

Lake Powell Pipeline Project
FERC Additional Information Request Schedule B – Item 18

Exhibit E

Water Resources

18. In section 5.3.4 of the final license application, you present the affected environment for surface water quality in Kanab Creek, Paria River, Virgin River, Sand Hollow Reservoir, and Lake Powell; however, you did not describe all of the rivers, streams, and seasonal washes (shown in figure 5-1 and listed table 5-1) that the proposed project would cross. Please indicate in the text which rivers, streams, and seasonal washes would be crossed by the proposed project, as shown in figure 5-1 and listed in table 5-1 and summarize water quality data for those waterbodies where water quality data are available. In addition, please provide water quality data for Quail Creek Reservoir which is absent from the license application and Final Study Report 17, *Surface Water Quality*.

UBWR Response:

The following drainage crossings, listed in Table 5-1 and shown in Figure 5-1 of Exhibit E, Lake Powell Pipeline (LPP) project license application, would be crossed by the Proposed Action or project alternative alignments. All of the following drainages are ephemeral or intermittent, only flowing during intense precipitation runoff events, with exception of the Paria River, which flows intermittently or seasonally.

All tributary drainages to Lower Wahweap Creek that would be crossed by the LPP Water Conveyance System are dry washes and only flow ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

All tributary drainages to the Middle Paria River that would be crossed by the LPP Water Conveyance System are dry washes and only flow ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

The Paria River, which flows intermittently through the Middle Paria River watershed, would be crossed by the LPP Water Conveyance System at the Highway 89 crossing and coincident with Utah Department of Environmental Quality (UDEQ) Station 4951850. Water quality data for UDEQ Station 4951850 are shown in Table 5-35, Exhibit E of the LPP project license application.

Buckskin Gulch and all tributary drainages to the Upper Buckskin Gulch that would be crossed by the LPP Water Conveyance System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

White Sage Wash and all tributary drainages to White Sage Wash that would be crossed by the LPP Proposed Action Hydro System are dry drainages and washes, only flowing ephemeral

during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

All tributary drainages to Lower Johnson Wash that would be crossed by the LPP Proposed Action Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Lower Johnson Wash and all tributary drainages to Lower Johnson Wash that would be crossed by the LPP Existing Highway Alternative of the Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Kanab Creek, which flows intermittently through Fredonia, AZ where it would be crossed by the LPP Existing Highway Alternative of the Hydro System, conveys water during intense precipitation runoff events. Diversions of Kanab Creek upstream from the Existing Highway Alternative crossing generally result in the drainage being dry and only flowing ephemeral during intense precipitation runoff events. Water quality data near the Existing Highway Alternative crossing site are shown in Table 5-53.

Kanab Creek, Jacob Canyon, and all tributaries to these drainages that would be crossed by the LPP Proposed Action Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Sand Wash, South Moccasin Wash, and all other tributaries to Bitter Seeps Wash that would be crossed by the LPP Existing Highway Alternative of the Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Bitter Seeps Wash and all tributary drainages that would be crossed by the Proposed Action Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Short Creek and all tributary drainages that would be crossed by the LPP Hydro System are dry drainages and washes, only flowing ephemeral during intense precipitation runoff events. There are no water quality data available for these dry, ephemeral drainages.

Table 2-1 shows water quality data for Quail Creek Reservoir at the Main Dam. Table 2-2 shows water quality data for Quail Creek Reservoir at the South Dam.

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
6/7/2006	8	2971	8.85	540.328	8.69	72.4
	24	2955	9.5	540.872	8.7	67.8
	37.0	2942	10.79	527.136	8.57	56.3
	61.7	2917	7.61	526.66	8.06	50.7
	82.0	2897	7.04	528.768	7.95	49.8
	102.0	2877	6.65	531.352	7.86	49.3
	110.8	2868	6.39	532.44	8.02	49.1
	121.1	2858	6.24	534.072	8.03	48.9
	131.0	2848	5.99	537.472	8.03	48.8
	138.0	2841	5.79	536.724	8.08	48.8
7/14/2006	7.7	2966	8.43	552.5	8.7	76.9
	9.5	2964	8.39	552.432	8.71	76.8
	19.2	2954	8.41	551.344	8.72	76.4
	29.2	2944	10.07	533.868	8.71	62.6
	39.5	2934	10.1	530.944	8.45	53.6
	49.4	2924	7.82	533.664	8.17	51.9
	59.4	2914	6.29	533.392	8.06	51.1
	69.4	2904	5.55	535.16	7.99	50.7
	79.4	2894	5.12	537.948	7.89	50.4
	89.3	2884	4.64	539.716	7.8	50.2
	99.4	2874	4.24	540.872	7.76	50
	108.9	2865	3.83	542.096	7.71	49.9
8/4/2006	5.2	2965	8.07	561.952	8.7	80.5
	10.7	2959	8.1	562.156	8.72	80.2
	19.9	2950	8.14	561.204	8.72	79.5
	30.0	2940	9.82	540.464	8.6	60.3
	40.3	2930	7.83	537.336	8.34	54
	49.9	2920	6.3	539.716	8.06	52.3
	59.3	2911	4.75	541.552	7.92	51.4
	71.0	2899	3.88	540.804	7.86	50.6
	81.1	2889	3.6	542.708	7.79	50.5
	91.2	2879	3.34	544.068	7.9	50.3
	101.3	2869	2.73	545.7	7.83	50.2
	110.9	2859	2.5	548.012	7.77	50.1
	120.3	2850	1.7	551.276	7.7	50
	125.4	2845	1.21	558.62	7.67	50

