

Red River

Environmental Laboratory and Consulting Company

Analytical Laboratory - Environmental Consulting - Permit Application and Compliance

Certificate of Analysis

ODEQ ID # 9953

To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/28/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL	Method
200902119	GAGE # 07312100					METALS-TUL-D:						
		5/27/2009	6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Barium	U	BDL	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Dissolved Iron		0.115	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Manganese		0.18	mg/L	0.0001	0.0001	200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069	200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Dissolved Zinc	U	BDL	mg/L	0.0006	0.0006	200.7/6010B
200902119	GAGE # 07312100					METALS-TULSA:						
		5/27/2009	6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Barium, Total	U	BDL	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Iron, Total		0.193	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Manganese, Total		0.24	mg/L	0.0001	0.0001	200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069	200.7/6010B
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Zinc, Total	U	BDL	mg/L	0.0006	0.0006	200.7/6010B
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			6/4/2009	15:10	OL	Selenium, Dissolved	U	BDL	mg/l	0.00169	0.00169	EPA_7740
			6/4/2009	16:32	OL	Selenium	U	BDL	mg/l	0.00169	0.00169	EPA_7740

Susie Southwell

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ODEQ ID # 9953

To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189
Project Name: WATER QUALITY MONITORING

Date Received: 5/28/2009
Report Date: 6/16/2009

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q, Results, Units, MDL, SQL Method. Includes data for Silica, Salts-Tulsa (Calcium, Magnesium, Phosphorus, Potassium, Sodium, Hardness, Alkalinity, Chloride, Oxygen, Fluoride, Nitrate, pH, Sulfate, Solids, Nitrogen), and Metals-Tul-D (Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel).

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method
200902120	GAGE # 07311900	5/27/2009	6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Zinc		0.011	mg/L	0.0006	0.0006 200.7/6010B
200902120	GAGE # 07311900					METALS-TULSA:					
		5/27/2009	6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Barium, Total		0.19	mg/L	0.0006	0.0006 200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Iron, Total		0.365	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Manganese, Total		0.09	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Zinc, Total		0.019	mg/L	0.0006	0.0006 200.7/6010B
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	15:23	OL	Selenium, Dissolved	U	BDL	mg/l	0.00169	0.00169 EPA_7740
			6/4/2009	16:35	OL	Selenium	U	BDL	mg/l	0.00169	0.00169 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		11.2	mg/l	0.006	0.006 200.7/6010B
200902120	GAGE # 07311900					SALTS-TULSA:					
		5/27/2009	6/10/2009	11:30	JL	Calcium, Dissolved		373.8	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		94.9	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		1.85	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		8	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		1056	mg/L	0.0018	0.0018 200.7/6010B
			6/10/2009	8:30	JL	Total Hardness		1332	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		102	mg/l	2	2 EPA_310.1
			6/2/2009	9:30	JC	Chloride		1800	mg/l	0.383	0.383 SM4500-CL-B
			5/27/2009	12:37	BS/P	Dissolved Oxygen		7.54	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		1.58	mg/L	0.04	0.04 SM4500F-D

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200902120	GAGE # 07311900	5/27/2009	5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO	
			5/27/2009	12:38	BS/P	pH		8.1	s.u.			EPA_150.1
			5/29/2009	10:30	JC	Sulfate		1250	mg/l	1.2	1.2	EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		5184	mg/l	5.5	5.5	SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen		1.68	mg/l	0.4	0.4	EPA_351.3M
			5/28/2009	13:48	SS	Total Suspended Solids		463	mg/l	1.7	1.7	SM 2540D
			6/3/2009	13:20	SS	Turbidity		B 615	NTU	0.078	7.8	EPA_180.1
200902121	GAGE # 07311800	5/27/2009	METALS-TUL-D:									
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Barium		0.135	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Manganese		0.02	mg/L	0.0001	0.0001	200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069	200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
200902121	GAGE # 07311800	5/27/2009	METALS-TULSA:									
			6/9/2009	13:10	JL	Arsenic, Total		0.45	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Barium, Total		0.155	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Iron, Total		1.33	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Manganese, Total		2.5	mg/L	0.0001	0.0001	200.7/6010B
6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069	200.7/6010B			

