

APPENDIX G
AVF STUDY AREA BASELINE VEGETATION DATA

**APPENDIX G - TABLE G-1
 OTTER CREEK MINE BASELINE REPORT 325A
 VEGETATION SAMPLING DATA ON HAY CROPLAND WITHIN THE OTTER CREEK FLOODPLAIN**

	HAY CROPLAND - FARMED WITHIN FLOODPLAIN															HAY CROPLAND - FARMED WITHIN FLOODPLAIN																
																PLOT NUMBER																
	549	550	551	552	553	554	555	556	557	558	559	560	561	661	704	705	706	707	708	709	711	712	714	716	717	719	722	724	725	726	727	
SITE PARAMETERS*																																
Slope (percent)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	1	1-2	0-1	0-1	0	0-1	0-1	1-2	1-2	0-2	1-2	0	0-1	1-2	0-1	0	3-4	
Aspect (degrees)	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	345	000	332	000	000	000	000	000	000	264	
Topography	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Low Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	
Configuration	S	S	S(U)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S(V)	S	S	S	S	S	S	S	S	X		
Photo # (Digital)	304	301	300	298	296	293	314	315	313	324	334	329	336	326	598	599	805-6	785	808-9	795-6	810	7	8	10	9	542	548	1-2	546	539	15	
Investigator	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	SC	SC	SC	SC	SC	SC	ED	ED	ED	ED	KS	KS/ED	ED	KS	KS	ED
Date	07/07/11	07/07/11	07/07/11	07/07/11	06/30/11	06/30/11	07/08/11	07/08/11	07/08/11	07/08/11	07/09/11	07/08/11	07/09/11	07/08/11	07/07/12	07/07/12	07/07/12	07/06/12	07/07/12	07/07/12	07/07/12	07/03/12	07/03/12	07/03/12	07/03/12	07/02/12	07/03/12	07/02/12	07/03/12	07/02/12	07/06/12	
GROUND COVER																																
Bare Ground	44	14	70		54	1	5	13	18	0.3	40	50	60	70	4	5	3	4	34	5	20	38	36	18	42	34	12	56	36	40	5	
Rock																						0.3							0.3	0.3		
Litter	50	80	24	93	40	94	88	80	75	92	53	43	34	25	91	90	93	89	61	89	74	58	60	78	54	62	83	40	60	56	90	
Lichens																			0.3			0.3										
Moss																		2														
Basal Vegetation	6	6	6	7	6	5	7	7	7	8	7	7	6	5	5	5	4	5	5	6	6	4	4	4	4	4	5	4	4	4	5	
VEGETATION STRUCTURE (nonstratified cover)																																
Total Vegetation	81	92	86	93	92	96	98	99	97	98	96	96	92	96	86	84	69	80	68	99	80	80	90	92	86	78	86	74	88	82	80	
Perennial Graminoids	80	88	86	92	88	90	91	92	95	98	95	86	88	8	86	83	69	80	64	90	80	78	84	86	80	75	86	74	88	82	80	
Annual Graminoids																		0.3														
Perennial Forbs and Subshrubs		14			7	25	48	66	28		0.3	70	14	91	3		0.3	0.3	6		0.3	12	24	22	18	7		0.3	1		0.3	
Annual/Biennial Forbs	4		0.3	0.3	2	0.3	0.3	1	5	0.3	8	1	15	20		4	0.3	1	0.3	22		0.3	0.3	2		0.3	0.3					
Shrubs											0.3																					
Trees 0.01-acre																																
Trees 0.1-acre																																
CLASS/SPECIES																																
NATIVE PERENNIAL GRAMINOIDS (Cool Season)																																
Agropyron dasystachyum var. dasy.	1																															
Agropyron smithii	20																	3												0.3		3
Hordeum jubatum			6								16		14																			
Poa glaucifolia	4																															
TOTAL NPG(C)	25.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	14.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NATIVE PERENNIAL GRAMINOIDS (Warm Season)																																
Spartina pectinata			4																													
TOTAL NPG(W)	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

