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-WisianW2-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 1:25:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-005	**Tag No:**	WISIANW2-060

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	99.4	0.200		mg/L	1	5/14/2012 2:30:36 PM
Magnesium	12.2	0.200		mg/L	1	5/14/2012 2:30:36 PM
Potassium	2.72	0.200		mg/L	1	5/14/2012 2:30:36 PM
Sodium	102	0.600		mg/L	1	5/14/2012 2:30:36 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	15.3	1.00		mg/L	1	5/8/2012 8:35:00 PM
Fluoride	0.120	0.010		mg/L	1	5/8/2012 8:35:00 PM
Nitrogen, Nitrate (As N)	12.3	0.100	HX	mg/L	10	5/10/2012 9:41:00 PM
Nitrogen, Nitrate (As N)	10.3	0.010	EX	mg/L	1	5/8/2012 8:35:00 PM
Sulfate	33.3	1.00		mg/L	1	5/8/2012 8:35:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	403	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-58522-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 2:35:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-006	**Tag No:**	58522-060

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	121	0.200		mg/L	1	5/16/2012 11:02:17 AM
Magnesium	32.9	0.200		mg/L	1	5/16/2012 11:02:17 AM
Potassium	1.84	0.200		mg/L	1	5/16/2012 11:02:17 AM
Sodium	70.7	0.600		mg/L	1	5/16/2012 11:02:17 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	93.5	10.0		mg/L	10	5/15/2012 2:31:00 AM
Fluoride	0.268	0.010		mg/L	1	5/8/2012 10:18:00 PM
Nitrogen, Nitrate (As N)	2.71	0.010		mg/L	1	5/8/2012 10:18:00 PM
Sulfate	76.7	10.0		mg/L	10	5/15/2012 2:31:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	345	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.1	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *17-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-Buchheit-060
Lab Order:	1205188	**Collection Date:**	5/7/2012 3:15:00 PM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205188-007	**Tag No:**	BUCHHEIT-060

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	139	0.200		mg/L	1	5/14/2012 2:38:27 PM
Magnesium	13.0	0.200		mg/L	1	5/14/2012 2:38:27 PM
Potassium	2.59	0.200		mg/L	1	5/14/2012 2:38:27 PM
Sodium	53.6	0.600		mg/L	1	5/14/2012 2:38:27 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	39.9	1.00		mg/L	1	5/8/2012 10:36:00 PM
Fluoride	0.370	0.010		mg/L	1	5/8/2012 10:36:00 PM
Nitrogen, Nitrate (As N)	3.84	0.010		mg/L	1	5/8/2012 10:36:00 PM
Sulfate	85.2	10.0		mg/L	10	5/10/2012 11:25:00 PM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	310	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	0.045	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	1.2	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLES 1205188-002A, 1205188-003A and 1205188-005A Batch R90734B: Nitrogen, Nitrate (As N) results reported as Estimated (E flag) from the 1x analysis and past 48-hour method hold time (H flag) from the 10x dilution analysis. Both results were included in the final report as per client's request.

Analytical Comments for METHOD E300.0, SAMPLE 1205188-002A, Batch R90667B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1205188-005A, Batch R90667B: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1205206-001ALFM, Batch R90796A: The sodium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205206-001ALFMD, Batch R90796A: The sodium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205190-002ALFM, Batch R90869A: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205190-002ALFMD, Batch R90869A: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667B

Sample ID: **1205188-005ALFM**	SampType: **LFM**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **90667**
Client ID: **CRCP-WisianW2-06**	Batch ID: **R90667B**	TestNo: **E300.0**		Analysis Date: **5/8/2012**	SeqNo: **3054680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.6	1.00	10.00	15.31	103	80	120				
Fluoride	2.12	0.010	2.000	0.1200	100	80	120				
Sulfate	42.8	1.00	10.00	33.27	95.1	80	120				

Sample ID: **1205188-005ALFMD**	SampType: **LFMD**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **90667**
Client ID: **CRCP-WisianW2-06**	Batch ID: **R90667B**	TestNo: **E300.0**		Analysis Date: **5/8/2012**	SeqNo: **3054681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.6	1.00	20.00	15.31	51.6	0	2000	25.58	0.133	20	
Fluoride	2.12	0.010	1.000	0.1200	200	0	2000	2.122	0.0942	20	
Sulfate	42.8	1.00	20.00	33.27	47.4	0	2000	42.78	0.0503	20	

Sample ID: **IC_120508_LFB**	SampType: **LFB**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **90667**
Client ID: **ZZZZZZ**	Batch ID: **R90667B**	TestNo: **E300.0**		Analysis Date: **5/8/2012**	SeqNo: **3054682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.2	1.00	30.00	0	101	90	110				

Sample ID: **IC_120508_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **90667**
Client ID: **ZZZZZZ**	Batch ID: **R90667B**	TestNo: **E300.0**		Analysis Date: **5/8/2012**	SeqNo: **3054683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667B

Sample ID: **IC_120508_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667B** TestNo: **E300.0** Analysis Date: **5/8/2012** SeqNo: **3054683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.3	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667C

Sample ID: **1205188-007ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **CRCP-Buchheit-060** Batch ID: **R90667C** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	59.1	1.00	20.00	39.87	96.4	80	120				
Fluoride	1.37	0.010	1.000	0.3700	100	80	120				

Sample ID: **1205188-007ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **CRCP-Buchheit-060** Batch ID: **R90667C** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	59.1	1.00	20.00	39.87	96.3	0	2000	59.14	0.0152	20	
Fluoride	1.38	0.010	1.000	0.3700	101	0	2000	1.371	0.654	20	

Sample ID: **IC_120508_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667C** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054697**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Sample ID: **IC_120508_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667C** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90670

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **LCSW**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	94.0	20.0	100.0	0	94.0	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **LCSS02**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	102	20.0	100.0	0	102	0	2000	94.00	8.16	20	

Sample ID: **1205188-001DDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **CRCP-5852213-060**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	6.3	2.1						7.000	11.3	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90697D

Sample ID: **1205214-002CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **ZZZZZZ**	Batch ID: **R90697D**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.02	0.020	1.000	0.02044	100	90	110				

Sample ID: **NH3_LFB4**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **ZZZZZZ**	Batch ID: **R90697D**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.996	0.020	1.000	0	99.6	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734B

Sample ID: 1205188-005ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: CRCP-WisianW2-06	Batch ID: R90734B	TestNo: E300.0		Analysis Date: 5/10/2012	SeqNo: 3055600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	12.20	99.7	80	120				
Fluoride	10.4	0.100	10.00	0	104	80	120				
Nitrogen, Nitrate (As N)	22.4	0.100	10.00	12.34	101	80	120				
Sulfate	228	10.0	200.0	30.60	98.9	80	120				

Sample ID: 1205188-005ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: CRCP-WisianW2-06	Batch ID: R90734B	TestNo: E300.0		Analysis Date: 5/10/2012	SeqNo: 3055601

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	12.20	99.8	0	2000	0	0	20	
Fluoride	10.4	0.100	10.00	0	104	0	2000	0	0	20	
Nitrogen, Nitrate (As N)	22.4	0.100	10.00	12.34	101	0	2000	0	0	20	
Sulfate	228	10.0	200.0	30.60	98.9	0	2000	0	0	20	

Sample ID: IC_120510_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734B	TestNo: E300.0		Analysis Date: 5/10/2012	SeqNo: 3055602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.5	1.00	30.00	0	102	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.4	1.00	30.00	0	101	90	110				

Sample ID: IC_120510_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734B	TestNo: E300.0		Analysis Date: 5/10/2012	SeqNo: 3055603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	102	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734B

Sample ID: **IC_120510_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90734**
Client ID: **ZZZZZZ** Batch ID: **R90734B** TestNo: **E300.0** Analysis Date: **5/10/2012** SeqNo: **3055603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.4	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734C

Sample ID: 1205188-007ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: CRCP-Buchheit-060	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055615

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	284	10.0	200.0	33.61	125	80	120				S
Fluoride	10.7	0.100	10.00	0.5200	102	80	120				
Nitrogen, Nitrate (As N)	10.5	0.100	10.00	3.950	65.7	80	120				S
Sulfate	292	10.0	200.0	85.16	104	80	120				

Sample ID: 1205188-007ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: CRCP-Buchheit-060	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	284	10.0	200.0	33.61	125	0	2000	284.2	0.0387	20	
Fluoride	10.7	0.100	10.00	0.5200	102	0	2000	10.74	0.373	20	
Nitrogen, Nitrate (As N)	10.5	0.100	10.00	3.950	65.4	0	2000	10.52	0.286	20	
Sulfate	293	10.0	200.0	85.16	104	0	2000	292.5	0.0171	20	

Sample ID: IC_120510_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.6	1.00	30.00	0	102	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.4	1.00	30.00	0	101	90	110				

Sample ID: IC_120510_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734C

Sample ID: **IC_120510_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90734**
Client ID: **ZZZZZZ** Batch ID: **R90734C** TestNo: **E300.0** Analysis Date: **5/11/2012** SeqNo: **3055618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.6	1.00	30.00	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90795

Sample ID: **1205188-001ADUP** SampType: **DUP** TestCode: **ALK** Units: **mg/L CaCO3** Prep Date: RunNo: **90795**
Client ID: **CRCP-5852213-060** Batch ID: **R90795** TestNo: **SM2320 B** Analysis Date: **5/14/2012** SeqNo: **3057834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	460	10						454.6	1.14	0	A
Alkalinity, Carbonate (As CaCO3)	< 10	10						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90796A

Sample ID: LFB-30018	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.6	0.200	10.00	0	106	85	115				
Magnesium	9.77	0.200	10.00	0	97.7	85	115				
Potassium	9.46	0.200	10.00	0	94.6	85	115				
Sodium	9.47	0.600	10.00	0	94.7	85	115				

Sample ID: LFBD-30018	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057798

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.8	0.200	10.00	0	108	0	2000	10.59	2.05	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	9.772	2.36	20	
Potassium	9.62	0.200	10.00	0	96.2	0	2000	9.457	1.73	20	
Sodium	9.56	0.600	10.00	0	95.6	0	2000	9.468	0.991	20	

Sample ID: 1205206-001ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057809

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.8	0.200	10.00	15.28	115	70	130				
Magnesium	35.6	0.200	10.00	24.39	112	70	130				
Potassium	15.9	0.200	10.00	5.761	102	70	130				

Sample ID: 1205206-001ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.3	0.200	10.00	15.28	110	0	2000	26.77	1.81	20	
Magnesium	34.9	0.200	10.00	24.39	105	0	2000	35.60	2.06	20	
Potassium	15.6	0.200	10.00	5.761	98.0	0	2000	15.95	2.43	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90796A

Sample ID: CCB2	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 90796
Client ID: CCB	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057811

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	0.225	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC2	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796A	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057812

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	105	0.200	100.0	0	105	90	110				
Magnesium	103	0.200	100.0	0	103	90	110				
Potassium	94.7	0.200	100.0	0	94.7	90	110				
Sodium	92.4	0.600	100.0	0	92.4	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90802C

Sample ID: **1205188-006ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90802**
Client ID: **CRCP-58522-060** Batch ID: **R90802C** TestNo: **E300.0** Analysis Date: **5/15/2012** SeqNo: **3058076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	304	10.0	200.0	101.4	101	80	120				
Fluoride	10.8	0.100	10.00	0.2680	106	80	120				
Nitrogen, Nitrate (As N)	13.0	0.100	10.00	2.709	103	80	120				
Sulfate	285	10.0	200.0	85.68	99.9	80	120				

Sample ID: **1205188-006ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90802**
Client ID: **CRCP-58522-060** Batch ID: **R90802C** TestNo: **E300.0** Analysis Date: **5/15/2012** SeqNo: **3058077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	304	10.0	200.0	101.4	101	0	2000	303.5	0.00659	20	
Fluoride	10.8	0.100	10.00	0.2680	105	0	2000	10.85	0.564	20	
Nitrogen, Nitrate (As N)	13.1	0.100	10.00	2.709	104	0	2000	13.04	0.153	20	
Sulfate	285	10.0	200.0	85.68	99.7	0	2000	285.5	0.147	20	

Sample ID: **IC_120514_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90802**
Client ID: **ZZZZZZ** Batch ID: **R90802C** TestNo: **E300.0** Analysis Date: **5/15/2012** SeqNo: **3058078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.5	1.00	30.00	0	102	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.4	1.00	30.00	0	101	90	110				

Sample ID: **IC_120514_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90802**
Client ID: **ZZZZZZ** Batch ID: **R90802C** TestNo: **E300.0** Analysis Date: **5/15/2012** SeqNo: **3058079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.04	0.010	1.000	0	104	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
R RPD Outside Recovery Limits
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90802C

Sample ID: **IC_120514_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90802**
Client ID: **ZZZZZZ** Batch ID: **R90802C** TestNo: **E300.0** Analysis Date: **5/15/2012** SeqNo: **3058079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.4	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90869A

