

**TABLE 7-1: LIKELIHOOD OF ACCIDENTS LEADING TO SPILLS**

Km from Mine		Grade	Alignment	Landslides/ Ground Movements	Avalanches	Likelihood
From	To					
<b>Prairie/Fast Creek</b>						
0	3.5	Flat	Broad curves	Moderate	Low	Low
3.5	4.2					
4.2	5.3					
5.3	5.5					
5.5	6.2		Straight			
6.2	7.4	Moderate				
<b>Funeral Creek</b>						
7.4	12.0	Gentle	Broad curves	Moderate	Moderate	Moderate
12.0	17.2	Steep	Straight	High	High	High
<b>Sundog Creek</b>						
17.2	23.3	Gentle	Straight	High	High	Low
23.3	23.5	Steep		Moderate	Moderate	Moderate
23.5	28.1	Gentle		High	High	
28.1	40.2	Flat				
<b>Sundog Creek tributaries</b>						
40.2	53.6	Flat	Straight	High	Low	Low
53.6	59.9	Gentle				Moderate
59.9	64.5	Flat				Low
<b>Tetcela &amp; Fishtrap</b>						
64.5	86.8	Gentle	Straight	Moderate	Low	Low
86.8	95.8	Flat		High		
95.8	102.0	Steep	Curves			High
<b>Wolverine Pass to Grainger Gap</b>						
102.0	119.5	Flat	Straight	Moderate	Low	Low
119.5	124.5	Flat	Straight	Moderate	Low	Low
<b>Grainger Gap to Liard</b>						
124.5	133.0	Flat	Straight	Moderate	Low	Low
133.0	159.8			High		
<b>Liard Crossing</b>						
159.8	160.4	Flat	Straight	-	-	Low
<b>Old Logging Road</b>						
160.4	174.5	Flat	Straight	-	-	Low

**TABLE 7-2: CONSEQUENCE OF ACCIDENTS LEADING TO SPILLS**

Km from Mine		Proximity to Water	Ground Type	Containment	Consequence
From	To				
<b>Prairie/Fast Creek</b>					
0	3.5	30-80	Silty sand	Readily contained	Low
3.5	4.2	1	Sandy gravel	No containment	High
4.2	5.3	10-50		Can be contained	Moderate
5.3	5.5	1		No containment	High
5.5	6.2	20-100	Silty sand	Can be contained	Moderate
6.2	7.4	10-50	Sandy gravel	No containment	High
<b>Funeral Creek</b>					
7.4	12.0	1-50	Silty sand	No containment	High
12.0	17.2	1-30	Sandy gravel		
<b>Sundog Creek</b>					
17.2	23.3	1-30	Sandy gravel	Can be contained	Moderate
23.3	23.5	1-50		No containment	
23.5	28.1	20-100		Gravel	
28.1	40.2	1-5			
<b>Sundog Creek tributaries</b>					
40.2	53.6	1-1000	Silt/organic	Readily contained	Low
53.6	59.9	300-1000			Moderate
59.9	64.5				
<b>Tetcela &amp; Fishtrap</b>					
64.5	86.8	100-1000	Silt/organic	Readily contained	Moderate
86.8	95.8	1-1000		Can be contained	High
95.8	102.0	300-2000		Containment toe of slope	Moderate
<b>Wolverine Pass to Grainger Gap</b>					
102.0	119.5	1000-2000	Silt/organic	Readily contained	Low
119.5	124.5		Organic/gravel	Limited containment	High
<b>Grainger Gap to Liard</b>					
124.5	127.0	1-200	Silty sand	Can be contained	Moderate
127.0	159.8	200-2000		Readily contained	Low
<b>Liard Crossing</b>					
159.8	160.4	0	Ice/Water	No containment	High
<b>Old Logging Road</b>					
160.4	174.5	200-1000	Silt	Can be contained	Low

**TABLE 7-3: RISK OF ACCIDENTS LEADING TO SPILLS**

Km from Mine		Likelihood	Consequence	Risk	
From	To				
<b>Prairie/Fast Creek</b>					
0	3.5	Low	Low	Very Low	
3.5	4.2		High	Moderate	
4.2	5.3		Moderate	Low	
5.3	5.5		High	Moderate	
5.5	6.2		Moderate	Low	
6.2	7.4		High	Moderate	
<b>Funeral Creek</b>					
7.4	12.0	Moderate	High	High	
12.0	17.2	High		Very High	
<b>Sundog Creek</b>					
17.2	23.3	Low	Moderate	Low	
23.3	23.5	Moderate		Moderate	
23.5	28.1		High	High	
28.1	40.2		High	High	
<b>Sundog Creek tributaries</b>					
40.2	53.6	Low	Low	Very Low	
53.6	59.9	Moderate	Moderate	Moderate	
59.9	64.5	Low		Low	
<b>Tetcela &amp; Fishtrap</b>					
64.5	86.8	Low	Moderate	Low	
86.8	95.8		High	Moderate	
95.8	102.0	High	Moderate	High	
<b>Wolverine Pass to Grainger Gap</b>					
102.0	119.5	Low	Low	Very Low	
119.5	124.5		High	Moderate	
<b>Grainger Gap to Liard</b>					
124.5	127.0	Low	Moderate	Low	
127.0	159.8		Low	Very Low	
<b>Liard Crossing</b>					
159.8	160.4	Low	High	Moderate	
<b>Old Logging Road</b>					
160.4	174.5	Low	Low	Very Low	

