APPENDIX F – SOP WORKSHEETS

		Qualitative Workshe	eet Summary For Wetla	nd Adverse Impacts		
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WA Area 1	Depressional/Flat Wetlands	0.33	Permanent/Reoccurring	0.25	2.00
2	TIAA WN Area 2	Depressional/Flat Wetlands	0.36	Permanent/Reoccurring	0.18	1.44
3	TIAA WO Area 3	Depressional/Flat Wetlands	0.78	Permanent/Reoccurring	0.39	3.12
4	Keystone WAH Area 4	Depressional/Flat Wetlands	0.04	Permanent/Reoccurring	0.02	0.16
5	Keystone WAI Area 5	Depressional/Flat Wetlands	0.06	Permanent/Reoccurring	0.05	0.40
6	Keystone WAJ Area 6	Depressional/Flat Wetlands	0.62	Permanent/Reoccurring	0.46	3.68
7	Keystone WAA Area 7	Depressional/Flat Wetlands	4.18	Permanent/Reoccurring	3.13	25.04
8	Adirondack WE Area 8	Depressional/Flat Wetlands	2.18	Permanent/Reoccurring	1.09	8.72
9	Keystone Area 9	Depressional/Flat Wetlands	5.03	Permanent/Reoccurring	2.51	20.08
10	Adirondack WA Area 10	Depressional/Flat Wetlands	0.23	Permanent/Reoccurring	0.11	0.88
	Summary of Cre	edits Owed]		
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			

0.00

65.52

0.00

Slope Wetlands

Depressional/Flat Wetlands

Open Water/Ditch/Canal

0.00

13.79

0.00

0.00

8.19

0.00

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WA Area 1		
Acres of Impact (Acres):	0.33		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Dur</u>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.75
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed</u>) =	0.25
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	(Grandfathered Wetland Credits Owed) =	2.00
	Legend		
	nanually input information.		
-	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WN Area 2]	
Acres of Impact (Acres):	0.36		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<i>Dur</i>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.50
Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed</u>) =	0.18
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	(Grandfathered Wetland Credits Owed) =	1.44
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WO Area 3		
Acres of Impact (Acres):	0.78		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dur</u>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.50
6. Product of Total WQFC	Impact and Acres (<i>Total 2018 Wetland Credits Ow</i>	<u>ed)</u> =	0.39
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	3.12
	Legend		
	nanually input information.		
-	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

	Twin Pines Minerals		
Project Name:			
Impact Wetland Name:	Keystone WAH Area 4		
Acres of Impact (Acres):	0.04		
Wetland Type:	Depressional/Flat Wetlands		
Date:	August 27, 2018		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dura</u>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.50
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Own	<u>ed)</u> =	0.02
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	0.16
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAI Area 5	1	
Acres of Impact (Acres):	0.06		
Wetland Type:	Depressional/Flat Wetlands	1	
Date:	December 10, 2019	1	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (Dura	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impac	ct and Duration (<u>Total WQFC Impact</u>) =		0.75
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed</u>) =	0.05
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	0.40
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAJ Area 6	1	
Acres of Impact (Acres):	0.62]	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Dura</i>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.75
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.46
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	3.68
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAA Area 7	1	
Acres of Impact (Acres):	4.18]	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Dura</i>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.75
Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	3.13
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	25.04
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 7: Qualitative Worksheet for Wetland Adverse Impacts

Workonool O. Quan	alive worksheet for welland Adverse imp		
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Adirondack WE Area 8		
Acres of Impact (Acres):	2.18		
Wetland Type:	Depressional/Flat Wetlands		
Date:	March 22, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dur</u>	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.50
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	1.09
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	8.72
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 8: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 9		
Acres of Impact (Acres):	5.03		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descrip	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (Dura	ation)	Permanent/Reoccurring	1.00
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.50
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	2.51
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	20.08
	Legend		
Green Cells = User must m			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 9: Qualitative Worksheet for Wetland Adverse Impacts

Workeneot To: Quu		puelo	
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Adirondack WA Area 10		
Acres of Impact (Acres):	0.23		
Wetland Type:	Depressional/Flat Wetlands		
Date:	March 22, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fu	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and	Impact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dur</u>	ration)	Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u><i>Total WQFC Impact</i></u>) =		0.50
6. Product of Total WQFC	Impact and Acres (<i>Total 2018 Wetland Credits Ow</i>	<u>ed)</u> =	0.11
7. Conversion of Total 20 ⁻	18 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	0.88
	Legend		
	nanually input information.		
Orange Cells = User must	select the index choice from the drop-down list.		

Worksheet 10: Qualitative Worksheet for Wetland Adverse Impacts

Grey Cells = The calculation of these cells is automated.

		Qualitative Workshe	et Summary For Wetla	nd Adverse Impacts		
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	Keystone Area 11	Depressional/Flat Wetlands	1.37	Permanent/Reoccurring	1.03	8.24
2	Keystone Area 12	Depressional/Flat Wetlands	0.04	Permanent/Reoccurring	0.03	0.24
3	Keystone Area 13	Depressional/Flat Wetlands	0.92	Permanent/Reoccurring	0.69	5.52
4	Keystone Area 14	Depressional/Flat Wetlands	2.38	Permanent/Reoccurring	1.78	14.24
5	Keystone Area 15	Depressional/Flat Wetlands	3.45	Permanent/Reoccurring	1.73	13.84
6	Keystone Area 16	Depressional/Flat Wetlands	2.44	Permanent/Reoccurring	1.22	9.76
7	Adirondack Area 17	Depressional/Flat Wetlands	0.65	Permanent/Reoccurring	0.32	2.56
8	Adirondack Area 18	Depressional/Flat Wetlands	0.09	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	11.33	6.80	54.40			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 11]	
Acres of Impact (Acres):	1.37		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Duration</u>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.75
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 1.03			1.03
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 8.24			
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 12]	
Acres of Impact (Acres):	0.04		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Duration</u>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.75
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 0.03			0.03
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<i>Grandfathered Wetland Credits Owed</i>) = 0.24			
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 13]	
Acres of Impact (Acres):	0.92		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.75
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 0.69			0.69
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 5.52		5.52	
	Legend		
Green Cells = User must manually input information.			
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 14		
Acres of Impact (Acres):	2.38		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Duration</i>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.75
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 1.78			1.78
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 14.24			
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 15]	
Acres of Impact (Acres):	3.45		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<u>Duration</u>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.50
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 1.73			1.73
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 13.84			13.84
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 16]	
Acres of Impact (Acres):	2.44		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.50
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 1.22			1.22
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 9.76			
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Adirondack Area 17	1	
Acres of Impact (Acres):	0.65	1	
Wetland Type:	Depressional/Flat Wetlands		
Date:	March 22, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<i>Total WQFC Impact</i>) =			0.50
6. Product of Total WQFC	6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 0.32		
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 2.56		2.56	
Legend			
Green Cells = User must n			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 7: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Adirondack Area 18			
Acres of Impact (Acres):	0.09			
Wetland Type:	Depressional/Flat Wetlands			
Date:	March 22, 2019			
Impact Factors		Index Description	Index Value	
1. Wetland Qualitative Fu	nctional Capacity Score (<u>WQFC</u>)	Choose WQFC	WQFC Index	
2. Impact Category Desci	iption (<i>Impact Category</i>)	Choose Primary Impact	Impact Index	
3. Product of WQFC and	Impact (<u>WQFC Impact</u>) =		WQFC Impact	
4. Duration of Impact (<u>Du</u>	ration)	Choose Duration	Duration Index	
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			Total WQFC Impact	
6. Product of Total WQFC Impact and Acres (<i>Total 2018 Wetland Credits Owed</i>) =			Credits Owed	
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =		Grandfathered Credits Owed		
Legend				
Green Cells = User must	manually input information.			
Orange Cells = User mus	Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculat	Grey Cells = The calculation of these cells is automated.			