Sample ID: LFB-30045	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062559

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.9	0.200	10.00	0	109	85	115				
Magnesium	10.2	0.200	10.00	0	102	85	115				
Potassium	9.63	0.200	10.00	0	96.3	85	115				
Sodium	9.72	0.600	10.00	0	97.2	85	115				

Sample ID: LFBD-30045	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062560

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.8	0.200	10.00	0	108	0	2000	10.93	1.52	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	10.19	1.79	20	
Potassium	9.41	0.200	10.00	0	94.1	0	2000	9.632	2.28	20	
Sodium	9.52	0.600	10.00	0	95.2	0	2000	9.715	1.98	20	

Sample ID: 1205190-002ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062564

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.9	0.200	10.00	14.69	102	70	130				
Potassium	20.6	0.200	10.00	9.776	109	70	130				

Sample ID: 1205190-002ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.3	0.200	10.00	14.69	95.6	0	2000	24.89	2.60	20	
Potassium	20.2	0.200	10.00	9.776	104	0	2000	20.65	2.07	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205188
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90869A

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **90869**
Client ID: **CCB**	Batch ID: **R90869A**	TestNo: **E200.7**		Analysis Date: **5/16/2012**	SeqNo: **3062569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: **IPC2**	SampType: **IPC**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **90869**
Client ID: **ZZZZZZ**	Batch ID: **R90869A**	TestNo: **E200.7**		Analysis Date: **5/16/2012**	SeqNo: **3062570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103	0.200	100.0	0	103	90	110				
Magnesium	99.9	0.200	100.0	0	99.9	90	110				
Potassium	101	0.200	100.0	0	101	90	110				
Sodium	96.3	0.600	100.0	0	96.3	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 5/21/12
Work Order No.: 1205188
COC No.: 113617
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin TX 78729 (NAME / ADDRESS / CITY / STATE / ZIP)
Sampled By: K. Nguyen, A. Potts
Bill To: Travis County CRCP (NAME / ADDRESS)
PO No.:
Phone No.: 5124544797 Fax No.: 5124548807 Method of Transport: Hand Delivery TAT Requested: Normal Working days E-mail: kevin.pasternak@cwr.us
Relinquished By: [signature] Date: 5/7/12 Time: 1550 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements
☐ Hardcopy ☑ E-mail ☐ Fax
☐ EDD (Generic)

Regulatory Requirements
☒ None ☐ NELAP
☐ _____

Received at ELS By: [signature] Date: 5/7/12 Time: 1550
☒ Received on Ice Temp: 4.1 °C T4
Login Review: [signature] Date: 5-8-12

ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____%

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1	E300.0/SM4500	E200.7	SM2540D	PRESERVATIVES	pH
001	CRCP-5852213-060	W	5/7/12	1000	4	Vary	Plast	X	X	X	X	HNO_3, H_2SO_4	
002	CRCP-5852314-060	↓	↓	1105	4	↓	↓	↓	↓	↓	↓	↓	
003	CRCP-WislanW1-060			1240	4						↓		
004	CRCP-WislanW1-065			1250	3								
005	CRCP-WislanW2-060			1325	4						X		
006	CRCP-58522-060			1435	4						↓		
007	CRCP-Buchheit-060	↓	↓	1515	4	↓	↓	↓	↓	↓	↓	↓	

Special Instructions: _____
ELS Comments: _____
Coolers #1

LCRA Environmental Laboratory Services

REMIT TO: **Lower Colorado River Authority**
P. O. Box 200870
Houston, Texas 77216-0870
TEL: (512) 356-6022

INVOICE

DATE: *May 21, 2012*

Invoice No: LB94395
Customer No: 000000

Invoice TO: Environmental and Regulatory Affairs
Mail Stop: EL-101
3505 Montopolis Drive
Austin, TX 78744

PO Number:
2282009

Attn: Alicia C. Gill
Phone: (512) 356-6022
Work Order: 1205214 Order Name Colorado River Corridor - Grou Date Received 5/8/2012

Item	Remarks	Matrix	Qty	Mult	Quoted	Test Total
ALKALINITY	HCO3,CO3	Aqueous	5	1	$24.00	$120.00
AMMONIA as N	Ammonia-N	Aqueous	5	1	$15.00	$75.00
ANIONS by ION CHROMATOGRAPHY	Cl,F,NO3,SO4	Aqueous	5	1	$72.00	$360.00
AQPREP TOTAL RECOVERABLE METALS: I	Prep Ca,Mg,Na,	Aqueous	5	1	$15.00	$75.00
ICP METALS, TOTAL RECOVERABLE	Ca,Mg,Na,K	Aqueous	5	1	$48.00	$240.00
TOTAL SUSPENDED SOLIDS	TSS	Aqueous	5	1	$12.00	$60.00

Subtotal: $930.00

Misc Charges: $0.00

INVOICE Total: $930.00

This is an internal billing for your records. Please do not forward to Accounts Payable.

Environmental Laboratory Services
The Solution Lab

May 21, 2012

Kevin Pasternak
URS Corporation
9400 Amberglen Blvd
Austin, TX 78729

TEL: (512) 419-5293
FAX

RE: Colorado River Corridor - Groundwater

COC ID.: 113643
Order No.: 1205214

Dear Kevin Pasternak:

On 5/8/2012, LCRA Environmental Laboratory Services (ELS) received 5 sample(s) for analyses under Lab Order No. 1205214. This final report provides results related only to the sample(s) as received for the above referenced lab order number.

ELS is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and certifies that all reported results meet NELAP requirements, unless otherwise noted. The Case Narrative provides explanations for any deviations, additions to, or exclusions from the method requirements.

This report contains a total of 22 pages (including the cover letter) and may not be reproduced, except in full, without written approval from ELS.

Thank you for selecting ELS for your analytical needs. If you have questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Sincerely,

Tess Abbott
Project Manager

NELAP ACCREDITED TNI LABORATORY

T104704218-12-6

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT: URS Corporation
Project: Colorado River Corridor - Groundwater
Lab Order: 1205214

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Date Collected	Date Received
1205214-001A	CRCP-ATF1-060		5/8/2012 9:05:00 AM	5/8/2012 11:45:00 AM
1205214-001B	CRCP-ATF1-060		5/8/2012 9:05:00 AM	5/8/2012 11:45:00 AM
1205214-001C	CRCP-ATF1-060		5/8/2012 9:05:00 AM	5/8/2012 11:45:00 AM
1205214-001D	CRCP-ATF1-060		5/8/2012 9:05:00 AM	5/8/2012 11:45:00 AM
1205214-002A	CRCP-NTNW2-060		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-002B	CRCP-NTNW2-060		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-002C	CRCP-NTNW2-060		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-002D	CRCP-NTNW2-060		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-003A	CRCP-NTNW2-061		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-003B	CRCP-NTNW2-061		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-003C	CRCP-NTNW2-061		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-003D	CRCP-NTNW2-061		5/8/2012 9:55:00 AM	5/8/2012 11:45:00 AM
1205214-004A	CRCP-HOLWEGER-063		5/8/2012 10:35:00 AM	5/8/2012 11:45:00 AM
1205214-004B	CRCP-HOLWEGER-063		5/8/2012 10:35:00 AM	5/8/2012 11:45:00 AM
1205214-004C	CRCP-HOLWEGER-063		5/8/2012 10:35:00 AM	5/8/2012 11:45:00 AM
1205214-004D	CRCP-HOLWEGER-063		5/8/2012 10:35:00 AM	5/8/2012 11:45:00 AM
1205214-005A	CRCP-221049-060		5/8/2012 11:10:00 AM	5/8/2012 11:45:00 AM
1205214-005B	CRCP-221049-060		5/8/2012 11:10:00 AM	5/8/2012 11:45:00 AM
1205214-005C	CRCP-221049-060		5/8/2012 11:10:00 AM	5/8/2012 11:45:00 AM
1205214-005D	CRCP-221049-060		5/8/2012 11:10:00 AM	5/8/2012 11:45:00 AM

Final Analysis Report

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-ATF1-060
Lab Order:	1205214	**Collection Date:**	5/8/2012 9:05:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205214-001	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	201	0.200		mg/L	1	5/16/2012 11:37:27 AM
Magnesium	41.2	0.200		mg/L	1	5/16/2012 11:37:27 AM
Potassium	3.58	0.200		mg/L	1	5/16/2012 11:37:27 AM
Sodium	50.2	0.600		mg/L	1	5/16/2012 11:37:27 AM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	65.2	10.0		mg/L	10	5/9/2012 8:59:00 AM
Fluoride	0.360	0.100		mg/L	10	5/9/2012 8:59:00 AM
Nitrogen, Nitrate (As N)	8.91	0.100		mg/L	10	5/9/2012 8:59:00 AM
Sulfate	143	10.0		mg/L	10	5/9/2012 8:59:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	461	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	0.073	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.3	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
E Value Above Quantitation Range
N Not Accredited
X Value Exceeds Maximum Contaminant Level (MCL)
B Analyte Detected in Method Blank
H Holding Time Exceeded
S Spike Recovery Outside Recovery Limits

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-060
Lab Order:	1205214	**Collection Date:**	5/8/2012 9:55:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205214-002	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	233	0.200		mg/L	1	5/14/2012 3:21:56 PM
Magnesium	76.7	0.200		mg/L	1	5/14/2012 3:21:56 PM
Potassium	2.51	0.200		mg/L	1	5/14/2012 3:21:56 PM
Sodium	44.2	0.600		mg/L	1	5/14/2012 3:21:56 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.5	10.0		mg/L	10	5/9/2012 9:16:00 AM
Fluoride	0.420	0.100		mg/L	10	5/9/2012 9:16:00 AM
Nitrogen, Nitrate (As N)	31.1	0.100	X	mg/L	10	5/9/2012 9:16:00 AM
Sulfate	406	10.0		mg/L	10	5/9/2012 9:16:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	347	2	A	mg/L CaCO3	1	5/14/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/14/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-NTNW2-061
Lab Order:	1205214	**Collection Date:**	5/8/2012 9:55:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205214-003	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	242	0.200		mg/L	1	5/14/2012 3:29:52 PM
Magnesium	81.0	0.200		mg/L	1	5/14/2012 3:29:52 PM
Potassium	2.53	0.200		mg/L	1	5/14/2012 3:29:52 PM
Sodium	44.2	0.600		mg/L	1	5/14/2012 3:29:52 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	37.7	10.0		mg/L	10	5/9/2012 9:34:00 AM
Fluoride	0.430	0.100		mg/L	10	5/9/2012 9:34:00 AM
Nitrogen, Nitrate (As N)	30.5	0.100	X	mg/L	10	5/9/2012 9:34:00 AM
Sulfate	395	10.0		mg/L	10	5/9/2012 9:34:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	343	2	A	mg/L CaCO3	1	5/16/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/16/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-HOLWEGER-063
Lab Order:	1205214	**Collection Date:**	5/8/2012 10:35:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205214-004	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	113	0.200		mg/L	1	5/14/2012 3:37:51 PM
Magnesium	16.5	0.200		mg/L	1	5/14/2012 3:37:51 PM
Potassium	1.94	0.200		mg/L	1	5/14/2012 3:37:51 PM
Sodium	31.9	0.600		mg/L	1	5/14/2012 3:37:51 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	11.9	10.0		mg/L	10	5/9/2012 11:17:00 AM
Fluoride	0.390	0.100		mg/L	10	5/9/2012 11:17:00 AM
Nitrogen, Nitrate (As N)	16.1	0.100	X	mg/L	10	5/9/2012 11:17:00 AM
Sulfate	21.1	10.0		mg/L	10	5/9/2012 11:17:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	287	2	A	mg/L CaCO3	1	5/16/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/16/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	< 1.0	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

LCRA Environmental Laboratory Services

Date: *21-May-12*

CLIENT:	URS Corporation	**Client Sample ID:**	CRCP-221049-060
Lab Order:	1205214	**Collection Date:**	5/8/2012 11:10:00 AM
Project:	Colorado River Corridor - Groundwater	**Matrix:**	GROUNDWATER
Lab ID:	1205214-005	**Tag No:**	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MV**
Calcium	106	0.200		mg/L	1	5/14/2012 4:02:27 PM
Magnesium	12.2	0.200		mg/L	1	5/14/2012 4:02:27 PM
Potassium	1.83	0.200		mg/L	1	5/14/2012 4:02:27 PM
Sodium	25.8	0.600		mg/L	1	5/14/2012 4:02:27 PM
ANIONS BY ION CHROMATOGRAPHY		**E300.0**				Analyst: **WR**
Chloride	10.2	10.0		mg/L	10	5/9/2012 11:35:00 AM
Fluoride	0.430	0.100		mg/L	10	5/9/2012 11:35:00 AM
Nitrogen, Nitrate (As N)	13.3	0.100	X	mg/L	10	5/9/2012 11:35:00 AM
Sulfate	15.2	10.0		mg/L	10	5/9/2012 11:35:00 AM
ALKALINITY		**SM2320 B**				Analyst: **KH**
Alkalinity, Bicarbonate (As CaCO3)	267	2	A	mg/L CaCO3	1	5/16/2012
Alkalinity, Carbonate (As CaCO3)	< 2	2	A	mg/L CaCO3	1	5/16/2012
AMMONIA AS N		**E350.1**				Analyst: **JB**
Nitrogen, Ammonia (As N)	< 0.020	0.020		mg/L	1	5/9/2012
TOTAL SUSPENDED SOLIDS		**SM2540D**				Analyst: **JB**
Suspended Solids (Residue, Non-Filterable)	2.9	1.0		mg/L	1	5/9/2012

Qualifiers:

A Not Available for Accreditation
B Analyte Detected in Method Blank
E Value Above Quantitation Range
H Holding Time Exceeded
N Not Accredited
S Spike Recovery Outside Recovery Limits
X Value Exceeds Maximum Contaminant Level (MCL)

PQL: Practical Quantitation Limit

Values Below PQL Considered Estimated

Analytical Comments for METHOD E300.0, SAMPLE 1205214-002A, Batch R90667E: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1205214-003A, Batch R90667E: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1205214-004A, Batch R90667F: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E300.0, SAMPLE 1205214-005A, Batch R90667F: The nitrate MCL of 10 mg/L has been exceeded under the EPA National Primary Drinking Water Standards.

