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	°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	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	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	mg/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
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	2	4	2	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	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/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
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	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

Denison Environmental Services

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

Date	Daily Average Flow (L/s)			
	Subcatchment of Grum Northeast Interceptor Ditch (portion within Grum Pit total catchment)		Grum Pit Subcatchment below Grum Northeast Interceptor Ditch	
	Best Estimate	Conservative Estimate	Best Estimate	Conservative Estimate
Jan 01	2.4	1.3	3.1	1.6
Jan 02	2.4	1.3	3.1	1.6
Jan 03	2.4	1.3	3.1	1.6
Jan 04	2.4	1.3	3.1	1.6
Jan 05	2.4	1.3	3.1	1.6
Jan 06	2.4	1.3	3.1	1.6
Jan 07	2.4	1.3	3.1	1.6
Jan 08	2.4	1.3	3.1	1.6
Jan 09	2.4	1.3	3.1	1.6
Jan 10	2.4	1.3	3.1	1.6
Jan 11	2.4	1.3	3.1	1.6
Jan 12	2.4	1.3	3.1	1.6
Jan 13	2.4	1.3	3.1	1.6
Jan 14	2.4	1.3	3.1	1.6
Jan 15	2.4	1.3	3.1	1.6
Jan 16	2.4	1.3	3.1	1.6
Jan 17	2.4	1.3	3.1	1.6
Jan 18	2.4	1.3	3.1	1.6
Jan 19	2.4	1.3	3.1	1.6
Jan 20	2.4	1.3	3.1	1.6
Jan 21	2.4	1.3	3.1	1.6
Jan 22	2.4	1.3	3.1	1.6
Jan 23	2.4	1.3	3.1	1.6
Jan 24	2.4	1.3	3.1	1.6
Jan 25	2.4	1.3	3.1	1.6
Jan 26	2.4	1.3	3.1	1.6
Jan 27	2.4	1.3	3.1	1.6
Jan 28	2.4	1.3	3.1	1.6
Jan 29	2.4	1.3	3.1	1.6
Jan 30	2.4	1.3	3.1	1.6
Jan 31	2.4	1.3	3.1	1.6
Feb 01	2.4	1.3	3.1	1.6
Feb 02	2.4	1.3	3.1	1.6
Feb 03	2.4	1.3	3.1	1.6
Feb 04	2.4	1.3	3.1	1.6
Feb 05	2.4	1.3	3.1	1.6
Feb 06	2.4	1.3	3.1	1.6
Feb 07	2.4	1.3	3.1	1.6
Feb 08	2.4	1.3	3.1	1.6
Feb 09	2.4	1.3	3.1	1.6
Feb 10	2.4	1.3	3.1	1.6
Feb 11	2.4	1.3	3.1	1.6
Feb 12	2.4	1.3	3.1	1.6
Feb 13	2.4	1.3	3.1	1.6
Feb 14	2.4	1.3	3.1	1.6
Feb 15	2.4	1.3	3.1	1.6
Feb 16	2.4	1.3	3.1	1.6
Feb 17	2.4	1.3	3.1	1.6
Feb 18	2.4	1.3	3.1	1.6
Feb 19	2.4	1.3	3.1	1.6
Feb 20	2.4	1.3	3.1	1.6
Feb 21	2.4	1.3	3.1	1.6
Feb 22	2.4	1.3	3.1	1.6
Feb 23	2.4	1.3	3.1	1.6
Feb 24	2.4	1.3	3.1	1.6
Feb 25	2.4	1.3	3.1	1.6
Feb 26	2.4	1.3	3.1	1.6
Feb 27	2.4	1.3	3.1	1.6
Feb 28	2.4	1.3	3.1	1.6
Mar 01	2.4	1.3	3.1	1.6
Mar 02	2.4	1.3	3.1	1.6
Mar 03	2.4	1.3	3.1	1.6
Mar 04	2.4	1.3	3.1	1.6
Mar 05	2.4	1.3	3.1	1.6
Mar 06	2.4	1.3	3.1	1.6
Mar 07	2.4	1.3	3.1	1.6
Mar 08	2.4	1.3	3.1	1.6
Mar 09	2.4	1.3	3.1	1.6
