

APPENDIX E

Effect of Turbidity on Analytical Results

Appendix E
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Eagle Project

Parameter	Units	QAL008D [Turb = <1]		RPD %	QAL055A [Turb = 1]		RPD %
		Dissolved	Total		Dissolved	Total	
Metals							
Antimony	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Arsenic	ug/L	4.4	4.3	-2	1.3	1.4	7
Barium	ug/L	6.8	7.1	4	<5.0	<5.0	0
Beryllium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Boron	ug/L	<20	<20	0	<20	<20	0
Cadmium	ug/L	<0.20	<0.20	0	<0.20	<0.20	0
Chromium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Cobalt	ug/L	<15	<15	0	<15	<15	0
Copper	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Iron	ug/L	<20	20	MDPS	<20	27	MDPS
Lead	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Lithium	ug/L	<8.0	<8.0	0	<8.0	<8.0	0
Manganese	ug/L	<5.0	<5.0	0	<5.0	<5.0	0
Mercury	ng/L	NM	<0.500	NA	<0.500	<0.500	0
Molybdenum	ug/L	<10	<10	0	<10	<10	0
Nickel	ug/L	<2.0	<2.0	0	<2.0	<2.0	0
Selenium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0
Silver	ug/L	<0.20	<0.20	0	<0.20	<0.20	0
Strontium	ug/L	42	43	2	23	21	-9
Thallium	ug/L	<2.0	<2.0	0	<2.0	<2.0	0
Vanadium	ug/L	2.4	2.0	-18	1.4	<1.0	MDPS
Zinc	ug/L	<10	<10	0	<10	<10	0
Major Cations							
Calcium	mg/L	14	15	7	11	9.5	-15
Magnesium	mg/L	3.1	3.1	0	2.4	2.0	-18
Potassium	mg/L	0.92	0.98	6	0.70	0.82	16
Sodium	mg/L	1.0	1.3	MDPS	1.0	0.85	-16

NA Not applicable.

NM Not measured.

RPD Relative percent difference.

MDPS Meets duplicate precision standard of being within 4 times the reporting limit (QAPP, North Jackson Company 2008b).

Note: One-half the reporting limit is used for cases where one value is a non-detection.

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Parameter	Units	QAL052A [Turb = 6]		RPD %	QAL029A [Turb = 7]		RPD %	QAL029A [Turb = 9]		RPD %	QAL029A [Turb = 10]		RPD %
		Dissolved	Total		Dissolved	Total		Dissolved	Total		Dissolved	Total	
Metals													
Antimony	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Arsenic	ug/L	<1.0	<1.0	0	<1.0	1.3	MDPS	1.8	1.2	MDPS	2.1	1.9	-10
Barium	ug/L	6.8	7.6	11	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	6.4	MDPS
Beryllium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Boron	ug/L	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
Cadmium	ug/L	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0
Chromium	ug/L	1.0	2.3	MDPS	<1.0	<1.0	0	<1.0	<1.0	0	2.0	1.7	-16
Cobalt	ug/L	<15	<15	0	<15	<15	0	<15	<15	0	<15	<15	0
Copper	ug/L	1.1	4.1	MDPS	<1.0	1.5	MDPS	<1.0	1.5	MDPS	1.1	2.0	MDPS
Iron	ug/L	<20	200	181	<20	120	169	<20	80	156	<20	310	188
Lead	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Lithium	ug/L	<8.0	<8.0	0	<8.0	<8.0	0	<8.0	<8.0	0	<8.0	<8.0	0
Manganese	ug/L	5.3	8.4	MDPS	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	9.5	MDPS
Mercury	ng/L	<0.500	8.4	188	<0.500	<0.500	0	<0.500	0.051	MDPS	0.856	1.57	MDPS
Molybdenum	ug/L	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
Nickel	ug/L	<2.0	2.2	MDPS	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Selenium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Silver	ug/L	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0
Strontium	ug/L	48	47	-2	7.5	7.4	-1	7.0	6.7	-4	17	9.4	MDPS
Thallium	ug/L	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Vanadium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	1.2	<1.0	MDPS
Zinc	ug/L	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
Major Cations													
Calcium	mg/L	18	16	-12	8.3	8.0	-4	8.4	8.9	6	5.5	8.3	41
Magnesium	mg/L	4.1	3.8	-8	1.3	1.3	0	1.2	1.3	8	0.90	1.4	MDPS
Potassium	mg/L	1.1	1.1	0	<0.50	<0.50	0	<0.50	<0.50	0	<0.50	<0.50	0
Sodium	mg/L	1.5	1.3	-14	4.8	4.5	-6	4.0	4.2	5	9.9	6.3	-44

NA Not applicable.