Analytical Comments for METHOD E200.7, SAMPLE 1205214-004BLFM, Batch R90796B: The calcium LFM recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205214-004BLFMD, Batch R90796B: The calcium LFMD recovery was not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205190-002ALFM, Batch R90869A: The calcium and sodium LFM recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

Analytical Comments for METHOD E200.7, SAMPLE 1205190-002ALFMD, Batch R90869A: The calcium and sodium LFMD recoveries were not reported because the spike amount was less than 30 percent of the sample background concentration.

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667E

Sample ID: **1205214-003ALFM** SampType: **LFM** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **CRCP-NTNW2-061** Batch ID: **R90667E** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	232	10.0	200.0	37.70	97.0	80	120				
Fluoride	10.0	0.100	10.00	0.4300	96.1	80	120				
Nitrogen, Nitrate (As N)	39.6	0.100	10.00	30.48	91.6	80	120				
Sulfate	587	10.0	200.0	395.3	95.6	80	120				

Sample ID: **1205214-003ALFMD** SampType: **LFMD** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **CRCP-NTNW2-061** Batch ID: **R90667E** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	232	10.0	200.0	37.70	97.0	0	2000	231.6	0	20	
Fluoride	10.1	0.100	10.00	0.4300	96.3	0	2000	10.04	0.199	20	
Nitrogen, Nitrate (As N)	39.6	0.100	10.00	30.48	91.1	0	2000	39.64	0.126	20	
Sulfate	586	10.0	200.0	395.3	95.4	0	2000	586.6	0.0877	20	

Sample ID: **IC_120508_LFB** SampType: **LFB** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667E** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Sample ID: **IC_120508_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667E** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667E

Sample ID: **IC_120508_IPC** SampType: **IPC** TestCode: **300_48H** Units: **mg/L** Prep Date: RunNo: **90667**
Client ID: **ZZZZZZ** Batch ID: **R90667E** TestNo: **E300.0** Analysis Date: **5/9/2012** SeqNo: **3054728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.06	0.010	1.000	0	106	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90667F

Sample ID: IC_120508_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90667
Client ID: ZZZZZZ	Batch ID: R90667F	TestNo: E300.0		Analysis Date: 5/9/2012	SeqNo: 3054739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.0	1.00	30.00	0	100	90	110				
Fluoride	1.04	0.010	1.000	0	104	90	110				
Nitrogen, Nitrate (As N)	1.03	0.010	1.000	0	103	90	110				
Sulfate	29.9	1.00	30.00	0	99.7	90	110				

Sample ID: 1205239-001ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90667
Client ID: ZZZZZZ	Batch ID: R90667F	TestNo: E300.0		Analysis Date: 5/9/2012	SeqNo: 3054742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.3	1.00	20.00	58.31	89.7	80	120				
Fluoride	1.54	0.010	1.000	0.5130	103	80	120				

Sample ID: 1205239-001ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90667
Client ID: ZZZZZZ	Batch ID: R90667F	TestNo: E300.0		Analysis Date: 5/9/2012	SeqNo: 3054743

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.3	1.00	20.00	58.31	89.8	0	2000	76.25	0.0354	20	
Fluoride	1.54	0.010	1.000	0.5130	103	0	2000	1.539	0.195	20	

Sample ID: IC_120508_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90667
Client ID: ZZZZZZ	Batch ID: R90667F	TestNo: E300.0		Analysis Date: 5/9/2012	SeqNo: 3054744

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.4	1.00	30.00	0	101	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				
Sulfate	30.3	1.00	30.00	0	101	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90670

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **LCSW**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	94.0	20.0	100.0	0	94.0	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **LCSS02**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	102	20.0	100.0	0	102	0	2000	94.00	8.16	20	

Sample ID: **1205188-001DDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90670**
Client ID: **ZZZZZZ**	Batch ID: **R90670**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	6.3	2.1						7.000	11.3	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90676

Sample ID: **LCS**	SampType: **LCS**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90676**
Client ID: **LCSW**	Batch ID: **R90676**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	92.0	20.0	100.0	0	92.0	80	120				

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90676**
Client ID: **LCSS02**	Batch ID: **R90676**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	102	20.0	100.0	0	102	0	2000	92.00	10.3	20	

Sample ID: **1205214-004DDUP**	SampType: **DUP**	TestCode: **TSS_SM**	Units: **mg/L**	Prep Date:	RunNo: **90676**
Client ID: **CRCP-HOLWEGER-**	Batch ID: **R90676**	TestNo: **SM2540D**		Analysis Date: **5/9/2012**	SeqNo: **3054262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 1.0	1.0						0	0	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90697D

Sample ID: **1205214-002CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **CRCP-NTNW2-060**	Batch ID: **R90697D**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.02	0.020	1.000	0.02044	100	90	110				

Sample ID: **NH3_LFB4**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **ZZZZZZ**	Batch ID: **R90697D**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.996	0.020	1.000	0	99.6	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90697E

Sample ID: **1205214-004CMS**	SampType: **MS**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **CRCP-HOLWEGER-**	Batch ID: **R90697E**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.020	1.000	0.008310	96.7	90	110				

Sample ID: **NH3_LFB5**	SampType: **LFB**	TestCode: **NH3-N**	Units: **mg/L**	Prep Date:	RunNo: **90697**
Client ID: **ZZZZZZ**	Batch ID: **R90697E**	TestNo: **E350.1**		Analysis Date: **5/9/2012**	SeqNo: **3054849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.954	0.020	1.000	0	95.4	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734C

Sample ID: 1205188-007ALFM	SampType: LFM	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055615

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	284	10.0	200.0	33.61	125	80	120				S
Fluoride	10.7	0.100	10.00	0.5200	102	80	120				
Nitrogen, Nitrate (As N)	10.5	0.100	10.00	3.950	65.7	80	120				S
Sulfate	292	10.0	200.0	85.16	104	80	120				

Sample ID: 1205188-007ALFMD	SampType: LFMD	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	284	10.0	200.0	33.61	125	0	2000	284.2	0.0387	20	
Fluoride	10.7	0.100	10.00	0.5200	102	0	2000	10.74	0.373	20	
Nitrogen, Nitrate (As N)	10.5	0.100	10.00	3.950	65.4	0	2000	10.52	0.286	20	
Sulfate	293	10.0	200.0	85.16	104	0	2000	292.5	0.0171	20	

Sample ID: IC_120510_LFB	SampType: LFB	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.6	1.00	30.00	0	102	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.04	0.010	1.000	0	104	90	110				
Sulfate	30.4	1.00	30.00	0	101	90	110				

Sample ID: IC_120510_IPC	SampType: IPC	TestCode: 300_48H	Units: mg/L	Prep Date:	RunNo: 90734
Client ID: ZZZZZZ	Batch ID: R90734C	TestNo: E300.0		Analysis Date: 5/11/2012	SeqNo: 3055618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	30.8	1.00	30.00	0	103	90	110				
Fluoride	1.05	0.010	1.000	0	105	90	110				
Nitrogen, Nitrate (As N)	1.05	0.010	1.000	0	105	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90734C

Sample ID: **IC_120510_IPC**	SampType: **IPC**	TestCode: **300_48H**	Units: **mg/L**	Prep Date:	RunNo: **90734**
Client ID: **ZZZZZZ**	Batch ID: **R90734C**	TestNo: **E300.0**		Analysis Date: **5/11/2012**	SeqNo: **3055618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	30.6	1.00	30.00	0	102	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90795

Sample ID: **1205188-001ADUP** SampType: **DUP** TestCode: **ALK** Units: **mg/L CaCO3** Prep Date: RunNo: **90795**
Client ID: **ZZZZZZ** Batch ID: **R90795** TestNo: **SM2320 B** Analysis Date: **5/14/2012** SeqNo: **3057834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	460	10						454.6	1.14	0	A
Alkalinity, Carbonate (As CaCO3)	< 10	10						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90796B

Sample ID: 1205214-004BLFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: CRCP-HOLWEGER-	Batch ID: R90796B	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057816

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	28.1	0.200	10.00	16.52	116	70	130				
Potassium	11.5	0.200	10.00	1.938	95.7	70	130				
Sodium	41.8	0.600	10.00	31.87	98.8	70	130				

Sample ID: 1205214-004BLFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 5/9/2012	RunNo: 90796
Client ID: CRCP-HOLWEGER-	Batch ID: R90796B	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057817

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.4	0.200	10.00	16.52	109	0	2000	28.10	2.49	20	
Potassium	11.3	0.200	10.00	1.938	93.3	0	2000	11.51	2.08	20	
Sodium	40.7	0.600	10.00	31.87	88.0	0	2000	41.76	2.64	20	

Sample ID: CCB3	SampType: CCB	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 90796
Client ID: CCB	Batch ID: R90796B	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057819

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	0.291	0.200									
Sodium	< 0.600	0.600									

Sample ID: IPC3	SampType: IPC	TestCode: 200.7	Units: mg/L	Prep Date:	RunNo: 90796
Client ID: ZZZZZZ	Batch ID: R90796B	TestNo: E200.7		Analysis Date: 5/14/2012	SeqNo: 3057820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	108	0.200	100.0	0	108	90	110				
Magnesium	108	0.200	100.0	0	108	90	110				
Potassium	94.2	0.200	100.0	0	94.2	90	110				
Sodium	92.0	0.600	100.0	0	92.0	90	110				

Qualifiers:

- A Not Available for Accreditation
- B Analyte Detected in Method Blank
- E Value Above Quantitation Range
- H Holding Time Exceeded
- N Not Accredited
- R RPD Outside Recovery Limits
- S Spike Recovery Outside Recovery Limits
- X Value Exceeds Maximum Contaminant Level (MCL)

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90869A

Sample ID: LFB-30045	SampType: LFB	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062559

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.9	0.200	10.00	0	109	85	115				
Magnesium	10.2	0.200	10.00	0	102	85	115				
Potassium	9.63	0.200	10.00	0	96.3	85	115				
Sodium	9.72	0.600	10.00	0	97.2	85	115				

Sample ID: LFBD-30045	SampType: LFBD	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062560

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.8	0.200	10.00	0	108	0	2000	10.93	1.52	20	
Magnesium	10.0	0.200	10.00	0	100	0	2000	10.19	1.79	20	
Potassium	9.41	0.200	10.00	0	94.1	0	2000	9.632	2.28	20	
Sodium	9.52	0.600	10.00	0	95.2	0	2000	9.715	1.98	20	

Sample ID: 1205190-002ALFM	SampType: LFM	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062564

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.9	0.200	10.00	14.69	102	70	130				
Potassium	20.6	0.200	10.00	9.776	109	70	130				

Sample ID: 1205190-002ALFMD	SampType: LFMD	TestCode: 200.7	Units: mg/L	Prep Date: 5/11/2012	RunNo: 90869
Client ID: ZZZZZZ	Batch ID: R90869A	TestNo: E200.7		Analysis Date: 5/16/2012	SeqNo: 3062565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.3	0.200	10.00	14.69	95.6	0	2000	24.89	2.60	20	
Potassium	20.2	0.200	10.00	9.776	104	0	2000	20.65	2.07	20	

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90869A

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **90869**
Client ID: **CCB**	Batch ID: **R90869A**	TestNo: **E200.7**		Analysis Date: **5/16/2012**	SeqNo: **3062569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 0.200	0.200									
Magnesium	< 0.200	0.200									
Potassium	< 0.200	0.200									
Sodium	< 0.600	0.600									

Sample ID: **IPC2**	SampType: **IPC**	TestCode: **200.7**	Units: **mg/L**	Prep Date:	RunNo: **90869**
Client ID: **ZZZZZZ**	Batch ID: **R90869A**	TestNo: **E200.7**		Analysis Date: **5/16/2012**	SeqNo: **3062570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103	0.200	100.0	0	103	90	110				
Magnesium	99.9	0.200	100.0	0	99.9	90	110				
Potassium	101	0.200	100.0	0	101	90	110				
Sodium	96.3	0.600	100.0	0	96.3	90	110				

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

CLIENT: URS Corporation
Work Order: 1205214
Project: Colorado River Corridor - Groundwater

ANALYTICAL QC SUMMARY REPORT

BatchID: R90883

Sample ID: **1205214-004ADUP** SampType: **DUP** TestCode: **ALK** Units: **mg/L CaCO3** Prep Date: RunNo: **90883**
Client ID: **CRCP-HOLWEGER-** Batch ID: **R90883** TestNo: **SM2320 B** Analysis Date: **5/16/2012** SeqNo: **3063076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	291	10						287.0	1.38	0	A
Alkalinity, Carbonate (As CaCO3)	< 10	10						0	0	0	A

Qualifiers:

A	Not Available for Accreditation	B	Analyte Detected in Method Blank	E	Value Above Quantitation Range
H	Holding Time Exceeded	N	Not Accredited	R	RPD Outside Recovery Limits
S	Spike Recovery Outside Recovery Limits	X	Value Exceeds Maximum Contaminant Level (MCL)		

Environmental Laboratory Services
The Solution Lab

LCRA ENVIRONMENTAL LABORATORY SERVICES (ELS)
CHAIN OF CUSTODY RECORD

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all Standard Terms and Conditions stated on the back of this form.