Mar 10	2.4	1.3	3.1	1.6
Mar 11	2.4	1.3	3.1	1.6
Mar 12	2.4	1.3	3.1	1.6
Mar 13	2.4	1.3	3.1	1.6
Mar 14	2.4	1.3	3.1	1.6
Mar 15	2.4	1.3	3.1	1.6
Mar 16	2.4	1.3	3.1	1.6
Mar 17	2.4	1.3	3.1	1.6
Mar 18	2.4	1.3	3.1	1.6
Mar 19	2.4	1.3	3.1	1.6
Mar 20	2.4	1.3	3.1	1.6
Mar 21	2.4	1.3	3.1	1.6
Mar 22	2.4	1.3	3.1	1.6
Mar 23	2.4	1.3	3.1	1.6
Mar 24	2.4	1.3	3.1	1.6
Mar 25	2.4	1.3	3.1	1.6
Mar 26	2.4	1.3	3.1	1.6
Mar 27	2.4	1.3	3.1	1.6
Mar 28	2.4	1.3	3.1	1.6
Mar 29	2.4	1.3	3.1	1.6
Mar 30	2.4	1.3	3.1	1.6
Mar 31	2.4	1.3	3.1	1.6
Apr 01	2.4	1.3	3.1	1.6
Apr 02	2.4	1.3	3.1	1.6
Apr 03	2.4	1.3	3.1	1.6
Apr 04	2.4	1.3	3.1	1.6
Apr 05	2.4	1.3	3.1	1.6
Apr 06	2.4	1.3	3.1	1.6
Apr 07	2.4	1.3	3.1	1.6
Apr 08	2.4	1.3	3.1	1.6
Apr 09	2.4	1.3	3.1	1.6
Apr 10	2.4	1.3	3.1	1.6
Apr 11	2.4	1.3	3.1	1.6
Apr 12	2.4	1.3	3.1	1.6
Apr 13	2.4	1.3	3.1	1.6
Apr 14	2.4	1.3	3.1	1.6
Apr 15	2.4	1.3	3.1	1.6
Apr 16	2.4	1.3	3.1	1.6
Apr 17	2.4	1.3	3.1	1.6
Apr 18	2.4	1.3	3.1	1.6
Apr 19	2.4	1.3	3.1	1.6
Apr 20	2.4	1.3	3.1	1.6
Apr 21	2.4	1.3	3.1	1.6
Apr 22	2.4	1.3	3.1	1.6
Apr 23	2.4	1.3	3.1	1.6
Apr 24	8.4	14.7	10.9	19.5
Apr 25	8.4	14.7	10.9	19.5
Apr 26	8.4	14.7	10.9	19.5
Apr 27	8.4	14.7	10.9	19.5
Apr 28	8.4	14.7	10.9	19.5
Apr 29	18.1	28.1	23.4	37.0
Apr 30	18.1	28.1	23.4	37.0
May 01	18.1	28.1	23.4	37.0
May 02	18.1	28.1	23.4	37.0
May 03	18.1	28.1	23.4	37.0
May 04	31.3	45.6	38.9	58.5
May 05	31.3	45.6	38.9	58.5
May 06	31.3	45.6	38.9	58.5
May 07	31.3	45.6	38.9	58.5
May 08	31.3	45.6	38.9	58.5
May 09	31.3	45.6	38.9	58.5
May 10	31.3	45.6	38.9	58.5
May 11	31.3	45.6	38.9	58.5
May 12	31.3	45.6	38.9	58.5
May 13	31.3	45.6	38.9	58.5
May 14	31.3	45.6	38.9	58.5
May 15	31.3	45.6	38.9	58.5
May 16	31.3	45.6	38.9	58.5
May 17	31.3	45.6	38.9	58.5
May 18	31.3	45.6	38.9	58.5
May 19	47.7	51.0	60.5	65.0
May 20	47.7	51.0	60.5	65.0
May 21	47.7	51.0	60.5	65.0
May 22	47.7	51.0	60.5	65.0
May 23	47.7	51.0	60.5	65.0
May 24	47.7	51.0	60.5	65.0
May 25	47.7	51.0	60.5	65.0
May 26	54.6	51.9	70.1	66.4
May 27	54.6	51.9	70.1	66.4
May 28	63.2	58.0	79.5	72.4
May 29	66.0	66.0	85.8	85.8
May 30	82.1	121.1	108.0	161.6
May 31	126.5	161.3	171.9	219.9
Jun 01	156.6	269.8	215.4	370.5
Jun 02	97.0	145.4	128.7	195.1
Jun 03	82.1	121.1	108.0	161.6
Jun 04	66.0	66.0	85.8	85.8
Jun 05	63.2	58.0	79.5	72.4
Jun 06	63.2	58.0	79.5	72.4
Jun 07	54.6	51.9	70.1	66.4
Jun 08	54.6	51.9	70.1	66.4
Jun 09	54.6	51.9	70.1	66.4
Jun 10	47.7	51.0	60.5	65.0
Jun 11	47.7	51.0	60.5	65.0
Jun 12	47.7	51.0	60.5	65.0
Jun 13	47.7	51.0	60.5	65.0
Jun 14	47.7	51.0	60.5	65.0
Jun 15	47.7	51.0	60.5	65.0
Jun 16	47.7	51.0	60.5	65.0
