





**STATE OF TEXAS WELL REPORT for Tracking #208998**

Owner:	<b>Brent Johnson</b>	Owner Well #:	<del>#1</del> #4
Address:	<b>9515 Hertzog Lane Austin, TX 78742</b>	Grid #:	<b>58-51-3</b>
Well Location:	<b>9515 Hertzog Lane 6" #1 Austin, TX 78742</b>	Latitude:	<del>30° 14' 14" N</del> 30-14-6.5 97-39-25.0 } Google Earth
Well County:	<b>Travis</b>	Longitude:	<del>097° 39' 15" W</del>
Elevation:	<b>No Data</b>	GPS Brand Used:	Map 441 ft elev
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Irrigation</b>

Drilling Date: Started: 1/13/2009  
Completed: 1/13/2009

Diameter of Hole: Diameter: 12.25 in From Surface To 80 ft

Drilling Method: **Mud Rotary**

Borehole Completion: Gravel Packed From: 80 ft to 10 ft  
Gravel Pack Size: pea

Annular Seal Data: 1st Interval: From 0 ft to 10 ft with 20 Sakrete (#sacks and material)  
2nd Interval: No Data  
3rd Interval: No Data  
Method Used: Grout  
Cemented By: **Brien Water Wells**  
Distance to Septic Field or other Concentrated Contamination: 100+ ft  
Distance to Property Line: 50+ ft  
Method of Verification: Measured  
Approved by Variance: No Data

Surface Completion: **Surface Sleeve Installed**

Water Level: Static level: 30 ft. below land surface on 1/13/2009  
Artesian flow: No Data

Packers: N/A

Plugging Info: Casing left in well: Cement/Bentonite left in well:  
From (ft) To (ft) From (ft) To (ft) Cem/Bent Sacks Used  
N/A

Type Of Pump: **Submersible**  
Depth to pump bowl: 45 ft

Well Tests: **Pump**  
Yield: 50 GPM with 50 ft drawdown after 4 hours

Water Quality: Type of Water: Irrigation  
Depth of Strata: 27-38 ft.  
Chemical Analysis Made: No  
Did the driller knowingly penetrate any strata which contained undesirable constituents: No

58-51-34

**Certification Data:** The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

**Company Information:** **Brien Water Wells**  
**5214 S. Hwy 6**  
**Hearne , TX 77859**

**Driller License Number:** **4470**

**Licensed Well Driller Signature:** **Jeff Brien**

**Registered Driller Apprentice Signature:** **No Data**

**Apprentice Registration Number:** **No Data**

**Comments:** **\$mew**

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #208998) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