Target Due Date: 5/22/12
Work Order No.: 1205214
COC No.: 12643
Page 1 of 1

Results To: Kevin Pasternak 9400 Amberglen Blvd Austin, TX 78729 (NAME / ADDRESS / CITY / STATE / ZIP) Sampled By: K. Nguyen, A Potts
Bill To: Travis County CRCP (NAME / ADDRESS) PO No.:
Phone No.: 5124544717 Fax No.: 5124548807 Method of Transport: Hand Delivery TAT Requested: Normal Working days E-mail: kevin.pasternak@cwis.com
Relinquished By: [signature] Date: 5/8/12 Time: 1145 Received By: _____ Date: _____ Time: _____ Relinquished By: _____ Date: _____ Time: _____

Report Requirements: ☐ Hardcopy ☑ E-mail ☐ Fax ☐ EDD (Generic)
Regulatory Requirements: ☑ None ☐ NELAP ☐ _____
Received at ELS By: [signature] Date: 5/8 Time: 1145
☒ Received on Ice Temp: 2.3 °C (IR) Date: 5/8/12
Login Review: [signature] Date: 5/8/12
ELS Mgmt. Approval for RUSH: _____
Surcharge for RUSH: _____ %

ELS ID:	SAMPLE DESCRIPTION (Custody Seals (circle): Cooler Bottles (None))	MATRIX	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	CONTAINERS NUMBER	CONTAINERS SIZE	CONTAINERS TYPE	ANALYSIS REQUESTED: E350.1 ✓	E300.0 Sm4500-SO4 E	E200.7 ✓	Sm2540D ✓					PRESERVATIVES	pH
001	CRCP-ATF1-060	W	5/8/12	0905	4	Vary	Plast	X	X	X	X					HNO_3, H_2SO_4	
002	CRCP-NTNW2-060	↓	↓	0955	4	↓	↓	X	X	X	X					↓	
003	CRCP-NTNW2-061			0955	4			X	X	X	X						
004	CRCP-Holweger-063			1035	5			X	X	X	X						
005	CRCP-221049-060			1110	4	↓	↓	X	X	X	X					↓	

Special Instructions: MS/MSD on CRCP-Holweger-063
ELS Comments: _____

$PM_{2.5}$ Gravimetric Analysis Results

Travis County

Sample ID	Tare Analysis Date	Exposed Analysis Date	Maximum Exposed Transportation Temperature (°C)	Mass (mg) Tare	Gross	Net
P0278501	10/10/11	11/15/11	14.0	141.022	141.099	**0.077**
P0278502	10/10/11	11/15/11	14.0	141.565	141.744	**0.179**
P0278503	10/10/11	11/15/11	14.0	139.923	140.000	**0.077**
P0278504	10/10/11	11/15/11	14.0	140.803	140.946	**0.143**
P0278509	10/10/11	11/15/11	14.0	140.256	140.261	**0.005**
P0279997	10/10/11	11/15/11	14.0	145.278	145.333	**0.055**
P0279998	10/10/11	11/15/11	14.0	146.520	146.722	**0.202**
P0279999	10/10/11	11/15/11	14.0	146.195	146.249	**0.054**
P0280000	10/10/11	11/15/11	14.0	146.427	146.541	**0.114**
P0280270	10/24/11	11/15/11	14.0	145.041	145.106	**0.065**
P0280271	10/24/11	11/15/11	14.0	144.581	144.655	**0.074**
P0280272	10/24/11	11/15/11	14.0	148.950	149.109	**0.159**
P0280273	10/24/11	11/15/11	14.0	146.513	146.526	**0.013**
P0280274	10/24/11	11/15/11	14.0	143.630	143.683	**0.053**
P0280275	10/24/11	11/15/11	14.0	145.990	146.188	**0.198**
P0280276	10/24/11	11/15/11	14.0	145.819	145.903	**0.084**
P0280277	10/24/11	11/15/11	14.0	145.810	145.973	**0.163**
P0280278	10/24/11	11/15/11	14.0	143.527	143.625	**0.098**
P0280279	10/24/11	11/15/11	14.0	145.729	145.935	**0.206**
P0280280	10/24/11	11/15/11	14.0	143.552	143.600	**0.048**
P0280281	10/24/11	11/15/11	14.0	144.247	144.358	**0.111**

Exposed Comments
TC1PM25102311005
TC2PM10102311006
TC3PM25102311007
TC4PM10102311008
TCB110411025-Trip blank
TC1PM25102011001
TC2PM10102011002
TC3PM25102011003
TC4PM10102011004
TC1PM25102911013
TC2PM25102911015
TC2PM10102911016
TC2PM10110411024
TC2PM25110411023
TC1PM10102911014
TC1PM25110111017
TC1PM10110111018
TC2PM25110111019
TC2PM10110111020
TC1PM25110411021-Torn
TC1PM10110411022

$PM_{2.5}$ Gravimetric Analysis Results

Travis County

Sample ID	Tare Analysis Date	Exposed Analysis Date	Maximum Exposed Transportation Temperature (°C)	Mass (mg) Tare	Gross	Net	Exposed Comments
P0278505	10/10/11	11/17/11	25.0	141.827	141.885	0.058	TC1PM25102611009
P0278506	10/10/11	11/17/11	25.0	141.553	141.639	0.086	TC2PM10102611010
P0278507	10/10/11	11/17/11	25.0	139.691	139.750	0.059	TC3PM25102611011
P0278508	10/10/11	11/17/11	25.0	141.907	142.015	0.108	TC4PM10102611012

SampleID	LocationShippedTo	TareEquilDateTime	TareDate	TareCondAvg24HrTemp
P0278501	Travis County	10/7/2011	10/10/2011	21.2
P0278502	Travis County	10/7/2011	10/10/2011	21.2
P0278503	Travis County	10/7/2011	10/10/2011	21.2
P0278504	Travis County	10/7/2011	10/10/2011	21.2
P0278509	Travis County	10/7/2011	10/10/2011	21.2
P0279997	Travis County	10/7/2011	10/10/2011	21.2
P0279998	Travis County	10/7/2011	10/10/2011	21.2
P0279999	Travis County	10/7/2011	10/10/2011	21.2
P0280000	Travis County	10/7/2011	10/10/2011	21.2
P0280270	Travis County	10/21/2011	10/24/2011	21.3
P0280271	Travis County	10/21/2011	10/24/2011	21.3
P0280272	Travis County	10/21/2011	10/24/2011	21.3
P0280273	Travis County	10/21/2011	10/24/2011	21.3
P0280274	Travis County	10/21/2011	10/24/2011	21.3
P0280275	Travis County	10/21/2011	10/24/2011	21.3
P0280276	Travis County	10/21/2011	10/24/2011	21.3
P0280277	Travis County	10/21/2011	10/24/2011	21.3
P0280278	Travis County	10/21/2011	10/24/2011	21.3
P0280279	Travis County	10/21/2011	10/24/2011	21.3
P0280280	Travis County	10/21/2011	10/24/2011	21.3
P0280281	Travis County	10/21/2011	10/24/2011	21.3

TareCondMin24HrTemp	TareCondMax24HrTemp	TareCondStdv24HrTemp	TareAnalysisAvgTemp
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66
20.76	22.1	0.2	21.66

TareCondAvg24HrRH	TareCondMin24HrRH	TareCondMax24HrRH	TareCondStdv24HrRH
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4
35.7	34.53	37.26	0.4

TareAnalysisAvgRH	DateShippedTare	Shipper	DateReceivedExposed	COCUsed	MaxXportTemp
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.49	10/10/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14
35.45	10/24/2011	FedEx Economy	11/11/2011	TRUE	14

ExposedComments	ExposedEquilDateTime	ExposedDate	ExposedCondAvg24HrTemp
TC1PM25102311005	11/14/2011	11/15/2011	21.3
TC2PM10102311006	11/14/2011	11/15/2011	21.3
TC3PM25102311007	11/14/2011	11/15/2011	21.3
TC4PM10102311008	11/14/2011	11/15/2011	21.3
TCB110411025-Trip blank	11/14/2011	11/15/2011	21.3
TC1PM25102011001	11/14/2011	11/15/2011	21.3
TC2PM10102011002	11/14/2011	11/15/2011	21.3
TC3PM25102011003	11/14/2011	11/15/2011	21.3
TC4PM10102011004	11/14/2011	11/15/2011	21.3
TC1PM25102911013	11/14/2011	11/15/2011	21.3
TC2PM25102911015	11/14/2011	11/15/2011	21.3
TC2PM10102911016	11/14/2011	11/15/2011	21.3
TC2PM10110411024	11/14/2011	11/15/2011	21.3
TC2PM25110411023	11/14/2011	11/15/2011	21.3
TC1PM10102911014	11/14/2011	11/15/2011	21.3
TC1PM25110111017	11/14/2011	11/15/2011	21.3
TC1PM10110111018	11/14/2011	11/15/2011	21.3
TC2PM25110111019	11/14/2011	11/15/2011	21.3
TC2PM10110111020	11/14/2011	11/15/2011	21.3
TC1PM25110411021-Torn	11/14/2011	11/15/2011	21.3
TC1PM10110411022	11/14/2011	11/15/2011	21.3

ExposedCondMin24HrTemp	ExposedCondMax24HrTemp	ExposedCondStdv24HrTemp
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1
20.77	21.76	0.1

ExposedAnalysisAvgTemp	ExposedCondAvg24HrRH	ExposedCondMin24HrRH
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26
21.48	35.8	34.26

ExposedCondMax24HrRH	ExposedCondStdv24HrRH	ExposedAnalysisAvgRH	TareMass	ExposedMass
37.47	0.5	35.32	141.022	141.099
37.47	0.5	35.32	141.565	141.744
37.47	0.5	35.32	139.923	140
37.47	0.5	35.32	140.803	140.946
37.47	0.5	35.32	140.256	140.261
37.47	0.5	35.32	145.278	145.333
37.47	0.5	35.32	146.52	146.722
37.47	0.5	35.32	146.195	146.249
37.47	0.5	35.32	146.427	146.541
37.47	0.5	35.32	145.041	145.106
37.47	0.5	35.32	144.581	144.655
37.47	0.5	35.32	148.95	149.109
37.47	0.5	35.32	146.513	146.526
37.47	0.5	35.32	143.63	143.683
37.47	0.5	35.32	145.99	146.188
37.47	0.5	35.32	145.819	145.903
37.47	0.5	35.32	145.81	145.973
37.47	0.5	35.32	143.527	143.625
37.47	0.5	35.32	145.729	145.935
37.47	0.5	35.32	143.552	143.6
37.47	0.5	35.32	144.247	144.358

NetMass
0.077
0.179
0.077
0.143
0.005
0.055
0.202
0.054
0.114
0.065
0.074
0.159
0.013
0.053
0.198
0.084
0.163
0.098
0.206
0.048
0.111

SampleID	LocationShippedTo	TareEquilDateTime	TareDate	TareCondAvg24HrTemp
P0278505	Travis County	10/7/2011	10/10/2011	21.2
P0278506	Travis County	10/7/2011	10/10/2011	21.2
P0278507	Travis County	10/7/2011	10/10/2011	21.2
P0278508	Travis County	10/7/2011	10/10/2011	21.2

TareCondMin24HrTemp	TareCondMax24HrTemp	TareCondStdv24HrTemp	TareAnalysisAvgTemp
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68
20.85	22.08	0.2	21.68

TareCondAvg24HrRH	TareCondMin24HrRH	TareCondMax24HrRH	TareCondStdv24HrRH
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4
35.8	34.63	37.29	0.4