Worksheet 8: Qualitative Worksheet for Wetland Adverse Impacts

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	TIAA WA Area 1			
Wetland Type:	Depression			
WAA Center Coordinates:				
Date:	12/10/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or ar ditches, or man-made impoundments within 100 feet of the assessment area and within the catchme affecting the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
BioGeoChemical Cycling				
Answer	Questions			
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate			
FUNCTION SCORE	Woderate			
Maintain Characteristic W	Netland Community - 3			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)?	(Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -				
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes No	Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	(Moderate			
SCORE				
	Legend			
Green Cell = User must ma	anually input information.			
Orange Cells = User must	select the choice from the drop-down list.			
	Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	TIAA WN Area 2			
Wetland Type:	Depression			
WAA Center Coordinates:				
Date:	12/10/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage struct ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrological affecting the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
BioGeoChemical Cycling				
Answer	Questions			
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate			
FUNCTION SCORE	Modelale			
Maintain Characteristic W	Vetland Community - 3			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -				
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes No	Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legend			
Green Cell = User must ma				
	select the choice from the drop-down list.			
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populated from the user input to a previous question.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT	
Project Name:	Twin Pines Mine	erals and the second	
Impact Wetland Name:	TIAA WO Area	3	
Wetland Type:	Depression		
WAA Center Coordinates:	30.526944, -82.	132192	
Date:	12/10/2019		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
BioGeoChemical Cycling	- 2		
Answer		Questions	
No		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Low		
Maintain Obanastaniatia M			
Maintain Characteristic V	Vetland Commur	uty - 3 Questions	
Answer Yes			
No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
	Moderate		
Maintain Faunal Habitat -	4		
Answer	٦ ا	Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there woody debris in the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY			
SCORE	LOW		
	Legen		
Green Cell = User must ma			
	Orange Cells = User must select the choice from the drop-down list.		
	Grey Cells = The calculation of these cells is automated.		
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.			
populated from the user inp	out to a previous o	juestion.	

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT	
Project Name:	Twin Pines Mine	rals	
Impact Wetland Name:	Keystone WAH	Area 4	
Wetland Type:	Depression		
WAA Center Coordinates:	30.531296, -82.	123368	
Date:	8/27/2018		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
	· · · · · · · · · · · · · · · · · · ·		
BioGeoChemical Cycling	- 2		
Answer		Questions	
No		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Low		
Maintain Characteristic V	Vetland Commur	•	
Answer		Questions	
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
	Moderate		
Maintain Faunal Habitat -	· 4		
Answer	7	Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there woody debris in the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY			
SCORE	LOW		
000112			
	Legen		
Green Cell = User must ma			
Orange Cells = User must select the choice from the drop-down list.			
	Grey Cells = The calculation of these cells is automated.		
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.			
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mineral	S	
Impact Wetland Name:	Keystone WAI Area	a 5	
Wetland Type:	Depression		
WAA Center Coordinates:	30.531296, -82.116540		
Date:	12/10/2019		
Water Storage -1	_		
Answer		Questions	
Yes	C	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		s the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
BioGeoChemical Cycling			
Answer		Questions	
Yes Yes		s there large woody debris (LWD) in the wetland? (Y/N) las the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Moderate	has the vegetative community been adversely aftered within the last 20 years? (1/N)	
FUNCTION SCORE	Woderate		
Maintain Characteristic W	etland Community	7-3	
Answer	-	Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		s there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -	-		
Answer		Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
Yes No		s there woody debris in the wetland? (Y/N) s the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
I SHOTION SOONE	2010		
WETLAND QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate		
	Legend		
	Green Cell = User must manually input information.		
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAJ Area 6		
Wetland Type:	Depression		
WAA Center Coordinates:	30.531184, -82.112093		
Date:	12/10/2019		
Water Storage -1			
Answer	Questions		
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage struc ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologic affecting the wetland? (Y/N)		
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low		
BioGeoChemical Cycling			
Answer	Questions		
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate		
FUNCTION SCORE	Modelale		
Maintain Characteristic W	Vetland Community - 3		
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -			
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes	Is there woody debris in the wetland? (Y/N)		
No FUNCTION SCORE	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
I UNCTION SCORE			
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Moderate		
SCORE			
	Legend		
Green Cell = User must ma	Green Cell = User must manually input information.		
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Dark Grey Cells = These cells do not require input. The corresponding value is			
populated from the user input to a previous question.			

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT					
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	Keystone WAA	Area 7			
Wetland Type:	Depression				
WAA Center Coordinates:	30.525627, -82.106406				
Date:	12/12/2019				
Water Storage -1	_				
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Madavata	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	Votland Commun	ity - 3			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No FUNCTION SCORE	Low	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	LOW				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE					
	Legen	1			
Green Cell = User must ma	Green Cell = User must manually input information.				
Orange Cells = User must select the choice from the drop-down list.					
Grey Cells = The calculation of these cells is automated.					
Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user inp	out to a previous o	populated from the user input to a previous question.			

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals	
Impact Wetland Name:	Adirondack WE	Area 8	
Wetland Type:	Depression		
WAA Center Coordinates:	30.525257, -82.104638		
Date:	3/22/2019		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
	•		
BioGeoChemical Cycling	<u> </u> - 2		
Answer		Questions	
No		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Low		
Maintain Characteristic V	Vetland Commur	-	
Answer		Questions	
Yes No	_	Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
I UNCTION SCORE	Moderate		
Maintain Faunal Habitat -	4		
Answer	T [`]	Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there woody debris in the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY			
SCORE	LOW		
SCORE			
	Legen		
	Green Cell = User must manually input information.		
Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			
	Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.		
populated from the user in	put to a previous of	uestion.	