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
8/18/2006	2.8	2965	8.25	567.324	8.75	79.6
	9.8	2958	8.17	568.14	8.76	79.2
	15.1	2953	8.13	568.072	8.76	79.1
	20.1	2948	8.08	568.48	8.76	78.9
	30.1	2938	9.48	542.028	8.46	61.4
	40.2	2927	7.81	539.648	8.17	54.3
	49.8	2918	4.85	541.212	7.85	52
	49.8	2918	4.79	541.552	7.85	52
	60.4	2907	3.84	541.62	7.7	51.3
	69.8	2898	3.36	541.552	7.6	50.8
	79.8	2888	2.89	545.496	7.49	50.6
	90.1	2878	2.42	547.944	7.46	50.4
	99.2	2868	1.9	549.644	7.47	50.2
	110.9	2857	1.55	553.724	7.44	50.2
	119.9	2848	0.84	562.972	7.41	50.2
125.5	2842	0.55	587.928	7.42	50.2	
9/7/2006	6.1	2958	8.36	577.524	8.79	76.4
	15.7	2948	8.33	576.912	8.77	76.3
	27.8	2936	9.21	550.392	8.53	66.5
	39	2925	8.65	541.62	8.26	55.3
	54.6	2909	4.6	545.428	7.82	52.1
	66.1	2898	3.16	544.204	7.66	51.2
	78.5	2886	2.09	550.596	7.55	50.8
	92.6	2871	1.48	555.22	7.44	50.5
	101.5	2863	0.88	562.7	7.37	50.4
	103.5	2861	0.61	563.38	7.38	50.4
10/6/2006	4.4	2960	9.33	579.156	8.46	65.4
	12.1	2952	9.32	579.292	8.43	65.3
	21.2	2943	9.24	579.156	8.35	65.1
	31.5	2933	8.91	576.844	8.17	63.8
	42.9	2921	5.54	558.824	7.46	57.3
	52.2	2912	2.8	551.412	7.22	53.4
	62.4	2902	1.73	551.004	7.05	51.6
	72.9	2891	0.94	554.948	7.29	51.2
	90.3	2874	0.41	565.964	7.28	50.9
	100.1	2864	0.34	569.704	7.26	50.9
111.1	2853	0.32	597.312	7.25	50.8	

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
10/20/2006	9.1	2950	9.41	578.408	8.35	61.2
	19.7	2940	9.13	578.068	8.33	61.1
	31.6	2928	8.93	578.272	8.27	61
	50.7	2909	3.48	561.408	7.37	53.7
	73.9	2886	1.04	560.32	7.19	51.6
	92.2	2867	0.63	569.5	7.14	51.1
	100	2860	0.55	569.908	7.09	51.1
	112.6	2847	0.5	585.752	7.08	50.9
	118	2842	0.46	593.844	7.09	50.9
11/17/2006	10.1	2951	9.32	578.816	8.19	54.1
	20.5	2941	9.2	579.564	8.19	53.9
	31.3	2930	9.09	579.7	8.18	53.8
	39.8	2921	8.96	580.516	8.12	53.8
	50.7	2910	8.86	580.108	8.1	53.8
	55.1	2906	8.84	580.108	8.06	53.8
	60.7	2900	8.78	579.904	8.05	53.8
	70.2	2891	7.85	578.884	7.79	53.3
	80.1	2881	4.5	574.192	7.49	50.2
	89.5	2872	4.33	572.22	7.52	49.6
	98.8	2862	4.91	570.384	7.54	48.7
	108.4	2853	5.48	569.024	7.56	48
12/1/2006	9.3	2955	9.83	580.108	8.08	49.9
	9.7	2954	9.82	580.176	8.14	49.9
	19.8	2944	9.7	580.108	8.15	49.8
	30.9	2933	9.58	580.176	8.18	49.8
	40.4	2924	9.52	580.312	8.19	49.8
	40.4	2924	9.51	580.176	8.21	49.8
	44.7	2919	9.51	580.244	8.19	49.7
	48.6	2915	9.5	580.516	8.18	49.7
	60	2904	9.42	580.312	8.11	49.7
	69.9	2894	9.4	580.38	8.08	49.7
	79.3	2885	9.34	580.516	8.05	49.6
	90.8	2873	9.37	575.892	7.92	48.2
	101.5	2863	9.19	565.76	7.88	46
	112.6	2851	9.5	576.164	7.84	43.1
	119.6	2844	9.82	576.572	7.8	43