TareAnalysisAvgRH	DateShippedTare	Shipper	DateReceivedExposed	COCUsed	MaxXportTemp
35.49	10/10/2011	FedEx Economy	11/16/2011	TRUE	25
35.49	10/10/2011	FedEx Economy	11/16/2011	TRUE	25
35.49	10/10/2011	FedEx Economy	11/16/2011	TRUE	25
35.49	10/10/2011	FedEx Economy	11/16/2011	TRUE	25

ExposedComments	ExposedEquilDateTime	ExposedDate	ExposedCondAvg24HrTemp
TC1PM25102611009	11/16/2011	11/17/2011	21.2
TC2PM10102611010	11/16/2011	11/17/2011	21.2
TC3PM25102611011	11/16/2011	11/17/2011	21.2
TC4PM10102611012	11/16/2011	11/17/2011	21.2

ExposedCondMin24HrTemp	ExposedCondMax24HrTemp	ExposedCondStdv24HrTemp
20.68	21.7	0.2
20.68	21.7	0.2
20.68	21.7	0.2
20.68	21.7	0.2

ExposedAnalysisAvgTemp	ExposedCondAvg24HrRH	ExposedCondMin24HrRH
21.21	35.6	34.28
21.21	35.6	34.28
21.21	35.6	34.28
21.21	35.6	34.28

ExposedCondMax24HrRH	ExposedCondStdv24HrRH	ExposedAnalysisAvgRH	TareMass	ExposedMass
37.8	0.6	35.74	141.827	141.885
37.8	0.6	35.74	141.553	141.639
37.8	0.6	35.74	139.691	139.75
37.8	0.6	35.74	141.907	142.015

NetMass
0.058
0.086
0.059
0.108

Micro-Gravimetric Lab Blank Analysis Results

URS Corporation

October 1, 2011 - November 15, 2011

Blank ID	Exposure Analysis Date	Mass (mg) Initial	Final	Net
3004334	11/15/11	141.226	141.229	0.003
3004401	11/15/11	146.606	146.610	0.004

Micro-Gravimetric Lab Blank Analysis Results

URS Corporation

November 16, 2011 - November 17, 2011

Blank ID	Exposure Analysis Date	Mass (mg) Initial	Final	Net
3004334	11/15/11	141.226	141.229	0.003

Micro-Gravimetric Void and Expired Samples

URS Corporation

October 1, 2011 - November 15, 2011

Location Sample was Received From	Laboratory Reception Date	Sample ID	Sample Status
Travis County	11/11/11	P0278505	**Void-No Filter Returned**
Travis County	11/11/11	P0278506	**Void-No Filter Returned**
Travis County	11/11/11	P0278507	**Void-No Filter Returned**
Travis County	11/11/11	P0278508	**Void-No Filter Returned**

Micro-Gravimetric Void and Expired Samples

URS Corporation

November 16, 2011 - November 17, 2011

Location Sample was Received From	Laboratory Reception Date	Sample ID	Sample Status
No Void or Expired Samples			

Micro-Gravimetric Replicate Analysis Results

URS Corporation

October 1, 2011 - November 15, 2011

Sample ID	Analysis Type	Analysis Date	Mass (mg) Original	Mass (mg) Replicate	Mass (mg) Net
P0278502	Tare	10/10/11	141.565	141.565	0.000
P0280276	Tare	10/24/11	145.819	145.815	-0.004
P0280277	Tare	10/24/11	145.810	145.807	-0.003
P0280279	Gross	11/15/11	145.935	145.933	-0.002

Micro-Gravimetric Replicate Analysis Results

URS Corporation

November 16, 2011 - November 17, 2011

Sample ID	Analysis Type	Analysis Date	Mass (mg) Original	Mass (mg) Replicate	Mass (mg) Net
P0278508	Gross	11/17/11	142.015	142.017	0.002

$PM_{2.5}$ Gravimetric Analysis Results

Travis County

Sample ID	Tare Analysis Date	Exposed Analysis Date	Maximum Exposed Transportation Temperature (°C)	Mass (mg) Tare	Gross	Net	Exposed Comments
P0330519	12/23/11	02/01/12	14.0	141.518	141.547	0.029	TC1PM25010512001
P0330520	12/23/11	02/01/12	14.0	139.879	140.037	0.158	TC1PM10010512002
P0330521	12/23/11	02/01/12	14.0	138.751	138.829	0.078	TC2PM25010512003
P0330522	12/23/11	02/01/12	14.0	137.150	137.327	0.177	TC2PM10010512004
P0330523	12/23/11	02/01/12	14.0	141.227	141.455	0.228	TC1PM10010812006
P0330524	12/23/11	02/01/12	14.0	138.190	138.264	0.074	TC1PM25010812005
P0330525	12/23/11	02/01/12	14.0	139.018	139.157	0.139	TC2PM25010812007
P0330526	12/23/11	02/01/12	14.0	137.182	137.412	0.230	TC2PM10010812008
P0330527	12/23/11	02/01/12	14.0	140.192	140.207	0.015	TC1PM25011112009 Did not run
P0330528	12/23/11	02/01/12	14.0	138.311	138.358	0.047	TC2PM25011112011
P0330529	12/23/11	02/01/12	14.0	142.210	142.295	0.085	TC1PM10011112010
P0330530	12/23/11	02/01/12	14.0	139.366	139.456	0.090	TC2PM10011112012
P0330531	12/23/11	02/01/12	14.0	138.748	138.987	0.239	TC1PM10011412014
P0330532	12/23/11	02/01/12	14.0	137.513	137.577	0.064	TC2PM25011412015
P0330533	12/23/11	02/01/12	14.0	138.346	138.472	0.126	TC2PM10011412016
P0330534	12/23/11	02/01/12	14.0	139.059	139.068	0.009	TC1PM25011412013 Did not run
P0330535	12/23/11	02/03/12	14.0	139.341	139.342	0.001	TC1PM25011712017
P0330536	12/23/11	02/01/12	14.0	140.114	140.212	0.098	TC1PM10011712018
P0330537	12/23/11	02/01/12	14.0	138.136	138.143	0.007	TC2PM25011712019
P0330538	12/23/11	02/01/12	14.0	139.879	139.979	0.100	TC2PM10011712020
P0330539	12/23/11	02/01/12	14.0	138.944	138.953	0.009	TC1B012012025 Field blank
P0330540	12/23/11	02/01/12	14.0	140.894	140.901	0.007	TC1PM25012012021 Did not run
P0330541	12/23/11	02/01/12	14.0	138.927	139.360	0.433	TC2PM10012012024
P0330542	12/23/11	02/01/12	14.0	140.428	140.583	0.155	TC1PM10012012022
P0330543	12/23/11	02/01/12	14.0	143.390	143.505	0.115	TC2PM25012012023

SampleID	LocationShippedTo	TareEquilDateTime	TareDate	TareCondAvg24HrTemp
P0330519	Travis County	12/21/2011	12/23/2011	21.1
P0330520	Travis County	12/21/2011	12/23/2011	21.1
P0330521	Travis County	12/21/2011	12/23/2011	21.1
P0330522	Travis County	12/21/2011	12/23/2011	21.1
P0330523	Travis County	12/21/2011	12/23/2011	21.1
P0330524	Travis County	12/21/2011	12/23/2011	21.1
P0330525	Travis County	12/21/2011	12/23/2011	21.1
P0330526	Travis County	12/21/2011	12/23/2011	21.1
P0330527	Travis County	12/21/2011	12/23/2011	21.1
P0330528	Travis County	12/21/2011	12/23/2011	21.1
P0330529	Travis County	12/21/2011	12/23/2011	21.1
P0330530	Travis County	12/21/2011	12/23/2011	21.1
P0330531	Travis County	12/21/2011	12/23/2011	21.1
P0330532	Travis County	12/21/2011	12/23/2011	21.1
P0330533	Travis County	12/21/2011	12/23/2011	21.1
P0330534	Travis County	12/21/2011	12/23/2011	21.1
P0330535	Travis County	12/21/2011	12/23/2011	21.1
P0330536	Travis County	12/21/2011	12/23/2011	21.1
P0330537	Travis County	12/21/2011	12/23/2011	21.1
P0330538	Travis County	12/21/2011	12/23/2011	21.1
P0330539	Travis County	12/21/2011	12/23/2011	21.1
P0330540	Travis County	12/21/2011	12/23/2011	21.1
P0330541	Travis County	12/21/2011	12/23/2011	21.1
P0330542	Travis County	12/21/2011	12/23/2011	21.1
P0330543	Travis County	12/21/2011	12/23/2011	21.1

TareCondMin24HrTemp	TareCondMax24HrTemp	TareCondStdv24HrTemp	TareAnalysisAvgTemp
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.13
20.55	21.74	0.2	21.11
20.55	21.74	0.2	21.11

TareCondAvg24HrRH	TareCondMin24HrRH	TareCondMax24HrRH	TareCondStdv24HrRH
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6
35.6	34.18	37.8	0.6

TareAnalysisAvgRH	DateShippedTare	Shipper	DateReceivedExposed	COCUsed	MaxXportTemp
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	2/2/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.85	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.78	12/23/2011	FedEx Economy	1/31/2012	TRUE	14
35.78	12/23/2011	FedEx Economy	1/31/2012	TRUE	14

ExposedComments	ExposedEquilDateTime	ExposedDate	ExposedCondAvg24HrTemp
TC1PM25010512001	1/31/2012	2/1/2012	21.3
TC1PM10010512002	1/31/2012	2/1/2012	21.3
TC2PM25010512003	1/31/2012	2/1/2012	21.3
TC2PM10010512004	1/31/2012	2/1/2012	21.3
TC1PM10010812006	1/31/2012	2/1/2012	21.3
TC1PM25010812005	1/31/2012	2/1/2012	21.3
TC2PM25010812007	1/31/2012	2/1/2012	21.3
TC2PM10010812008	1/31/2012	2/1/2012	21.3
TC1PM25011112009 Did not run	1/31/2012	2/1/2012	21.3
TC2PM25011112011	1/31/2012	2/1/2012	21.3
TC1PM10011112010	1/31/2012	2/1/2012	21.3
TC2PM10011112012	1/31/2012	2/1/2012	21.3
TC1PM10011412014	1/31/2012	2/1/2012	21.3
TC2PM25011412015	1/31/2012	2/1/2012	21.3
TC2PM10011412016	1/31/2012	2/1/2012	21.3
TC1PM25011412013 Did not run	1/31/2012	2/1/2012	21.3
	2/2/2012	2/3/2012	
TC1PM10011712018	1/31/2012	2/1/2012	21.3
TC2PM25011712019	1/31/2012	2/1/2012	21.3
TC2PM10011712020	1/31/2012	2/1/2012	21.3
TC1B012012025 Field blank	1/31/2012	2/1/2012	21.3
TC1PM25012012021 Did not run	1/31/2012	2/1/2012	21.3
TC2PM10012012024	1/31/2012	2/1/2012	21.3
TC1PM10012012022	1/31/2012	2/1/2012	21.3
TC2PM25012012023	1/31/2012	2/1/2012	21.3

ExposedCondMin24HrTemp	ExposedCondMax24HrTemp	ExposedCondStdv24HrTemp
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2
20.73	21.79	0.2

ExposedAnalysisAvgTemp	ExposedCondAvg24HrRH	ExposedCondMin24HrRH
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05
21.17	35.5	34.05

ExposedCondMax24HrRH	ExposedCondStdv24HrRH	ExposedAnalysisAvgRH	TareMass	ExposedMass
37.4	0.5	35.23	141.518	141.547
37.4	0.5	35.23	139.879	140.037
37.4	0.5	35.23	138.751	138.829
37.4	0.5	35.23	137.15	137.327
37.4	0.5	35.23	141.227	141.455
37.4	0.5	35.23	138.19	138.264
37.4	0.5	35.23	139.018	139.157
37.4	0.5	35.23	137.182	137.412
37.4	0.5	35.23	140.192	140.207
37.4	0.5	35.23	138.311	138.358
37.4	0.5	35.23	142.21	142.295
37.4	0.5	35.23	139.366	139.456
37.4	0.5	35.23	138.748	138.987
37.4	0.5	35.23	137.513	137.577
37.4	0.5	35.23	138.346	138.472
37.4	0.5	35.23	139.059	139.068
			139.341	139.342
37.4	0.5	35.23	140.114	140.212
37.4	0.5	35.23	138.136	138.143
37.4	0.5	35.23	139.879	139.979
37.4	0.5	35.23	138.944	138.953
37.4	0.5	35.23	140.894	140.901
37.4	0.5	35.23	138.927	139.36
37.4	0.5	35.23	140.428	140.583
37.4	0.5	35.23	143.39	143.505

NetMass
0.029
0.158
0.078
0.177
0.228
0.074
0.139
0.23
0.015
0.047
0.085
0.09
0.239
0.064
0.126
0.009
0.001
0.098
0.007
0.1
0.009
0.007
0.433
0.155
0.115