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT					
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	Keystone Area	9			
Wetland Type:	Depression				
WAA Center Coordinates:	30.523702, -82.106813				
Date:	12/12/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
No		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Okanastasiatia M					
Maintain Characteristic W	Vetland Commur	uty - 3 Questions			
Answer Yes					
No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	Moderate				
Maintain Faunal Habitat -	4				
Answer	٦ ا	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	LOW				
	Legen				
	Green Cell = User must manually input information.				
Orange Cells = User must select the choice from the drop-down list.					
Grey Cells = The calculation of these cells is automated.					
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.					
populated from the user inp	out to a previous (populated from the user input to a previous question.			

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals	
Impact Wetland Name:	Adirondack WA	Area 10	
Wetland Type:	Depression		
WAA Center Coordinates:			
Date:	3/22/2019		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
	•		
BioGeoChemical Cycling	- 2		
Answer		Questions	
No		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes	1	Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Low		
Maintain Characteristic V	Vetland Commun	ity - 3	
Answer		Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -	4		
Answer		Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there woody debris in the wetland? (Y/N)	
No FUNCTION SCORE	Low	Is the contributing drainage basin at least 50 percent forested? (Y/N)	
I UNCTION SCORE	LOW		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Low		
SCORE			
	-		
	Legen		
Green Cell = User must ma	Green Cell = User must manually input information.		
Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.			
populated from the user in	out to a previous of	question.	

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 11		
Wetland Type:	Depression		
WAA Center Coordinates:	30.517825, -82.102851		
Date:	12/11/2019		
Water Storage -1			
Answer	Questions		
	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structure ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrological		
Yes	affecting the wetland? (Y/N)		
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low		
BioGeoChemical Cycling			
Answer	Questions		
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate		
	Moderate		
Maintain Characteristic W	/etland Community - 3		
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -			
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes No	Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Moderate		
SCORE			
Legend			
Green Cell = User must ma	Green Cell = User must manually input information.		
Orange Cells = User must select the choice from the drop-down list.			
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone Area 12		
Wetland Type:	Depression		
WAA Center Coordinates:	30.517882, -82.105022		
Date:	12/11/2019		
Water Storage -1			
Answer	Questions		
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structuditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrological affecting the wetland? (Y/N)		
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low		
BioGeoChemical Cycling			
Answer	Questions		
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate		
FUNCTION SCORE	Modelate		
Maintain Characteristic W	Vetland Community - 3		
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -			
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes	Is there woody debris in the wetland? (Y/N)		
No FUNCTION SCORE	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
I UNCTION SCORE			
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Moderate		
SCORE			
	Legend		
Green Cell = User must ma	anually input information.		
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Dark Grey Cells = These cells do not require input. The corresponding value is			
populated from the user inp	but to a previous question.		

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals	
Impact Wetland Name:	Keystone Area	3	
Wetland Type:	Depression		
WAA Center Coordinates:	30.517599, -82.107325		
Date:	12/12/2019		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
BioGeoChemical Cycling	- 2		
Answer		Questions	
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes FUNCTION SCORE	Moderate	Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Moderate		
Maintain Characteristic V	Vetland Commun	ity - 3	
Answer		Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
Maintain Faunal Habitat -	4		
Answer		Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
Yes		Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)	
No FUNCTION SCORE	Low	is the contributing drainage basin at least 50 percent forested? (Y/N)	
T UNCTION SCORE	LOW		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Moderate		
SCORE			
Legend			
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Keystone Area	14		
Wetland Type:	Depression			
WAA Center Coordinates:	30.517661, -82.110496			
Date:	12/12/2019			
Water Storage -1				
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes	Madavata	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Votland Commun	ity - 2		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
	-			
Maintain Faunal Habitat -	4			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		Is there woody debris in the wetland? (Y/N)		
No FUNCTION SCORE	Low	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	LOW			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legen	<u>1</u>		
Green Cell = User must ma	Green Cell = User must manually input information.			
Orange Cells = User must select the choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user inp	populated from the user input to a previous question.			

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals	
Impact Wetland Name:	Keystone Area	15	
Wetland Type:	Depression		
WAA Center Coordinates:	30.517905, -82.114559		
Date:	12/12/2019		
Water Storage -1			
Answer		Questions	
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
	•		
BioGeoChemical Cycling	<u> </u> - 2		
Answer		Questions	
No		Is there large woody debris (LWD) in the wetland? (Y/N)	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Low		
Maintain Characteristic V	Vetland Commur	-	
Answer		Questions	
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate		
	Moderate		
Maintain Faunal Habitat -	· 4		
Answer	7	Questions	
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No		Is there woody debris in the wetland? (Y/N)	
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)	
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY			
SCORE	2000		
	Legen		
	Green Cell = User must manually input information.		
Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is			
Dark Grey Cells = These co populated from the user inp			
populated norm the user inp	put to a previous (

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	erals and a second s			
Impact Wetland Name:	Keystone Area	16			
Wetland Type:	Depression				
	30.518319, -82.	121145			
Date:	12/11/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
No		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Obanastaniatia M					
Maintain Characteristic V	Vetland Commur	uty - 3 Questions			
Answer Yes					
No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	Moderate				
Maintain Faunal Habitat -	4				
Answer	٦ ا	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	LOW				
	Legen				
Green Cell = User must ma					
	Orange Cells = User must select the choice from the drop-down list.				
	Grey Cells = The calculation of these cells is automated.				
	Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				
populated from the user inp	out to a previous of	juestion.			

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	erals and a second s			
Impact Wetland Name:	Adirondack Are	a 17			
Wetland Type:	Depression				
WAA Center Coordinates:	30.519003, -82.0	192487			
Date:	3/22/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
No	-	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	1	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Characteristic V	Votland Commun	situr 2			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	2011				
	Legen				
Green Cell = User must ma					
	Orange Cells = User must select the choice from the drop-down list.				
	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.					