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200902121	GAGE # 07311800	5/27/2009	6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Zinc, Total		0.045	mg/L	0.0006	0.0006 200.7/6010B
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	15:26	OL	Selenium, Dissolved	U	BDL	mg/l	0.00169	0.00169 EPA_7740
			6/4/2009	16:38	OL	Selenium	U	BDL	mg/l	0.00169	0.00169 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		24.6	mg/l	0.006	0.006 200.7/6010B
200902121	GAGE # 07311800	5/27/2009	SALTS-TULSA:								
			6/10/2009	11:30	JL	Calcium, Dissolved		481	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		129	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		3.9	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		11.6	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		1639	mg/L	0.0018	0.0018 200.7/6010B
			6/10/2009	8:30	JL	Total Hardness		1920	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		48	mg/l	2	2 EPA_310.1
			6/2/2009	9:30	JC	Chloride		3000	mg/l	0.383	0.383 SM4500-CL-B
			5/27/2009	13:37	BS/P	Dissolved Oxygen		6.98	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		0.97	mg/L	0.04	0.04 SM4500F-D
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/27/2009	13:36	BS/P	pH		8.0	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate		1375	mg/l	1.2	1.2 EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		3510	mg/l	5.5	5.5 SM_2540C
6/16/2009	13:00	PR	Total Kjeldahl Nitrogen		2.24	mg/l	0.4	0.4 EPA_351.3M			
5/28/2009	13:48	SS	Total Suspended Solids		5496	mg/l	1.7	1.7 SM 2540D			
6/3/2009	13:20	SS	Turbidity		B 6180	NTU	0.078	78 EPA_180.1			
200902122	GAGE # 07311700	5/27/2009	METALS-TUL-D:								
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Barium		0.14	mg/L	0.0006	0.0006 200.7/6010B
6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B			

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200902122	GAGE # 07311700	5/27/2009	6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Manganese		0.015	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Zinc		0.01	mg/L	0.0006	0.0006 200.7/6010B
200902122	GAGE # 07311700					METALS-TULSA:					
		5/27/2009	6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Barium, Total		0.13	mg/L	0.0006	0.0006 200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Iron, Total		0.075	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Manganese, Total		0.05	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Zinc, Total		0.014	mg/L	0.0006	0.0006 200.7/6010B
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	15:35	OL	Selenium, Dissolved	<	0.00507	mg/l	0.00169	0.00507 EPA_7740
			6/4/2009	16:41	OL	Selenium	<	0.00507	mg/l	0.00169	0.00507 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		5.8	mg/l	0.006	0.006 200.7/6010B
200902122	GAGE # 07311700					SALTS-TULSA:					
		5/27/2009	6/10/2009	11:30	JL	Calcium, Dissolved		445	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		112	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		1.4	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		8.95	mg/L	0.0009	0.0009 200.7/6010B

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200902122	GAGE # 07311700	5/27/2009	6/10/2009		JL	Sodium, Dissolved		1332	mg/L	0.0018	0.0018 200.7/6010B	
			6/10/2009	8:30	JL	Total Hardness		1561	mg/l	0.06	0.06 200.7/6010B	
			6/2/2009	9:30	PR	Total Alkalinity		94	mg/l	2	2 EPA_310.1	
			6/2/2009	9:30	JC	Chloride		2350	mg/l	0.383	0.383 SM4500-CL-B	
			5/27/2009	14:11	BS/P	Dissolved Oxygen		7.22	mg/l	0.1	0.1 EPA_360.1	
			6/11/2009	9:40	PR	Fluoride		1.97	mg/L	0.04	0.04 SM4500F-D	
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO	
			5/27/2009	14:12	BS/P	pH		8.0	s.u.			EPA_150.1
			5/29/2009	10:30	JC	Sulfate		1500	mg/l	1.2	1.2 EPA_375.2	
			5/28/2009	15:00	SS	Total Dissolved Solids		6250	mg/l	5.5	5.5 SM_2540C	
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	J	1.12	mg/l	0.4	0.4 EPA_351.3M	
			5/28/2009	13:48	SS	Total Suspended Solids		65	mg/l	1.7	1.7 SM 2540D	
			6/3/2009	13:20	SS	Turbidity	B	82.3	NTU	0.078	0.78 EPA_180.1	
200902123	GAGE # 07311630	5/27/2009	METALS-TUL-D:									
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Barium		0.07	mg/L	0.0006	0.0006 200.7/6010B	
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B	
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Manganese		0.04	mg/L	0.0001	0.0001 200.7/6010B	
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B	
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
6/9/2009		JL	Dissolved Zinc		0.015	mg/L	0.0006	0.0006 200.7/6010B				
200902123	GAGE # 07311630	5/27/2009	METALS-TULSA:									
			6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Barium, Total		0.08	mg/L	0.0006	0.0006 200.7/6010B	
6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B				