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
1/8/2007	10		11.58	581.74	8.04	42.9
	20.3		11.56	581.876	8.02	42.8
	30.6		11.47	581.944	7.99	42.8
	39.8		11.4	582.012	7.97	42.8
	49.4		11.34	582.148	7.93	42.8
	59.9		11.31	582.216	7.89	42.7
	69.5		11.25	582.216	7.85	42.7
	80		11.2	582.216	7.82	42.7
	89.9		11.14	582.284	7.78	42.7
	99.5		11.11	582.556	7.73	42.7
	109.6		11.07	581.808	7.74	42.7
	119.8		11.07	581.808	7.71	42.4
4/26/2007	5.2		10.22	593.028	8.64	59
	19.7		10.54	591.192	8.46	56
	33		10.42	590.648	8.34	54.8
	44.9		10.54	578.952	8.23	52
	59.2		9.96	581.876	8.17	51.3
	68.7		9.81	576.776	8.08	51.2
	81.7		9.62	576.844	8.03	50.7
	96		9.57	580.652	7.99	50.4
	106.1		9.48	581.468	7.99	50.4
	112.9		9.4	581.264	7.96	50.4
6/13/2007	7.7		8.92	606.22	8.46	69
	13.9		8.92	605.608	8.46	68.7
	14.9		8.89	605.608	8.46	68.6
	18.4		8.93	604.656	8.48	68.3
	26		9.18	601.664	8.39	65.7
	32.2		9.16	598.06	8.34	62.9
	40.4		8.99	592.96	8.32	59.2
	50.4		8.52	587.724	8.2	55
	56.5		8	587.316	8.19	54
	61.9		7.67	587.996	8.11	53.7
	69.5		7.33	587.792	8.06	53.5
	72.4		7.24	588.064	8.06	53.4
	85.3		7.17	587.384	7.97	53.1
	95		7.02	588.2	7.97	53
99.9		6.84	589.152	7.92	52.8	

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
6/20/2007	0.6		9.16	601.664	8.44	74.6
	11.9		8.52	601.528	8.41	74.5
	25.8		9.4	592.688	8.34	67.1
	39.8		8.57	583.848	8.27	59.7
	62.9		8.14	575.008	8.23	54
	80.2		7.52	578.884	8.17	53.2
	102		6.45	583.78	8.04	52.9
	124.7		5.84	589.152	7.93	52.7
	126		4.16	599.352	7.84	52.8
7/20/2007	1.1	2959.7	7.74	616.692	8.82	81.5
	10.5	2950.3	7.87	614.924	8.69	80.3
	29	2931.8	8.46	595.952	8.36	64.8
	52.2	2908.6	7.07	582.42	8.24	55.4
	73.4	2887.4	6.55	586.092	8.09	53.8
	96.3	2864.5	5.15	593.572	7.92	53.2
	101.2	2859.6	4.39	595.952	7.82	53.2
8/1/2007	0.5	2957.5	7.65	622.54	8.76	81
	10.4	2947.6	7.65	621.724	8.74	80.9
	22.7	2935.3	7.6	605.2	8.53	72.6
	40.6	2917.4	7.13	589.696	8.44	59.1
	54.4	2903.6	6.39	585.14	8.35	55.1
	71.3	2886.7	5.97	584.256	8.27	54.1
	103.8	2854.2	1.91	602.412	7.91	53.2
8/14/2007	0.1	2953.9	8.07	628.32	8.81	81.8
	5.5	2948.5	8.06	627.096	8.78	81.2
	11.2	2942.8	8.02	626.756	8.77	80.7
	20.6	2933.4	8.02	623.9	8.72	79.4
	26.6	2927.4	7.11	607.24	8.44	72.4
	34.8	2919.2	6.63	595.476	8.37	61.9
	40.6	2913.4	6.09	591.668	8.34	59.1
	50.2	2903.8	5.87	587.86	8.32	57
	61.4	2892.6	5.67	586.16	8.27	55.1
	72.4	2881.6	5.39	589.356	8.19	54.3
	81.3	2872.7	4.99	591.056	8.17	53.9
	92.2	2861.8	3.57	602.548	8.04	53.5
	102.3	2851.7	2.37	611.932	7.95	53.4
	109.6	2844.4	0.97	622.132	7.87	53.3
113.5	2840.5	0.62	632.604	7.85	53.3	