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Adirondack Are	a 18		
Wetland Type:	Depression			
WAA Center Coordinates:	30.520001, -82.0)97031		
Date:	3/22/2019			
Water Storage -1				
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Votional Commun	ity 2		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	· 4			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE				
	Legen			
Green Cell = User must ma				
Orange Cells = User must select the choice from the drop-down list. Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user in				

Project Name:	Twin Pines Heavy Minerals Mine		
Impact Reach Name:	SA		
Linear Feet of Impact (<i>Feet</i>):	297		
Stream Type:	Intermittent/Ephemeral Streams		
Date:	March 9, 2019		
Impact Factors		Index Description	Index Value
1. Stream Qualitative Function	al Capacity Score (<u>SQFC</u>)	Moderate	0.75
2. Type of Impact (<i>Impact</i>)		Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impac	ot (<u>SQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Duration</i>	2)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact an	d Duration (<u>Total SQFC Impact</u>) =		0.75
6. Product of Total SQFC Impa	act and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) =		133.65
7. Conversion of Total 2018 Stream Compensation to Grandfathered Credits (Grandfathered St		<u>Stream Credits Owed</u>) =	1,603.80
	Legend		
Green Cells = User must manu	ally input information.		
Orange Cells = User must sele	ct the index choice from the drop-down list.		

Worksheet 1: Qualitative Worksheet for Stream Adverse Impacts

Grey Cells = The calculation of these cells is automated.

	e worksheet for Stream Auverse impacts		
Project Name:	Twin Pines Heavy Minerals Mine		
mpact Reach Name:	SB		
Linear Feet of Impact (<u>Feet</u>):	115		
Stream Type:	Intermittent/Ephemeral Streams		
Date:	March 9, 2019		
Impact Factors		Index Description	Index Value
1. Stream Qualitative Function	al Capacity Score (<u>SQFC</u>)	Moderate	0.75
2. Type of Impact (<u>Impact</u>)		Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impac	et (<u>SQFC Impact</u>) =		0.75
I. Duration of Impact (Duration	n)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and	d Duration (<u>Total SQFC Impact</u>) =		0.75
. Product of Total SQFC Impa	act and Linear Feet (<u>Total 2018 Stream Credits Owed</u>) =		51.75
7. Conversion of Total 2018 St	ream Compensation to Grandfathered Credits (Grandfathered Str	ream Credits Owed) =	621.00
	Legend		
Green Cells = User must manu	ually input information.		
Drange Cells = User must sele	ect the index choice from the drop-down list.		
Grey Cells = The calculation of	f these cells is automated.		

Worksheet 2: Qualitative Worksheet for Stream Adverse Impacts

		COASTAL PLAIN QUALITATIVE STREAM ASSESSMENT
Project Name:	Twin Pines Hear	vy Minerals Mine
Impact Reach Name:	SA	
Stream Type:	Ephemeral/Inter	mittent
Catchment Size (in Acres):	74.00	Sq. Mi.: 0.12
SAR Center Coordinates:	30.529917, -82.	
Date:	8/27/2018	
Date.	0/21/2010	
Hydrology - 1		
Value		Questions
		The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g.,
Yes		diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)
No		Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)
FUNCTION SCORE	Moderate	
	•	
Hydraulics - 2		
Value		Questions
Yes		Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)
No		Are there headcuts in the assessment reach? (Y/N)
No		Has the assessment reach been previously straightened? (Y/N)
FUNCTION SCORE	High	
Geomorphology - 3		
Value		Questions
Yes		Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)
No		Is there high bank erosion present throughout the assessment reach? (Y/N)
Yes		Is there large woody debris (LWD) in the assessment reach? (Y/N)
No		Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)
FUNCTION SCORE	High	
	. v	
Chemistry - 4		
Value		Questions
No		Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)
No		Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?
FUNCTION SCORE	Moderate	
Biology - 5		
Value		Questions
		Is there habitat diversity in the assessment reach (i.e., at least 3 of the following: riffles, pools, steps, overhangs, leaf packs,
Yes		woody debris)?
No		Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)
SUM	Moderate	
STREAM QUALITATIVE	Madanati	
FUNCTIONAL CAPACITY	Moderate	
SCORE		
	Legen	<u>d</u>
Green Cell = User must m	anually input inform	mation.
		hoice from the drop-down list.
Grey Cells = The calculation		
		input. The corresponding index
value is populated from the		

		COASTAL PLAIN QUALITATIVE STREAM ASSESSMENT		
Project Name:	Twin Pines Hoo	vy Minerals Mine		
Impact Reach Name:	SB			
	Ephemeral/Inter	mittant		
Stream Type: Catchment Size (in Acres):	158.00			
SAR Center Coordinates:	30.519636, -82.			
Date:	3/9/2019	101236		
Dale.	3/9/2019			
Hydrology 1				
Hydrology - 1		Questions		
Value		Questions The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g.,		
Yes		diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)		
No		Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Moderate	is the contributing trainage basin of the assessment reach at least 50 percent to ested? (1/N)		
FUNCTION SCORE	Wouerate			
Hydraulics - 2	-			
Value		Questions		
Yes		Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)		
No	-	Are there headcuts in the assessment reach? (Y/N)		
No		Has the assessment reach been previously straightened? (Y/N)		
FUNCTION SCORE	High			
Geomorphology - 3	-			
Value		Questions		
Yes		Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)		
No		Is there high bank erosion present throughout the assessment reach? (Y/N)		
Yes		Is there large woody debris (LWD) in the assessment reach? (Y/N)		
Yes		Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)		
FUNCTION SCORE	High			
Chemistry - 4	-			
Value		Questions		
No		Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
No		Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?		
FUNCTION SCORE	Moderate			
Biology - 5				
Value		Questions		
		Is there habitat diversity in the assessment reach (i.e., at least 3 of the following: riffles, pools, steps, overhangs, leaf		
Yes		packs, woody debris)?		
No		Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
SUM	Moderate			
	Medanate			
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legen			
Green Cell = User must m				
		hoice from the drop-down list.		
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index				
value is populated from th				

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WA Year 1	Depressional/Flat Wetlands	4.95	Less than 1 Year	2.78	22.24
2	TIAA WB Year 1	Depressional/Flat Wetlands	9.59	Less than 1 Year	5.39	43.12
3	Keystone WC Year 1	Depressional/Flat Wetlands	19.15	Less than 1 Year	7.18	57.44
4	Keystone WD Year 1	Depressional/Flat Wetlands	25.13	Less than 1 Year	14.14	113.12
5	Keystone WE Year 1	Depressional/Flat Wetlands	3.95	Less than 1 Year	2.22	17.76
6	Keystone WF Year 1	Depressional/Flat Wetlands	15.09	Less than 1 Year	8.49	67.92
7	Keystone WG Year 1	Depressional/Flat Wetlands	0.76	Less than 1 Year	0.43	3.44
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	78.61	40.63	325.04			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WA Year 1]	
Acres of Impact (Acres):	4.95		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<i>Total WQFC Impact</i>) =			0.56
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owe		<u>ed)</u> =	2.78
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	22.24
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
mpact Wetland Name:	TIAA WB Year 1		
Acres of Impact (Acres):	9.59		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.56
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owe		<u>ed)</u> =	5.39
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	43.12
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Version 1.3 (November 26, 2018)

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WC Year 1		
Acres of Impact (Acres):	19.15		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owe		<u>ed)</u> =	7.18
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	57.44
	Legend		
Green Cells = User must n			
-	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WD Year 1		
Acres of Impact (Acres):	25.13		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.56
6. Product of Total WQFC Impact and Acres (<i>Total 2018 Wetland Credits Owe</i>		<u>ed)</u> =	14.14
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	113.12
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
rey Cells = The calculatio	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WE Year 1		
Acres of Impact (Acres):	3.95		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 12, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (Dura	ation)	Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	2.22
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	17.76
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation of these cells is automated.			