Susie Southwell

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Analytical Laboratory - Environmental Consulting - Permit Application and Compliance

Certificate of Analysis

ODEQ ID # 9953

To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/28/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method			
200902123	GAGE # 07311630	5/27/2009	6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B			
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B			
			6/9/2009		JL	Iron, Total	U	BDL	mg/L	0.0008	0.0008 200.7/6010B			
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B			
			6/9/2009		JL	Manganese, Total		0.045	mg/L	0.0001	0.0001 200.7/6010B			
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B			
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B			
			6/9/2009		JL	Zinc, Total		0.015	mg/L	0.0006	0.0006 200.7/6010B			
			6/2/2009	15:00	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1			
			6/2/2009	15:00	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1			
			6/4/2009	15:38	OL	Selenium, Dissolved	<	0.00845	mg/l	0.00169	0.00845 EPA_7740			
			6/4/2009	17:02	OL	Selenium	<	0.00845	mg/l	0.00169	0.00845 EPA_7740			
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		9.28	mg/l	0.006	0.006 200.7/6010B			
			200902123	GAGE # 07311630	5/27/2009	SALTS-TULSA:								
						6/10/2009	11:30	JL	Calcium, Dissolved		661	mg/L	0.0039	0.0039 200.7/6010B
6/10/2009		JL				Magnesium, Dissolved		126	mg/L	0.0006	0.0006 200.7/6010B			
6/10/2009	8:30	JL				Phosphorus, Total		1.69	mg/L	0.0096	0.0096 200.7/6010B			
6/10/2009		JL				Potassium, Dissolved		9.4	mg/L	0.0009	0.0009 200.7/6010B			
6/10/2009		JL				Sodium, Dissolved		1643	mg/L	0.0018	0.0018 200.7/6010B			
6/10/2009	8:30	JL				Total Hardness		1990	mg/l	0.06	0.06 200.7/6010B			
6/2/2009	9:30	PR				Total Alkalinity		148	mg/l	2	2 EPA_310.1			
6/2/2009	9:30	JC				Chloride		2650	mg/l	0.383	0.383 SM4500-CL-B			
5/27/2009	15:00	BS/P				Dissolved Oxygen		8.92	mg/l	0.1	0.1 EPA_360.1			
6/11/2009	9:40	PR				Fluoride		0.92	mg/L	0.04	0.04 SM4500F-D			
5/29/2009	8:30	PR				Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO			
5/27/2009	15:01	BS/P				pH		8.1	s.u.		EPA_150.1			
5/29/2009	10:30	JC				Sulfate		1700	mg/l	1.2	1.2 EPA_375.2			
5/28/2009	15:00	SS				Total Dissolved Solids		7766	mg/l	5.5	5.5 SM_2540C			
6/16/2009	13:00	PR				Total Kjeldahl Nitrogen	J	0.56	mg/l	0.4	0.4 EPA_351.3M			
5/28/2009	13:48	SS				Total Suspended Solids		10	mg/l	1.7	1.7 SM 2540D			
6/3/2009	13:20	SS				Turbidity	B	2.78	NTU	0.078	0.078 EPA_180.1			

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TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/28/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL Method. Includes data for METALS-TUL-D and METALS-TULSA.