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
9/6/2007	12		7.99	631.38	8.77	79
	20.8		7.94	631.516	8.83	78.8
	30.2		5.8	616.42	8.47	72.2
	40.7		4.39	597.924	8.28	61.2
	51.5		4.09	595	8.21	58
	60.7		3.97	594.456	8.19	55.7
	71.4		3.64	597.244	8.12	55
	81.7		2.84	605.404	8.05	54.5
	90.9		1.66	609.96	7.97	54.2
	95.5		0.91	614.788	7.93	54
9/19/2007	12.9		8.42	636.208	8.61	73.6
	21.1		8.39	636.548	8.69	73.5
	30.4		8.28	637.024	8.69	73
	42.7		3.82	600.372	8.34	64.2
	55.6		3.27	597.992	8.23	57.8
	61.6		3.13	599.216	8.16	56.5
	72.7		3.08	599.148	8.11	55.6
9/28/2007	5.4	2940.6	8.44	635.868	8.38	70
	10.2	2935.8	8.38	636.48	8.63	69.2
	20.3	2925.7	8.1	636.412	8.85	69.1
	30.6	2915.4	8.02	636.48	8.88	69
	41.7	2904.3	6.92	632.06	8.77	67.6
	53	2893	2.56	601.868	8.32	59.2
	60	2886	2.5	603.296	8.27	57.6
	72.3	2873.7	1.58	608.736	8.2	56.6
	81	2865	1.55	608.396	8.15	56.3
	92.9	2853.1	1.33	611.864	8.13	55.9
	100.9	2845.1	0.7	620.432	8.12	55.6
	102.7	2843.3	0.38	622.948	8.07	55.6

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
10/2/2007	2.4	2842.6	8.49	636.684	8.51	67.1
	10.3	2834.7	7.97	637.16	8.79	66.9
	20.6	2824.4	7.95	637.228	8.82	66.8
	30.4	2814.6	7.91	637.296	8.86	66.8
	39.6	2805.4	7.88	637.16	8.88	66.8
	46.6	2798.4	7.6	634.916	8.85	66.2
	49.3	2795.7	7.39	625.124	8.8	66
	50.1	2794.9	3.35	610.708	8.58	61.4
	56.4	2788.6	2.39	603.024	8.38	58.6
	61	2784	2.26	603.024	8.31	58.2
	65.4	2779.6	2.02	604.044	8.26	57.5
	72.4	2772.6	1.53	609.28	8.21	56.8
	81.2	2763.8	1.34	611.864	8.18	56.2
	90.9	2754.1	0.87	620.976	8.14	55.9
	99.6	2745.4	0.4	626.96	8.1	55.6
	99.8	2745.2	0.39	627.368	8.11	55.6
	101.3	2743.7	0.39	631.856	8.1	55.6
	101.3	2743.7	0.39	632.468	8.1	55.6
101.3	2743.7	0.38	631.244	8.1	55.6	
105.2	2739.8	0.37	656.88	7.93	55.5	
12/14/2007	2.3	2951.7	10.57	622.744	7.53	48.1
	12.2	2941.8	10.58	622.812	8.32	47.9
	20.5	2933.5	10.49	624.104	8.7	47.8
	24.4	2929.6	10.44	623.084	8.91	47.8
	30.8	2923.2	10.44	622.948	8.86	47.7
	44.7	2909.3	10.38	622.744	8.84	47.7
	59.5	2894.5	10.32	623.356	8.85	47.6
	71.8	2882.2	10.33	624.308	8.88	47.4
	86.7	2867.3	10.55	613.156	8.87	45.8
	100.3	2853.7	10.59	610.572	8.85	45.2
	104.5	2849.5	10.68	608.94	8.88	44.9

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

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Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
1/18/2008	0.8		11.95	620.024	8.8	41.1
	10.1		11.94	619.82	9	41
	20.6		11.9	620.228	9	40.8
	30.8		11.87	619.956	9.03	40.8
	40.9		11.83	620.228	8.96	40.7
	51		11.8	619.616	8.94	40.7
	59.8		11.75	619.752	8.91	40.6
	63.8		11.73	620.092	9.02	40.7
	70.3		11.72	620.364	8.99	40.6
	80.3		11.71	620.364	8.96	40.5
	88.9		11.7	620.772	9.01	40.5
	91.5		11.68	620.16	9	40.5
2/21/2008	2.1		12.06		9.51	42.9
	8.5		12.16		9.49	42.5
	11.5		12.15		9.49	42.5
	21.2		12.15		9.48	42.2
	31.2		12.09		9.48	42.1
	43.9		12.02		9.48	41.9
	50.1		11.93		9.45	41.8
	59.5		11.86		9.45	41.7
	78.7		11.71		9.42	41.4
	89.9		11.7		9.42	41.4
	102.2		11.64		9.42	41.3