**APPENDIX G - TABLE G-1
 OTTER CREEK MINE BASELINE
 VEGETATION SAMPLING DATA**

	HAY CROPLAND - FARMED WITHIN FLOODPLAIN														Mean Cover	Constancy
	PLOT NUMBER															
	729	731	732	733	734	735	736	737	739	740	768	786	788			
															n=44	
SITE PARAMETERS*																
Slope (percent)	0-2	0-1	3-4	1	1-2	1-2	1-3	0-1	2-3	3	0	2	0-1			
Aspect (degrees)	000	000	248	000	190	000	000	000	000	215	000	280	000			
Topography	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Ter	Old Oxbow	Bot	Ter			
Configuration	S	S	Und	S	S	S	S	S	Und	S (V)	V (S)	V	S (V)			
Photo # (Digital)	589	586	14	580	13	571	577	604	16-17	611	803-5	575-6	605			
Investigator	KS/ED	KS/ED	ED	KS/ED	ED	KS	KS	KS/ED	KS/ED	KS/ED	SC	KS/ED	KS/ED			
Date	07/06/12	07/06/12	07/06/12	07/06/12	07/06/12	07/06/12	07/06/12	07/07/12	07/07/12	07/07/12	07/07/12	07/06/12	07/07/12			
GROUND COVER																
Bare Ground	3	2	15	13	39	13	8	2	20	26	16	25		23.03	95	
Rock														0.02	7	
Litter	92	94	77	82	49	82	87	93	75	70	84	70	94	71.55	100	
Lichens			3	0.3	6									0.23	14	
Moss			0.3		1	0.3								0.08	9	
Basal Vegetation	5	4	5	5	5	5	5	5	5	4	0.3	5	6	5.17	100	
VEGETATION STRUCTURE (nonstratified cover)																
Total Vegetation	86	88	92	86	88	96	84	94	90	78	5	88	98	86.07	100	
Perennial Graminoids	86	88	92	86	88	96	84	92	84	78	5	78	98	81.75	100	
Annual Graminoids														0.03	5	
Perennial Forbs and Subshrubs			0.3				3	0.3	52	0.3		0.3		11.68	66	
Annual/Biennial Forbs				0.3	0.3			16	4		0.3	20		2.94	66	
Shrubs														0.01	2	
Trees 0.01-acre																
Trees 0.1-acre												2		0.05	2	
CLASS/SPECIES																
NATIVE PERENNIAL GRAMINOIDS (Cool Season)																
Agropyron dasystachyum var. dasy.														0.02	2	
Agropyron smithii			42	34	28	42						10		4.14	20	
Hordeum jubatum								4				0.3		0.92	11	
Poa glaucifolia														0.09	2	
TOTAL NPG(C)	0.0	0.0	42.0	34.0	28.0	42.0	0.0	4.0	0.0	0.0	0.0	10.3	0.0	5.17	30	
NATIVE PERENNIAL GRAMINOIDS (Warm Season)																
Spartina pectinata								2				1		0.16	7	
TOTAL NPG(W)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.16	7	

**APPENDIX G - TABLE G-1
 OTTER CREEK MINE BASELINE REPORT 325A
 VEGETATION SAMPLING DATA ON HAY CROPLAND WITHIN THE OTTER CREEK FLOODPLAIN**

