



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 #: W912BV-07-P0189

Date Received: 12/14/2007

Project Name: RED RIVER & WICHITA WATER

Report Date: 1/10/2008

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL	Method
200705228	CAGE NUMBER: 07331000					METALS-TULSA:						
		12/13/2007	12/29/2007	14:34	JL	Arsenic, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total		0.0530	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.121	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Barium, Total		0.187	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	14:34	JL	Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Chromium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Copper, Dissolved		0.0410	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Copper, Total		0.0680	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Iron, Dissolved		0.00700	mg/L	0.0008	0.000800	200.7/6010B
			12/29/2007	11:05	JL	Iron, Total		4.12	mg/L	0.0008	0.000800	200.7/6010B
			12/29/2007	14:34	JL	Lead, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Lead, Total		0.0330	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Manganese, Dissolved	U	BDL	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	11:05	JL	Manganese, Total		0.920	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	14:34	JL	Nickel, Dissolved	U	BDL	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	11:05	JL	Nickel, Total		0.0190	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	14:34	JL	Silver, Dissolved	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Silver, Total	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Zinc, Dissolved		0.00400	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Zinc, Total		0.0340	mg/L	0.0006	0.000600	200.7/6010B
		12/28/2007		9:45	OP	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
		11/26/2007		11:20	J/O	Mercury	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
		12/21/2007		19:02	OL	Selenium, Dissolved	<	0.0014	mg/l	0.0014	0.0014	EPA_7440
		12/21/2007		15:24	OL	Selenium	<	0.004	mg/l	0.0014	0.004	EPA_7740
		12/29/2007		11:05	JL	Silicon Dioxide (silica)		30.6	mg/l	0.006	0.006	200.7/6010B

Laboratory Authorized Signature



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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 #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
Report Date: 1/10/2008

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analyst	Parameter	Q	Results	Units	MDL	SQL	Method
200705228	CAGE NUMBER: 07331000					SALTS-TULSA:						
		12/13/2007	12/28/2007	11:01	JL	Calcium, Dissolved		122	mg/L	0.0039	0.00390	200.7/6010B
			12/28/2007	11:01	JL	Magnesium, Dissolved		45.7	mg/L	0.0006	0.000600	200.7/6010B
			12/28/2007	11:01	JL	Phosphorus, Total		0.750	mg/L	0.0096	0.00960	200.7/6010B
			12/28/2007	11:01	JL	Potassium, Dissolved		6.30	mg/L	0.0009	0.000900	200.7/6010B
			12/28/2007	11:01	JL	Sodium, Dissolved		59.0	mg/L	0.0018	0.00180	200.7/6010B
			12/28/2007	11:01	JL	Total Hardness		587	mg/l	0.06	0.06	200.7/6010B
		12/26/2007	14:00	AP	AP	Total Alkalinity		200.2	mg/l	2	2	EPA_310.1
		12/20/2007	13:37	MS	MS	Chloride		54	mg/l	0.383	0.383	EPA 9253
		12/13/2007	10:31	A/J	A/J	Dissolved Oxygen		9.3	mg/l	0.1	0.1	EPA_360.1
		12/28/2007	15:00	AP	AP	Fluoride		0.560	mg/L	0.22	0.220	EPA 340.1
		1/4/2008	8:52	OP	OP	Nitrate/nitrite As Nitroge	J	2.001	mg/l	1.2	1.2	EPA 353.3
		12/13/2007	10:31	A/J	A/J	pH		8.4	s.u.			EPA_150.1
		12/27/2007	15:40	AP	AP	Sulfate		370	mg/l	1.2	1.2	EPA_375.2
		12/20/2007	16:15	AP	AP	Total Dissolved Solids		768	mg/l	5.5	5.5	EPA_160.1
		1/8/2008	14:30	AP	AP	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4	EPA_351.3M
		12/20/2007	9:20	AP	AP	Total Suspended Solids		1680	mg/l	1.7	1.7	EPA_160.2
		1/4/2008	14:15	AP	AP	Turbidity		1620	NTU	0.078	0.078	EPA_180.1
200705229	CAGE NUMBER: 07331600					METALS-TULSA:						
		12/13/2007	12/29/2007	14:34	JL	Arsenic, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total		0.0230	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.134	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Barium, Total		0.143	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	14:34	JL	Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Chromium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Copper, Dissolved		0.0310	mg/L	0.0003	0.000300	200.7/6010B

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Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q Results, Units, MDL, SQL Method. Contains two main sections of data for sample 200705229.