NM Not measured.

RPD Relative percent difference.

MDPS Meets duplicate precision standard of being within 4 times the reporting limit (QAPP, North Jackson Company 2008b).

 Total concentration is greater than dissolved concentration and the difference exceeds duplicate precision standard of being within 25% RPD or 4 times the RL (whichever is greater).

 Dissolved concentration is greater than total concentration and the difference exceeds duplicate precision standard of being within 25% RPD or 4 times the RL (whichever is greater).

Note: One-half the reporting limit is used for cases where one value is a non-detection.

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Parameter	Units	QAL029A [Turb = 24]		RPD %	DUPM003/QAL029D [Turb = 24]		RPD %	QAL029D [Turb = 62]		RPD %	QAL052A [Turb = 86]		RPD %
		Dissolved	Total		Dissolved	Total		Dissolved	Total		Dissolved	Total	
Metals													
Antimony	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Arsenic	ug/L	2.0	2.2	10	2.4	2.6	8	1.6	2.4	MDPS	1.3	1.4	7
Barium	ug/L	<5.0	8.7	MDPS	8.1	26	MDPS	7.6	24	MDPS	19	30	MDPS
Beryllium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Boron	ug/L	<20	<20	0	21	25	17	<20	22	MDPS	<20	20	MDPS
Cadmium	ug/L	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0
Chromium	ug/L	<1.0	<1.0	0	6.2	37	143	5.9	36	144	<1.0	55	186
Cobalt	ug/L	<15	<15	0	<15	<15	0	<15	<15	0	<15	<15	0
Copper	ug/L	<1.0	3.9	MDPS	1.5	13	159	1.7	12	150	<1.0	14	135
Iron	ug/L	<20	690	194	<20	2,900	199	18	3,100	198	<20	1,500	197
Lead	ug/L	<1.0	<1.0	0	<1.0	1.1	MDPS	<1.0	1.0	MDPS	<1.0	2.6	MDPS
Lithium	ug/L	<8.0	<8.0	0	<8.0	<8.0	0	<8.0	<8.0	0	<8.0	<8.0	0
Manganese	ug/L	<5.0	14	MDPS	15	47	103	15	45	100	14	30	MDPS
Mercury	ng/L	NM	4.16	NA	NM	5.52	NA	NM	5.96	NA	NM	<0.500	NA
Molybdenum	ug/L	<10	<10	0	<10	<10	0	<10	<10	0	<10	12	MDPS
Nickel	ug/L	<2.0	<2.0	0	7.2	24	108	5.8	23	119	7.3	48	147
Selenium	ug/L	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Silver	ug/L	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	<0.20	0	<0.20	0.38	MDPS
Strontium	ug/L	6.7	8.1	19	31	35	12	29	32	10	49	54	10
Thallium	ug/L	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Vanadium	ug/L	1.3	1.9	MDPS	2.3	5.0	MDPS	2.0	5.1	MDPS	2.2	<1.0	MDPS
Zinc	ug/L	<10	<10	0	<10	20	MDPS	<10	18	MDPS	<10	<10	0
Major Cations													
Calcium	mg/L	7.1	7.9	11	16	20	22	16	20	22	17	19	11
Magnesium	mg/L	0.75	1.0	MDPS	4.1	5.5	MDPS	4.1	5.6	MDPS	3.8	4.3	12
Potassium	mg/L	<0.50	0.52	MDPS	2.4	3.1	MDPS	2.3	3.1	MDPS	1.7	2.0	MDPS
Sodium	mg/L	2.3	2.7	16	1.5	2.0	MDPS	1.2	2.0	MDPS	1.3	1.7	MDPS

NA Not applicable.

NM Not measured.

RPD Relative percent difference.

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 Total concentration is greater than dissolved concentration and the difference exceeds duplicate precision standard of being within 25% RPD or 4 times the RL (whichever is greater).

Note: One-half the reporting limit is used for cases where one value is a non-detection.