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method
200902124	GAGE # 07311600					SALTS-TULSA:					
		5/27/2009	6/10/2009	11:30	JL	Calcium, Dissolved		534	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		119	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		1.75	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		12.1	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		2528	mg/L	0.0018	0.0018 200.7/6010B
			6/10/2009	8:30	JL	Total Hardness		1649	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		104	mg/l	2	2 EPA_310.1
			6/2/2009	9:30	JC	Chloride		4449	mg/l	0.383	0.383 SM4500-CL-B
			5/27/2009	16:22	BS/P	Dissolved Oxygen		9.68	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		1.88	mg/L	0.04	0.04 SM4500F-D
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/27/2009	16:22	BS/P	pH		8.3	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate		1600	mg/l	1.2	1.2 EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		9524	mg/l	5.5	5.5 SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	J	0.56	mg/l	0.4	0.4 EPA_351.3M
			5/28/2009	13:48	SS	Total Suspended Solids		10	mg/l	1.7	1.7 SM 2540D
			6/3/2009	13:20	SS	Turbidity	B	5.46	NTU	0.078	0.078 EPA_180.1
200902125	GAGE # 07311782					METALS-TUL-D:					
		5/27/2009	6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Barium		0.04	mg/L	0.0006	0.0006 200.7/6010B
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Dissolved Copper		0.087	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Manganese		0.04	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B

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TULSA, OK 74128-4609

Project #: W912BV07-P-0189

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Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q Results, Units, MDL, SQL Method. Includes data for Dissolved Zinc, METALS-TULSA (Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc), and SALTS-TULSA (Calcium, Magnesium, Phosphorus, Potassium, Sodium, Total Hardness, Total Alkalinity, Chloride, Dissolved Oxygen, Fluoride, Nitrate/nitrite As Nitroge).

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analyst	Parameter	Q	Results	Units	MDL	SQL Method	
200902125	GAGE # 07311782	5/27/2009	5/27/2009	17:30	BS/P	pH		8.1	s.u.		EPA_150.1	
			5/29/2009	10:30	JC	Sulfate		5000	mg/l	1.2	1.2	EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		35816	mg/l	5.5	5.5	SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4	EPA_351.3M
			5/28/2009	13:48	SS	Total Suspended Solids		7	mg/l	1.7	1.7	SM_2540D
			6/3/2009	13:20	SS	Turbidity	B	4.22	NTU	0.078	0.078	EPA_180.1
200902126	GAGE # 07311783	5/27/2009	METALS-TUL-D:									
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Barium		0.04	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Dissolved Copper		0.115	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Dissolved Iron		0.064	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Dissolved Manganese		0.45	mg/L	0.0001	0.0001	200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069	200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003	200.7/6010B
200902126	GAGE # 07311783	5/27/2009	METALS-TULSA:									
			6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Barium, Total		0.045	mg/L	0.0006	0.0006	200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009	200.7/6010B
			6/9/2009		JL	Copper, Total		0.12	mg/L	0.0003	0.0003	200.7/6010B
			6/9/2009		JL	Iron, Total		0.54	mg/L	0.0008	0.0008	200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009	200.7/6010B
			6/9/2009		JL	Manganese, Total		0.47	mg/L	0.0001	0.0001	200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069	200.7/6010B
6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003	200.7/6010B			

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	By	Parameter	Q	Results	Units	MDL	SQL Method
200902126	GAGE # 07311783	5/27/2009	6/9/2009		JL	Zinc, Total		0.17	mg/L	0.0006	0.0006 200.7/6010B
			6/2/2009	15:00	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/2/2009	15:00	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	15:47	OL	Selenium, Dissolved	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/4/2009	17:12	OL	Selenium	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		7.57	mg/l	0.006	0.006 200.7/6010B
200902126	GAGE # 07311783					SALTS-TULSA:					
		5/27/2009	6/10/2009	11:30	JL	Calcium, Dissolved		1461	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		380	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		3.7	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		64	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		12340	mg/L	0.0018	0.0018 200.7/6010B
			6/10/2009	8:30	JL	Total Hardness		4356	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		134	mg/l	2	2 EPA_310.1
			6/2/2009	9:30	JC	Chloride		17045	mg/l	0.383	0.383 SM4500-CL-B
			5/27/2009	17:36	BS/P	Dissolved Oxygen		12.26	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		1.43	mg/L	0.04	0.04 SM4500F-D
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/27/2009	17:36	BS/P	pH		7.9	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate		2688	mg/l	1.2	1.2 EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		32928	mg/l	5.5	5.5 SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	J	0.56	mg/l	0.4	0.4 EPA_351.3M
			5/28/2009	13:48	SS	Total Suspended Solids		19	mg/l	1.7	1.7 SM 2540D
			6/3/2009	13:20	SS	Turbidity	B	17.5	NTU	0.078	0.78 EPA_180.1
200902127	GAGE # 07308500					METALS-TUL-D:					
		5/27/2009	6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Barium		0.165	mg/L	0.0006	0.0006 200.7/6010B
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B