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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 CAGE NUMBER: 07331600 and METALS-TULSA: 07316000.

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Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL Method. Contains data for three sample groups: 200705230 (Zinc, Mercury, Selenium, Silicon Dioxide), 200705230 (SALTS-TULSA: Calcium, Magnesium, Phosphorus, Potassium, Sodium, Hardness, Alkalinity, Chloride, Dissolved Oxygen, Fluoride, Nitrate/nitrite, pH, Sulfate, Total Dissolved Solids, Total Kjeldahl Nitrogen, Total Suspended Solids, Turbidity), and 200705231 (METALS-TULSA: Arsenic).

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Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL, Method. Contains multiple rows of chemical analysis data for various elements like Arsenic, Barium, Cadmium, etc.

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL	Method
200705231	CAGE NUMBER: 07308500	12/14/2007	12/28/2007	11:01	JL	Phosphorus, Total		0.410	mg/L	0.0096	0.00960	200.7/6010B
			12/28/2007	11:01	JL	Potassium, Dissolved		21.2	mg/L	0.0009	0.000900	200.7/6010B
			12/28/2007	11:01	JL	Sodium, Dissolved		1690	mg/L	0.0018	0.00180	200.7/6010B
			12/28/2007	11:01	JL	Total Hardness		1565	mg/l	0.06	0.06	200.7/6010B
			12/26/2007	14:00	AP	Total Alkalinity		146	mg/l	2	2	EPA_310.1
			12/20/2007	13:37	MS	Chloride		1350	mg/l	0.383	0.383	EPA 9253
			12/14/2007	14:46	A/J	Dissolved Oxygen		9.2	mg/l	0.1	0.1	EPA_360.1
			12/28/2007	15:00	AP	Fluoride		0.94	mg/L	0.22	0.22	EPA 340.1
			1/4/2008	8:52	OP	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2	EPA 353.3
			12/14/2007	14:46	A/J	pH		7.9	s.u.			EPA_150.1
			12/27/2007	15:40	AP	Sulfate		1100	mg/l	1.2	1.2	EPA_375.2
			12/21/2007	9:45	AP	Total Dissolved Solids		3994	mg/l	5.5	5.5	EPA_160.1
			1/8/2008	14:30	AP	Total Kjeldahl Nitrogen	J	0.45	mg/l	0.4	0.4	EPA_351.3M
			12/20/2007	9:20	AP	Total Suspended Solids		385	mg/l	1.7	1.7	EPA_160.2
			1/4/2008	14:15	AP	Turbidity		414	NTU	0.078	0.078	EPA_180.1
200705232	CAGE NUMBER: 07312100	12/13/2007	METALS-TULSA:									
			12/29/2007	14:34	JL	Arsenic, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total		0.0390	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.0660	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Barium, Total		0.0650	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	14:34	JL	Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Chromium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Copper, Dissolved		0.0520	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Copper, Total		0.0580	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Iron, Dissolved		0.0210	mg/L	0.0008	0.000800	200.7/6010B
			12/29/2007	11:05	JL	Iron, Total		0.200	mg/L	0.0008	0.000800	200.7/6010B

