

WV Stream and Wetland Valuation Metric Worksheet
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USACE FILE NO./Project Name:	USACE File No. 2009-759/New Hill West Surface Mine	COORDINATES:	Lat.	Lon.	DATE:	1-Feb-10	
STREAM CLASSIFICATION:	Intermittent	STREAM/SITE ID AND SITE DESCRIPTION: (% stream slope, watershed size (acreage), unaltered or impairments)			PRECIPITATION PAST 48 HRS:	0	
STREAM IMPACT LENGTH:	0	FORM OF MITIGATION:	Permittee Responsible-Offsite	WEATHER CONDITIONS:	Sunny	Mitigation Length:	218

Column No. 1- Impact Existing Condition (Debit)			
All applicants shall complete this column			
PART I - Physical, Chemical and Biological Indicators			
	Points Scale	Range	Site Score
PHYSICAL INDICATOR (Applies to all streams classifications)			
USEPA RBP (High Gradient Data Sheet)			
1. Epifaunal Substrate/Available Cover	0-20	0-1	
2. Embeddedness	0-20		
3. Velocity/ Depth Regime	0-20		
4. Sediment Deposition	0-20		
5. Channel Flow Status	0-20		
6. Channel Alteration	0-20		
7. Frequency of Riffles (or bends)	0-20		
8. Bank Stability (LB & RB)	0-20		
9. Vegetative Protection (LB & RB)	0-20		
10. Riparian Vegetative Zone Width (LB and RB)	0-20		
Total RBP Score	Poor		0
Sub-Total			0
CHEMICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Water Quality Data Sheet			
Specific Conductivity			
100-199 = 85 points	0-90	0-1	
pH			
5.6-6.0 = 45 points	0-80		
DO			
>5.0 = 30 points	10-30		
Sub-Total			0
BIOLOGICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Stream Condition Index			
0	0-100	0-1	
Sub-Total			0

PART II - Index and Unit Score		
Index	Linear Foot	Unit Score
0.4	0	0

Column No. 2- Mitigation Existing Condition - Baseline (Credit)			
Only applicants proposing PERMITTEE RESPONSIBLE MITIGATION or shall complete this column			
PART I - Physical, Chemical and Biological Indicators			
	Points Scale	Range	Site Score
PHYSICAL INDICATOR (Applies to all streams classifications)			
USEPA RBP (High Gradient Data Sheet)			
1. Epifaunal Substrate/Available Cover	0-20	0-1	0
2. Embeddedness	0-20		0
3. Velocity/ Depth Regime	0-20		0
4. Sediment Deposition	0-20		0
5. Channel Flow Status	0-20		0
6. Channel Alteration	0-20		0
7. Frequency of Riffles (or bends)	0-20		0
8. Bank Stability (LB & RB)	0-20		0
9. Vegetative Protection (LB & RB)	0-20		0
10. Riparian Vegetative Zone Width (LB and RB)	0-20		0
Total RBP Score	Poor		0
Sub-Total			0
CHEMICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Water Quality Data Sheet			
Specific Conductivity			
	0-90	0-1	0
pH			0
	5-90		0
DO			0
	10-30		0
Sub-Total			0
BIOLOGICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Stream Condition Index			
	0-100	0-1	
Sub-Total			0