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200902127	GAGE # 07308500	5/27/2009	6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Dissolved Manganese	U	BDL	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Dissolved Zinc		0.015	mg/L	0.0006	0.0006 200.7/6010B
200902127	GAGE # 07308500					METALS-TULSA:					
		5/27/2009	6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Barium, Total		0.17	mg/L	0.0006	0.0006 200.7/6010B
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Iron, Total		0.78	mg/L	0.0008	0.0008 200.7/6010B
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Manganese, Total		0.35	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Zinc, Total		0.015	mg/L	0.0006	0.0006 200.7/6010B
			6/2/2009	15:00	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/2/2009	15:00	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	15:51	OL	Selenium, Dissolved	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/4/2009	17:15	OL	Selenium	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		11.7	mg/l	0.006	0.006 200.7/6010B
200902127	GAGE # 07308500					SALTS-TULSA:					
		5/27/2009	6/10/2009	11:30	JL	Calcium, Dissolved		313	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		118.4	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total		1.7	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		8.9	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		1108	mg/L	0.0018	0.0018 200.7/6010B

Susie Southwell

Laboratory Authorized Signature

Red River

Environmental Laboratory and Consulting Company

Analytical Laboratory - Environmental Consulting - Permit Application and Compliance

Certificate of Analysis

ODEQ ID # 9953

To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/28/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analyst	Parameter	Q	Results	Units	MDL	SQL Method
200902127	GAGE # 07308500	5/27/2009	6/10/2009	8:30	JL	Total Hardness		1297	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		144	mg/l	2	2 EPA_310.1
			6/2/2009	9:30	JC	Chloride		1749	mg/l	0.383	0.383 SM4500-CL-B
			5/27/2009	10:04	BS/P	Dissolved Oxygen		8.14	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		0.77	mg/L	0.04	0.04 SM4500F-D
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/27/2009	10:04	BS/P	pH		8.4	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate		1075	mg/l	1.2	1.2 EPA_375.2
			5/28/2009	15:00	SS	Total Dissolved Solids		4772	mg/l	5.5	5.5 SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	J	1.12	mg/l	0.4	0.4 EPA_351.3M
			6/2/2009	13:23	SS	Total Suspended Solids		348	mg/l	1.7	1.7 SM 2540D
			6/3/2009	13:20	SS	Turbidity	B	283	NTU	0.078	7.8 EPA_180.1
			200902128	GAGE # 07312100 DUPLICATE	5/27/2009	METALS-TUL-D:					
6/9/2009	10:10	JL				Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B
6/9/2009		JL				Dissolved Barium	U	BDL	mg/L	0.0006	0.0006 200.7/6010B
6/9/2009		JL				Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
6/9/2009		JL				Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B
6/9/2009		JL				Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
6/9/2009		JL				Dissolved Iron		0.03	mg/L	0.0008	0.0008 200.7/6010B
6/9/2009		JL				Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B
6/9/2009		JL				Dissolved Manganese		0.165	mg/L	0.0001	0.0001 200.7/6010B
6/9/2009		JL				Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
6/9/2009		JL				Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
6/9/2009		JL				Dissolved Zinc	U	BDL	mg/L	0.0006	0.0006 200.7/6010B
200902128	GAGE # 07312100 DUPLICATE	5/27/2009				METALS-TULSA:					
			6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Barium, Total	U	BDL	mg/L	0.0006	0.0006 200.7/6010B

Susie Southwell

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To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

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Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q Results, Units, MDL, SQL Method. Contains data for Lab 200902128 and Lab 200902128 under SALTS-TULSA.