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL	Method
200705232	CAGE NUMBER: 07312100	12/13/2007	12/29/2007	14:34	JL	Lead, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Lead, Total	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Manganese, Dissolved	U	BDL	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	11:05	JL	Manganese, Total		0.170	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	14:34	JL	Nickel, Dissolved	U	BDL	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	11:05	JL	Nickel, Total	U	BDL	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	14:34	JL	Silver, Dissolved	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Silver, Total	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Zinc, Dissolved		0.00600	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Zinc, Total		0.00600	mg/L	0.0006	0.000600	200.7/6010B
			12/28/2007	9:45	OP	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			11/26/2007	11:20	J/O	Mercury	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			12/21/2007	19:02	OL	Selenium, Dissolved	<	0.0014	mg/l	0.0014	0.0014	EPA_7440
			12/21/2007	15:24	OL	Selenium	<	0.004	mg/l	0.0014	0.004	EPA_7740
			12/29/2007	11:05	JL	Silicon Dioxide (silica)		7.7	mg/l	0.006	0.006	200.7/6010B
200705232	CAGE NUMBER: 07312100					SALTS-TULSA:						
		12/13/2007	12/28/2007	11:01	JL	Calcium, Dissolved		228	mg/L	0.0039	0.00390	200.7/6010B
			12/28/2007	11:01	JL	Magnesium, Dissolved		68.2	mg/L	0.0006	0.000600	200.7/6010B
			12/28/2007	11:01	JL	Phosphorus, Total		0.125	mg/L	0.0096	0.00960	200.7/6010B
			12/28/2007	11:01	JL	Potassium, Dissolved		15.9	mg/L	0.0009	0.000900	200.7/6010B
			12/28/2007	11:01	JL	Sodium, Dissolved		1040	mg/L	0.0018	0.00180	200.7/6010B
			12/28/2007	11:01	JL	Total Hardness		889	mg/l	0.06	0.06	200.7/6010B
			12/26/2007	14:00	AP	Total Alkalinity		142.2	mg/l	2	2	EPA_310.1
			12/20/2007	13:37	MS	Chloride		1450	mg/l	0.383	0.383	EPA_9253
			12/13/2007	16:27	A/J	Dissolved Oxygen		9.4	mg/l	0.1	0.1	EPA_360.1
			12/28/2007	15:00	AP	Fluoride		0.89	mg/L	0.22	0.22	EPA_340.1
			1/4/2008	8:52	OP	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2	EPA_353.3
			12/13/2007	16:27	A/J	pH		8.2	s.u.			EPA_150.1
			12/27/2007	15:40	AP	Sulfate		725	mg/l	1.2	1.2	EPA_375.2

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL Method	
200705232	CAGE NUMBER: 07312100	12/13/2007	12/21/2007	9:45	AP	Total Dissolved Solids		2896	mg/l	5.5	5.5 EPA_160.1	
			1/8/2008	14:30	AP	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4 EPA_351.3M	
			12/20/2007	9:20	AP	Total Suspended Solids		7.2	mg/l	1.7	1.7 EPA_160.2	
			1/4/2008	14:15	AP	Turbidity		9.5	NTU	0.078	0.078 EPA_180.1	
200705233	CAGE NUMBER: 07311900	12/13/2007	METALS-TULSA:									
			12/29/2007	14:34	JL	Arsenic, Dissolved		0.0100	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total		0.0360	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.118	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Barium, Total		0.114	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	14:34	JL	Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Chromium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Copper, Dissolved		0.0560	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Copper, Total		0.125	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Iron, Dissolved		0.0140	mg/L	0.0008	0.000800	200.7/6010B
			12/29/2007	11:05	JL	Iron, Total		1.06	mg/L	0.0008	0.000800	200.7/6010B
			12/29/2007	14:34	JL	Lead, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Lead, Total		0.0170	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Manganese, Dissolved	U	BDL	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	11:05	JL	Manganese, Total		0.155	mg/L	0.0001	0.000100	200.7/6010B
			12/29/2007	14:34	JL	Nickel, Dissolved	U	BDL	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	11:05	JL	Nickel, Total		0.0110	mg/L	0.0069	0.00690	200.7/6010B
			12/29/2007	14:34	JL	Silver, Dissolved	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	11:05	JL	Silver, Total	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
			12/29/2007	14:34	JL	Zinc, Dissolved		0.0110	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Zinc, Total		0.0190	mg/L	0.0006	0.000600	200.7/6010B
12/28/2007	9:45	OP	Mercury, Dissolved	U	BDL	mg/l	0.0002	0.0002	EPA_245.1			

Laboratory Authorized Signature



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 #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
Report Date: 1/10/2008

Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	By	Parameter	Q	Results	Units	MDL	SQL	Method
200705233	CAGE NUMBER: 07311900	12/13/2007	11/26/2007	11:20	J/O	Mercury	U	BDL	mg/l	0.0002	0.0002	EPA_245.1
			12/21/2007	19:02	OL	Selenium, Dissolved	<	0.0014	mg/l	0.0014	0.0014	EPA_7440
			12/21/2007	15:24	OL	Selenium	<	0.004	mg/l	0.0014	0.004	EPA_7740
			12/29/2007	11:05	JL	Silicon Dioxide (silica)		17.7	mg/l	0.006	0.006	200.7/6010B
200705233	CAGE NUMBER: 07311900	12/13/2007	SALTS-TULSA:									
			12/28/2007	11:01	JL	Calcium, Dissolved		237	mg/L	0.0039	0.00390	200.7/6010B
			12/28/2007	11:01	JL	Magnesium, Dissolved		59.6	mg/L	0.0006	0.000600	200.7/6010B
			12/28/2007	11:01	JL	Phosphorus, Total		0.580	mg/L	0.0096	0.00960	200.7/6010B
			12/28/2007	11:01	JL	Potassium, Dissolved		14.6	mg/L	0.0009	0.000900	200.7/6010B
			12/28/2007	11:01	JL	Sodium, Dissolved		1060	mg/L	0.0018	0.00180	200.7/6010B
			12/28/2007	11:01	JL	Total Hardness		835	mg/l	0.06	0.06	200.7/6010B
			12/26/2007	14:00	AP	Total Alkalinity		90	mg/l	2	2	EPA_310.1
			12/20/2007	13:37	MS	Chloride		850	mg/l	0.383	0.383	EPA 9253
			12/13/2007	17:31	A/J	Dissolved Oxygen		8.8	mg/l	0.1	0.1	EPA_360.1
			12/28/2007	15:00	AP	Fluoride		0.73	mg/L	0.22	0.22	EPA 340.1
			1/4/2008	8:52	OP	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2	EPA 353.3
			12/13/2007	17:31	A/J	pH		8.3	s.u.			EPA_150.1
			12/27/2007	15:40	AP	Sulfate		750	mg/l	1.2	1.2	EPA_375.2
			12/21/2007	9:45	AP	Total Dissolved Solids		2660	mg/l	5.5	5.5	EPA_160.1
			1/8/2008	14:30	AP	Total Kjeldahl Nitrogen	J	0.42	mg/l	0.4	0.4	EPA_351.3M
12/20/2007	9:20	AP	Total Suspended Solids		1030	mg/l	1.7	1.7	EPA_160.2			
1/4/2008	14:15	AP	Turbidity		2156	NTU	0.078	0.078	EPA_180.1			
200705234	CAGE NUMBER: 07311800	12/14/2007	METALS-TULSA:									
			12/29/2007	14:34	JL	Arsenic, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.0400	mg/L	0.0006	0.000600	200.7/6010B
12/29/2007	11:05	JL	Barium, Total		0.0500	mg/L	0.0006	0.000600	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 #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
Report Date: 1/10/2008

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL, Method. Contains two main sections of data for sample 200705234.