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
mpact Wetland Name:	Keystone WF Year 1	1	
Acres of Impact (Acres):	15.09		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Functional Capacity Score (WQFC)		Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
8. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Dura</u>	ation)	Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	8.49
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	67.92
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
irey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WG Year 1]	
Acres of Impact (Acres):	0.76		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Dura</i>	ation)	Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.43
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	3.44
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 7: Qualitative Worksheet for Wetland Adverse Impacts

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Mine	rais		
Impact Wetland Name:	TIAA WA Year 1			
Wetland Type:	Depression			
WAA Center Coordinates:	30.519878, -82.1	133651		
Date:	12/10/2019			
Water Storage -1				
Answer]	Questions		
		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically		
Yes		affecting the wetland? (Y/N)		
No FUNCTION SCORE	Low	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	LOW			
BioGeoChemical Cycling	- 2			
Answer	ר <i>–</i> ר	Questions		
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Vetland Commun	.ity - 3		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	า้	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE	moderate			
	-			
	Legene			
Green Cell = User must ma	<i>i i</i>			
Orange Cells = User must				
Grey Cells = The calculation				
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				
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		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Miner	rals			
Impact Wetland Name:	TIAA WB Year 1				
Wetland Type:	Depression				
WAA Center Coordinates:	30.520178, -82.1	29812			
Date:	12/12/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	/etland Communi r				
Answer		Questions			
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
I UNCTION SCORE	Woderate				
Maintain Faunal Habitat -	4				
Answer	l.	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	wouerate				
	Legend				
Green Cell = User must ma	· · ·				
Orange Cells = User must					
	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user inp	out to a previous q				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Mine	rals				
Impact Wetland Name:	Keystone WC Y	ear 1				
Wetland Type:	Depression					
	30.519479, -82.	19908				
Date:	12/11/2019					
Water Storage -1						
Answer]	Questions				
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)				
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
BioGeoChemical Cycling	- 2					
Answer		Questions				
No		Is there large woody debris (LWD) in the wetland? (Y/N)				
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
FUNCTION SCORE	Low					
Maintain Characteristic W	Vetland Commur	-				
Answer		Questions				
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)				
FUNCTION SCORE	Moderate					
I UNCTION SCORE	Moderate					
Maintain Faunal Habitat -	4					
Answer	ר ^י ר	Questions				
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
No		Is there woody debris in the wetland? (Y/N)				
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
WETLAND QUALITATIVE FUNCTIONAL CAPACITY						
SCORE	Low					
	Legen					
Green Cell = User must ma						
Orange Cells = User must						
Grey Cells = The calculation						
	Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user inp	out to a previous o	uestion.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	Keystone WD Ye	par 1			
Wetland Type:	Depression				
WAA Center Coordinates:	30.519052, -82.1	13594			
Date:	12/12/2019				
	1				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Madarata	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	Votland Commun	ity_2			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	incuciate				
Green Cell = User must ma	Legenc				
	2 1				
Orange Cells = User must					
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
	populated from the user input to a previous question.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Minera	als		
Impact Wetland Name:	Keystone WE Yea	ar 1		
Wetland Type:	Depression			
WAA Center Coordinates:		0553		
Date:	12/12/2019			
Water Storage -1	_			
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	etland Communit/ ר			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
No FUNCTION SCORE	Moderate	Is there greater than to percent invasive cover (i.e., cummulative absolute cover across an strata)? (f/N)		
	WOUETALE			
Maintain Faunal Habitat -	4			
Answer	l [`]	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legend			
Green Cell = User must ma	anually input inform	ation.		
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Grey Cells = The calculation				
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Miner	als			
Impact Wetland Name:	Keystone WF Yea	ar 1			
Wetland Type:	Depression				
WAA Center Coordinates:		06358			
Date:	12/11/2019				
Water Storage -1	_				
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	Vetiand Communi	ty - 3 Questions			
Answer Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	incuciato				
Maintain Faunal Habitat -	4				
Answer]	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE					
	المسمم ا				
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	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
	populated from the user input to a previous question.				
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		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mineral	S			
Impact Wetland Name:	Keystone WG Yea	r 1			
Wetland Type:	Depression				
WAA Center Coordinates:		3292			
Date:	12/11/2019				
Water Storage -1					
Answer	(Questions			
Yes	(Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		s the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		s there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W		2 - 3 Questions			
Answer Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		s there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	incucrate				
Maintain Faunal Habitat -	4				
Answer] (Questions			
Yes	ŀ	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		s there woody debris in the wetland? (Y/N)			
No		s the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE					
	Legend				
Green Cell = User must ma		ition			
Orange Cells = User must	1 1				
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
	populated from the user input to a previous question.				

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WH Year 2	Depressional/Flat Wetlands	0.08	Less than 1 Year	0.05	0.40
2	TIAA WI Year 2	Depressional/Flat Wetlands	20.48	Less than 1 Year	11.52	92.16
3	Keystone WJ Year 2	Depressional/Flat Wetlands	1.42	Less than 1 Year	0.80	6.40
4	Keystone WK Year 2	Depressional/Flat Wetlands	0.08	Less than 1 Year	0.05	0.40
5	Keystone WL Year 2	Depressional/Flat Wetlands	21.13	Less than 1 Year	11.89	95.12
6	Keystone WM Year 2	Depressional/Flat Wetlands	47.13	Less than 1 Year	26.51	212.08
7			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	90.33	50.82	406.56			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WH Year 2	•	
Acres of Impact (Acres):	0.08	•	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
		1	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Dura</u>	ation)	Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Own	<u>ed)</u> =	0.05
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	0.40
	Legend		
Green Cells = User must m			
•	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
mpact Wetland Name:	TIAA WI Year 2		
Acres of Impact (Acres):	20.48		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	11.52
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	92.16
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
<pre>Grey Cells = The calculation</pre>	on of these cells is automated.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Version 1.3 (November 26, 2018)