**TABLE 7-4: ASSESSMENT OF SPILL SEVERITY AND DURATION**

Km from		Proximity to Water	Containment	Risk	Substance	Severity	Duration	Access	Injury Potential
From	To								
<b>Prairie/Fast Creek</b>									
3.5 5.3 6.2	4.2 5.5 7.4	1-100	Some areas no containment	Moderate	Diesel/oil	High	Moderate	Easy	Moderate
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	High	Short		
<b>Funeral Creek</b>									
7.4	12.0	1-50	No containment	High	Diesel/oil	High	Moderate	Easy	Low
					Sulphuric	Moderate	Short		
					Concentrate	Low	Long		
					AN/Sulphide	High	Short		
12.0	17.2	1-30	No containment	Very High	Diesel/oil	High	Moderate	Difficult	High
					Sulphuric	Moderate	Short		
					Concentrate	Low	Long		
					AN/Sulphide	High	Short		
<b>Sundog Creek</b>									
23.3	40.2	1-100	Some areas no containment	Moderate-High	Diesel/oil	Moderate	Moderate	Easy-Moderate	Low-High
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	Moderate	Short		
<b>Sundog Creek tributaries</b>									
53.6	59.9	300-1000	Readily contained	Moderate	Diesel/oil	Moderate	Long	Easy-Moderate	Low-Moderate
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	Moderate	Short		
<b>Tetcela &amp; Fishtrap</b>									
86.8	95.8	1-1000	Can be contained	Moderate	Diesel/oil	High	Moderate	Moderate	Low
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	High	Short		
95.8	102.0	300-2000	Containment toe of slope	High	Diesel/oil	Moderate	Moderate	Moderate	High
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	Low	Short		
<b>Wolverine Pass to Grainger Gap</b>									
119.5	124.5	1000-2000	Limited containment	Moderate	Diesel/oil	High	Moderate	Easy	Low
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	High	Short		
<b>Liard Crossing</b>									
159.8	160.4	0	No containment	Moderate	Diesel/oil	High	Moderate	Easy	Low-High
					Sulphuric	Low	Short		
					Concentrate	Low	Long		
					AN/Sulphide	Moderate	Short		

**TABLE 7-5: EFFECTS MATRIX, ACCIDENTS BY KM LEADING TO SPILLS - WATER AND FISH**

Spill	Valued Component	Significance	Uncertainty	Geographic Range	Timing	Magnitude	Reversibility	Likelihood
Fuel	Water	High	Moderate	3.5-7.4	Moderate	High	High	Low
	Fish	High	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Moderate	Moderate				Low	
Fuel	Water	High	Moderate	7.4-12	Moderate	High	High	Moderate
	Fish	High	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Moderate	Moderate				Low	
Fuel	Water	High	Moderate	12-17.2	Moderate	High	High	High
	Fish	Moderate	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Low	Moderate				Low	
Fuel	Water	High	Moderate	23.3-40.2	Moderate	Moderate	High	Moderate
	Fish	High	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Moderate	Moderate				Low	
Fuel	Water	Moderate	Moderate	53.6-59.9	Long	Moderate	High	Moderate
	Fish	Low	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Low	Moderate				Low	
Fuel	Water	Moderate	Moderate	86.8-95.8	Moderate	High	High	Low
	Fish	Moderate	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Low	Moderate				Low	
Fuel	Water	Moderate	Moderate	95.8-102	Moderate	Moderate	High	High
	Fish	Low	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Low	Moderate				Low	
Fuel	Water	High	Moderate	119.5-124.5	Moderate	High	High	Low
	Fish	High	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Moderate	Moderate				Low	
Fuel	Water	High	Moderate	159.8-160.4	Moderate	High	High	Low
	Fish	High	Moderate				Moderate	
Concentrate	Water	Low	Low		Long	Low	Low	
	Fish	Moderate	Moderate				Low	

**TABLE 7-6: EFFECTS MATRIX, ACCIDENTS LEADING TO SPILLS, ALL TYPES**

<b>Impact</b>	<b>Valued Component</b>	<b>Significance</b>	<b>Uncertainty</b>	<b>Timing</b>	<b>Magnitude</b>	<b>Reversibility</b>	<b>Likelihood</b>
Fuel spill	Soil/veg/wildlife	Low	Moderate	Short	Low	High	High
Concentrate spill	Soil/veg/wildlife	Low	Moderate	Short	Low	High	High
Acid spill	Water/fish	Low	High	Short	Moderate	High	Low
	Soil/veg/wildlife	Low	Moderate	Short	Low	High	Low
AN/sulphide spill	Water/fish	Moderate	Moderate	Short	High	High	Low
	Soil/veg/wildlife	Low	Moderate	Short	Low	High	Low
Spill at the TTF	Water/fish	Low	Low	Short	Low	High	High
	Soil/veg/wildlife	Low	Low	Short	Low	High	High
Concentrate aerial dispersal	Water/fish	Low	Moderate	Long	Low	Low	Low
	Soil/veg/wildlife	Moderate	Moderate	Long	Low	Moderate	Low
Concentrate tracking	Water/fish	Low	Moderate	Long	Low	Low	Low
	Soil/veg/wildlife	Moderate	Moderate	Long	Low	High	Low
Leaks from trucks	Water/fish	Low	Moderate	Short	Low	High	High
	Soil/veg/wildlife	Low	Low	Short	Low	High	High
Leaks from storage	Water/fish	Low	Low	High	Low	Moderate	Low
	Soil/veg/wildlife	Low	Low	High	Low	Moderate	Low
Sewage leaks/disposal	Water/fish	Low	Low	Moderate	Low	High	Low
	Soil/veg/wildlife	Low	Low	Moderate	Low	High	Moderate