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

Page 9 of 10

Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
3/10/2008	0.3		11.98		9.82	45.2
	4.8		12.02		9.16	45
	9.8		12.01		8.99	44.9
	15.6		12		9.18	44.9
	21.1		11.97		9	44.8
	25.7		11.94		9.21	44.8
	30.4		11.91		9.23	44.8
	34.2		11.86		9.26	44.8
	38.6		11.82		9.24	44.8
	42.9		11.81		9.22	44.7
	46.8		11.78		9.27	44.7
	55.6		11.73		9.33	44.6
	66.3		11.71		9.29	44.4
	76.2		11.65		9.32	44.2
	86.3		11.55		9.31	44.2
	95.7		11.5		9.3	44.1
	105.5		11.43		9.29	44.1
116.4		11.36		9.28	44	
3/17/2008	-0.4		11.91		7.62	47.9
	7.3		12.15		7.91	47.3
	11.8		12.16		7.99	47.2
	15.9		12.15		8.52	47.2
	21.2		12.21		8.35	46.6
	26		12.22		8.52	46.3
	37.9		12.16		8.57	46.1
	44.4		12.13		8.62	45.4
	50.9		11.96		8.66	45.2
	58.7		11.85		8.72	45
	64.9		11.69		8.78	44.9
	73.8		11.62		8.82	44.9
	79.7		11.58		8.84	44.8
	87.1		11.53		8.86	44.8
	94.4		11.47		8.88	44.8
	100.5		11.42		8.93	44.8
	106.5		11.39		8.95	44.8
112		11.33		9.01	44.7	

**Table 2-1
Quail Creek Reservoir Water Quality Data – Main Dam¹**

Date	Depth (ft)	Elevation	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
6/17/2010	-0.9				7.94	19.97
	5.4				7.97	19.69
	11.9				7.86	19.59
	18.4				7.87	19.52
	25.1				7.83	19.45
	30.8				7.74	15.74
	37.8				7.6	12.61
	42.1				7.58	12.33
	45.3				7.58	12.26
	49.6				7.57	12.02
	55.4				7.56	11.79
	59.4				7.57	11.74
	63.6				7.55	11.68
	68				7.55	11.62
	72				7.54	11.54
76.5				7.54	11.52	
8/30/2010	-0.4				7.81	24
	6.1				7.74	23.9
	13.7				7.6	23.88
	19.4				7.63	23.87
	25.5				7.62	23.73
	30.8				7.22	18.83
	37.2				7.08	14.17
	42.8				6.9	12.87
	49.2				6.92	12.47
	54.8				6.85	12.34
	61.1				6.76	12.17

Note:

¹Quail Creek Reservoir Main Dam is constructed across Quail Creek on the southeast side of the reservoir.

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 1 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
5/19/2006	5.9	2977	9.31	533.324	8.51	73.0
	21.3	2962	10.75	525.096	8.50	63.9
	36.1	2947	9.79	523.464	8.42	54.8
	54.5	2929	8.20	528.972	8.37	50.2
5/30/2006	6.9	2975	9.24	531.964	8.80	66.8
	12.1	2970	9.22	533.188	9.01	66.7
	21.9	2960	9.17	533.052	9.02	66.3
	32.0	2950	9.74	529.992	8.94	60.6
	42.2	2940	8.65	524.28	8.63	52.2
	51.8	2930	8.02	525.572	8.58	50.9
6/5/2006	7.1	2974	8.96	538.356	8.96	71.7
	12.4	2969	8.99	538.424	9.04	71.2
	22.0	2959	9.45	533.732	9.02	66.5
	32.0	2949	10.06	531.896	9.01	62.7
	42.1	2939	9.75	525.3	8.75	52.8
	51.9	2929	8.65	525.844	8.63	51.7
6/7/2006	8.1	2973	8.78	540.804	8.78	72.5
	24.0	2957	9.75	533.596	8.86	65.8
	36.9	2944	10.73	526.388	8.72	57.5
	51.1	2930	8.39	526.524	8.45	51.7
6/12/2006	7.0	2973	8.94	541.144	8.83	72.6
	12.1	2968	8.87	541.348	8.92	72.3
	22.1	2958	9.86	534.752	9.86	67.7
	32.1	2948	11.16	529.244	8.84	59.6
	37.1	2943	11.19	528.36	8.72	57.9
	42.1	2938	9.45	526.728	8.56	53.1
	47.1	2933	8.43	526.524	8.42	52.3
	52.0	2928	8.17	527.612	8.40	51.9
6/19/2006	7.1	2973	8.83	543.796	8.81	72.6
	12.1	2968	8.85	543.932	8.86	71.8
	21.8	2958	9.28	540.464	8.86	68.7
	32.2	2947	10.38	530.808	8.83	62.6
	42.1	2938	10.14	527.408	8.57	54.2
	47.5	2932	9.29	527.748	8.38	52.6
	51.5	2928	8.33	528.564	8.33	52.5