	HAY CROPLAND - FARMED WITHIN FLOODPLAIN															HAY CROPLAND - FARMED WITHIN FLOODPLAIN																
																PLOT NUMBER																
	549	550	551	552	553	554	555	556	557	558	559	560	561	661	704	705	706	707	708	709	711	712	714	716	717	719	722	724	725	726	727	
INTRODUCED PERENNIAL GRAMINOIDS																																
Agropyron cristatum	70	6		64	34	4	2		3	74	22	4	68		64	44		60	55	65	74	26	58	72	78	34	16	4	38	54	80	
Agropyron elongatum			14	28																												
Agropyron intermedium				2					4			65						25														
Agropyron repens			74							64				38	54	65			17	35	12	60	32	26	5	3	68	72		6		
Bromus inermis	1	78	2		40	88	90	92	92	84	8	24		8			4						3	3		5	62	26	2	68	58	
Elymus junceus	3			6	48		1																									
Festuca arundinacea		16																														
Phleum pratense		2																														
Poa pratensis		8			3					6	18	10	28																			
TOTAL IPG	74.0	110.0	90.0	98.0	127.0	92.0	93.0	92.0	99.0	164.0	112.0	103.0	96.0	8.0	102.0	98.0	69.0	85.0	72.0	100.0	86.0	89.0	93.0	98.0	83.0	99.0	110.0	78.0	106.0	118.0	80.0	
NATIVE ANNUAL GRAMINOIDS																																
TOTAL NAG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTRODUCED ANNUAL GRAMINOIDS																																
Bromus japonicus																		0.3									1					
TOTAL IAG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
NATIVE PERENNIAL FORBS AND SUBSHRUBS																																
Aster falcatus																						2				0.3					0.3	
Aster pansus		2																														
Evolvulus nuttallianus																		0.3														
Gaura coccinea					0.3																											
Kuhnia eupatorioides																																
Typha latifolia																																
TOTAL NPF AND SUBSHRUBS	0.0	2.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	
INTRODUCED PERENNIAL FORBS																																
Cirsium arvense		8							0.3			0.3																				
Convolvulus arvensis																	0.3															
Medicago sativa		0.3			5	24	48	66	26			58	6	88	3						6		0.3	10	24	22	18	7		0.3	1	
Rumex crispus																																
Rumex patienta											0.3		0.3	6																		
Taraxacum laevigatum					2			2	4		0.3	22	8																			
Taraxacum officinale		4				1																										
TOTAL IPF	0.0	12.3	0.0	0.0	7.0	25.0	48.0	68.0	30.3	0.0	0.6	80.3	14.3	94.0	3.0	0.0	0.3	0.0	6.0	0.0	0.3	10.0	24.0	22.0	18.0	7.0	0.0	0.3	1.0	0.0	0.0	
FERNS AND ALLIES																																
TOTAL F&A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

**APPENDIX G - TABLE G-1
 OTTER CREEK MINE BASELINE
 VEGETATION SAMPLING DATA**

	HAY CROPLAND - FARMED WITHIN FLOODPLAIN														Mean Cover	Constancy
	PLOT NUMBER															
	729	731	732	733	734	735	736	737	739	740	768	786	788			
	n=44															
INTRODUCED PERENNIAL GRAMINOIDS																
Agropyron cristatum	8		76	70	74	72	68		50			0.3		36.17	80	
Agropyron elongatum					1	1			80	42			98	6.00	16	
Agropyron intermedium														2.18	9	
Agropyron repens	54	88		6	1				22				5	18.34	50	
Bromus inermis	46	0.3		1		16	22	4		78			18	23.14	64	
Elymus junceus										5				1.43	11	
Festuca arundinacea													14	0.68	5	
Phleum pratense														0.05	2	
Poa pratensis								2					54	2.95	20	
TOTAL IPG	108.0	88.3	76.0	77.0	76.0	89.0	90.0	108.0	97.0	78.0	5.0	86.3	99.0	90.95	100	
NATIVE ANNUAL GRAMINOIDS																
TOTAL NAG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0	
INTRODUCED ANNUAL GRAMINOIDS																
Bromus japonicus														0.03	5	
TOTAL IAG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	5	
NATIVE PERENNIAL FORBS AND SUBSHRUBS																
Aster falcatus														0.06	7	
Aster pensus														0.05	2	
Evolvulus nuttallianus														0.01	2	
Gaura coccinea														0.01	2	
Kuhnia eupatorioides										0.3				0.01	2	
Typha latifolia												0.3		0.01	2	
TOTAL NPF AND SUBSHRUBS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.13	18	
INTRODUCED PERENNIAL FORBS																
Cirsium arvense									1					0.22	9	
Convolvulus arvensis														0.01	2	
Medicago sativa			0.3				1		52	0.3				10.60	52	
Rumex crispus							2	0.3						0.05	5	
Rumex patienta														0.15	7	
Taraxacum laevigatum														0.87	14	
Taraxacum officinale														0.11	5	
TOTAL IPF	0.0	0.0	0.3	0.0	0.0	0.0	3.0	0.3	53.0	0.3	0.0	0.0	0.0	12.01	59	
FERNS AND ALLIES																
TOTAL F&A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0	