Micro-Gravimetric Lab Blank Analysis Results

URS Corporation

January 1, 2012 - February 3, 2012

Blank ID	Exposure Analysis Date	Mass (mg) Initial	Final	Net
3004739	02/01/12	142.875	142.885	0.010
3004740	02/01/12	139.537	139.544	0.007

Micro-Gravimetric Void and Expired Samples

URS Corporation

January 1, 2012 - February 3, 2012

Location Sample was Received From	Laboratory Reception Date	Sample ID	Sample Status

No Void or Expired Samples

Micro-Gravimetric Replicate Analysis Results

URS Corporation

January 1, 2012 - February 3, 2012

Sample ID	Analysis Type	Analysis Date	Mass (mg) Original	Mass (mg) Replicate	Mass (mg) Net
P0330541	Gross	02/01/12	139.360	139.361	0.001
P0330535	Gross	02/03/12	139.342	139.341	-0.001

$PM_{2.5}$ Gravimetric Analysis Results

Travis County

Sample ID	Tare Analysis Date	Exposed Analysis Date	Maximum Exposed Transportation Temperature (°C)	Mass (mg) Tare	Gross	Net	Exposed Comments
W0383680	03/05/12	04/17/12	18.0	139.696	139.802	0.106	TC1PM10031512002
W0383681	03/05/12	04/17/12	18.0	140.813	140.878	0.065	TC2PM25031512003
W0383682	03/05/12	04/17/12	18.0	141.172	141.244	0.072	TC1PM25031512001
W0383683	03/05/12	04/17/12	18.0	140.722	140.796	0.074	TC2PM25031812006
W0383684	03/05/12	04/17/12	18.0	140.434	140.527	0.093	TC1PM10031812005
W0383685	03/05/12	04/17/12	18.0	140.104	140.160	0.056	TC1PM25031812004
W0383686	03/05/12	04/17/12	18.0	140.393	140.435	0.042	TC2PM25032112009
W0383687	03/05/12	04/17/12	18.0	140.394	140.478	0.084	TC2PM25032412012
W0383688	03/05/12	04/17/12	18.0	139.919	140.049	0.130	TC1PM10032712014
W0383689	03/05/12	04/17/12	18.0	140.322	141.173	0.851	TC2PM25032712015 Particles
W0383690	03/05/12	04/17/12	18.0	140.523	140.599	0.076	TC1PM25032712013
W0383691	03/05/12	04/17/12	18.0	139.540	139.630	0.090	TC1PM25032412010
W0383692	03/05/12	04/17/12	18.0	138.869	138.988	0.119	TC1PM10032412011
W0383693	03/05/12	04/17/12	18.0	141.321	141.362	0.041	TC1PM25032112007
W0383694	03/05/12	04/17/12	18.0	138.256	138.355	0.099	TC1PM10032112008
W0383695	03/05/12	04/17/12	18.0	139.852	139.993	0.141	TC1PM10033012017
W0383696	03/05/12	04/17/12	18.0	139.021	139.109	0.088	TC2PM25033012018
W0383697	03/05/12	04/17/12	18.0	141.115	141.211	0.096	TC1PM25033012016
W0383702	03/05/12	04/17/12	18.0	141.638	141.642	0.004	TCB041212019 Field Blank

SampleID	LocationShippedTo	TareEquilDateTime	TareDate	TareCondAvg24HrTemp
W0383680	Travis County	3/2/2012	3/5/2012	21.2
W0383681	Travis County	3/2/2012	3/5/2012	21.2
W0383682	Travis County	3/2/2012	3/5/2012	21.2
W0383683	Travis County	3/2/2012	3/5/2012	21.2
W0383684	Travis County	3/2/2012	3/5/2012	21.2
W0383685	Travis County	3/2/2012	3/5/2012	21.2
W0383686	Travis County	3/2/2012	3/5/2012	21.2
W0383687	Travis County	3/2/2012	3/5/2012	21.2
W0383688	Travis County	3/2/2012	3/5/2012	21.2
W0383689	Travis County	3/2/2012	3/5/2012	21.2
W0383690	Travis County	3/2/2012	3/5/2012	21.2
W0383691	Travis County	3/2/2012	3/5/2012	21.2
W0383692	Travis County	3/2/2012	3/5/2012	21.2
W0383693	Travis County	3/2/2012	3/5/2012	21.2
W0383694	Travis County	3/2/2012	3/5/2012	21.2
W0383695	Travis County	3/2/2012	3/5/2012	21.2
W0383696	Travis County	3/2/2012	3/5/2012	21.2
W0383697	Travis County	3/2/2012	3/5/2012	21.2
W0383702	Travis County	3/2/2012	3/5/2012	21.2

TareCondMin24HrTemp	TareCondMax24HrTemp	TareCondStdv24HrTemp	TareAnalysisAvgTemp
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.6
20.7	21.76	0.2	21.62
20.7	21.76	0.2	21.62

TareCondAvg24HrRH	TareCondMin24HrRH	TareCondMax24HrRH	TareCondStdv24HrRH
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6
35.7	33.92	37.68	0.6

TareAnalysisAvgRH	DateShippedTare	Shipper	DateReceivedExposed	COCUsed	MaxXportTemp
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.42	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.43	3/5/2012	FedEx Economy	4/13/2012	TRUE	18
35.43	3/5/2012	FedEx Economy	4/13/2012	TRUE	18

ExposedComments	ExposedEquilDateTime	ExposedDate	ExposedCondAvg24HrTemp
TC1PM10031512002	4/16/2012	4/17/2012	21.2
TC2PM25031512003	4/16/2012	4/17/2012	21.2
TC1PM25031512001	4/16/2012	4/17/2012	21.2
TC2PM25031812006	4/16/2012	4/17/2012	21.2
TC1PM10031812005	4/16/2012	4/17/2012	21.2
TC1PM25031812004	4/16/2012	4/17/2012	21.2
TC2PM25032112009	4/16/2012	4/17/2012	21.2
TC2PM25032412012	4/16/2012	4/17/2012	21.2
TC1PM10032712014	4/16/2012	4/17/2012	21.2
TC2PM25032712015 Particles	4/16/2012	4/17/2012	21.2
TC1PM25032712013	4/16/2012	4/17/2012	21.2
TC1PM25032412010	4/16/2012	4/17/2012	21.2
TC1PM10032412011	4/16/2012	4/17/2012	21.2
TC1PM25032112007	4/16/2012	4/17/2012	21.2
TC1PM10032112008	4/16/2012	4/17/2012	21.2
TC1PM10033012017	4/16/2012	4/17/2012	21.2
TC2PM25033012018	4/16/2012	4/17/2012	21.2
TC1PM25033012016	4/16/2012	4/17/2012	21.2
TCB041212019 Field Blank	4/16/2012	4/17/2012	21.2

ExposedCondMin24HrTemp	ExposedCondMax24HrTemp	ExposedCondStdv24HrTemp
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2
20.73	21.72	0.2

ExposedAnalysisAvgTemp	ExposedCondAvg24HrRH	ExposedCondMin24HrRH
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16
21.18	35.5	34.16

ExposedCondMax24HrRH	ExposedCondStdv24HrRH	ExposedAnalysisAvgRH	TareMass	ExposedMass
36.86	0.4	35.31	139.696	139.802
36.86	0.4	35.31	140.813	140.878
36.86	0.4	35.31	141.172	141.244
36.86	0.4	35.31	140.722	140.796
36.86	0.4	35.31	140.434	140.527
36.86	0.4	35.31	140.104	140.16
36.86	0.4	35.31	140.393	140.435
36.86	0.4	35.31	140.394	140.478
36.86	0.4	35.31	139.919	140.049
36.86	0.4	35.31	140.322	141.173
36.86	0.4	35.31	140.523	140.599
36.86	0.4	35.31	139.54	139.63
36.86	0.4	35.31	138.869	138.988
36.86	0.4	35.31	141.321	141.362
36.86	0.4	35.31	138.256	138.355
36.86	0.4	35.31	139.852	139.993
36.86	0.4	35.31	139.021	139.109
36.86	0.4	35.31	141.115	141.211
36.86	0.4	35.31	141.638	141.642

NetMass
0.106
0.065
0.072
0.074
0.093
0.056
0.042
0.084
0.13
0.851
0.076
0.09
0.119
0.041
0.099
0.141
0.088
0.096
0.004

Micro-Gravimetric Lab Blank Analysis Results

URS Corporation

April 1, 2012 - April 18, 2012

Blank ID	Exposure Analysis Date	Mass (mg) Initial	Final	Net
3005070	04/17/12	142.965	142.968	0.003
3005071	04/17/12	142.236	142.237	0.001
3005072	04/17/12	143.788	143.789	0.001

Micro-Gravimetric Void and Expired Samples

URS Corporation

April 1, 2012 - April 18, 2012

Location Sample was Received From	Laboratory Reception Date	Sample ID	Sample Status
Travis County	04/13/12	W0383679	**Expired**
Travis County	04/13/12	W0383698	**Expired**
Travis County	04/13/12	W0383699	**Expired**
Travis County	04/13/12	W0383700	**Expired**
Travis County	04/13/12	W0383701	**Expired**
Travis County	04/13/12	W0383703	**Expired**

Micro-Gravimetric Replicate Analysis Results

URS Corporation

April 1, 2012 - April 18, 2012

Sample ID	Analysis Type	Analysis Date	Mass (mg) Original	Replicate	Net
W0383695	Gross	04/17/12	139.993	139.995	0.002

$PM_{2.5}$ Gravimetric Analysis Results

Travis County

Sample ID	Tare Analysis Date	Exposed Analysis Date	Maximum Exposed Transportation Temperature (°C)	Mass (mg) Tare	Gross	Net	Exposed Comments
P0413189	04/23/12	05/30/12	20.0	141.106	141.267	0.161	TC2PM10050312004
P0413190	04/23/12	05/30/12	20.0	139.408	139.417	0.009	TC1PM25050312001
P0413191	04/23/12	05/30/12	20.0	140.637	140.756	0.119	TC1PM10050312002
P0413193	04/23/12	05/30/12	20.0	142.665	142.735	0.070	TC2PM25050312003
P0413194	04/23/12	05/30/12	20.0	142.709	142.815	0.106	TC1PM10050612006
P0413195	04/23/12	05/30/12	20.0	140.689	140.696	0.007	TC1PM25050612005
P0413196	04/23/12	05/30/12	20.0	141.972	142.136	0.164	TC2PM10050612008
P0413197	04/23/12	05/30/12	20.0	142.429	142.600	0.171	TC2PM25050612007
P0413198	04/23/12	05/30/12	20.0	143.087	143.207	0.120	TC2PM10051212014
P0413199	04/23/12	05/30/12	20.0	143.105	143.110	0.005	TCPMB052412021 Trip Blank
P0413202	04/23/12	05/30/12	20.0	142.622	142.703	0.081	TC1PM10051212013
P0413203	04/23/12	05/30/12	20.0	141.044	141.186	0.142	TC1PM10050912010
P0413204	04/23/12	05/30/12	20.0	142.423	142.513	0.090	TC1PM25050912009
P0413205	04/23/12	05/30/12	20.0	141.931	142.168	0.237	TC2PM10050912011
P0413206	04/23/12	05/30/12	20.0	140.838	140.904	0.066	TC1PM25051212012
P0413207	04/23/12	05/30/12	20.0	142.309	142.328	0.019	TC1PM25051812018
P0413208	04/23/12	05/30/12	20.0	142.533	142.693	0.160	TC2PM10051812020
P0413209	04/23/12	05/30/12	20.0	144.016	144.146	0.130	TC1PM10051812019
P0413213	04/23/12	05/30/12	20.0	142.789	142.850	0.061	TC1PM25051512015
P0413214	04/23/12	05/30/12	20.0	142.517	142.641	0.124	TC1PM10051512016
P0413215	04/23/12	05/30/12	20.0	142.016	142.217	0.201	TC2PM10051512017

SampleID	LocationShippedTo	TareEquilDateTime	TareDate	TareCondAvg24HrTemp
P0413189	Travis County	4/20/2012	4/23/2012	21.3
P0413190	Travis County	4/20/2012	4/23/2012	21.3
P0413191	Travis County	4/20/2012	4/23/2012	21.3
P0413193	Travis County	4/20/2012	4/23/2012	21.3
P0413194	Travis County	4/20/2012	4/23/2012	21.3
P0413195	Travis County	4/20/2012	4/23/2012	21.3
P0413196	Travis County	4/20/2012	4/23/2012	21.3
P0413197	Travis County	4/20/2012	4/23/2012	21.3
P0413198	Travis County	4/20/2012	4/23/2012	21.3
P0413199	Travis County	4/20/2012	4/23/2012	21.3
P0413202	Travis County	4/20/2012	4/23/2012	21.3
P0413203	Travis County	4/20/2012	4/23/2012	21.3
P0413204	Travis County	4/20/2012	4/23/2012	21.3
P0413205	Travis County	4/20/2012	4/23/2012	21.3
P0413206	Travis County	4/20/2012	4/23/2012	21.3
P0413207	Travis County	4/20/2012	4/23/2012	21.3
P0413208	Travis County	4/20/2012	4/23/2012	21.3
P0413209	Travis County	4/20/2012	4/23/2012	21.3
P0413213	Travis County	4/20/2012	4/23/2012	21.3
P0413214	Travis County	4/20/2012	4/23/2012	21.3
P0413215	Travis County	4/20/2012	4/23/2012	21.3