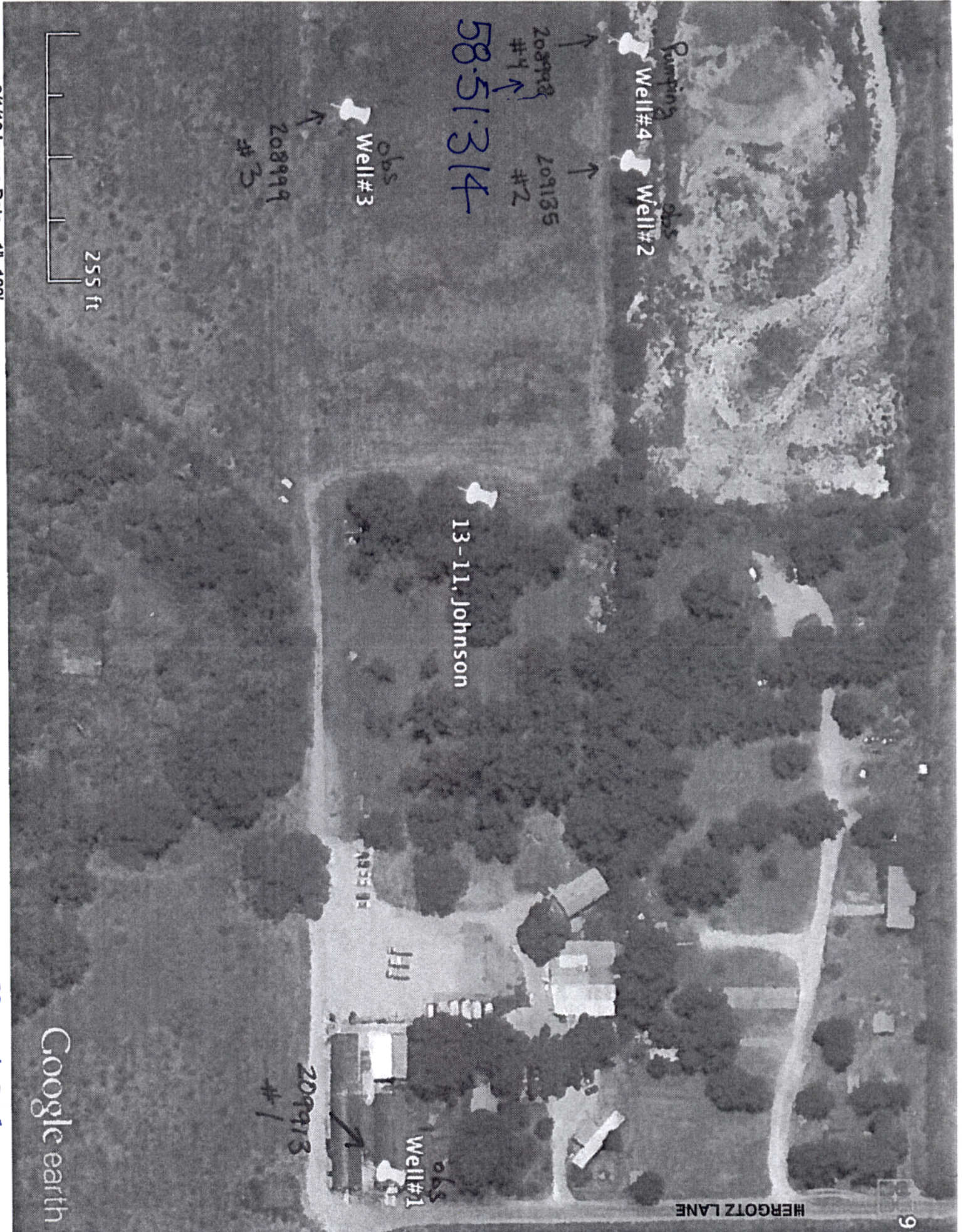
**DESC. & COLOR OF FORMATION MATERIAL**

**CASING, BLANK PIPE & WELL SCREEN DATA**

From (ft) To (ft) Description  
**0 - 27 Clay**  
**27 - 38 Gravel**  
**38 - 80 Shale**

Dia. New/Used Type Setting From/To  
**6 New PVC Casing +2 - 32**  
**6 New PVC Screen 32 - 52 0.035**

58-51-3A



58-51-314

Pumping  
Well#4

Obs  
Well#2

208918  
#4

209135  
#2

Obs  
Well#3

208999  
#3

13-11, Johnson

Obs  
Well#1

209913  
#1

HERGOTZ LANE

91



255 ft

8/1/12 Image Date 1"=123'

Google earth

58-51-314



# ANALYSIS REPORT

## Water Analysis

Lab Number: 376666 Job Number: 22704 IS-64056

Submitter Sample Name: 4025-Johnson Farm **58-51-31A**

Submitter Sample ID: Q1306018001

Submitter Job #:

Company: LCRA Environmental Lab Services

Field or Site: BSEACD DEUT

Location:

Depth/Formation:

Container Type: 250ml Plastic Bottle

Sample Collected: 8/13/2013 Results Reported: 9/13/2013

$\delta D$ of water	-----	3.0 ‰ relative to VSMOW
$\delta^{18}O$ of water	-----	1.53 ‰ relative to VSMOW
Tritium content of water	-----	na
$\delta^{13}C$ of DIC	-----	na
$^{14}C$ content of DIC	-----	na
$\delta^{15}N$ of nitrate	-----	na
$\delta^{18}O$ of nitrate	-----	na
$\delta^{34}S$ of sulfate	-----	na
$\delta^{18}O$ of sulfate	-----	na

Remarks:

**REPORT OF RADIOCARBON DATING ANALYSES**

Dr. Ariana Dean

Report Date: 9/19/2013

Environmental Laboratory Services

Material Received: 8/30/2013

Sample Data	Apparent C14 Age (fraction modern)	C13/C12 Ratio
Beta - 358183	1130 +/- 30 BP Fmdn: 0.8688 +/- 0.0032	-16.5 o/oo
SAMPLE : 4025-JOHNSON FARM ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (water DIC): acidify-gas strip		<b>58.51.314</b>
Beta - 358184	7520 +/- 40 BP Fmdn: 0.3921 +/- 0.0019	-10.0 o/oo
SAMPLE : 4026-DOWELL ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (water DIC): acidify-gas strip		
Beta - 358185	2210 +/- 30 BP Fmdn: 0.7595 +/- 0.0028	-14.4 o/oo
SAMPLE : 4027-DEEP EDDY ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (water DIC): acidify-gas strip		
Beta - 358186	2910 +/- 30 BP Fmdn: 0.6961 +/- 0.0025	-15.3 o/oo
SAMPLE : 4028-AM. LEGION ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (water DIC): acidify-gas strip		