**APPENDIX G - TABLE G-1
OTTER CREEK MINE BASELINE
VEGETATION SAMPLING DATA**

	HAY CROPLAND - FARMED WITHIN FLOODPLAIN														Mean Cover	Constancy
	PLOT NUMBER															
	729	731	732	733	734	735	736	737	739	740	768	786	788			
	n=44															
NATIVE ANNUAL/BIENNIAL FORBS																
Descurainia pinnata															0.01	2
Iva xanthifolia													1		0.02	2
Lappula redowskii															0.01	2
Plantago patagonica															0.01	2
Polygonum arenastrum												0.3			0.01	2
Polygonum ramosissimum															0.01	2
Polygonum sawatchense															0.09	2
TOTAL NAF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.15	14	
INTRODUCED ANNUAL/BIENNIAL FORBS																
Alyssum alyssoides															0.16	14
Alyssum desertorum															0.03	9
Atriplex heterosperma					0.3			16	4		0.3	6			1.66	30
Camelina microcarpa															0.03	11
Chenopodium album															0.01	2
Filago arvensis															0.01	5
Kochia scoparia					0.3				0.3						0.11	9
Lactuca serriola															0.04	14
Lepidium perfoliatum															0.01	5
Mellilotus officinalis															0.03	9
Polygonum convolvulus															0.01	2
Sisymbrium loeselii															0.32	2
Sonchus asper															0.01	2
Thlaspi arvense													15		0.53	16
Tragopogon dubius				0.3											0.06	14
TOTAL IAF	0.0	0.0	0.0	0.3	0.6	0.0	0.0	16.0	4.3	0.0	0.3	21.0	0.0	3.02	64	
SHRUBS																
Artemisia cana															0.01	2
TOTAL SHRUBS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	2	
TREES 0.01-acre																
TOTAL TREES 0.01-acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0	
TREES 0.1-acre																
Acer negundo													2		0.05	2
TOTAL TREES 0.1-acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.05	2	
TOTAL VEGETATION (Stratified)	108.0	88.3	118.3	111.3	104.6	131.0	93.0	130.3	154.3	78.6	5.3	120.2	99.0	111.63	100	

Footnotes:

Trace cover values were assigned 0.3 percent for each 0.01-acre canopy cover estimation plot.
Binomials primarily follow USDA Forest Service (1987).

***Site Parameters:**

Topography codes:

Ben = Bench	Low, Lower = Lower	Swa = Swale
Bnk = Bank	Mid = Mid slope	Ter = Terrace
Bot = Bottom	Plat = Plateau	Toe = Toeslope
Brk = Breaks	Rid = Ridge	Upper = Upper slope
Flo = Floodplain	Sho = Shoulder	

Configuration codes:

S = Straight	V = Concave
U = Undulating	X = Convex

APPENDIX G - TABLE G-2
OTTER CREEK MINE BASELINE REPORT 325A
VEGETATION SAMPLING DATA ON HAY CROPLAND OUTSIDE OF THE OTTER CREEK FLOODPLAIN