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1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189
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Date Received: 5/28/2009
Report Date: 6/16/2009

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q Results, Units, MDL, SQL Method. Contains data for samples 200902128, 200902156, and 200902156.

Susie Southwell

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Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	By	Parameter	Q	Results	Units	MDL	SQL Method	
200902156	GAGE # 07331000	5/28/2009	6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1	
			6/4/2009	15:57	OL	Selenium, Dissolved	<	0.0338	mg/l	0.00169	0.0338 EPA_7740	
			6/4/2009	17:21	OL	Selenium	<	0.0338	mg/l	0.00169	0.0338 EPA_7740	
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		14.1	mg/l	0.006	0.006 200.7/6010B	
200902156	GAGE # 07331000	5/28/2009	SALTS-TULSA:									
			6/10/2009	11:30	JL	Calcium, Dissolved		91.8	mg/L	0.0039	0.0039 200.7/6010B	
			6/10/2009		JL	Magnesium, Dissolved		37.7	mg/L	0.0006	0.0006 200.7/6010B	
			6/10/2009	8:30	JL	Phosphorus, Total		0.56	mg/L	0.0096	0.0096 200.7/6010B	
			6/10/2009		JL	Potassium, Dissolved		2.1	mg/L	0.0009	0.0009 200.7/6010B	
			6/10/2009		JL	Sodium, Dissolved		35.6	mg/L	0.0018	0.0018 200.7/6010B	
			6/10/2009	8:30	JL	Total Hardness		283	mg/l	0.06	0.06 200.7/6010B	
			6/2/2009	9:30	PR	Total Alkalinity		178	mg/l	2	2 EPA_310.1	
			6/2/2009	14:00	JC	Chloride		43	mg/l	0.383	0.383 SM4500-CL-B	
			5/28/2009	14:45	BS	Dissolved Oxygen		7.96	mg/l	0.1	0.1 EPA_360.1	
			6/11/2009	9:40	PR	Fluoride		1.47	mg/L	0.04	0.04 SM4500F-D	
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge		U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/28/2009	14:43	BS	pH			8.3	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate			238	mg/l	1.2	1.2 EPA_375.2
			6/3/2009	10:10	SS	Total Dissolved Solids			682	mg/l	5.5	5.5 SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen		J	1.12	mg/l	0.4	0.4 EPA_351.3M
6/2/2009	13:23	SS	Total Suspended Solids			370	mg/l	1.7	1.7 SM 2540D			
6/3/2009	14:35	SS	Turbidity		B	261	NTU	0.078	0.78 EPA_180.1			
200902157	GAGE # 07331600	5/28/2009	METALS-TUL-D:									
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Barium		0.12	mg/L	0.0006	0.0006 200.7/6010B	
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B				

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To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/29/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method	
200902157	GAGE # 07331600	5/28/2009	6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Manganese	U	BDL	mg/L	0.0001	0.0001 200.7/6010B	
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B	
			6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
			6/9/2009		JL	Dissolved Zinc	U	BDL	mg/L	0.0006	0.0006 200.7/6010B	
200902157	GAGE # 07331600	5/28/2009	METALS-TULSA:									
			6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Barium, Total		0.13	mg/L	0.0006	0.0006 200.7/6010B	
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
			6/9/2009		JL	Iron, Total	U	BDL	mg/L	0.0008	0.0008 200.7/6010B	
			6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Manganese, Total	U	BDL	mg/L	0.0001	0.0001 200.7/6010B	
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B	
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
			6/9/2009		JL	Zinc, Total	U	BDL	mg/L	0.0006	0.0006 200.7/6010B	
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			6/1/2009	13:30	PR	Mercury		0.00025	mg/l	0.0002	0.0002	EPA_245.1
			6/4/2009	16:00	OL	Selenium, Dissolved	U	BDL	mg/l	0.00169	0.00169	EPA_7740
6/4/2009	17:24	OL	Selenium	U	BDL	mg/l	0.00169	0.00169	EPA_7740			
6/9/2009	13:10	JL	Silicon Dioxide (silica)		4.04	mg/l	0.006	0.006	200.7/6010B			
200902157	GAGE # 07331600	5/28/2009	SALTS-TULSA:									
			6/10/2009	11:30	JL	Calcium, Dissolved		68.4	mg/L	0.0039	0.0039 200.7/6010B	
			6/10/2009		JL	Magnesium, Dissolved		29	mg/L	0.0006	0.0006 200.7/6010B	
			6/10/2009	8:30	JL	Phosphorus, Total	U	BDL	mg/L	0.0096	0.0096 200.7/6010B	
			6/10/2009		JL	Potassium, Dissolved		3.7	mg/L	0.0009	0.0009 200.7/6010B	
			6/10/2009		JL	Sodium, Dissolved		184	mg/L	0.0018	0.0018 200.7/6010B	
			6/10/2009	8:30	JL	Total Hardness		209	mg/l	0.06	0.06	200.7/6010B
6/2/2009	9:30	PR	Total Alkalinity		116	mg/l	2	2	EPA_310.1			