Jun 17	47.7	51.0	60.5	65.0
Jun 18	31.3	45.6	38.9	58.5
Jun 19	31.3	45.6	38.9	58.5
Jun 20	31.3	45.6	38.9	58.5
Jun 21	31.3	45.6	38.9	58.5
Jun 22	31.3	45.6	38.9	58.5
Jun 23	31.3	45.6	38.9	58.5
Jun 24	31.3	45.6	38.9	58.5
Jun 25	31.3	45.6	38.9	58.5
Jun 26	31.3	45.6	38.9	58.5
Jun 27	31.3	45.6	38.9	58.5
Jun 28	31.3	45.6	38.9	58.5
Jun 29	31.3	45.6	38.9	58.5
Jun 30	31.3	45.6	38.9	58.5
Jul 01	31.3	45.6	38.9	58.5
Jul 02	31.3	45.6	38.9	58.5
Jul 03	18.1	28.1	23.4	37.0
Jul 04	18.1	28.1	23.4	37.0
Jul 05	18.1	28.1	23.4	37.0
Jul 06	18.1	28.1	23.4	37.0
Jul 07	18.1	28.1	23.4	37.0
Jul 08	18.1	28.1	23.4	37.0
Jul 09	18.1	28.1	23.4	37.0
Jul 10	18.1	28.1	23.4	37.0
Jul 11	18.1	28.1	23.4	37.0
Jul 12	18.1	28.1	23.4	37.0
Jul 13	18.1	28.1	23.4	37.0
Jul 14	18.1	28.1	23.4	37.0
Jul 15	18.1	28.1	23.4	37.0
Jul 16	18.1	28.1	23.4	37.0
Jul 17	18.1	28.1	23.4	37.0
Jul 18	18.1	28.1	23.4	37.0
Jul 19	18.1	28.1	23.4	37.0
Jul 20	18.1	28.1	23.4	37.0
Jul 21	18.1	28.1	23.4	37.0
Jul 22	18.1	28.1	23.4	37.0
Jul 23	18.1	28.1	23.4	37.0
Jul 24	18.1	28.1	23.4	37.0
Jul 25	18.1	28.1	23.4	37.0
Jul 26	18.1	28.1	23.4	37.0
Jul 27	18.1	28.1	23.4	37.0
Jul 28	8.4	14.7	10.9	19.5
Jul 29	8.4	14.7	10.9	19.5
Jul 30	8.4	14.7	10.9	19.5
Jul 31	8.4	14.7	10.9	19.5
Aug 01	8.4	14.7	10.9	19.5
Aug 02	8.4	14.7	10.9	19.5
Aug 03	8.4	14.7	10.9	19.5
Aug 04	8.4	14.7	10.9	19.5
Aug 05	8.4	14.7	10.9	19.5
Aug 06	8.4	14.7	10.9	19.5
Aug 07	8.4	14.7	10.9	19.5
Aug 08	8.4	14.7	10.9	19.5
Aug 09	8.4	14.7	10.9	19.5
Aug 10	8.4	14.7	10.9	19.5
Aug 11	8.4	14.7	10.9	19.5
Aug 12	8.4	14.7	10.9	19.5
Aug 13	8.4	14.7	10.9	19.5
Aug 14	8.4	14.7	10.9	19.5
Aug 15	8.4	14.7	10.9	19.5
Aug 16	8.4	14.7	10.9	19.5
Aug 17	8.4	14.7	10.9	19.5
Aug 18	8.4	14.7	10.9	19.5
Aug 19	8.4	14.7	10.9	19.5
Aug 20	8.4	14.7	10.9	19.5
Aug 21	8.4	14.7	10.9	19.5
Aug 22	8.4	14.7	10.9	19.5
Aug 23	8.4	14.7	10.9	19.5
Aug 24	8.4	14.7	10.9	19.5
Aug 25	8.4	14.7	10.9	19.5
Aug 26	8.4	14.7	10.9	19.5
Aug 27	8.4	14.7	10.9	19.5
Aug 28	8.4	14.7	10.9	19.5
Aug 29	8.4	14.7	10.9	19.5
Aug 30	8.4	14.7	10.9	19.5
Aug 31	8.4	14.7	10.9	19.5
Sep 01	8.4	14.7	10.9	19.5
Sep 02	8.4	14.7	10.9	19.5
Sep 03	8.4	14.7	10.9	19.5
Sep 04	8.4	14.7	10.9	19.5
Sep 05	8.4	14.7	10.9	19.5
Sep 06	8.4	14.7	10.9	19.5
Sep 07	8.4	14.7	10.9	19.5
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Sep 09	8.4	14.7	10.9	19.5
Sep 10	8.4	14.7	10.9	19.5
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Sep 15	8.4	14.7	10.9	19.5
Sep 16	8.4	14.7	10.9	19.5
Sep 17	8.4	14.7	10.9	19.5
Sep 18	8.4	14.7	10.9	19.5
Sep 19	8.4	14.7	10.9	19.5
Sep 20	8.4	14.7	10.9	19.5