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WJ Year 2		
Acres of Impact (Acres):	1.42		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Own	<u>ed)</u> =	0.80
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	6.40
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WK Year 2	4	
Acres of Impact (Acres):	0.08	4	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (Dura	ation)	Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed</u>) =	0.05
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	(Grandfathered Wetland Credits Owed) =	0.40
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WL Year 2	1	
Acres of Impact (Acres):	21.13		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	11.89
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	95.12
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
srey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WM Year 2	1	
Acres of Impact (Acres):	47.13		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Functional Capacity Score (WQFC)		Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	26.51
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	212.08
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Miner	rals			
Impact Wetland Name:	TIAA WI Year 2				
Wetland Type:	Depression				
WAA Center Coordinates:	30.520917, -82.1	30479			
Date:	12/10/2019				
Water Storage -1	_				
Answer		Questions			
Voc		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
Yes No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low	to the contributing drainage sacin at loade of percent for bolode. (1114)			
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	/etland Communi T				
Answer Yes		Questions			
No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	Moderate				
Maintain Faunal Habitat -	4				
Answer]	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	modorato				
	Legend				
Green Cell = User must ma	2 1				
Orange Cells = User must s					
	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.					
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		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Minera	ls				
Impact Wetland Name:	Keystone WJ Yea	r 2				
Wetland Type:	Depression					
WAA Center Coordinates:		1487				
Date:	12/11/2019					
Water Storage -1						
Answer		Questions				
Vec		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)				
Yes No		Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
I SHOTION SOONE	2010					
BioGeoChemical Cycling	- 2					
Answer	-	Questions				
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)				
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
FUNCTION SCORE	Moderate					
Maintain Characteristic W						
Answer Yes		Questions				
No	Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)					
FUNCTION SCORE	Moderate					
	modorato					
Maintain Faunal Habitat -	4					
Answer]	Questions				
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
Yes		Is there woody debris in the wetland? (Y/N)				
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
WETLAND QUALITATIVE						
FUNCTIONAL CAPACITY	Moderate					
SCORE						
	Legend					
Green Cell = User must ma		ation				
Orange Cells = User must						
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user input to a previous question.						

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rais			
Impact Wetland Name:	Keystone WK Ye	ear 2			
Wetland Type:	Depression				
	30.520494, -82.1	21314			
Date:	12/11/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes Yes		Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate	Has the vegetative community been adversely aftered within the last 20 years? (1/N)			
FUNCTION SCORE	Woderate				
Maintain Characteristic W	Vetland Commun	ity - 3			
Answer	7	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer	_	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes No		Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE					
	Legend				
Green Cell = User must ma	2				
Orange Cells = User must					
/	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user input to a previous question.					

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Minerals				
Impact Wetland Name:	Keystone WL Year 2				
Wetland Type:	Depression				
WAA Center Coordinates:					
Date:	12/11/2019				
Water Storage -1					
Answer	Questions				
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage struc ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologic affecting the wetland? (Y/N)				
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer	Questions				
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)				
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
FUNCTION SCORE	Moderate				
Maintain Characteristic W	etiand Community - 3 Questions				
Answer Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)				
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer	Questions				
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)				
Yes	Is there woody debris in the wetland? (Y/N)				
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE					
	Logond				
Green Cell = User must ma	Legend				
	select the choice from the drop-down list.				
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.					
Population non the second provide decomment					

	NO	N-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Minerals					
Impact Wetland Name:	Keystone WM Year 2					
Wetland Type:	Depression					
WAA Center Coordinates:	•					
Date:	12/11/2019					
Water Storage -1						
Answer	Question	S				
Yes	ditches, o	above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, r man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically he wetland? (Y/N)				
No	0	tributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
BioGeoChemical Cycling	2					
Answer	Question					
Yes		rge woody debris (LWD) in the wetland? (Y/N)				
Yes		egetative community been adversely altered within the last 20 years? (Y/N)				
FUNCTION SCORE	Moderate					
Maintain Characteristic W	-					
Answer Yes	Question	s egetative community been adversely altered within the last 20 years? (Y/N)				
No		eater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)				
FUNCTION SCORE	Moderate					
	modorato					
Maintain Faunal Habitat -	1					
Answer	Question	S				
Yes		egetative community been adversely altered within the last 20 years? (Y/N)				
Yes		pody debris in the wetland? (Y/N)				
No		tributing drainage basin at least 50 percent forested? (Y/N)				
FUNCTION SCORE	Low					
WETLAND QUALITATIVE						
FUNCTIONAL CAPACITY	Moderate					
SCORE						
	Legend					
Green Cell = User must ma						
	elect the choice from the dro	p-down list				
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user input to a previous question.						

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WN Year 3	Depressional/Flat Wetlands	3.62	Less than 1 Year	1.36	10.88
2	TIAA WO Year 3	Depressional/Flat Wetlands	1.29	Less than 1 Year	0.48	3.84
3	TIAA WP Year 3	Depressional/Flat Wetlands	0.53	Less than 1 Year	0.20	1.60
4	Keystone WQ Year 3	Depressional/Flat Wetlands	0.51	Less than 1 Year	0.29	2.32
5	Keystone WR Year 3	Depressional/Flat Wetlands	46.53	Less than 1 Year	17.45	139.60
6	Keystone WS Year 3	Depressional/Flat Wetlands	29.75	Less than 1 Year	16.74	133.92
7	Keystone WT Year 3	Depressional/Flat Wetlands	1.14	Less than 1 Year	0.64	5.12
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	83.36	37.16	297.28			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WN Year 3		
Acres of Impact (Acres):	3.62		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dur</u>	ation)	Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	1.36
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	10.88
	Legend		
	nanually input information.		
-	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WO Year 3		
Acres of Impact (Acres):	1.29		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Dur</u>	ation)	Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.48
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	3.84
	Legend		
	nanually input information.		
v	select the index choice from the drop-down list.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Grey Cells = The calculation of these cells is automated.