Susie Southwell

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Red River

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Analytical Laboratory - Environmental Consulting - Permit Application and Compliance

Certificate of Analysis

ODEQ ID # 9953

To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
TULSA, OK 74128-4609

Project #: W912BV07-P-0189

Date Received: 5/29/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method	
200902157	GAGE # 07331600	5/28/2009	6/2/2009	14:00	JC	Chloride		235	mg/l	0.383	0.383 SM4500-CL-B	
			5/28/2009	12:55	BS	Dissolved Oxygen		8.32	mg/l	0.1	0.1 EPA_360.1	
			6/11/2009	9:40	PR	Fluoride		0.63	mg/L	0.04	0.04 SM4500F-D	
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO	
			5/28/2009	12:56	BS	pH		8.3	s.u.			EPA_150.1
			5/29/2009	10:30	JC	Sulfate		225	mg/l	1.2	1.2 EPA_375.2	
			6/3/2009	10:10	SS	Total Dissolved Solids		898	mg/l	5.5	5.5 SM_2540C	
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4 EPA_351.3M	
			6/2/2009	13:23	SS	Total Suspended Solids		58	mg/l	1.7	1.7 SM 2540D	
			6/3/2009	14:35	SS	Turbidity	B	16.8	NTU	0.078	0.078 EPA_180.1	
200902158	GAGE # 07316000	5/28/2009	METALS-TUL-D:									
			6/9/2009	10:10	JL	Dissolved Arsenic	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Barium		0.15	mg/L	0.0006	0.0006 200.7/6010B	
			6/9/2009		JL	Dissolved Cadmium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Chromium	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Dissolved Copper	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
			6/9/2009		JL	Dissolved Iron	U	BDL	mg/L	0.0008	0.0008 200.7/6010B	
			6/9/2009		JL	Dissolved Lead	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Dissolved Manganese		0.045	mg/L	0.0001	0.0001 200.7/6010B	
			6/9/2009		JL	Dissolved Nickel	U	BDL	mg/L	0.0069	0.0069 200.7/6010B	
6/9/2009		JL	Dissolved Silver	U	BDL	mg/L	0.0003	0.0003 200.7/6010B				
6/9/2009		JL	Dissolved Zinc	U	BDL	mg/L	0.0006	0.0006 200.7/6010B				
200902158	GAGE # 07316000	5/28/2009	METALS-TULSA:									
			6/9/2009	13:10	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B	
			6/9/2009		JL	Barium, Total		0.14	mg/L	0.0006	0.0006 200.7/6010B	
			6/9/2009		JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Chromium, Total	U	BDL	mg/L	0.0009	0.0009 200.7/6010B	
			6/9/2009		JL	Copper, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B	
6/9/2009		JL	Iron, Total		0.165	mg/L	0.0008	0.0008 200.7/6010B				

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TULSA DISTRICT CORPS OF ENGINEERS
1645 S 101st EAST AVE
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Project #: W912BV07-P-0189