Sep 21	8.4	14.7	10.9	19.5
Sep 22	8.4	14.7	10.9	19.5
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Sep 25	8.4	14.7	10.9	19.5
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Sep 27	8.4	14.7	10.9	19.5
Sep 28	8.4	14.7	10.9	19.5
Sep 29	8.4	14.7	10.9	19.5
Sep 30	8.4	14.7	10.9	19.5
Oct 01	8.4	14.7	10.9	19.5
Oct 02	8.4	14.7	10.9	19.5
Oct 03	8.4	14.7	10.9	19.5
Oct 04	8.4	14.7	10.9	19.5
Oct 05	8.4	14.7	10.9	19.5
Oct 06	8.4	14.7	10.9	19.5
Oct 07	8.4	14.7	10.9	19.5
Oct 08	8.4	14.7	10.9	19.5
Oct 09	8.4	14.7	10.9	19.5
Oct 10	8.4	14.7	10.9	19.5
Oct 11	8.4	14.7	10.9	19.5
Oct 12	8.4	14.7	10.9	19.5
Oct 13	8.4	14.7	10.9	19.5
Oct 14	8.4	14.7	10.9	19.5
Oct 15	8.4	14.7	10.9	19.5
Oct 16	8.4	14.7	10.9	19.5
Oct 17	8.4	14.7	10.9	19.5
Oct 18	8.4	14.7	10.9	19.5
Oct 19	8.4	14.7	10.9	19.5
Oct 20	8.4	14.7	10.9	19.5
Oct 21	8.4	14.7	10.9	19.5
Oct 22	8.4	14.7	10.9	19.5
Oct 23	8.4	14.7	10.9	19.5
Oct 24	2.4	1.3	3.1	1.6
Oct 25	2.4	1.3	3.1	1.6
Oct 26	2.4	1.3	3.1	1.6
Oct 27	2.4	1.3	3.1	1.6
Oct 28	2.4	1.3	3.1	1.6
Oct 29	2.4	1.3	3.1	1.6
Oct 30	2.4	1.3	3.1	1.6
Oct 31	2.4	1.3	3.1	1.6
Nov 01	2.4	1.3	3.1	1.6
Nov 02	2.4	1.3	3.1	1.6
Nov 03	2.4	1.3	3.1	1.6
Nov 04	2.4	1.3	3.1	1.6
Nov 05	2.4	1.3	3.1	1.6
Nov 06	2.4	1.3	3.1	1.6
Nov 07	2.4	1.3	3.1	1.6
Nov 08	2.4	1.3	3.1	1.6
Nov 09	2.4	1.3	3.1	1.6
Nov 10	2.4	1.3	3.1	1.6
Nov 11	2.4	1.3	3.1	1.6
Nov 12	2.4	1.3	3.1	1.6
Nov 13	2.4	1.3	3.1	1.6
Nov 14	2.4	1.3	3.1	1.6
Nov 15	2.4	1.3	3.1	1.6
Nov 16	2.4	1.3	3.1	1.6
Nov 17	2.4	1.3	3.1	1.6
Nov 18	2.4	1.3	3.1	1.6
Nov 19	2.4	1.3	3.1	1.6
Nov 20	2.4	1.3	3.1	1.6
Nov 21	2.4	1.3	3.1	1.6
Nov 22	2.4	1.3	3.1	1.6
Nov 23	2.4	1.3	3.1	1.6
Nov 24	2.4	1.3	3.1	1.6
Nov 25	2.4	1.3	3.1	1.6
Nov 26	2.4	1.3	3.1	1.6
Nov 27	2.4	1.3	3.1	1.6
Nov 28	2.4	1.3	3.1	1.6
Nov 29	2.4	1.3	3.1	1.6
Nov 30	2.4	1.3	3.1	1.6
Dec 01	2.4	1.3	3.1	1.6
Dec 02	2.4	1.3	3.1	1.6
Dec 03	2.4	1.3	3.1	1.6
Dec 04	2.4	1.3	3.1	1.6
Dec 05	2.4	1.3	3.1	1.6
Dec 06	2.4	1.3	3.1	1.6
Dec 07	2.4	1.3	3.1	1.6
Dec 08	2.4	1.3	3.1	1.6
Dec 09	2.4	1.3	3.1	1.6
Dec 10	2.4	1.3	3.1	1.6
Dec 11	2.4	1.3	3.1	1.6
Dec 12	2.4	1.3	3.1	1.6
Dec 13	2.4	1.3	3.1	1.6
Dec 14	2.4	1.3	3.1	1.6
Dec 15	2.4	1.3	3.1	1.6
Dec 16	2.4	1.3	3.1	1.6
Dec 17	2.4	1.3	3.1	1.6
Dec 18	2.4	1.3	3.1	1.6
Dec 19	2.4	1.3	3.1	1.6
Dec 20	2.4	1.3	3.1	1.6
Dec 21	2.4	1.3	3.1	1.6
Dec 22	2.4	1.3	3.1	1.6
Dec 23	2.4	1.3	3.1	1.6
Dec 24	2.4	1.3	3.1	1.6
Dec 25	2.4	1.3	3.1	1.6
Dec 26	2.4	1.3	3.1	1.6
Dec 27	2.4	1.3	3.1	1.6
Dec 28	2.4	1.3	3.1	1.6
Dec 29	2.4	1.3	3.1	1.6
Dec 30	2.4	1.3	3.1	1.6
Dec 31	2.4	1.3	3.1	1.6
Average	12.5	16.3	16.0	21.3