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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analized By	Parameter	Q	Results	Units	MDL	SQL	Method
200705234	CAGE NUMBER: 07311800	12/14/2007	12/28/2007	11:01	JL	Total Hardness		2260	mg/l	0.06	0.06	200.7/6010B
			12/26/2007	14:00	AP	Total Alkalinity		100	mg/l	2	2	EPA_310.1
			12/20/2007	13:37	MS	Chloride		2050	mg/l	0.383	0.383	EPA 9253
			12/14/2007	8:43	A/J	Dissolved Oxygen		12.7	mg/l	0.1	0.1	EPA_360.1
			12/28/2007	15:00	AP	Fluoride		1.1	mg/L	0.22	0.22	EPA 340.1
			1/4/2008	8:52	OP	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2	EPA 353.3
			12/14/2007	8:43	A/J	pH		8.6	s.u.			EPA_150.1
			12/27/2007	15:40	AP	Sulfate		2000	mg/l	1.2	1.2	EPA_375.2
			12/21/2007	9:45	AP	Total Dissolved Solids		6230	mg/l	5.5	5.5	EPA_160.1
			1/8/2008	14:30	AP	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4	EPA_351.3M
			12/20/2007	9:20	AP	Total Suspended Solids		28	mg/l	1.7	1.7	EPA_160.2
			1/4/2008	14:15	AP	Turbidity		52.9	NTU	0.078	0.078	EPA_180.1
			200705235	CAGE NUMBER: 07311700	12/14/2007	METALS-TULSA:						
12/29/2007	14:34	JL				Arsenic, Dissolved		0.0100	mg/L	0.009	0.00900	200.7/6010B
12/29/2007	11:05	JL				Arsenic, Total		0.0150	mg/L	0.009	0.00900	200.7/6010B
12/29/2007	14:34	JL				Barium, Dissolved		0.0300	mg/L	0.0006	0.000600	200.7/6010B
12/29/2007	11:05	JL				Barium, Total		0.0300	mg/L	0.0006	0.000600	200.7/6010B
12/29/2007	14:34	JL				Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
12/29/2007	11:05	JL				Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
12/29/2007	14:34	JL				Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
12/29/2007	11:05	JL				Chromium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
12/29/2007	14:34	JL				Copper, Dissolved	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
12/29/2007	11:05	JL				Copper, Total	U	BDL	mg/L	0.0003	0.000300	200.7/6010B
12/29/2007	14:34	JL				Iron, Dissolved		0.0400	mg/L	0.0008	0.000800	200.7/6010B
12/29/2007	11:05	JL				Iron, Total		0.0400	mg/L	0.0008	0.000800	200.7/6010B
12/29/2007	14:34	JL				Lead, Dissolved		0.0120	mg/L	0.009	0.00900	200.7/6010B
12/29/2007	11:05	JL				Lead, Total		0.0140	mg/L	0.009	0.00900	200.7/6010B
12/29/2007	14:34	JL				Manganese, Dissolved	U	BDL	mg/L	0.0001	0.000100	200.7/6010B

Laboratory Authorized Signature



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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 #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
Report Date: 1/10/2008

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q, Results, Units, MDL, SQL, Method. Contains two main sections of data for Lab 200705235.

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

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Date Received: 12/14/2007

Project Name: RED RIVER & WICHITA WATER

Report Date: 1/10/2008

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 Turbidity and METALS-TULSA.

Laboratory Authorized Signature



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Lab Number	Sample Identification	Date Sampled	Analysis Date	Time	Analyst	Parameter	Q	Results	Units	MDL	SQL	Method
200705236	CAGE NUMBER: 07311630	12/14/2007	12/29/2007	11:05	JL	Silicon Dioxide (silica)		13.4	mg/l	0.006	0.006	200.7/6010B
200705236	CAGE NUMBER: 07311630					SALTS-TULSA:						
		12/14/2007	12/28/2007	11:01	JL	Calcium, Dissolved		762	mg/L	0.0039	0.00390	200.7/6010B
			12/28/2007	11:01	JL	Magnesium, Dissolved		159	mg/L	0.0006	0.000600	200.7/6010B
			12/28/2007	11:01	JL	Phosphorus, Total		0.290	mg/L	0.0096	0.00960	200.7/6010B
			12/28/2007	11:01	JL	Potassium, Dissolved		21.5	mg/L	0.0009	0.000900	200.7/6010B
			12/28/2007	11:01	JL	Sodium, Dissolved		2850	mg/L	0.0018	0.00180	200.7/6010B
			12/28/2007	11:01	JL	Total Hardness		2765	mg/l	0.06	0.06	200.7/6010B
			12/26/2007	14:00	AP	Total Alkalinity		169.6	mg/l	2	2	EPA_310.1
			12/20/2007	13:37	MS	Chloride		3449	mg/l	0.383	0.383	EPA 9253
			12/14/2007	10:24	A/J	Dissolved Oxygen		11.6	mg/l	0.1	0.1	EPA_360.1
			12/28/2007	15:00	AP	Fluoride		1.5	mg/L	0.22	0.22	EPA 340.1
			1/4/2008	8:52	OP	Nitrate/nitrite As Nitroge	U	BDL	mg/l	1.2	1.2	EPA 353.3
			12/14/2007	10:24	A/J	pH		8.2	s.u.			EPA_150.1
			12/27/2007	15:40	AP	Sulfate		2500	mg/l	1.2	1.2	EPA_375.2
			12/21/2007	9:45	AP	Total Dissolved Solids		9218	mg/l	5.5	5.5	EPA_160.1
			1/8/2008	14:30	AP	Total Kjeldahl Nitrogen	U	BDL	mg/l	0.4	0.4	EPA_351.3M
			12/20/2007	9:20	AP	Total Suspended Solids	U	BDL	mg/l	1.7	1.7	EPA_160.2
			1/4/2008	14:15	AP	Turbidity		1.5	NTU	0.078	0.078	EPA_180.1
200705237	CAGE NUMBER: 07311600					METALS-TULSA:						
		12/14/2007	12/29/2007	14:34	JL	Arsenic, Dissolved	U	BDL	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	11:05	JL	Arsenic, Total		0.0120	mg/L	0.009	0.00900	200.7/6010B
			12/29/2007	14:34	JL	Barium, Dissolved		0.0200	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	11:05	JL	Barium, Total		0.0200	mg/L	0.0006	0.000600	200.7/6010B
			12/29/2007	14:34	JL	Cadmium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	11:05	JL	Cadmium, Total	U	BDL	mg/L	0.0009	0.000900	200.7/6010B
			12/29/2007	14:34	JL	Chromium, Dissolved	U	BDL	mg/L	0.0009	0.000900	200.7/6010B