	HAY CROPLAND - FARMED OUTSIDE FLOODPLAIN																	Mean Cover	Constancy
	PLOT NUMBER																		
	562	564	565	566	567	660	713	715	718	720	721	723	728	730	738	748	761		
n=17																			
SITE PARAMETERS*																			
Slope (percent)	0-1	6-7	0-1	6	0-1	2-3	1-2	0	2-3	0-1	3-5	0-1	1-3	2-3	1-2	0-3	2		
Aspect (degrees)	000	234	000	292	000	060	000	000	076	000	110	000	090	120	000	000	094		
Topography	Low Ter	Low	Low Ter	Toe	Low Ter	Bot-Swa	Ben	Ter	Ter	Ter	Ter	Ter	Low Ben	Ter	Ter	Bot			
Configuration	S	V/S	S	U	S	V(S)	S	S	Und.	S	S	S	V(S)	S	X	S(V)			
Photo # (Digital)	337	341	343	344	342	327	792	811-2	3-4	543	544	538	590	572	608	591	582-3		
Investigator	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	KS/ED	SC	SC	ED	KS	KS/ED	KS/ED	KS/ED	KS	KS/ED	KS	KS/ED		
Date	07/09/11	07/09/11	07/09/11	07/09/11	07/09/11	07/08/11	07/06/12	07/07/12	07/02/12	07/02/12	07/02/12	07/02/12	07/06/12	07/06/12	07/07/12	07/06/12	07/06/12		
GROUND COVER																			
Bare Ground	63	36	34	50	44	4	12	5	42	58	25	38	6	35	36	14	1	29.59	100
Rock		0.3		0.3					0.3	0.3	0.3	3			0.3			0.28	41
Litter	30	50	60	40	50	88	83	90	54	38	70	55	89	58	60	82	94	64.18	100
Lichens		8		5			0.3					0.3		2				0.92	29
Moss		0.3																0.02	6
Basal Vegetation	7	6	6	5	6	8	5	5	4	4	5	4	5	5	4	4	5	5.18	100
VEGETATION STRUCTURE (nonstratified cover)																			
Total Vegetation	96	92	100	84	99	99	85	98	75	70	86	74	84	90	85	86	94	88.06	100
Perennial Graminoids	82	84	18	74	32	97	85	98	74	62	80	70	78	90	85	84	94	75.71	100
Annual Graminoids							0.3											0.02	6
Perennial Forbs and Subshrubs	78	12	98	22	95	26	1		4	10	18	8	24	0.3		12	0.3	24.04	88
Annual/Biennial Forbs	0.3	64	1	28	2	2	0.3				0.3		0.3					5.78	53
Shrubs				0.3			0.3											0.04	12
Trees 0.01-acre																			
Trees 0.1-acre																			
CLASS/SPECIES																			
NATIVE PERENNIAL GRAMINOIDS (Cool Season)																			
Agropyron smithii	0.3																	0.02	6
Poa sandbergii		0.3																0.02	6
Stipa viridula	1																	0.06	6
TOTAL NPG(C)	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	12
NATIVE PERENNIAL GRAMINOIDS (Warm Season)																			
Bouteloua gracilis		0.3																0.02	6
Distichlis stricta		16		4														1.18	12
TOTAL NPG(W)	0.0	16.3	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.19	12

APPENDIX G - TABLE G-2
OTTER CREEK MINE BASELINE REPORT 325A
VEGETATION SAMPLING DATA ON HAY CROPLAND OUTSIDE OF THE OTTER CREEK FLOODPLAIN