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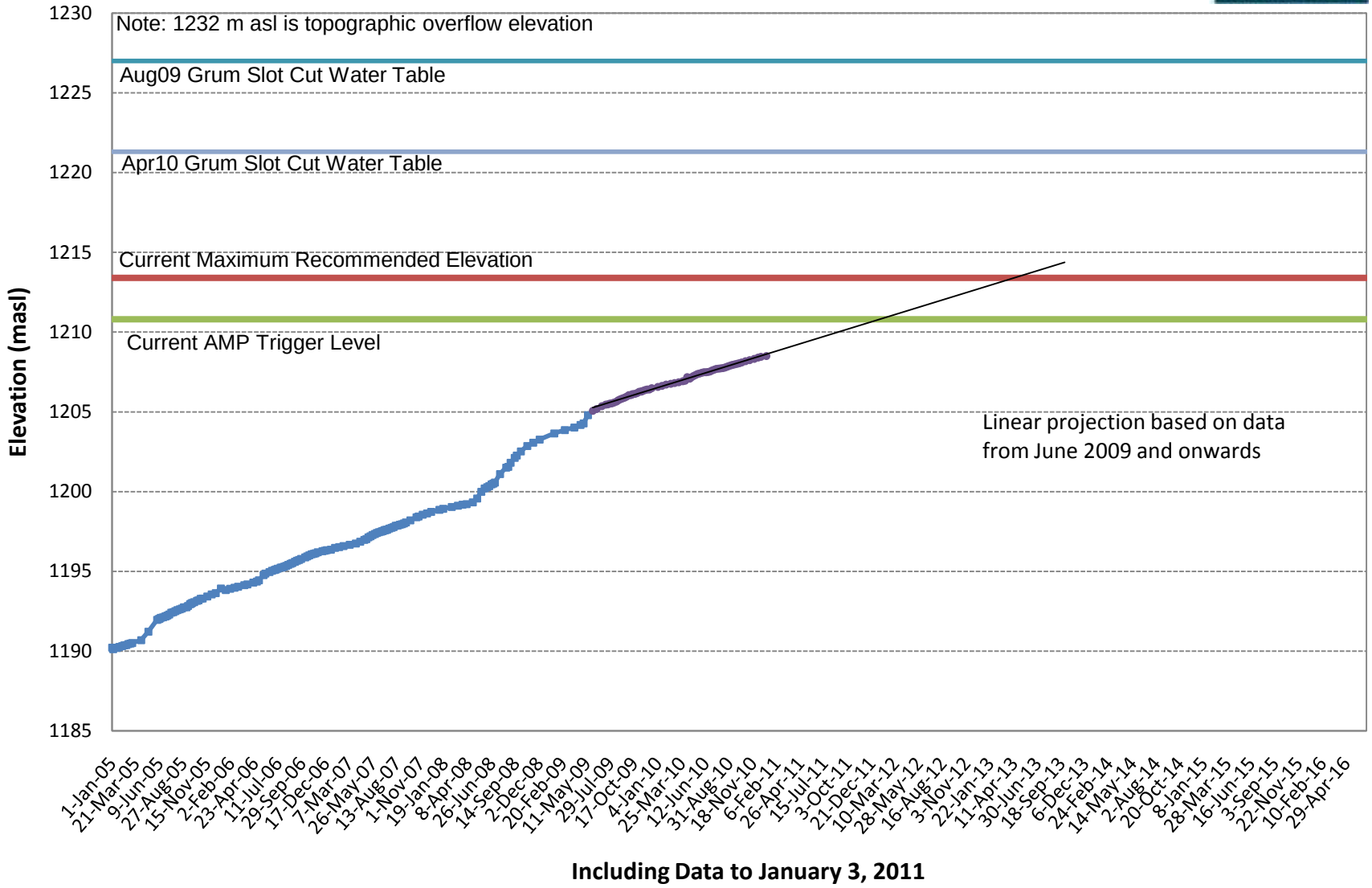
Figure 7-1: Grum Pit Water Elevations Projection