Date Received: 5/29/2009

Project Name: WATER QUALITY MONITORING

Report Date: 6/16/2009

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	By	Analysis Parameter	Q	Results	Units	MDL	SQL Method
200902158	GAGE # 07316000	5/28/2009	6/9/2009		JL	Lead, Total	U	BDL	mg/L	0.009	0.009 200.7/6010B
			6/9/2009		JL	Manganese, Total		0.135	mg/L	0.0001	0.0001 200.7/6010B
			6/9/2009		JL	Nickel, Total	U	BDL	mg/L	0.0069	0.0069 200.7/6010B
			6/9/2009		JL	Silver, Total	U	BDL	mg/L	0.0003	0.0003 200.7/6010B
			6/9/2009		JL	Zinc, Total	U	BDL	mg/L	0.0006	0.0006 200.7/6010B
			6/1/2009	13:30	PR	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/1/2009	13:30	PR	Mercury	U	BDL	mg/l	0.0002	0.0002 EPA_245.1
			6/4/2009	16:03	OL	Selenium, Dissolved	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/4/2009	17:28	OL	Selenium	<	0.00845	mg/l	0.00169	0.00845 EPA_7740
			6/9/2009	13:10	JL	Silicon Dioxide (silica)		8.34	mg/l	0.006	0.006 200.7/6010B
200902158	GAGE # 07316000					SALTS-TULSA:					
		5/28/2009	6/10/2009	11:30	JL	Calcium, Dissolved		64.4	mg/L	0.0039	0.0039 200.7/6010B
			6/10/2009		JL	Magnesium, Dissolved		28.8	mg/L	0.0006	0.0006 200.7/6010B
			6/10/2009	8:30	JL	Phosphorus, Total	U	BDL	mg/L	0.0096	0.0096 200.7/6010B
			6/10/2009		JL	Potassium, Dissolved		4.6	mg/L	0.0009	0.0009 200.7/6010B
			6/10/2009		JL	Sodium, Dissolved		246	mg/L	0.0018	0.0018 200.7/6010B
			6/10/2009	8:30	JL	Total Hardness		206	mg/l	0.06	0.06 200.7/6010B
			6/2/2009	9:30	PR	Total Alkalinity		130	mg/l	2	2 EPA_310.1
			6/2/2009	14:00	JC	Chloride		450	mg/l	0.383	0.383 SM4500-CL-B
			5/28/2009	11:19	BS	Dissolved Oxygen		7.44	mg/l	0.1	0.1 EPA_360.1
			6/11/2009	9:40	PR	Fluoride		0.38	mg/L	0.04	0.04 SM4500F-D
			5/29/2009	8:30	PR	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2 SM_4500-NO
			5/28/2009	11:21	BS	pH		8.2	s.u.		EPA_150.1
			5/29/2009	10:30	JC	Sulfate		200	mg/l	1.2	1.2 EPA_375.2
			6/3/2009	10:10	SS	Total Dissolved Solids		1280	mg/l	5.5	5.5 SM_2540C
			6/16/2009	13:00	PR	Total Kjeldahl Nitrogen	J	0.56	mg/l	0.4	0.4 EPA_351.3M
			6/2/2009	13:23	SS	Total Suspended Solids		315	mg/l	1.7	1.7 SM 2540D
			6/3/2009	14:35	SS	Turbidity	B	287	NTU	0.078	0.78 EPA_180.1

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Report Date: 6/16/2009

Table with 11 columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL Method

Note:

- 200902122: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902123: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902124: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902125: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902126: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902127: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902128: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902156: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.
200902158: The higher detection limit on the selenium results is based on the sample being diluted prior to analysis.

MDL = Method Detection Limit. SQL* = Sample Quantitation Level.

BDL = Analyte was analyzed for but not detected above MDL.

B = Analyte was detected in both the sample and associated blank.

J = Analyte was detected above the MDL but below the PQL.

OL2 = Subcontracted to ODEQ Lab #7211.

Q = Surrogate recovery fell outside acceptance limits.

M = Matrix effect present

* When a sample contains a high concentration of either a target or non-target compound(s) or interference, it must be diluted. SQL = Dilution factor x MDL. Samples are disposed of 20 days after the sample is reported.

Susie Southwell

Laboratory Authorized Signature