	HAY CROPLAND - FARMED OUTSIDE FLOODPLAIN																	Mean Cover	Constancy
	PLOT NUMBER																		
	562	564	565	566	567	660	713	715	718	720	721	723	728	730	738	748	761		
																		n=17	
INTRODUCED PERENNIAL GRAMINOIDS																			
Agropyron cristatum	5	72	14	72	20		85	30	74	62	80	70	52	90	85	84		52.65	88
Agropyron repens								20									94	1.18	6
Bromus inermis	58					97		70					48					21.59	29
Poa bulbosa													0.3					0.02	6
Poa pratensis	42		4		14													3.53	18
TOTAL IPG	105.0	72.0	18.0	72.0	34.0	97.0	85.0	120.0	74.0	62.0	80.0	70.0	100.0	90.3	85.0	84.0	94.0	78.96	100
NATIVE ANNUAL GRAMINOIDS																			
TOTAL NAG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
INTRODUCED ANNUAL GRAMINOIDS																			
Bromus japonicus							0.3											0.02	6
TOTAL IAG	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	6
NATIVE PERENNIAL FORBS AND SUBSHRUBS																			
Cerastium arvense							1											0.06	6
Gaura coccinea											0.3							0.02	6
Sphaeralcea coccinea				0.3				0.3					0.3					0.05	18
TOTAL NPF AND SUBSHRUBS	0.0	0.0	0.0	0.3	0.0	0.0	1.0	0.0	0.3	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.13	29
INTRODUCED PERENNIAL FORBS																			
Cirsium arvense	28															0.3		1.66	12
Convolvulus arvensis													16			12		1.65	12
Medicago sativa	54	10	98	22	94	24		4	10	18	8	10						20.71	65
Rumex crispus					1													0.06	6
Taraxacum laevigatum		2	2	0.3	4	3												0.66	29
Taraxacum officinale	8		2															0.59	12
TOTAL IPF	90.0	12.0	102.0	22.3	99.0	27.0	0.0	0.0	4.0	10.0	18.0	8.0	26.0	0.0	0.0	12.0	0.3	25.33	76
FERNS AND ALLIES																			
TOTAL F&A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
NATIVE ANNUAL/BIENNIAL FORBS																			
Ambrosia trifida						0.3												0.02	6
Plantago patagonica		0.3					0.3											0.04	12
Polygonum sawatchense			0.3		0.3													0.04	12
TOTAL NAF	0.0	0.3	0.3	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	29

**APPENDIX G - TABLE G-2
 OTTER CREEK MINE BASELINE REPORT 325A
 VEGETATION SAMPLING DATA ON HAY CROPLAND OUTSIDE OF THE OTTER CREEK FLOODPLAIN**

	HAY CROPLAND - FARMED OUTSIDE FLOODPLAIN																	Mean Cover	Constancy
	PLOT NUMBER																		
	562	564	565	566	567	660	713	715	718	720	721	723	728	730	738	748	761		
INTRODUCED ANNUAL/BIENNIAL FORBS																			
Alyssum alyssoides				0.3						0.3								0.04	12
Alyssum desertorum		0.3		0.3														0.04	12
Atriplex heterosperma			0.3	1														0.08	12
Camelina microcarpa						0.3	0.3											0.04	12
Descurainia sophia										0.3								0.02	6
Filago arvensis		2		0.3														0.14	12
Lactuca serriola		0.3	0.3															0.04	12
Lepidium perfoliatum				0.3														0.02	6
Medicago lupulina						0.3												0.02	6
Mellilotus officinalis	0.3	65		26	0.3	0.3												5.41	29
Thlaspi arvense			1	0.3	1	0.3							0.3					0.17	29
Tragopogon dubius		3		0.3	1	0.3						0.3						0.29	29
TOTAL IAF	0.3	70.6	1.6	28.5	2.6	1.5	0.3	0.0	0.0	0.0	0.9	0.0	0.3	0.0	0.0	0.0	0.0	6.27	53
SHRUBS																			
Atriplex nuttallii				0.3			0.3											0.04	12
TOTAL SHRUBS	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	12
TREES 0.01-acre																			
TOTAL TREES 0.01-acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
TREES 0.1-acre																			
TOTAL TREES 0.1-acre	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
TOTAL VEGETATION (Stratified)	196.6	171.5	121.9	127.4	135.9	125.8	87.2	120.0	78.3	72.0	98.9	78.3	126.3	90.6	85.0	96.0	94.3	112.12	100

Footnotes:

Trace cover values were assigned 0.3 percent for each 0.01-acre canopy cover estimation plot.
 Binomials primarily follow USDA Forest Service (1987).

