

# Tables 7-2 to 7-4: 2010 Grum Pit (V23) Water Quality



Table 7-2: Grum Pit (V23) Water Quality 2010 - General Parameters

Station	Date	ALK	ALKPP	CaCO3	CaCO3-d	Chloride	CN(wa	CNTHIC	CO3	Colour	COND	CONDf	DOC	HCO3	NH3	NO2	NO2/3	NO3	OH	pH	pHF	SO4-d	TDS	TEMP-F	TOC	TSS	TURB	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	TCU	μmho/cm	μmho/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	°C	mg/L	mg/L	NTU	
V23	3/4/2010	200.00	<0.5	602	569	<0.5			<0.5	1030.0	950.0			250.00	0.19					<0.5	8.1	7.6	390.0	740.00	0		<1.0	
V23	6/16/2010	160.00	<0.5	511	499	<0.5			<0.5	978.0	990.0			190.00	1.70					<0.5	8.1	8.0	350.0	740.00	13		26	
V23	9/7/2010	160.00	3	554	529	<0.5			3.20	992.0	1007.0			190.00	0.29					<0.5	8.4	7.7	420.0	720.00	12		3	
V23	12/16/2010	220.00	<0.5	773	705	1.40			<0.5	1300.0	1190.0			270.00	0.03					<0.5	8.1	8.1	530.0	970.00	0		<4.0	
V23 Average		185.00	1	610	576	0.54			0.99	1075.0	1034.3			225.00	0.55					0	8.2	7.9	422.5	792.50	6		8	
V23 Max		220.00	3	773	705	1.40			3.20	1300.0	1190.0			270.00	1.70					<0.5	8.4	8.1	530.0	970.00	13		26	
V23 Min		160.00	<0.5	511	499	<0.5			<0.5	978.0	950.0			190.00	0.03					<0.5	8.1	7.6	350.0	720.00	0		<1.0	
V23 N > DL		4	1	4	4	1	0	0	1	0	4	4	0	4	4	0	0	0	0	0	4	4	4	4	4	0	2	0
V23 Median		180.00	<0.5	578	549	<0.5			<0.5	1011.0	998.5			220.00	0.24					<0.5	8.1	7.9	405.0	740.00	6		3	

Table 7-3: Grum Pit (V23) Water Quality 2010 - Total Metals

Station	Date	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr	
		μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	μg/L	μg/L	mg/L	mg/L	mg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
V23	3/4/2010	<0.005	9.20	1.590	<50.0	71.600	<0.01	<0.005	125.00	1.08	6.0600	<0.1	1.1600	36.00		3.28	0.02	70.40	196.000	2.94	12.20	99.600		1.0700	160.00	3.33	3.2300	4950.00	<0.01	777.00	<0.5	0.50	14.0000	0.30	3110.000	<0.1	
V23	6/16/2010	<0.005	53.00	2.980	<50.0	45.200	0.02	0.01	104.00	1.84	3.9600	0.50	2.1800	400.00		2.74	0.02	60.90	82.300	2.59	8.48	109.000		13.1000	156.00	3.58	1.2900	3150.00	0.02	695.00	0.90	0.57	11.5000	1.70	3830.000	0.20	
V23	9/7/2010	0.0070	28.80	1.930	<50.0	46.800	<0.01	<0.005	114.00	0.90	3.6500	0.20	1.3400	134.00		3.09	0.02	65.70	69.300	2.55	9.73	97.900	<0.002	2.6700	153.00	3.77	1.4400	2820.00	<0.01	702.00	1.10	0.86	8.5500	0.30	2010.000	<0.1	
V23	12/16/2010	<0.005	13.80	1.980	<50.0	60.700	<0.01	<0.005	160.00	1.26	5.8100	<0.1	1.7000	88.00		4.83	0.03	90.80	161.000	2.89	13.40	146.000	0.01	2.6200	212.00	4.42	1.8900	4520.00	0.03	1010.00	<0.5	0.99	14.1000	<0.2	5140.000	<0.1	
V23 Average		0.0036	26.20	2.120	25.00	56.075	0.01	0.00	125.75	1.27	4.8700	0.20	1.5950	164.50		3.49	0.03	71.95	127.150	2.74	10.95	113.125	0.00	4.8650	170.25	3.78	1.9625	3860.00	0.02	796.00	0.63	0.73	12.0375	0.60	3522.500	0.09	
V23 Max		0.0070	53.00	2.980	<50.0	71.600	0.02	0.01	160.00	1.84	6.0600	0.50	2.1800	400.00		4.83	0.03	90.80	196.000	2.94	13.40	146.000	0.01	13.1000	212.00	4.42	3.2300	4950.00	0.03	1010.00	1.10	0.99	14.1000	1.70	5140.000	0.20	
V23 Min		<0.005	9.20	1.590	<50.0	45.200	<0.01	<0.005	104.00	0.90	3.6500	<0.1	1.1600	36.00		2.74	0.02	60.90	69.300	2.55	8.48	97.900	<0.002	1.0700	153.00	3.33	1.2900	2820.00	<0.01	695.00	<0.5	0.50	8.5500	<0.2	2010.000	<0.1	
V23 N > DL		1	4	4	0	4	1	1	4	4	4	2	4	4	0	4	4	4	4	4	4	4	1	4	4	4	4	4	4	2	4	4	4	4	3	4	1
V23 Median		<0.005	21.30	1.955	<50.0	53.750	<0.01	<0.005	119.50	1.17	4.8850	0.13	1.5200	111.00		3.19	0.02	68.05	121.650	2.74	10.97	104.300	0.00	2.6450	158.00	3.68	1.6650	3835.00	0.01	739.50	0.58	0.71	12.7500	0.30	3470.000	<0.1	