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 2 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
6/26/2006	7.1	2971	8.57	547.604	8.75	74.4
	12.1	2966	8.63	547.06	8.91	73.5
	22.3	2956	9.26	542.912	8.93	71.7
	32.2	2946	10.45	531.352	8.90	65.2
	36.9	2941	10.53	529.516	8.73	55.7
	42.1	2936	9.65	528.632	8.58	53.7
	47.2	2931	8.48	529.788	8.43	52.7
7/3/2006	5.1	2970	8.6	550.12	8.80	76.1
	10.0	2965	8.7	549.372	8.88	75.6
	20.3	2955	8.7	548.828	8.88	74.8
	25.3	2950	10.06	536.86	8.87	68.2
	34.4	2941	9.86	530.876	8.64	56.2
	45.4	2930	8.51	532.508	8.40	53.2
	48.0	2927	7.93	531.828	8.36	53.1
7/10/2006	5.0	2969	8.51	550.188	8.71	77.5
	10.0	2964	8.72	549.644	8.74	77.1
	19.9	2954	8.41	550.052	8.75	76.4
	30.1	2944	10.56	536.724	8.73	63.7
	35.4	2939	9.64	532.916	8.59	57.5
	46.5	2928	7.03	535.16	8.25	53.1
7/14/2006	7.9	2966	8.41	552.364	8.76	76.7
	9.5	2964	8.39	552.16	8.77	76.5
	29.3	2944	8.76	532.984	8.76	63.4
	39.5	2934	8.83	533.188	8.43	54.3
	43.8	2930	7.26	535.364	8.27	53.5
7/25/2006	5.1	2966	8.04	559.64	8.77	81.8
	10.0	2962	8.3	558.62	8.79	81.4
	14.9	2957	8.13	560.116	8.80	81.1
	20.2	2951	9.06	554.336	8.73	76.6
	24.9	2947	9.95	549.576	8.72	71.5
	30.0	2942	10.43	532.372	8.67	64.3
	39.6	2932	8.16	537.064	8.36	54.7
7/31/2006	7.0	2964	8.46	558.96	8.65	81.0
	15.0	2956	8.19	559.232	8.00	80.6
	21.0	2950	8.03	559.844	8.67	79.7
	28.6	2942	10.1	543.388	8.55	65.7
	37.3	2933	9.34	537.744	8.35	56.4
	45.2	2925	6.48	538.696	8.03	54.6

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 3 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
8/4/2006	5.2	2965	8.07	561.544	8.70	79.7
	10.2	2960	8.05	561.34	8.72	79.8
	15.0	2955	8.01	561.34	8.72	79.7
	20.0	2950	8.01	561.272	8.73	79.7
	24.9	2945	8.96	549.1	8.64	72.5
	30.7	2939	10.12	538.016	8.61	59.6
	35.3	2935	8.94	538.832	8.38	55.8
	41.1	2929	7.71	540.668	8.26	54.9
8/14/2006	4.9	2963	8.53	567.324	8.72	80.4
	10.7	2957	8.49	566.236	8.72	80
	15.9	2952	8.44	565.828	8.72	79.6
	21	2947	8.24	565.964	8.71	79.3
	26	2942	9.46	546.652	8.51	66.8
	31.3	2937	9.95	535.024	8.46	61.1
	36.4	2932	9.24	541.756	8.24	56.8
	40.6	2927	7.53	539.988	8.1	56.1
8/18/2006	2.8	2965	8.15	568.684	8.73	78.8
	7.5	2960	8.12	567.8	8.73	78.5
	15.3	2952	8.06	568.616	8.72	78.3
	20.5	2947	8.04	567.936	8.7	78.1
	25.3	2942	9.13	543.524	8.49	68
	30.4	2937	10.13	537.472	8.43	60
	35.2	2932	9.51	539.512	8.25	57
	39.4	2928	7.78	543.252	8.01	56
8/28/2006	2.9	2964	8.31	573.444	8.79	77.3
	8.4	2958	8.44	572.764	8.8	77
	12.3	2954	8.55	572.764	8.8	76.7
	17.9	2949	8.3	573.512	8.8	76.4
	24.4	2942	8.08	573.24	8.79	76
	25	2942	8.11	570.656	8.78	74.9
	30.6	2936	9.3	541.96	8.54	59.9
	35.9	2931	9.01	542.64	8.34	58.5
39.7	2927	7.43	540.6	8.16	57.4	