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WP Year 3]	
Acres of Impact (Acres):	0.53		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.20
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	1.60
	Legend		
Green Cells = User must n			
•	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WQ Year 3]	
Acres of Impact (Acres):	0.51		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019	J	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descrip	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.29
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	2.32
	Legend		
Green Cells = User must m			
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WR Year 3	1	
Acres of Impact (Acres):	46.53		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descrip	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	17.45
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	139.60
	Legend		
Green Cells = User must m			
	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

	Twin Pines Minerals		
Project Name: Impact Wetland Name:	Keystone WS Year 3	4	
	29.75	4	
Acres of Impact (Acres):	29.75 Depressional/Flat Wetlands	4	
Wetland Type: Date:	December 12, 2019	•	
Jale.	December 12, 2019	J	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (<i>Total 2018 Wetland Credits Ow</i>	<u>ed)</u> =	16.74
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	133.92
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WT Year 3]	
Acres of Impact (Acres):	1.14		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	0.64
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	5.12
	Legend	1	
	nanually input information.		
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 7: Qualitative Worksheet for Wetland Adverse Impacts

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Mine	erals and the second		
Impact Wetland Name:	TIAA WN Year 3	3		
Wetland Type:	Depression			
WAA Center Coordinates:	30.523545, -82.	131234		
Date:	12/10/2019			
Water Storage -1	_			
Answer		Questions		
Vac		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
Yes No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	LOW			
BioGeoChemical Cycling	- 2			
Answer	<u>ה</u>	Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commur	ity - 3		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	A			
Answer	· 4 7	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Low			
SCORE				
	Legen			
Green Cell = User must ma				
Orange Cells = User must				
	Grey Cells = The calculation of these cells is automated.			
		e input. The corresponding value is		
populated from the user input to a previous question.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	TIAA WO Year	3		
Wetland Type:	Depression			
WAA Center Coordinates:	30.525302, -82.	131844		
Date:	12/10/2019			
Water Storage -1				
Answer]	Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commur	-		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No FUNCTION SCORE	Moderate	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	. 4			
Answer	า้	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	•			
FUNCTIONAL CAPACITY	Low			
SCORE				
	-			
	Legen			
Green Cell = User must ma				
Orange Cells = User must	select the choice	from the drop-down list.		
Grey Cells = The calculation	Grey Cells = The calculation of these cells is automated.			
		input. The corresponding value is		
populated from the user inp	populated from the user input to a previous question.			

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	TIAA WP Year 3	3		
Wetland Type:	Depression			
WAA Center Coordinates:	30.525469, -82.	126256		
Date:	12/10/2019			
Water Storage -1	_			
Answer		Questions		
Vac		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
Yes No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	_0			
BioGeoChemical Cycling	- 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commur	•		
Answer		Questions		
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate	is there greater than to percent invasive cover (i.e., cummulative absolute cover across an strata)? (1/N)		
	Moderate			
Maintain Faunal Habitat -	· 4			
Answer	ר ר	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	-			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE	LOW			
	Legen			
Green Cell = User must ma				
	Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user in				
populated nom the user inp	put to a previous (Auconon.		

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Keystone WQ Year	3		
Wetland Type:	Depression			
WAA Center Coordinates:		546		
Date:	12/11/2019			
	•			
Water Storage -1				
Answer	Q	uestions		
)/	di	re there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, tches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically ifecting the wetland? (Y/N)		
Yes No		the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low	and contributing dramage basin at least of percent forested: (1/14)		
I GROTION GOOKE	LOW			
BioGeoChemical Cycling	- 2			
Answer		uestions		
Yes	ls	there large woody debris (LWD) in the wetland? (Y/N)		
Yes	H	as the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W				
Answer		uestions		
Yes		as the vegetative community been adversely altered within the last 20 years? (Y/N)		
		there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	1	uestions		
Yes		as the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		there woody debris in the wetland? (Y/N)		
No		the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE	Moderate			
	Legend			
Green Cell = User must ma				
Orange Cells = User must select the choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				
populated norm the user hip	populated norm the user input to a previous question.			

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	Keystone WR Y	ear 3			
Wetland Type:	Depression				
WAA Center Coordinates:		119246			
Date:	12/11/2019				
	•				
Water Storage -1	_				
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	<u> </u> -2				
Answer		Questions			
No	_	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Characteristic V	Votland Commun	ity - 2			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	- 4				
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE					
	Legend				
Green Cell – User must m					
	Green Cell = User must manually input information. Orange Cells = User must select the choice from the drop-down list.				
	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user in					

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Miner	als			
Impact Wetland Name:	Keystone WS Ye	ar 3			
Wetland Type:	Depression				
		10207			
Date:	12/12/2019				
	•				
Water Storage -1	_				
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer		Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	Vetiand Communi	lty - 3 Questions			
Answer Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	modorato				
Maintain Faunal Habitat -	4				
Answer	1	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Moderate				
SCORE	incucrate				
Green Cell = User must ma	Legend				
V	Orange Cells = User must select the choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user inp					
	satio a previous q	populated from the user input to a providus question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Keystone WT Year 3			
Wetland Type:	Depression			
WAA Center Coordinates:				
Date:	12/12/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage struc ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologic affecting the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
BioGeoChemical Cycling	-2			
Answer	Questions			
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Charactaristic M				
Maintain Characteristic W Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes	Is there woody debris in the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
Legend				
Green Cell – Llear must ma				
	Green Cell = User must manually input information. Orange Cells = User must select the choice from the drop-down list.			
<u>v</u>	Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WU Year 4	Depressional/Flat Wetlands	15.49	Less than 1 Year	8.71	69.68
2	Keystone WV Year 4	Depressional/Flat Wetlands	11.09	Less than 1 Year	6.24	49.92
3	Keystone WW Year 4	Depressional/Flat Wetlands	6.94	Less than 1 Year	2.60	20.80
4	Keystone WX Year 4	Depressional/Flat Wetlands	12.96	Less than 1 Year	7.29	58.32
5	Keystone WY Year 4	Depressional/Flat Wetlands	10.17	Less than 1 Year	3.81	30.48
6	Keystone WZ Year 4	Depressional/Flat Wetlands	13.92	Less than 1 Year	5.22	41.76
7	Keystone WAA Year 4	Depressional/Flat Wetlands	21.32	Less than 1 Year	11.99	95.92
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	91.87	45.86	366.88			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WU Year 4		
Acres of Impact (Acres):	15.49		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Own	<u>ed)</u> =	8.71
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed) =</u>	69.68
	Legend		
	nanually input information.		
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WV Year 4		
Acres of Impact (Acres):	11.09		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Own	<u>ed)</u> =	6.24
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed) =</u>	49.92
	Legend		
	nanually input information.		
•	select the index choice from the drop-down list.		
<pre>Grey Cells = The calculation</pre>	on of these cells is automated.		

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WW Year 4	1	
Acres of Impact (Acres):	6.94		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	2.60
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	20.80
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WX Year 4	1	
Acres of Impact (Acres):	12.96		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descrip	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	7.29
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	58.32
	Legend		
Green Cells = User must m			
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WY Year 4		
Acres of Impact (Acres):	10.17		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fun	ctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Owe	<u>ed)</u> =	3.81
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	30.48
	Legend		
Green Cells = User must m			
•	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WZ Year 4		
Acres of Impact (Acres):	13.92		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.50
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	5.22
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits	Grandfathered Wetland Credits Owed) =	41.76
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAA Year 4		
Acres of Impact (Acres):	21.32		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	ption (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and I	mpact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	Impact and Acres (Total 2018 Wetland Credits Ow	<u>ed)</u> =	11.99
7. Conversion of Total 201	8 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	95.92
	Legend		
Green Cells = User must n			
	select the index choice from the drop-down list.		
Grey Cells = The calculation	on of these cells is automated.		