Laboratory Authorized Signature



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To: MR. TONY CLYDE

TULSA DISTRICT CORPS OF ENGINEERS
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TULSA, OK 74128-4609

Project #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
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Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q Results, Units, MDL, SQL Method. Contains two main sections of data for sample 200705237.

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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 200705237 (Dissolved Oxygen, Fluoride, Nitrate/nitrite As Nitrogen, pH, Sulfate, Total Dissolved Solids, Total Kjeldahl Nitrogen, Total Suspended Solids, Turbidity) and Lab 200705238 (METALS-TULSA: Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel).

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Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, By, Parameter, Q, Results, Units, MDL, SQL, Method. Contains two main sections of data for sample 200705238.

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Project #: W912BV-07-P0189

Date Received: 12/14/2007

Project Name: RED RIVER & WICHITA WATER

Report Date: 1/10/2008

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

200705239 CAGE NUMBER: 07311783

SALT-TULSA:

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

Project #: W912BV-07-P0189
Project Name: RED RIVER & WICHITA WATER

Date Received: 12/14/2007
Report Date: 1/10/2008

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q, Results, Units, MDL, SQL, Method. Contains two main sections of data for lab numbers 200705239 and 200705240.

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Date Received: 12/14/2007
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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 Iron, Lead, Manganese, Nickel, Silver, Zinc, Mercury, Selenium, and Silicon Dioxide.

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Date Received: 12/14/2007
Report Date: 1/10/2008

Table with columns: Lab Number, Sample Identification, Date Sampled, Analysis Date, Analyzed Time, Analyzed By, Parameter, Q, Results, Units, MDL, SQL, Method. Contains multiple rows of analysis data for sample 200705240.

Note:

- 200705228: Change in detection limit in selenium is based on dilution factor.
200705230: Change in detection limit in selenium is based on dilution factor.
200705232: Change in detection limit in selenium is based on dilution factor.
200705233: Change in detection limit in selenium is based on dilution factor.
200705234: Change in detection limit in selenium is based on dilution factor.
200705235: Change in detection limit in selenium is based on dilution factor.
200705236: Change in detection limit in selenium is based on dilution factor.
200705237: Change in detection limit in selenium is based on dilution factor.
200705238: Change in detection limit in selenium is based on dilution factor.
200705239: Change in detection limit in selenium is based on dilution factor.

MDL = Method Detection Limit. SQL* = Sample Quantitation Level.
B = Analyte was detected in both the sample and associated blank.
OL2 = Subcontracted to ODEQ Lab #7211.

BDL = Analyte was analyzed for but not detected above MDL.
J = Analyte was detected above the MDL but below the PQL.
Q = Surrogate recovery fell outside acceptance limits.

* 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.

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