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
9/5/2006	2.4	2962	8.54	578.136	8.84	78.2
	7.9	2957	8.45	576.776	8.8	77.2
	12	2953	8.4	576.164	8.8	76.9
	17.1	2948	8.34	575.688	8.8	76.6
	21	2944	8.53	570.452	8.76	75.3
	24.1	2941	8.51	571.132	8.74	74.4
	28.8	2936	9.51	550.8	8.58	65.9
	32.6	2932	9.67	544.408	8.43	60
	35.2	2929	7.02	544.952	8.24	58.6
9/7/2006	3.1	2961	8.28	577.796	8.81	76.6
	9.6	2954	8.28	578.068	8.77	76.5
	19.4	2945	8.22	578.612	8.75	76.3
	29.4	2935	9.31	544.272	8.41	61.7
	33.4	2931	7.73	545.564	8.19	58.7
9/12/2006	2.7	2961	8.64	577.66	8.86	76.1
	8.5	2955	8.67	577.456	8.87	75
	13.2	2951	8.65	577.796	8.85	74.6
	18.9	2945	8.63	577.048	8.84	74
	24.6	2939	8.6	577.048	8.82	73.7
	29.9	2934	9.07	546.38	8.49	63.5
	33.8	2930	8.34	548.352	8.21	59.4
	36.6	2927	5.83	549.576	8.03	58.6
9/18/2006	3.6	2959	8.61	577.184	8.89	68.1
	10.1	2953	8.63	576.98	8.8	68
	15.5	2948	8.65	578.272	8.79	67.6
	20.4	2943	8.54	577.32	8.77	67.4
	26.3	2937	8.48	577.048	8.73	67.2
	31.3	2932	8.45	577.252	8.74	67.1
	34.2	2929	8.35	576.98	8.76	67
9/20/2006	6.2	2957	8.82	575.688	8.83	67.7
	6.2	2957	8.84	575.62	8.84	67.7
	11.5	2952	8.86	575.892	8.83	67.7
	17.6	2945	8.82	576.028	8.8	67.7
	21.7	2941	8.81	576.028	8.79	67.7
	26.5	2937	8.76	576.096	8.76	67.3
	30.5	2933	8.56	576.164	8.74	67.2

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 5 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
9/29/2006	8.3	2953	9.3	578.34	8.93	65.7
	13.3	2948	9.43	578	8.89	64.6
	19.1	2942	9.43	577.32	8.91	64.3
	26.1	2935	9.36	577.32	8.84	64.2
	30.7	2930	9.32	577.32	8.82	64.1
	35	2926	9.32	576.98	8.77	63.9
10/6/2006	4	2956	9.14	579.428	8.43	64.9
	11	2949	9.14	579.564	8.4	64.9
	18.1	2942	9.11	578.952	8.38	64.9
	26.5	2934	8.88	577.592	8.25	64.2
	31	2929	8.35	577.864	8.25	64.0
	34.3	2926	8.08	579.02	8.21	64.0
10/20/2006	5.4	2954	9.3	578.34	8.38	60.9
	10.7	2949	9.34	578.34	8.34	60.7
	19.7	2940	9.25	578.204	8.24	60.6
	24.6	2935	9.24	578.34	8.27	60.6
11/17/2006	9.8	2951	9.37	580.108	8.05	53.7
	16.9	2944	9.36	578.816	8.02	53.5
	21	2940	9.34	579.292	8.07	53.4
	25.3	2936	9.34	580.244	8.16	53.3
	31.9	2929	9.36	579.632	8.05	53.2
	35.2	2926	9.26	579.632	8.1	53.2
11/27/2006	1.4	2962	9.83	578.68	9.13	52.4
	6.6	2956	9.75	579.224	8.81	52.3
	13.0	2950	9.65	579.972	8.46	52.3
	19.2	2944	9.61	580.312	8.36	52.2
	24.9	2938	9.60	580.584	8.27	52.2
	30.2	2933	9.56	580.38	8.24	52.2
	35.8	2927	9.55	580.992	8.23	52.1
12/1/2006	9.7	2955	9.85	579.02	8.04	50.2
	15.5	2950	9.89	578	8.1	49.3
	21	2944	9.89	578.952	8.1	49.2
	27.3	2938	9.86	579.496	8.06	49.1
	32.7	2932	9.83	579.632	8.06	49
	40	2925	9.85	580.516	8.03	48.9