Faro Mine Closure



Including Data to January 3, 2011

Figure 7-2: Grum Pit Elevation-Capacity Relationship

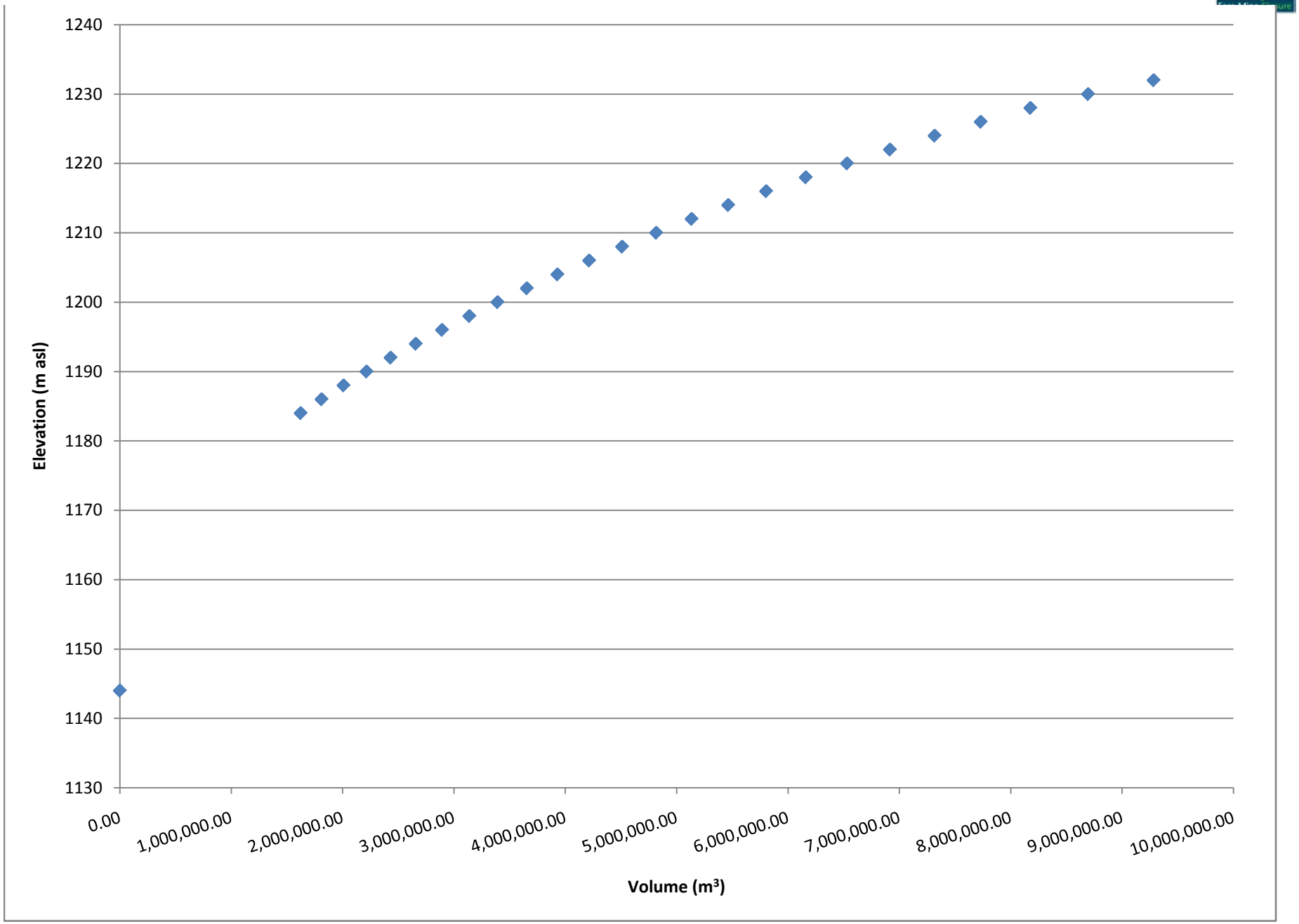


Figure is based on elevation - capacity relationship determined through 2003 surveys (GLL, 2003)