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "\*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

**Results of Isotopic Analysis  
MIT TIMS Lab**

Date:	9/28/13			
Analysts:	F.Ö. Dudás	<i>M. Ö. Dudas</i>		
MIT #	Other #	87Sr/86Sr (1)	% S.E. (2)	2-sigma s.e.
T 4146	1306016001; 4026 Dowell	0.707844	0.0006	0.000008
T 4147	1306016002; 4027 Deep Eddy	0.708366	0.0006	0.000009
T 4148	1306016003; 4028 Am. Legion	0.708372	0.0006	0.000009
T 4149	1306016004; 4025 Johnson Farm	0.708809	0.0006	0.000009

(1) Long term reproducibility of NBS-987 at MIT:  $0.710238 \pm 0.000015$  (2-sigma s.d.).

(2) Within-run internal precision of measured ratio.

58.51.314

Client: ENVIRONMENTAL LABORATORY SERVICES  
Recvd : 13/08/30  
Job# : 3105  
Final : 13/09/30

Purchase Order: NEED IT  
Contact: Ariana Dean, 512/356-6022  
3505 Montopolis Dr (f)-6021  
Austin, TX 78744

Cust	LABEL INFO	JOB.SX	REFDATE	QUANT	ELYS	TU	eTU
ELS -	4025-JOHNSON FARM	3105.01	130813	1000	275	3.03	0.11
ELS -	4026-DOWELL	3105.02	130814	1000	275	0.06	0.09
ELS -	4027-DEEP EDDY	3105.03	130814	1000	275	1.92	0.09
ELS -	4028- AM. LEGION	3105.04	130814	1000	275	1.54	0.09

58.51.314

**ANALYTICAL RESULTS**

Workorder: Q1306015

Lab ID: **Q1306015001** Date Received: 8/14/2013 12:35 Matrix: Aqueous  
 Sample ID: **4025-JOHNSON** 58-51-314 Date Collected: 8/13/2013 12:00 Sample Type: SAMPLE  
 Project ID: **WATER SAMPLE TESTING TWDB**

Parameters	Results Units	LOD	PQL	MCL	DF	Prepared	By	Analyzed	By	Qual
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**INORGANICS**

Analysis Desc: E200.7 Metals, Trace Elements	Preparation Method: E200.7 Prep									
	Analytical Method: E200.7 Metals, Trace Elements									
Boron Dissolved	169 ug/L	20.0	50.0	1	09/03/13	FM	09/09/13	14:47:22	CW	
Calcium Dissolved	78.4 mg/L	0.0700	0.200	1	09/03/13	FM	09/09/13	14:47:22	CW	
Strontium Dissolved	511 ug/L	4.00	10.0	1	09/03/13	FM	09/09/13	14:47:22	CW	
Iron Dissolved	<50.0 ug/L	20.0	50.0	1	09/03/13	FM	09/09/13	14:47:22	CW	
Magnesium Dissolved	18.0 mg/L	0.0700	0.200	1	09/03/13	FM	09/09/13	14:47:22	CW	
Potassium Dissolved	2.40 mg/L	0.0700	0.200	1	09/03/13	FM	09/09/13	14:47:22	CW	
Sodium Dissolved	29.6 mg/L	0.200	0.500	1	09/03/13	FM	09/09/13	14:47:22	CW	

Analysis Desc: E200.8, ICP-MS	Preparation Method: E200.8, ICP-MS Prep									
	Analytical Method: E200.8, ICP-MS									
Aluminum Dissolved	<4.00 ug/L	1.50	4.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Antimony Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Arsenic Dissolved	<2.00 ug/L	0.700	2.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Barium Dissolved	122 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Beryllium Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Cadmium Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Chromium Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Cobalt Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Copper Dissolved	1.03 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Lithium Dissolved	10.2 ug/L	0.700	2.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	N
Lead Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Manganese Dissolved	178 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Molybdenum Dissolved	3.87 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Selenium Dissolved	<4.00 ug/L	1.50	4.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Silver Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Thallium Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Uranium Dissolved	1.83 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	N
Vanadium Dissolved	<1.00 ug/L	0.400	1.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	
Zinc Dissolved	15.2 ug/L	1.50	4.00	1	09/03/13	FM	09/14/13	03:52:41	SLW	