***Site Parameters:**

Topography codes:

Ben = Bench	Low, Lower = Lower slope	Swa = Swale
Bnk = Bank	Mid = Mid slope	Ter = Terrace
Bot = Bottom	Plat = Plateau	Toe = Toeslope
Brk = Breaks	Rid = Ridge	Upper = Upper slope
Flo = Floodplain	Sho = Shoulder	

Configuration codes:

S = Straight	V = Concave
U = Undulating	X = Convex

APPENDIX G - TABLE G-3

OTTER CREEK MINE BASELINE REPORT 325A

SUMMARY OF MEAN PERCENT CANOPY COVER AND CONSTANCY FOR HAY CROPLAND WITHIN AND OUTSIDE THE OTTER CREEK FLOODPLAIN, 2011-2012

	WITHIN FLOODPLAIN		OUTSIDE FLOODPLAIN		TOTAL MEAN	
	Mean Cover	Constancy	Mean Cover	Constancy	Mean Cover	Constancy
	n=44		n=17		n=61	
GROUND COVER						
Bare Ground	23.03	95	29.59	100	24.86	97
Rock	0.02	7	0.28	41	0.09	16
Litter	71.55	100	64.18	100	69.49	100
Lichens	0.23	14	0.92	29	0.42	18
Moss	0.08	9	0.02	6	0.06	8
Basal Vegetation	5.17	100	5.18	100	5.17	100
VEGETATION STRUCTURE (nonstratified cover)						
Total Vegetation	86.07	100	88.06	100	86.62	100
Perennial Graminoids	81.75	100	75.71	100	80.07	100
Annual Graminoids	0.03	5	0.02	6	0.03	5
Perennial Forbs and Subshrubs	11.68	66	24.04	88	15.12	72
Annual/Biennial Forbs	2.94	66	5.78	53	3.73	62
Shrubs	0.01	2	0.04	12	0.01	5
Trees 0.01-acre						
Trees 0.1-acre	0.05	2			0.03	2
CLASS\SPECIES						
NATIVE PERENNIAL GRAMINOIDS (Cool Season)						
Agropyron dasystachyum var. dasy.	0.02	2			0.02	2
Agropyron smithii	4.14	20	0.02	6	2.99	16
Hordeum jubatum	0.92	11			0.66	8
Poa glaucifolia	0.09	2			0.07	2
Poa sandbergii			0.02	6	0.005	2
Stipa viridula			0.06	6	0.02	2
TOTAL NPG(C)	5.17	30	0.09	12	3.76	25
NATIVE PERENNIAL GRAMINOIDS (Warm Season)						
Bouteloua gracilis			0.02	6	0.005	2
Distichlis stricta			1.18	12	0.33	3
Spartina pectinata	0.16	7			0.11	5
TOTAL NPG(W)	0.16	7	1.19	12	0.45	8
INTRODUCED PERENNIAL GRAMINOIDS						
Agropyron cristatum	36.17	80	52.65	88	40.76	82
Agropyron elongatum	6.00	16			4.33	11
Agropyron intermedium	2.18	9			1.57	7
Agropyron repens	18.34	50	1.18	6	13.56	38
Bromus inermis	23.14	64	21.59	29	22.71	54
Elymus junceus	1.43	11			1.03	8
Festuca arundinacea	0.68	5			0.49	3
Phleum pratense	0.05	2			0.03	2
Poa bulbosa			0.02	6	0.005	2
Poa pratensis	2.95	20	3.53	18	3.11	20
TOTAL IPG	90.95	100	78.96	100	87.60	100
NATIVE ANNUAL GRAMINOIDS						
TOTAL NAG	0.00	0	0.00	0	0.00	0
INTRODUCED ANNUAL GRAMINOIDS						
Bromus japonicus	0.03	5	0.02	6	0.03	5
TOTAL IAG	0.03	5	0.02	6	0.03	5

APPENDIX G - TABLE G-3

OTTER CREEK MINE BASELINE REPORT 325A

SUMMARY OF MEAN PERCENT CANOPY COVER AND CONSTANCY FOR HAY CROPLAND WITHIN AND OUTSIDE THE OTTER CREEK FLOODPLAIN, 2011-2012