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Figure 7-3: Zinc at the Surface of the Grum Pit

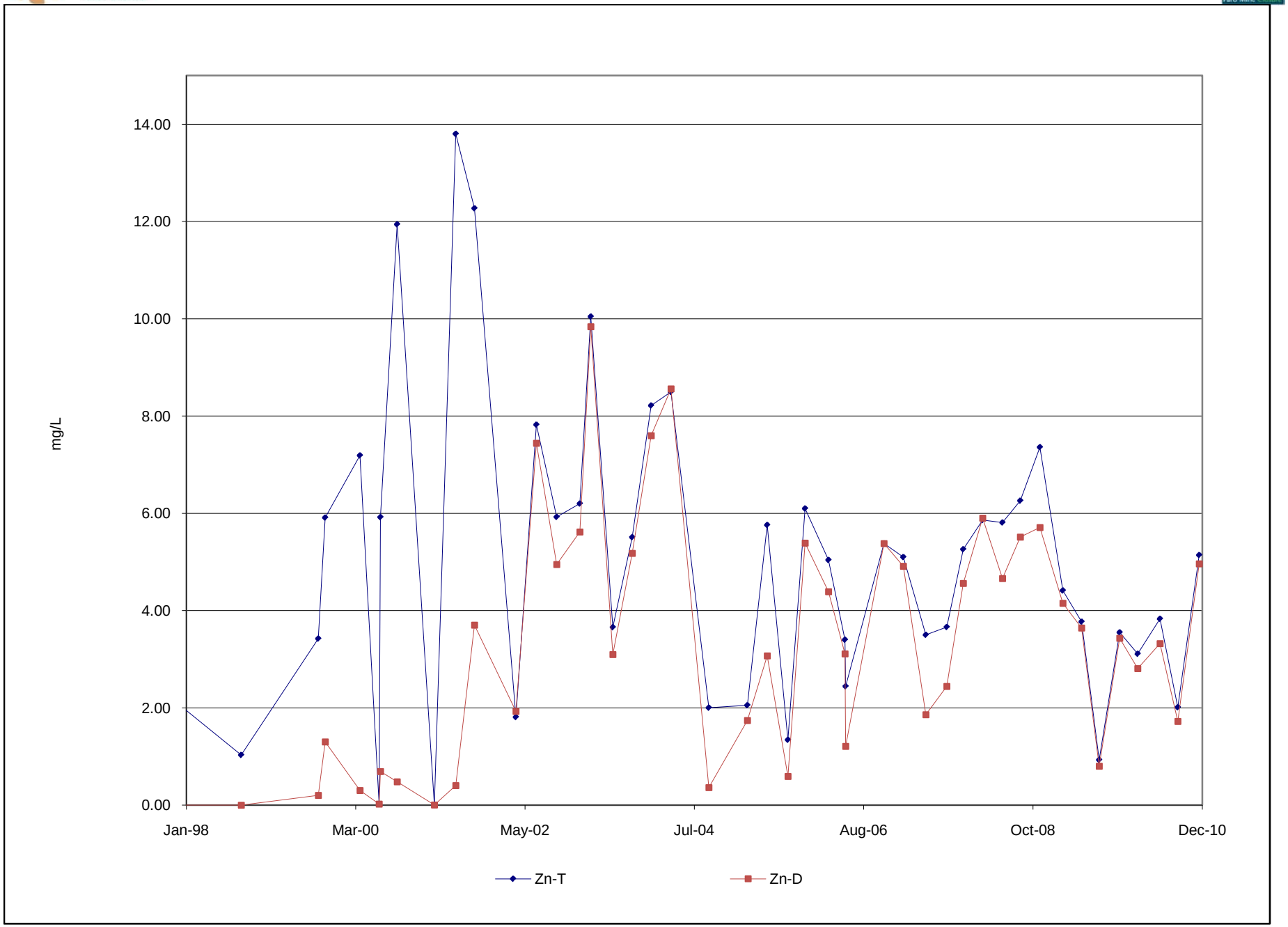

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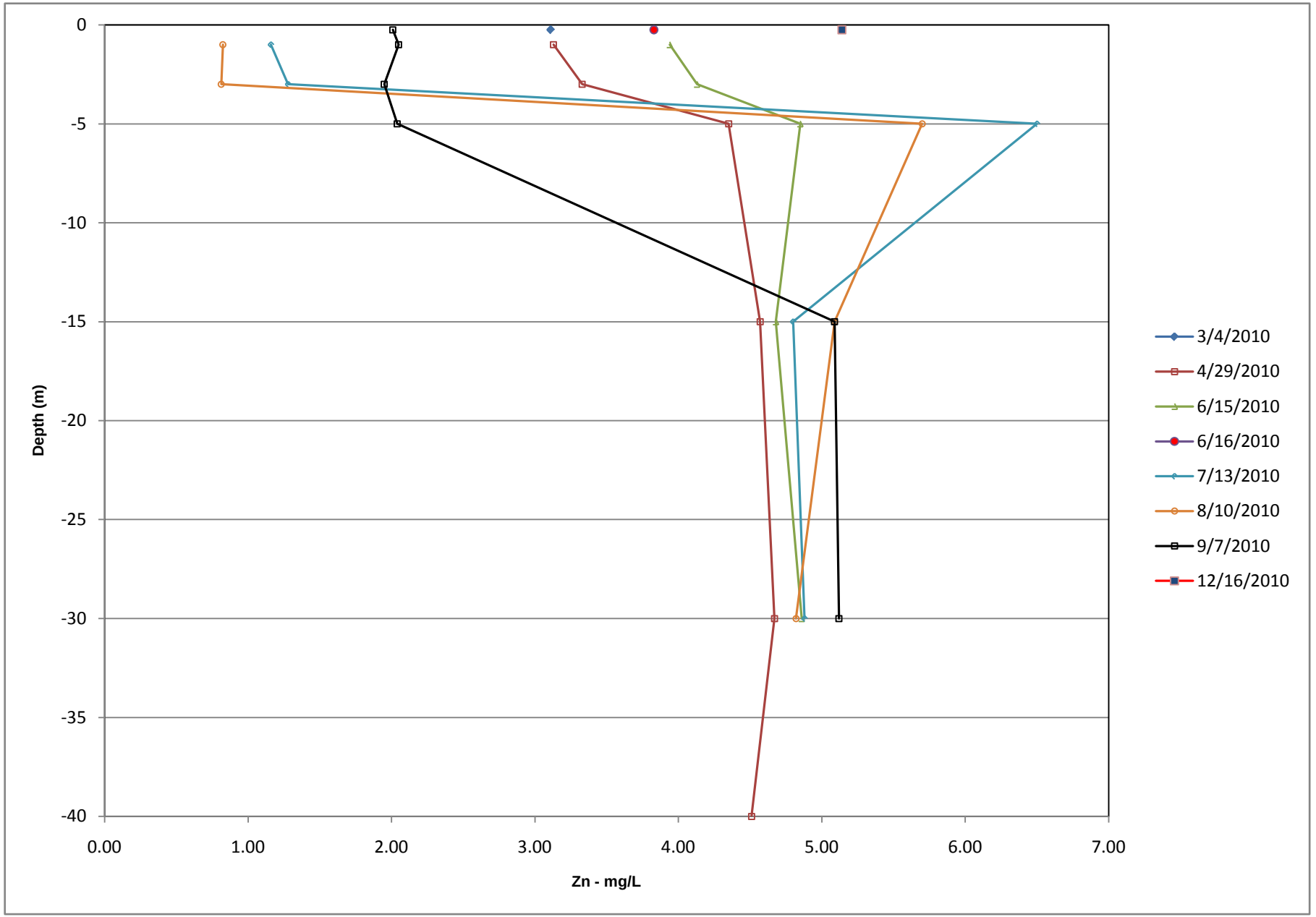
Figure 7-4: Grum Pit 2010 Depth Profile - Zinc (Total)



Faro Mine Complex: Grum Pit Geotechnical and Water Quality Monitoring Sites 2010

Figure #:

7-5

Faro Mine Complex:

Grum Pit

Data Sources & Disclaimers:

Basemap: Orthomapping & Digital Elevation Mapping (1m) Provided by Yukon Government

Projection: UTM Zone 8

Datum: NAD 83

Created By: JP

Reviewed By: JC

Date: March 3, 2011

Revision: 0

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Figure 7-6: Water Elevations - Grum Slot Cut Piezometers (Aug-2009 to Feb-2011)