TareCondMin24HrTemp	TareCondMax24HrTemp	TareCondStdv24HrTemp	TareAnalysisAvgTemp
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82
20.77	22.03	0.2	21.82

TareCondAvg24HrRH	TareCondMin24HrRH	TareCondMax24HrRH	TareCondStdv24HrRH
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4
35.6	34.26	37.23	0.4

TareAnalysisAvgRH	DateShippedTare	Shipper	DateReceivedExposed	COCUsed	MaxXportTemp
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20
36.24	4/23/2012	FedEx Economy	5/25/2012	TRUE	20

ExposedComments	ExposedEquilDateTime	ExposedDate	ExposedCondAvg24HrTemp
TC2PM10050312004	5/29/2012	5/30/2012	21.3
TC1PM25050312001	5/29/2012	5/30/2012	21.3
TC1PM10050312002	5/29/2012	5/30/2012	21.3
TC2PM25050312003	5/29/2012	5/30/2012	21.3
TC1PM10050612006	5/29/2012	5/30/2012	21.3
TC1PM25050612005	5/29/2012	5/30/2012	21.3
TC2PM10050612008	5/29/2012	5/30/2012	21.3
TC2PM25050612007	5/29/2012	5/30/2012	21.3
TC2PM10051212014	5/29/2012	5/30/2012	21.3
TCPMB052412021 Trip Blank	5/29/2012	5/30/2012	21.3
TC1PM10051212013	5/29/2012	5/30/2012	21.3
TC1PM10050912010	5/29/2012	5/30/2012	21.3
TC1PM25050912009	5/29/2012	5/30/2012	21.3
TC2PM10050912011	5/29/2012	5/30/2012	21.3
TC1PM25051212012	5/29/2012	5/30/2012	21.3
TC1PM25051812018	5/29/2012	5/30/2012	21.3
TC2PM10051812020	5/29/2012	5/30/2012	21.3
TC1PM10051812019	5/29/2012	5/30/2012	21.3
TC1PM25051512015	5/29/2012	5/30/2012	21.3
TC1PM10051512016	5/29/2012	5/30/2012	21.3
TC2PM10051512017	5/29/2012	5/30/2012	21.3

ExposedCondMin24HrTemp	ExposedCondMax24HrTemp	ExposedCondStdv24HrTemp
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1
20.84	22.13	0.1

ExposedAnalysisAvgTemp	ExposedCondAvg24HrRH	ExposedCondMin24HrRH
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53
21.27	35.7	34.53

ExposedCondMax24HrRH	ExposedCondStdv24HrRH	ExposedAnalysisAvgRH	TareMass	ExposedMass
37.71	0.2	35.7	141.106	141.267
37.71	0.2	35.7	139.408	139.417
37.71	0.2	35.7	140.637	140.756
37.71	0.2	35.7	142.665	142.735
37.71	0.2	35.7	142.709	142.815
37.71	0.2	35.7	140.689	140.696
37.71	0.2	35.7	141.972	142.136
37.71	0.2	35.7	142.429	142.6
37.71	0.2	35.7	143.087	143.207
37.71	0.2	35.7	143.105	143.11
37.71	0.2	35.7	142.622	142.703
37.71	0.2	35.7	141.044	141.186
37.71	0.2	35.7	142.423	142.513
37.71	0.2	35.7	141.931	142.168
37.71	0.2	35.7	140.838	140.904
37.71	0.2	35.7	142.309	142.328
37.71	0.2	35.7	142.533	142.693
37.71	0.2	35.7	144.016	144.146
37.71	0.2	35.7	142.789	142.85
37.71	0.2	35.7	142.517	142.641
37.71	0.2	35.7	142.016	142.217

NetMass
0.161
0.009
0.119
0.07
0.106
0.007
0.164
0.171
0.12
0.005
0.081
0.142
0.09
0.237
0.066
0.019
0.16
0.13
0.061
0.124
0.201

Micro-Gravimetric Lab Blank Analysis Results

URS Corporation

May 1, 2012 - May 31, 2012

Blank ID	Exposure Analysis Date	Mass (mg) Initial	Final	Net
3005303	05/30/12	143.344	143.344	0.000
3005304	05/30/12	141.763	141.763	0.000

Micro-Gravimetric Void and Expired Samples

URS Corporation

May 1, 2012 - May 31, 2012

Location Sample was Received From	Laboratory Reception Date	Sample ID	Sample Status
No Void or Expired Samples			

Micro-Gravimetric Replicate Analysis Results

URS Corporation

May 1, 2012 - May 31, 2012

Sample ID	Analysis Type	Analysis Date	Mass (mg) Original	Mass (mg) Replicate	Mass (mg) Net
P0413205	Gross	05/30/12	142.168	142.165	-0.003

APPENDIX C

Noise Data

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Tue. 3/20/12 My Name: Arthur D. Potts

Monitoring Location/Label: M1

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.1 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M1320	219	619	46.8	39.6	61.4	48.5	43.4	41.4	7/W	80			85

Roadway Name/Dir	Dunlap Road	Chaparral Cross Blvd	
Speed (post/obs)*	30 obs	30 obs	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	30	10	
Medium Trucks	1	0	
Heavy Trucks	0	0	
Buses	0	0	
Count duration	15 min	15 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/**rustling leaves/children playing**/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Thur 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M1

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M1322	1333	1348	45.5	39.2	58.8	47.6	43.5	41.1	9/S	72			0

Roadway Name/Dir	Dunlap Road	Chaparral Cross Blvd	
Speed (post/obs)*	30 obs	30 obs	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	2	1	
Medium Trucks	0	0	
Heavy Trucks	0	0	
Buses	0	0	
Count duration	15 min	15 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/**rustling leaves/children playing/dogs barking/birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Thur 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M2

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M2322	1245	1300	49.4	43.6	59.0	51.8	47.8	45.7	13/S	72			0

Roadway Name/Dir	Crownover Street		
Speed (post/obs)*	30		
Number of Lanes	2		
Width (pave/row)			
1- or 2- way	2-way		
Grade			
Bus Stops			
Stoplights			
Motorcycles	0		
Automobiles	0		
Medium Trucks	0		
Heavy Trucks	0		
Buses	0		
Count duration	15 min		

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: aircraft**/roadway traffic**/trains/landscaping/rustling leaves/children playing**/dogs barking**/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP Page 3 of 7

Project #: Day / Date: Thur 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M3

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	93.9 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	93.8 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M3322	1310	1325	51.3	44.0	63.1	54.5	48.6	45.4	14/S	72			0

Roadway Name/Dir	Yabers Court	Parrish Lane	
Speed (post/obs)*	30	30	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	0	0	
Medium Trucks	0	0	
Heavy Trucks	0	0	
Buses	0	0	
Count duration	15 min	15 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft**/**roadway traffic**/trains/landscaping/**rustling leaves**/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Thur 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M4

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M4322	1358	1413	50.4	42.5	63.1	53.5	48.1	44.0	14/S	72			0

Roadway Name/Dir			
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft**/roadway traffic/trains/landscaping/**rustling leave**s/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP Page 5 of 7

Project #: Day / Date: Thur 3/22/12 My Name: Arthur D. Potts

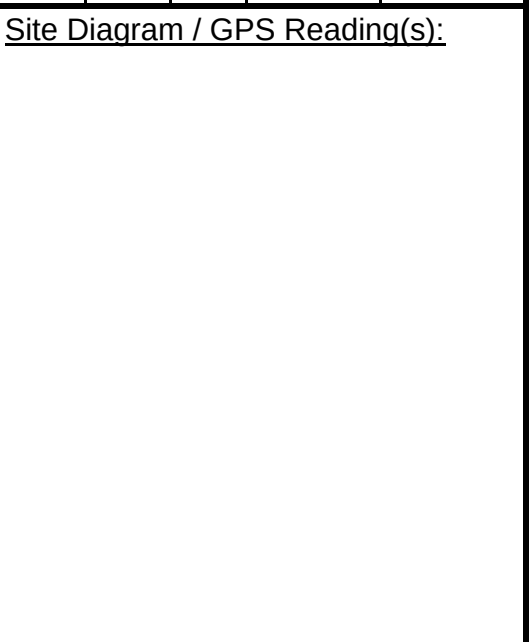
Monitoring Location/Label: M5

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M5322	1540	1610	57.6	40.2	71.2	61.7	51.9	44.2	14/S	72			0

Roadway Name/Dir	FM 969	Decker Creek Road	
Speed (post/obs)*	55	30	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	1	0	
Automobiles	172	23	
Medium Trucks	5	1	
Heavy Trucks	4	0	
Buses	3	1	
Count duration	30 min	30 min	

Site Diagram / GPS Reading(s):



* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/rustling leaves/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Thur. 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M6

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M5322	1504	1534	67.1	52.0	84.7	70.1	61.1	56.3	14/S	72			0

Roadway Name/Dir	FM 969	Taylor Lane	
Speed (post/obs)*	55	45	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	1	0	
Automobiles	96	42	
Medium Trucks	5	2	
Heavy Trucks	6	0	
Buses	4	1	
Count duration	30 min	30 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/**rustling leaves**/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Thur. 3/22/12 My Name: Arthur D. Potts

Monitoring Location/Label: M7

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / **Gusty** / Calm

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M7322	1620	1650	44.7	39.6	51.1	47.4	43.5	41.4	14/S	72			0

Roadway Name/Dir			
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / Observation

Comments:

Other Noise Sources: distant: **aircraft**/**roadway traffic**/trains/landscaping/**rustling leaves**/children playing/**dogs barking**/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M1

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M1323	1634	1649	42.7	38.0	59.5	44.7	40.5	39.1	3/W	75			0

Roadway Name/Dir	Dunlap Road	Chaparral Cross Blvd	
Speed (post/obs)*	30 obs	30 obs	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	1	0	
Medium Trucks	0	0	
Heavy Trucks	0	0	
Buses	0	0	
Count duration	15 min	15 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments: Heavy equipment operating on TXI property

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/rustling leaves/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Fri . 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M2

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M2323	1538	1553	49.7	38.8	66.7	49.5	42.8	40.1	3/W	74			0

Roadway Name/Dir	Crownover Street		
Speed (post/obs)*	30		
Number of Lanes	2		
Width (pave/row)			
1- or 2- way	2-way		
Grade			
Bus Stops			
Stoplights			
Motorcycles	0		
Automobiles	0		
Medium Trucks	0		
Heavy Trucks	0		
Buses	0		
Count duration	15 min		

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/**rustling leaves**/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M3

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M3323	1657	1712	44.4	41.7	56.5	45.7	43.7	42.6	3/W	75			0

Roadway Name/Dir	Yabers Court	Parrish Lane	
Speed (post/obs)*	30	30	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	0	0	
Medium Trucks	0	0	
Heavy Trucks	0	0	
Buses	0	0	
Count duration	15 min	15 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft**/**roadway traffic**/trains/landscaping/**rustling leaves**/children playing/**dogs barking**/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M4

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.1 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M4323	1609	1624	44.3	38.4	56.5	46.5	42.4	40.1	3/W	75			0

Roadway Name/Dir			
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft**/roadway traffic/trains/landscaping/**rustling leave**s/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP Page 5 of 7

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M5

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.1 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M5323	1407	1437	58.9	35.6	71.4	62.7	51.8	42.1	2/W	73			0

Roadway Name/Dir	FM 969	Decker Creek Road	
Speed (post/obs)*	55	30	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	2	0	
Automobiles	145	18	
Medium Trucks	10	2	
Heavy Trucks	21	1	
Buses	1	0	
Count duration	30 min	30 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/rustling leaves/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP Page 6 of 7

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M6

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.1 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M6323	1453	1523	64.1	46.5	79.4	67.5	56.6	48.4	3/W	74			0

Roadway Name/Dir	FM 969	Taylor Lane	
Speed (post/obs)*	55	45	
Number of Lanes	2	2	
Width (pave/row)			
1- or 2- way	2-way	2-way	
Grade			
Bus Stops			
Stoplights			
Motorcycles	0	0	
Automobiles	131	11	
Medium Trucks	6	1	
Heavy Trucks	17	1	
Buses	3	2	
Count duration	30 min	30 min	

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / **Observation**

Comments:

Other Noise Sources: distant: **aircraft/roadway traffic**/trains/landscaping/rustling leaves/children playing/dogs barking/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: Travis County - CRCP Page 7 of 7