**ANIONS by ION CHROMATOGRAPHY**



### ANALYTICAL RESULTS

Workorder: Q1306015

Lab ID:	Q1306015001	Date Received:	8/14/2013 12:35	Matrix:	Aqueous
Sample ID:	4025-JOHNSON 58.51.314	Date Collected:	8/13/2013 12:00	Sample Type:	SAMPLE
Project ID:	WATER SAMPLE TESTING TWDB				

Parameters	Results Units	LOD	PQL	MCL	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: E300.0, Anions		Preparation Method: E300.0, Anions								
		Analytical Method: E300.0, Anions								
Chloride	50.9 mg/L	0.400	1.00		1	09/04/13 03:12:00	WR	09/04/13 03:12:00	WR	
Fluoride	0.364 mg/L	0.00400	0.0100		1	09/04/13 03:12:00	WR	09/04/13 03:12:00	WR	
Sulfate	54.1 mg/L	0.400	1.00		1	09/04/13 03:12:00	WR	09/04/13 03:12:00	WR	
Bromide	0.402 mg/L	0.00800	0.0200		1	09/04/13 03:12:00	WR	09/04/13 03:12:00	WR	

**TOTAL PHOSPHATE AS P**

Analysis Desc: E365.4 Phosphorus, Total		Preparation Method: E365.4 / E351.2 Water Prep								
		Analytical Method: E365.4 Phosphorus, Total								
Phosphorus, Dissolved (As P)	0.0202 mg/L	0.00800	0.0200		1	09/09/13	ML	09/10/13	CM	

**ALKALINITY**

Analysis Desc: SM2320B, Alkalinity		Preparation Method: SM2320B, Alkalinity								
		Analytical Method: SM2320B, Alkalinity								
Phenolphthalein Alkalinity	<20.0 mg/L	20.0	20.0		1	08/27/13	KH	08/27/13	KH	N
Hydroxide Alkalinity	<20.0 mg/L	20.0	20.0		1	08/27/13	KH	08/27/13	KH	N
Bicarbonate Alkalinity	227 mg/L	20.0	20.0		1	08/27/13	KH	08/27/13	KH	N
Carbonate Alkalinity	<20.0 mg/L	20.0	20.0		1	08/27/13	KH	08/27/13	KH	N
Total Alkalinity	227 mg/L	20.0	20.0		1	08/27/13	KH	08/27/13	KH	

**NITRATE AND NITRITE**

Analysis Desc: SM4500-NO3-H, Nitrate/Nitrite		Preparation Method: SM4500-NO3-H, Nitrate/Nitrite								
		Analytical Method: SM4500-NO3-H, Nitrate/Nitrite								
Nitrate/Nitrite	<0.0200 mg/L	0.00800	0.0200		1	09/09/13	ML	09/09/13	ML	

**SILICA**

Analysis Desc: SM4500-SiO2-C, Silica		Preparation Method: SM4500-SiO2-C, Silica								
		Analytical Method: SM4500-SiO2-C, Silica								
Silica	13.9 mg/L	0.200	0.500		1	09/04/13	KH	09/04/13	KH	

**HEAVY METALS**

Analysis Desc: E245.1 Mercury Water		Preparation Method: E245.1 Mercury Water								
		Analytical Method: E245.1 Mercury Water								
Mercury Dissolved	<0.200 ug/L	0.0700	0.200		1	08/29/13 10:00:00	AE	08/30/13 11:40:00	AE	



LCRA Environmental Laboratory Services  
 3505 Montopolis Drive  
 Austin, TX 78744  
 Phone: (512)356-6022  
 Fax: (512)356-6021

**ANALYTICAL RESULTS**

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Lab ID: **Q1306015001** Date Received: 8/14/2013 12:35 Matrix: Aqueous  
 Sample ID: **4025-JOHNSON 58.51.314** Date Collected: 8/13/2013 12:00 Sample Type: SAMPLE  
 Project ID: **WATER SAMPLE TESTING TWDB**

Parameters	Results	Units	LOD	PQL	MCL	DF	Prepared	By	Analyzed	By	Qual
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**INORGANICS**

Analysis Desc: SM1030B Cation/Anion Balance	Preparation Method: SM1030B Cation/Anion Balance										
	Analytical Method: SM1030B Cation/Anion Balance										

Cation/Anion Balance	2.650 %						1	01/03/14 06:53:38 CW		01/03/14 06:53:38 CW	
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