	WITHIN FLOODPLAIN		OUTSIDE FLOODPLAIN		TOTAL MEAN	
	Mean Cover	Constancy	Mean Cover	Constancy	Mean Cover	Constancy
	n=44		n=17		n=61	
NATIVE PERENNIAL FORBS AND SUBSHRUBS						
Aster falcatus	0.06	7			0.04	5
Aster pansus	0.05	2			0.03	2
Cerastium arvense			0.06	6	0.02	2
Evolvulus nuttallianus	0.01	2			0.005	2
Gaura coccinea	0.01	2	0.02	6	0.01	3
Kuhnia eupatorioides	0.01	2			0.005	2
Sphaeralcea coccinea			0.05	18	0.01	5
Typha latifolia	0.01	2			0.005	2
TOTAL NPF AND SUBSHRUBS	0.13	18	0.13	29	0.13	21
INTRODUCED PERENNIAL FORBS						
Cirsium arvense	0.22	9	1.66	12	0.62	10
Convolvulus arvensis	0.01	2	1.65	12	0.46	5
Medicago sativa	10.60	52	20.71	65	13.42	56
Rumex crispus	0.05	5	0.06	6	0.05	5
Rumex patientia	0.15	7			0.11	5
Taraxacum laevigatum	0.87	14	0.66	29	0.81	18
Taraxacum officinale	0.11	5	0.59	12	0.25	7
TOTAL IPF	12.01	59	25.33	76	15.72	64
FERNS AND ALLIES						
TOTAL F&A	0.00	0	0.00	0	0.00	0
NATIVE ANNUAL/BIENNIAL FORBS						
Ambrosia trifida			0.02	6	0.005	2
Descurainia pinnata	0.01	2			0.005	2
Iva xanthifolia	0.02	2			0.02	2
Lappula redowskii	0.01	2			0.005	2
Plantago patagonica	0.01	2	0.04	12	0.01	5
Polygonum arenastrum	0.01	2			0.005	2
Polygonum ramosissimum	0.01	2			0.005	2
Polygonum sawatchense	0.09	2	0.04	12	0.08	5
TOTAL NAF	0.15	14	0.09	29	0.13	18
INTRODUCED ANNUAL/BIENNIAL FORBS						
Alyssum alyssoides	0.16	14	0.04	12	0.13	13
Alyssum desertorum	0.03	9	0.04	12	0.03	10
Atriplex heterosperma	1.66	30	0.08	12	1.22	25
Camelina microcarpa	0.03	11	0.04	12	0.03	11
Chenopodium album	0.01	2			0.005	2
Descurainia sophia			0.02	6	0.005	2
Filago arvensis	0.01	5	0.14	12	0.05	7
Kochia scoparia	0.11	9			0.08	7
Lactuca serriola	0.04	14	0.04	12	0.04	13
Lepidium perfoliatum	0.01	5	0.02	6	0.01	5
Medicago lupulina			0.02	6	0.005	2
Mellilotus officinalis	0.03	9	5.41	29	1.53	15
Polygonum convolvulus	0.01	2			0.005	2
Sisymbrium loeselii	0.32	2			0.23	2
Sonchus asper	0.01	2			0.005	2
Thlaspi arvense	0.53	16	0.17	29	0.43	20
Tragopogon dubius	0.06	14	0.29	29	0.12	18
TOTAL IAF	3.02	64	6.27	53	3.92	61
SHRUBS						
Artemisia cana	0.01	2			0.005	2
Atriplex nuttallii			0.04	12	0.01	3
TOTAL SHRUBS	0.01	2	0.04	12	0.01	5
TREES 0.01-acre						
TOTAL TREES 0.01-acre	0.00	0	0.00	0	0.00	0
TREES 0.1-acre						
Acer negundo	0.05	2			0.03	2
TOTAL TREES 0.1-acre	0.05	2	0.00	0	0.03	2
TOTAL VEGETATION (Stratified)						
	111.63	100	112.12	100	111.76	100