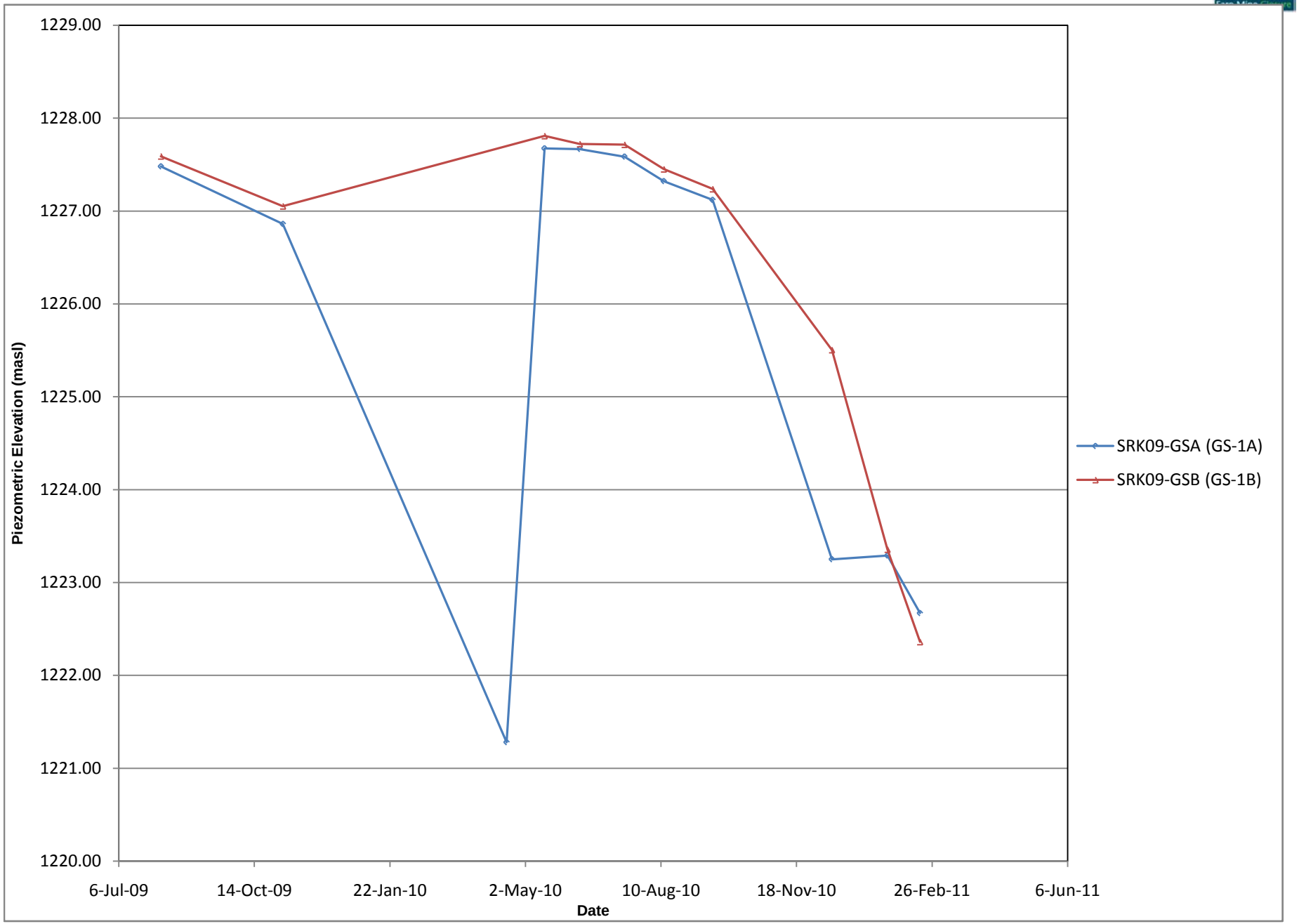

Figure 7-7: Upper Reach of Grum Northeast Interceptor Ditch

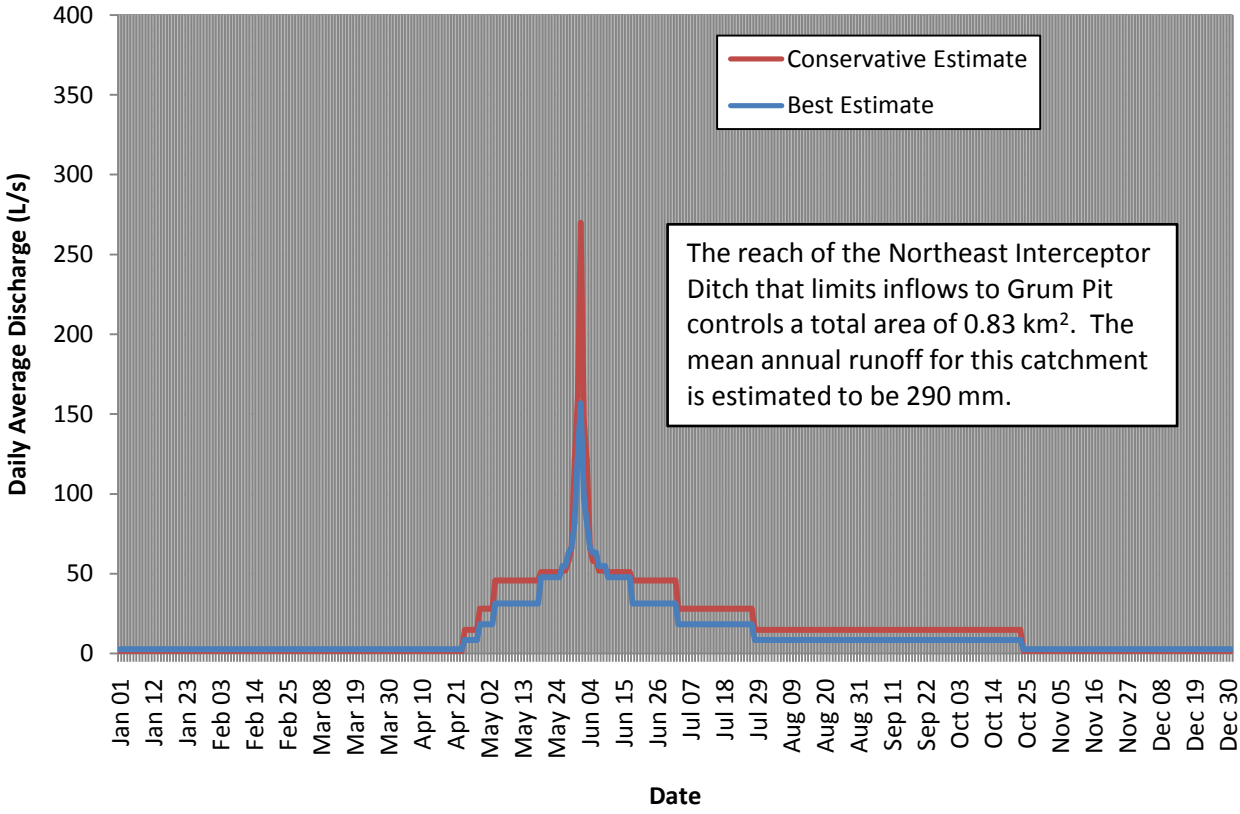

Figure 7-8: Grum Pit below Northeast Interceptor Ditch