Project #: Day / Date: Fri. 3/23/12 My Name: Arthur D. Potts

Monitoring Location/Label: M7

Sound Level Meter		Calibrator		Weather Meter	
Model/Type #	Quest SoundPro DL-1	Model #	CR:514	Model #	Serial #
Serial #	BJK090011	Serial #	57083	Precipitation?	Yes (explain) / **No**
Weighting:	**A** / C / Flat	Pre-Test:	94.0 dBA SPL	Terrain:	**Hard**/Soft/Mixed/Snow-ice
Response:	**Slow** / Fast / Impl	Post-Test:	94.0 dBA SPL	Topo:	**Flat** / Hilly
Windscreen:	**Yes** / No			Wind:	Steady / Gusty / **Calm**

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Average Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
M7323	1341	1356	41.6	35.0	52.2	47.7	39.8	37.0	1/W	73			0

Roadway Name/Dir			
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram / GPS Reading(s):

* - Speed estimated by Radar / Driving / Observation

Comments: Horses and donkeys; car engine started

Other Noise Sources: distant: **aircraft**/roadway traffic/trains/landscaping/rustling leaves/children playing/**dogs barking**/**birds vocalizing**/Insects

Additional Notes and Sketches on Reverse

APPENDIX D

Historical Precipitation Data

MONTHLY/ANNUAL/AVERAGE PRECIPITATION
AUSTIN BERGSTROM AIRPORT TX (1942 - 2012)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	YEAR
1942										1.35	0.68	0.26		**1942**
1943	0.43	0.28	1.86	0.34	3.33	0.96	2.11	0.66	4.93	0.70	1.71	1.33	18.64	**1943**
1944	4.42	1.76	2.77	0.21	6.61	2.13	0.58	3.47	4.45	0.45	5.32	3.78	35.95	**1944**
1945	2.41	2.67	2.82	3.64	1.10	5.49	1.99	2.26	1.31	3.04	0.93	2.09	29.75	**1945**
1946	3.41	0.62								0.68	2.05	0.53		**1946**
1947	1.27	0.28	2.35						1.60	0.01				**1947**
1948	0.15	1.57	0.98	1.20	5.00	1.00	0.61	0.28	0.58	1.24	0.99	0.32	13.92	**1948**
1949	4.29	1.71	1.49	5.31	0.28	3.39	2.41	1.58	3.28	3.76	0.02	3.11	30.63	**1949**
1950	0.40	3.43	0.76	6.28	4.25	2.49	0.76	0.43	5.99	0.44	0.08	0.01	25.32	**1950**
1951	0.65	2.83	5.46	0.62	4.02	5.19	0.02	1.38	4.65	0.42	0.58	0.55	26.37	**1951**
1952	0.82	2.09	2.88	4.09	4.75	1.06	1.51	0.16	4.34	**0.00**	6.61	3.10	31.41	**1952**
1953	2.18	2.28	2.57	3.17	1.61	2.17	0.55	3.95	2.73	5.81	0.57	5.83	33.42	**1953**
1954	0.59	0.15	0.25	2.00	1.85	0.38	0.36	0.63	1.65	1.58	0.20	0.34	**9.98**	**1954**
1955	1.82	4.15	0.46	0.59	3.79	1.83	0.86	0.90	1.83	0.33	1.49	0.86	18.91	**1955**
1956	1.85	2.44	0.53	0.77	4.53	0.16	0.14	1.09	0.11	0.64	1.05	2.34	15.65	**1956**
1957	0.51	2.72	4.28	**12.18**	5.92	4.81	0.80	TRACE	8.82	9.00	5.11	1.59	**55.74**	**1957**
1958	3.72	**7.34**	1.87	2.07	4.15	1.06	1.66	0.38	8.80	5.08	1.19	0.79	38.11	**1958**
1959	0.24	2.98	0.11	4.86	2.10	6.52	2.58	5.56	3.33	6.94	1.35	2.11	38.68	**1959**
1960	1.01	2.40	1.25	1.65	0.98	6.28	2.36	2.88	0.95	**13.08**	1.96	3.74	38.54	**1960**
1961	1.80	3.41	0.65	0.24	1.76	9.60	5.82	0.45	4.40	1.18	2.25	0.97	32.53	**1961**
1962	0.69	0.73	0.73	2.34	1.12	4.13	0.16	2.71	6.31	4.46	1.83	3.52	28.73	**1962**
1963	0.69	2.59	0.62	2.26	0.32	2.24	0.21	1.30	1.66	0.73	1.75	1.62	15.99	**1963**
1964	2.49	1.82	1.98	1.83	1.03	6.99	0.28	1.19	6.41	3.74	2.56	0.85	31.17	**1964**
1965	5.87	5.16	1.30	2.81	**13.69**	0.89	0.45	2.91	6.02	3.43	2.45	5.14	50.12	**1965**
1966	1.29	2.91	1.61	3.43	4.29	1.27	0.73	**8.91**	4.27	0.57	0.11	1.57	30.96	**1966**
1967	0.22	1.09	1.01	2.74	4.84	TRACE	0.52	1.56	6.50	5.26	3.60	3.25	30.59	**1967**
1968	7.62	1.51	2.03	2.57	6.76	4.60	1.18	0.34	3.54	0.37	6.01	1.14	37.67	**1968**
1969	0.71	3.85	3.80	7.88	4.76	3.55	0.19	7.94	1.64	3.30	2.94	4.38	44.94	**1969**
1970	2.05	4.20	3.68	2.46	6.12	0.15	1.18	0.25	3.96	2.84	TRACE	0.66	27.55	**1970**
1971	0.02	0.95	1.05	1.29	1.30	1.23	0.65	7.32	3.89	3.82	2.82	4.07	28.41	**1971**
1972	1.89	0.35	0.05	1.80	5.33	2.25	2.54	2.19	1.95	2.72	3.84	0.52	25.43	**1972**
1973	3.53	2.53	3.26	3.31	0.83	5.93	3.73	2.08	5.48	10.40	0.79	0.62	42.49	**1973**
1974	3.86	0.09	1.35	1.64	10.48	0.30	0.87	7.79	2.02	3.24	**12.49**	2.34	46.47	**1974**
1975	1.12	2.89	0.68	4.35	8.19	4.90	2.15	4.19	1.31	3.46	0.48	2.25	35.97	**1975**

1976	0.76	0.22	5.91	7.97	7.39	0.85	3.76	0.30	3.35	6.99	2.71	2.30	42.51	**1976**
1977	2.18	3.31	2.02	5.07	1.04	1.79	0.07	0.10	1.66	1.62	2.23	0.33	21.42	**1977**
1978	1.30	2.19	1.01	1.61	2.80	2.78	0.55	2.52	4.77	1.22	6.94	3.79	31.48	**1978**
1979	2.48	3.95	3.79	3.36	4.88	1.54	**9.77**	1.21	1.97	0.43	0.80	4.03	38.21	**1979**
1980	1.63	1.66	3.04	2.39	6.53	0.84	0.06	1.54	4.14	0.75	3.01	1.67	27.26	**1980**
1981	1.81	1.39	2.27	1.02	7.05	**15.59**	1.96	1.42	2.48	6.39	0.77	0.31	42.46	**1981**
1982	1.19	0.89	1.53	3.18	7.29	2.88	0.12	1.67	2.24	2.75	4.81	1.94	30.49	**1982**
1983	2.22	3.95	**6.52**	0.23	5.71	3.47	2.52	3.86	4.53	3.31	2.17	0.58	39.07	**1983**
1984	1.76	1.61	2.64	0.03	1.19	3.03	2.86	1.38	0.84	9.30	1.91	3.05	29.60	**1984**
1985	1.79	1.85	2.18	2.81	1.37	8.29	3.37	0.05	3.20	4.72	6.59	0.96	37.18	**1985**
1986	0.61	1.16	0.26	1.18	8.17	3.04	0.02	1.28	**9.36**	9.11	1.72	5.96	41.87	**1986**
1987	1.04	3.51	2.07	0.91	8.29	8.13	2.81	0.25	2.14	0.21	3.11	1.27	33.74	**1987**
1988	0.60	0.71	2.58	2.56	4.81	1.50	4.30	2.79	1.68	2.10	0.42	1.19	25.24	**1988**
1989	3.22	0.83	1.90	3.09	4.23	2.26	0.40	1.60	0.02	1.83	1.48	0.14	21.00	**1989**
1990	1.09	3.33	2.22	3.44	4.13	0.93	4.57	1.64	1.95	3.32	4.18	0.67	31.47	**1990**
1991	**10.53**	2.87	1.05	6.87	3.72	4.67	1.92	6.17	1.84	1.79	0.93	**12.88**	55.24	**1991**
1992	4.83	6.82	4.97	2.18	7.69	4.35	0.94	3.50	3.40	1.14	3.41	3.88	47.11	**1992**
1993	3.92	2.44	2.52	2.82	4.98	3.37	TRACE	TRACE	0.49	4.32	1.13	1.19	27.18	**1993**
1994	1.09	2.14	1.25	1.57	6.51	1.95	0.02	5.52	5.73	7.79	1.82	8.11	43.50	**1994**
1995	1.06	1.48	3.08	4.35	7.91	3.00	0.30	4.96	4.56	2.95	2.84	0.34	36.83	**1995**
1996	0.24	0.75	1.12											**1996**
1997										2.18	2.92	4.14		**1997**
1998	2.86	3.52	2.33	1.49	0.61	0.97	0.55	3.33	4.43	12.73	4.31	1.31	38.44	**1998**
1999	1.70	0.02	4.96	1.23	6.18	2.32	5.34	1.03	0.47	1.57	0.08	0.69	25.59	**1999**
2000	3.69	1.28	0.92	1.82	4.78	3.66	0.57	0.63	0.77	3.46	7.01	2.97	31.56	**2000**
2001	2.75	1.00	3.35	0.39	4.41	3.21	0.33	5.05	5.82	2.39	10.51	3.91	43.12	**2001**
2002	1.54	0.91	1.53	0.86	0.90	4.36	5.32	0.96	2.55	9.11	4.26	4.93	37.23	**2002**
2003	1.69	4.92	0.94	0.06	0.51	4.06	2.98	1.93	4.06	0.89	0.68	0.66	23.38	**2003**
2004	2.55	5.38	1.96	2.89	2.44	14.18	3.20	1.25	1.17	6.76	9.91	0.20	51.89	**2004**
2005	2.44	3.22	3.46	0.91	3.10	0.55	1.78	1.57	0.52	2.71	0.99	0.20	21.45	**2005**
2006	0.62	1.06	3.11	2.50	4.98	2.64	0.97	0.03	1.72	4.72	0.80	4.08	27.23	**2006**
2007	7.66	0.12	6.00	3.71	6.73	7.49	7.62	2.19	0.73	1.80	1.26	0.60	45.91	**2007**
2008	0.82	1.16	3.45	2.86	1.34	0.79	1.37	2.16	0.34	1.20	0.11	0.38	15.98	**2008**
2009	0.40	0.94	3.21	3.74	1.73	1.03	1.27	2.58	6.98	6.90	2.80	2.53	34.11	**2009**
2010	3.29	2.81	2.79	1.44	1.01	4.15	5.37	0.63	5.15	0.06	0.92	0.80	28.42	**2010**
2011	3.67	0.64	0.15	0.19	1.91	1.39	0.05	TRACE	0.01	1.82	2.18	4.89	16.90	**2011**
2012	7.30	3.86	5.11	0.09	5.29									**2012**

ALL-TIME:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	ALL-TIME:
Maximum	**10.53**	**7.34**	**6.52**	**12.18**	**13.69**	**15.59**	**9.77**	**8.91**	**9.36**	**13.08**	12.49	12.88	55.74	Maximum
Average	2.21	2.23	2.26	2.59	4.19	3.35	1.80	2.18	3.24	3.40	2.61	2.24	32.52	Average
Median	1.76	2.09	2.03	2.30	4.27	2.64	0.97	**1.56**	**2.97**	2.72	1.87	1.58	31.47	Median
Minimum	0.02	0.02	0.05	0.03	0.28	TRACE	0.00	TRACE	0.01	0.00	TRACE	0.01	9.98	**Minimum**

30 YEAR NORMAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	30 YEAR NORMAL
1981-2010	2.23	*2.37*	2.51	2.28	2.66	4.38	2.45	1.63	2.49	3.95	2.95	2.25	32.15	1981-2010

30 YEAR NORMAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	30 YEAR NORMAL
1971-2000	2.21	*2.02*	2.36	2.63	5.12	3.42	2.03	2.51	2.88	3.99	3.02	2.53	34.72	1971-2000

30-YEAR NORMAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	30-YEAR NORMAL
1961-1990	1.92	2.15	2.12	2.66	4.86	3.50	1.93	2.42	3.46	3.45	2.89	2.04	33.40	1961-1990

30-YEAR NORMAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	30-YEAR NORMAL
1951-1980	1.85	2.49	1.97	3.11	4.24	2.94	1.52	2.54	3.75	3.45	2.75	2.21	32.56	1951-1980

30-YEAR NORMAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	30-YEAR NORMAL
1942-1970	1.91	2.46	1.86	2.98	3.81	3.13	1.15	2.13	3.85	2.77	2.05	1.99	29.45	1942-1970

DATA FOR YEARS 1942,1946, 1947, 1996, 1997 NOT COMPLETE