

**TABLE 4**  
**Groundwater Underflow and Mass Flux Condition - May 2009**  
**Interceptor Well Field**

ALLUVIUM								
CELL ID <sup>(1)</sup>	M-131	I-L	M-55	I-X	I-T	I-Z	CLD2-R	TRAVERSE TOTAL
Cell Width (ft)	80	160	170	170	60	560	100	1,300
Cell Height (ft) <sup>(2)</sup>	0.8	1.2	2.9	5.1	1.0	4.0	8.0	
Cell Area (A) (ft <sup>2</sup> )	60	192	493	867	60	2240	130	3,982
K (gpd/ft <sup>2</sup> ) <sup>(3)</sup>	972	972	972	972	972	972	972	
Q (gpd) (Q = KiA) <sup>(4)</sup>	1,166	3,732	9,584	16,854	1,166	43,546	2,527	77,410
Q (gpm)	0.8	2.6	6.7	11.7	0.8	30.2	1.8	54.6
CIO4 mg/L (May 2009)	114 <sup>(9)</sup>	1588 <sup>(10)</sup>	766 <sup>(11)</sup>	1260 <sup>(12)</sup>	1890 <sup>(13)</sup>	1024 <sup>(14)</sup>	9.7	
CIO4 (lbs/day)	1.1	49.5	61.6	176.9	18.1	371.1	0.2	679
MUDDY CREEK - ENDS OF BARRIER WALL								
CELL ID <sup>(1)</sup>	M-131						M-130	
	West End						East End	
Cell Width (ft)	300						160	
Cell Height (ft) <sup>(2)</sup>	100						100	
Cell Area (A) (ft <sup>2</sup> )	30000						16000	
K (gpd/ft <sup>2</sup> ) <sup>(5)</sup>	0.6						0.6	
Q (gpd) (Q = KiA) <sup>(4)</sup>	360						192	552
Q (gpm)	0.3						0.1	0.4
CIO4 mg/L (May 2009)	250 <sup>(15)</sup>						25	
CIO4 (lbs/day)	0.8						0.4	1.2
MUDDY CREEK - UPFLOW								
CELL ID	MC-Undiff							TRAVERSE
								TOTAL
Cell Width East-West (ft)	1,600							1,600
Cell Length North-South (ft) <sup>(6)</sup>	1,200							
Cell Area (A) (ft <sup>2</sup> )	1,920,000							
K (gpd/ft <sup>2</sup> ) <sup>(7)</sup>	0.06							
Q (gpd) (Q = KiA) <sup>(8)</sup>	8,064							
Q (gpm)	5.6							5.6
CIO4 mg/L (May 2009)	1181 <sup>(16)</sup>							
CIO4 lbs/day	79.4							79.4
<b>TOTAL GPM</b>								<b>60.6</b>
<b>TOTAL CIO4 (lbs/day)</b>								<b>759</b>

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**NOTES**

- (1) Cell ID is well name in center of cell - locations shown on Figure 2. Cell width was centered on these borings/wells
- (2) Cell height is saturated thickness of alluvium
- (3) Hydraulic conductivity = ave. from well M-27 slug test (1,496 gpd/ft<sup>2</sup>) + ave. of six other M-series Qal slug tests (449 gpd/ft<sup>2</sup>)
- (4) Hydraulic Gradient (i) is 0.02 ft/ft
- (5) Hydraulic conductivity is estimated at ten-times the vertical hydraulic conductivity measured in Muddy Creek Fm - see note (7)
- (6) Since Muddy Creek upflow is near vertical the horizontal dimension = length of "daylighting" into Qal
- (7) Vertical hydraulic conductivity measured in Muddy Creek Fm cores from M-132 and M-136
- (8) Vertical hydraulic gradients presented in Table 2. Average taken from well sets M-74, 132, 133 and M-134, 135, 136
- (9) Concentration of I-AA
- (10) Average concentration of I-L, I-R and I-S
- (11) Concentration of I-M
- (12) Average concentration of I-F and I-N
- (13) Concentration of I-T
- (14) Average concentration of I-I, I-J, I-K, I-P, I-O, I-V and I-Z
- (15) Average concentration from contouring. Measured concentration from M-131 was 60.9 mg/L. However, M-131 sampled both the Alluvium and Muddy Creek formations, therefore not representative of Muddy Creek.
- (16) Average concentration of samples from Muddy Creek formation, I-B, I-C, I-D, I-E, I-Q, I-G, I-U, I-H

**DEFINITIONS**

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A	Area
ClO <sub>4</sub>	Perchlorate
ft	feet
ft <sup>2</sup>	feet squared
gpd	gallons per day
gpd/ft <sup>2</sup>	gallons per day per foot squared
gpm	gallons per minute
i	gradient
K	hydraulic conductivity
lbs/day	pounds per day
mg/L	milligrams per liter
Q	flow