Table 7-4: Grum Pit (V23) Water Quality 2010 - Dissolved Metals

Station	Date	Ag-d	Al-d	As-d	Ba-d	B-d	Be-d	Bi-d	Ca-d	Cd-d	Co-d	Cr-d	Cu-d	Fe-d	Hg-d	K-d	Li-d	Mg-d	Mn-d	Mo-d	Na-d	Ni-d	P-d	Pb-d	Sb-d	S-d	Se-d	Si-d	Sn-d	Sr-d	Ti-d	Tl-d	U-d	V-d	Zn-d	Zr-d	
		μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	μg/L	μg/L	mg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
V23	3/4/2010	<0.005	1.10	1.37	67.400	<50.0	<0.01	<0.005	121.00	1.10	5.3700	<0.1	0.9300	13.00		3.29	0.023	64.70	183.000	2.78	11.10	86.100		0.7850	3.31	145	2.7900	4500.00	<0.01	776.00	<0.5	0.51	13.6000	<0.2	2810.000	<0.1	
V23	6/16/2010	<0.005	5.20	1.02	45.300	<50.0	<0.01	<0.005	107.00	1.66	3.2500	<0.1	0.9200	12.00		2.66	0.021	56.50	65.000	2.58	8.02	100.000		1.5600	3.24	127	1.3300	2770.00	<0.01	702.00	<0.5	0.58	10.7000	1.80	3320.000	<0.1	
V23	9/7/2010	<0.005	3.00	1.54	44.400	<50.0	<0.01	<0.005	106.00	0.72	3.8200	0.20	0.8100	24.00		2.93	0.021	64.40	76.700	2.56	9.54	93.900		1.2100	3.01	157	1.4200	2470.00	<0.01	684.00	<0.5	0.82	8.2500	<0.2	1720.000	<0.1	
V23	12/16/2010	<0.005	1.70	1.59	56.300	<50.0	<0.01	0.01	137.00	1.08	5.6700	<0.1	1.4800	17.00		4.63	0.030	88.00	149.000	3.23	13.10	142.000		1.1200	4.21	206	1.8300	3790.00	0.02	955.00	<0.5	0.95	15.0000	<0.2	4960.000	<0.1	
V23 Average		0.0025	2.75	1.38	53.350	25.00	0.01	0.00	117.75	1.14	4.5275	0.09	1.0350	16.50		3.38	0.024	68.40	118.425	2.79	10.44	105.500		1.1688	3.44	159	1.8425	3382.50	0.01	779.25	0.25	0.71	11.8875	0.53	3202.500	0.05	
V23 Max		<0.005	5.20	1.59	67.400	<50.0	<0.01	0.01	137.00	1.66	5.6700	0.20	1.4800	24.00		4.63	0.030	88.00	183.000	3.23	13.10	142.000		1.5600	4.21	206	2.7900	4500.00	0.02	955.00	<0.5	0.95	15.0000	1.80	4960.000	<0.1	
V23 Min		<0.005	1.10	1.02	44.400	<50.0	<0.01	<0.005	106.00	0.72	3.2500	<0.1	0.8100	12.00		2.66	0.021	56.50	65.000	2.56	8.02	86.100		0.7850	3.01	127	1.3300	2470.00	<0.01	684.00	<0.5	0.51	8.2500	<0.2	1720.000	<0.1	
V23 N > DL		0	4	4	4	0	0	1	4	4	4	1	4	4	0	4	4	4	4	4	4	4	4	0	4	4	4	4	4	1	4	0	4	4	1	4	0
V23 Median		<0.005	2.35	1.46	50.800	<50.0	<0.01	<0.005	114.00	1.09	4.5950	<0.1	0.9250	15.00		3.11	0.022	64.55	112.850	2.68	10.32	96.950		1.1650	3.28	151	1.6250	3280.00	<0.01	739.00	<0.5	0.70	12.1500	<0.2	3065.000	<0.1	

NB: Metals reported in mg/L are shaded in grey.