PART II - Index and Unit Score		
Index	Linear Foot	Unit Score
0	218	0

Column No. 3- Mitigation Projected at Five Years Post Completion (Credit)			
Only applicants proposing PERMITTEE RESPONSIBLE MITIGATION shall complete this column			
PART I - Physical, Chemical and Biological Indicators			
	Points Scale	Range	Site Score
PHYSICAL INDICATOR (Applies to all streams classifications)			
USEPA RBP (High Gradient Data Sheet)			
1. Epifaunal Substrate/Available Cover	0-20	0-1	11
2. Embeddedness	0-20		11
3. Velocity/ Depth Regime	0-20		10
4. Sediment Deposition	0-20		13
5. Channel Flow Status	0-20		14
6. Channel Alteration	0-20		8
7. Frequency of Riffles (or bends)	0-20		13
8. Bank Stability (LB & RB)	0-20		11
9. Vegetative Protection (LB & RB)	0-20		13
10. Riparian Vegetative Zone Width (LB and RB)	0-20		13
Total RBP Score	Suboptimal		117
Sub-Total			0.585
CHEMICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Water Quality Data Sheet			
Specific Conductivity			
300-399 = 70 points	0-90	0-1	303
pH			7.06
6.0-8.0 = 80 points	5-90		7.06
DO			9
>5.0 = 30 points	10-30		9
Sub-Total			0.9
BIOLOGICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Stream Condition Index			
	0-100	0-1	
Sub-Total			0

PART II - Index and Unit Score		
Index	Linear Foot	Unit Score
0.7425	218	161.865

Column No. 4- Mitigation Projected At Maturity (Credit)			
Only applicants proposing PERMITTEE RESPONSIBLE MITIGATION shall complete this column			
PART I - Physical, Chemical and Biological Indicators			
	Points Scale	Range	Site Score
PHYSICAL INDICATOR (Applies to all streams classifications)			
USEPA RBP (High Gradient Data Sheet)			
1. Epifaunal Substrate/Available Cover	0-20	0-1	14
2. Embeddedness	0-20		15
3. Velocity/ Depth Regime	0-20		11
4. Sediment Deposition	0-20		15
5. Channel Flow Status	0-20		15
6. Channel Alteration	0-20		15
7. Frequency of Riffles (or bends)	0-20		13
8. Bank Stability (LB & RB)	0-20		16
9. Vegetative Protection (LB & RB)	0-20		16
10. Riparian Vegetative Zone Width (LB and RB)	0-20		13
Total RBP Score	Suboptimal		143
Sub-Total			0.715
CHEMICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVDEP Water Quality Data Sheet			
Specific Conductivity			
300-399 = 70 points	0-90	0-1	303
pH			7.06
6.0-8.0 = 80 points	5-90		7.06
DO			9
>5.0 = 30 points	10-30		9
Sub-Total			0.9
BIOLOGICAL INDICATOR (Applies to Intermittent and Perennial Streams)			
WVSCI			
	0-100	0-1	
Sub-Total			0

PART II - Index and Unit Score		
Index	Linear Foot	Unit Score
0.8075	218	176.035

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PART III - Sub-Index Correlation							
(See instruction page for default values for Mitigation Banking and ILF)							
Impact Existing Condition (Debit)	0.4	Mitigation Existing Condition (Credit)	0	Mitigation Projected at Five Years Post Completion (Credit)	0.742500	Mitigation Projected At Maturity (Credit)	0.8075

PART IV - Factors			
(See instruction page for default values for MITIGATION BANKING and ILF)			
Temporal Loss-Construction		Long-term Protection	
*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).		% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
Years	0	0 + 5/10 Year Monitoring	101
Sub-Total	0		
Temporal Loss-Maturity			
*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).		Sub-Total	0
% Add. Mitigation	Temporal Loss-Maturity (Years)		
0%	0		
Sub-Total	0		

PART V - Index to Unit Score Conversion			
Final Index Score (Debit)	Linear Feet	Unit Score (Debit)	Estimated ILF Costs
0.4	0	0	\$0.00

PART VI - Comparison of Unit Scores and Projected Balance							
Final Unit Score (Debit) [No Net Loss Value]	0	Mitigation Existing Condition - Baseline (Credit)	0	Mitigation Projected at Five Years Post Completion (Credit)	161.865	Mitigation Projected At Maturity (Credit)	176.035
FINAL PROJECTED NET BALANCE				161.865			176.035

Site	Raw Unit Score	Impact Unit Yield (Debit)	Mitigation Unit Yield (Credit)
Restoration Reach No. 7	0	0	176.035

Ratio Straight Preservation (10:1)
17.6035