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 6 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
12/20/2006	5.8	2959	11.06	581.128	8.39	45.7
	10.5	2955	11.07	580.72	8.39	45.6
	16.7	2948	11.09	581.06	8.39	45
	21.8	2943	11.02	581.264	8.4	45
	32.6	2932	10.97	581.604	8.32	44.8
	38.2	2927	10.88	581.332	8.3	44.7
1/8/2006	5.2	2959	10.77	548.288	7.12	43.3
	9.6	2955	11.6	547.712	7.14	42.4
	14.9	2950	11.68	546.048	7.16	42.2
	19.6	2945	11.67	547.584	7.2	42.1
	24.5	2940	11.65	547.776	7.21	42.1
	31.2	2933	11.66	548.288	7.25	42.1
	35.1	2929	11.67	548.224	7.26	42
4/26/2007	1.8	2972	10.34	590.988	8.17	56.4
	14.3	2960	10.45	590.716	8.26	55.4
	22.8	2951	10.46	588.54	8.26	54.4
	24.6	2949	10.34	589.288	8.31	54.3
	33	2941	10.36	588.54	8.3	54
	42.3	2932	10.48	587.384	8.26	52.9
	50.3	2924	10.19	586.976	8.22	52.8
6/13/2007	3.4		9.19	604.724	8.7	70.6
	12.9		9.28	604.792	8.52	69
	24		9.36	603.092	8.46	65.5
	36.5		9.31	594.184	8.37	62
	46.2		7.82	593.98	8.16	57.7
6/20/2007	1.7		8.65	599.76	8.5	74.8
	15.1		8.76	591.532	8.35	71.4
	24.2		9.16	593.164	8.35	67.3
	38.2		9.38	579.836	8.2	63.1
	42.6		9.35	582.692	8.1	60.8
7/20/2007	0.1	2961	7.72	620.296	8.74	82.7
	9	2952	7.89	617.168	8.65	80.1
	17	2944	7.86	615.4	8.63	78.5
	22.3	2939	8.39	599.964	8.54	72.6
	34.2	2927	6.7	596.632	8.26	64.7
	35.3	2926	4.24	599.488	8.15	64.1

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Page 7 of 8

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
8/1/2007	1.4	2957	7.68	624.036	8.78	81.4
	10.5	2948	7.68	622.676	8.77	80.8
	19.5	2939	7.69	621.588	8.75	80
	28.3	2930	5.75	601.188	8.41	67.8
	31.2	2927	1.7	603.568	8.14	65.5
8/14/2007	1.9	2952	8.03	628.592	8.88	81.8
	9.8	2944	8.05	627.164	8.85	80.7
	20.5	2934	8.07	622.132	8.77	78.9
	30.4	2924	0.88	607.104	8.09	67.2
9/6/2007	6.6		8.16		8.86	78.6
	11.2		8.08		8.84	78
	16.1		8.06		8.81	77.7
	21.7		7.89		8.79	77.5
9/19/2007	7.3		8.66		8.8	72.9
	11.8		8.74		8.86	72.6
	19.7		8.56		8.85	71.7
9/28/2007	3.1	2942.9	8.74		9	69.7
	8.4	2937.6	8.81		9.05	68.8
	15.7	2930.3	8.79		9.06	67.8
	20.6	2925.4	8.54		9.03	67.6
12/14/2007	3		11.2		8.59	47.6
	13.7		11.11		8.74	46.7
	24.2		10.87		8.79	46.6
	29		10.75		8.83	46.6
1/11/2008	0.2		11.51		7.69	44.8
	6		11.79		8.04	43.3
	10.5		11.71		7.97	43.2
	14.9		11.74		8.18	43
	19.7		11.76		8.46	42.7
	24.6		11.65		8.64	42.7
	29.5		11.65		8.55	42.5
	34.3		11.64		8.69	42.4
	37.7		11.64		8.68	42.3
	39.6		11.64		8.82	42.2
39.6		11.62		8.81	42.2	

**Table 2-2
Quail Creek Reservoir Water Quality Data – South Dam¹**

Date	Depth (ft)	Elevation (ft)	DO (mg/L)	TDS (mg/L)	pH	Temp (°F)
2/21/2008	-0.1		11.78		9.47	43.5
	6.5		12.09		9.43	43.2
	11.8		12.11		9.43	43
	18.3		12.11		9.41	42.8
	21.7		12.05		9.42	42.7
	27.3		12.07		9.41	42.6
	34.2		12.05		9.43	42.5
	38.1		12.12		9.45	41.9
3/10/2008	0.8		11.78		9.75	45.5
	5		11.93		9.67	45
	9.6		11.99		9.65	44.9
	15.8		12.02		9.62	44.8
	21.4		12.03		9.62	44.6
	26.8		11.99		9.6	44.6
	33		11.96		9.59	44.6
	39		11.91		9.57	44.5
	44.9		11.82		9.57	44.5
3/17/2008	-0.1		11.36		9.96	48.8
	3.6		11.59		9.93	47.6
	5.7		12.12		9.84	46.6
	10.1		12.13		9.81	46.4
	15.6		12.19		9.71	46.2
	21.4		12.21		9.78	46
	26.8		12.18		9.76	46
	33.7		12.13		9.75	45.9
	38.9		12.04		9.76	45.9
	43.3		12		9.71	45.9

Note:

¹Quail Creek Reservoir South Dam is located at the south end of the reservoir.