**Table 7-5: Grum Pit Depth Profiles 2010 - Zinc (Total)**



Station	Depth (m)	Date	Zn - mg/L
V23	-0.25	3/4/2010	3.11
GL-1	-1	4/29/2010	3.13
GL-3	-3	4/29/2010	3.33
GL-5	-5	4/29/2010	4.35
GL-15	-15	4/29/2010	4.57
GL-30	-30	4/29/2010	4.67
GL-40	-40	4/29/2010	4.51
GL-1	-1	6/15/2010	3.94
GL-3	-3	6/15/2010	4.13
GL-5	-5	6/15/2010	4.85
GL-15	-15	6/15/2010	4.68
GL-30	-30	6/15/2010	4.86
V23	-0.25	6/16/2010	3.83
GL-1	-1	7/13/2010	1.16
GL-3	-3	7/13/2010	1.28
GL-5	-5	7/13/2010	6.5
GL-15	-15	7/13/2010	4.8
GL-30	-30	7/13/2010	4.88
GL-1	-1	8/10/2010	0.826
GL-3	-3	8/10/2010	0.814
GL-5	-5	8/10/2010	5.7
GL-15	-15	8/10/2010	5.09
GL-30	-30	8/10/2010	4.82
V23	-0.25	9/7/2010	2.01
GL-1	-1	9/7/2010	2.05
GL-3	-3	9/7/2010	1.95
GL-5	-5	9/7/2010	2.04
GL-15	-15	9/7/2010	5.09
GL-30	-30	9/7/2010	5.12
V23	-0.25	12/16/2010	5.14

## Table 7-6: Water Level and Elevations - Grum Slot Cut Piezometers

Measured Static Water Level (m bgs)			
Date	SRK09-GSA (GS-1A)	SRK09-GSB (GS-1B)	Comments
6-Aug-09	2.52	2.39	
4-Nov-09	3.14	2.93	
18-Apr-10	8.72		SRK09-GS1-B Dry
16-May-10	2.326	2.17	
11-Jun-10	2.33	2.26	
14-Jul-10	2.42	2.27	
12-Aug-10	2.68	2.53	
17-Sep-10	2.88	2.74	SRK09-GS-1B Reading taken 16-Sep-10
14-Dec-10	6.75	4.48	
24-Jan-11	6.71	6.63	
17-Feb-11	7.33	7.62	

Top of Pipe Elevations (masl)			
	SRK09-GSA (GS-1A)	SRK09-GSB (GS-1B)	
	1230.00	1229.98	

Piezometric Elevation (masl)			
	SRK09-GSA (GS-1A)	SRK09-GSB (GS-1B)	
6-Aug-09	1227.48	1227.59	
4-Nov-09	1226.86	1227.05	
18-Apr-10	1221.28		SRK09-GS1-B Dry (<1223.40)
16-May-10	1227.67	1227.81	
11-Jun-10	1227.67	1227.72	
14-Jul-10	1227.59	1227.72	
12-Aug-10	1227.32	1227.45	
17-Sep-10	1227.12	1227.24	
14-Dec-10	1223.25	1225.50	
24-Jan-11	1223.29	1223.36	
17-Feb-11	1222.67	1222.36	

\* Frozen



Table 7-7: Synthesized 100-Year Flood Hydrographs for Grum Pit Subcatchments



Table with 5 columns: Date, Subcatchment of Grum Northeast Interceptor Ditch (portion within Grum Pit total catchment), Best Estimate, Conservative Estimate, Grum Pit Subcatchment below Grum Northeast Interceptor Ditch, Best Estimate, Conservative Estimate. Rows range from Jan 01 to Apr 13.

Table with 5 columns: Date, Subcatchment of Grum Northeast Interceptor Ditch (portion within Grum Pit total catchment), Best Estimate, Conservative Estimate, Grum Pit Subcatchment below Grum Northeast Interceptor Ditch, Best Estimate, Conservative Estimate. Rows range from Apr 14 to Jul 25.

Table with 5 columns: Date, Subcatchment of Grum Northeast Interceptor Ditch (portion within Grum Pit total catchment), Best Estimate, Conservative Estimate, Grum Pit Subcatchment below Grum Northeast Interceptor Ditch, Best Estimate, Conservative Estimate. Rows range from Jul 26 to Nov 05.

Table with 5 columns: Date, Subcatchment of Grum Northeast Interceptor Ditch (portion within Grum Pit total catchment), Best Estimate, Conservative Estimate, Grum Pit Subcatchment below Grum Northeast Interceptor Ditch, Best Estimate, Conservative Estimate. Rows range from Nov 06 to Dec 31, ending with an Average row.