Worksheet 7: Qualitative Worksheet for Wetland Adverse Impacts

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	TIAA WU Yr 4				
Wetland Type:	Depression				
WAA Center Coordinates:	30.527059, -82.1	28451			
Date:	12/10/2019				
Water Storage -1	_				
Answer		Questions			
		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures,			
		ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically			
Yes		affecting the wetland? (Y/N)			
		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer	<i>ה</i> -	Questions			
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Characteristic W	Vetland Commun	ity - 3			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
	Madavata	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	4				
Answer	ר ר	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE	moderate				
Green Cell = User must ma	Legenc				
	2 1				
¥	Orange Cells = User must select the choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user input to a previous question.					

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Miner	rals		
Impact Wetland Name:	Keystone WAA Y	/ear 4		
Wetland Type:	Depression			
WAA Center Coordinates:	30.522594, -82.1	10055		
Date:	12/10/2019			
Water Storage -1				
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes	Madarata	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Votland Communi	ity _ 2		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE				
Legend				
	Green Cell = User must manually input information.			
<u>v</u>	Orange Cells = User must select the choice from the drop-down list.			
	Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.				
	bopulated from the user input to a previous question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSI	ESSMENT		
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Keystone WV Year 4			
Wetland Type:	Depression			
WAA Center Coordinates:				
Date:	12/11/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flu- ditches, or man-made impoundments within 100 feet of the asse affecting the wetland? (Y/N)	-		
No	Is the contributing drainage basin at least 50 percent forested? (//N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	2			
Answer	Questions			
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Has the vegetative community been adversely altered within the	last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Charactaristic M	stland Community 2			
Maintain Characteristic W Answer	Questions			
Yes	Has the vegetative community been adversely altered within the	last 20 years2 (V/N)		
No	Is there greater than 10 percent invasive cover (i.e., cummulativ			
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -				
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the	last 20 years? (Y/N)		
Yes	Is there woody debris in the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? ((/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legend			
Green Cell – Llear must ma				
	Green Cell = User must manually input information. Orange Cells = User must select the choice from the drop-down list.			
Grev Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				
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	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	Keystone WW Y	/ear 4			
Wetland Type:	Depression				
WAA Center Coordinates:	30.527247, -82.	120403			
Date:	12/10/2019				
Water Storage -1					
Answer		Questions			
		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures,			
		ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically			
Yes		affecting the wetland? (Y/N)			
		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	- 2				
Answer]	Questions			
No		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Characteristic W	Vetland Commur	ity - 3			
Answer]	Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
	-				
Maintain Faunal Habitat -	·4 7	Questions			
Answer		Questions Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
	-				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY	Low				
SCORE					
Legend					
Green Cell = User must ma					
Orange Cells = User must					
	Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is					
populated from the user input to a previous question.					

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	win Pines Minerals			
Impact Wetland Name:	Keystone WX Year 4			
Wetland Type:	Depression			
	0.525341, -82.118114			
Date:	2/11/2019			
Water Storage -1				
Answer	Questions			
Yes	-	ng hydrologic flows into or out of the wetland, or are there drainage structures, feet of the assessment area and within the catchment that are hydrologically		
No	Is the contributing drainage basin at least 50 per	ent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	2			
Answer	Questions			
Yes	Is there large woody debris (LWD) in the wetland			
Yes	Has the vegetative community been adversely a	tered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Mand Community 2			
Answer	Questions			
Yes	Has the vegetative community been adversely a	tared within the last 20 years? (V/N)		
No		.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -				
Answer	Questions			
Yes	Has the vegetative community been adversely a	tered within the last 20 years? (Y/N)		
Yes	Is there woody debris in the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 per	cent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
	Legend			
Green Cell = User must ma				
	lect the choice from the drop-down list.			
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is			
	populated from the user input to a previous question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Keystone WY Y	ear 4		
Wetland Type:	Depression			
WAA Center Coordinates:		16411		
Date:	12/10/2019			
Water Storage -1				
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	l - 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes	Law	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commun	ity - 3		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	<u>4</u>			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
	1	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Low			
SCORE				
	Legend			
Green Cell = User must ma	Green Cell = User must manually input information.			
Orange Cells = User must				
Grey Cells = The calculation				
Dark Grey Cells = These cells do not require input. The corresponding value is				
	populated from the user input to a previous question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Keystone WZ Y	ear 4		
Wetland Type:	Depression			
WAA Center Coordinates:	30.526391, -82.	12146		
Date:	12/10/2019			
Water Storage -1				
Answer]	Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commur	-		
Answer		Questions		
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
	Moderate			
Maintain Faunal Habitat -	4			
Answer	٦ [¯]	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE	LOW			
	Legen			
Green Cell = User must ma				
	Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	TIAA WAB Year 5	Depressional/Flat Wetlands	27.50	Less than 1 Year	10.31	82.48
2	Keystone WAC Year 5	Depressional/Flat Wetlands	21.85	Less than 1 Year	12.29	98.32
3	Keystone WAD Year 5	Depressional/Flat Wetlands	8.93	Less than 1 Year	5.02	40.16
4	Keystone WAE Year 5	Depressional/Flat Wetlands	1.12	Less than 1 Year	0.63	5.04
5	Keystone WAF Year 5	Depressional/Flat Wetlands	24.49	Less than 1 Year	9.18	73.44
6	Keystone WAG Year 5	Depressional/Flat Wetlands	1.00	Less than 1 Year	0.56	4.48
7			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cro	edits Owed				
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	0.00	0.00	0.00			
Depressional/Flat Wetlands	84.88	37.99	303.92			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	TIAA WAB Year 5		
Acres of Impact (Acres):	27.50		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.38
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owe		<u>ed)</u> =	10.31
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) =	82.48
	Legend		
	nanually input information.		
Orange Cells = User must	select the index choice from the drop-down list.		

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Grey Cells = The calculation of these cells is automated.

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAC Year 5	1	
Acres of Impact (Acres):	21.85		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 11, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.56
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed)		<u>ed)</u> =	12.29
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Gr		Grandfathered Wetland Credits Owed) =	98.32
	Legend		
	nanually input information.		
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAD Year 5		
Acres of Impact (Acres):	8.93		
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 10, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<i>Total WQFC Impact</i>) =			0.56
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 5.02			5.02
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 40.16			40.16
	Legend		
Green Cells = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAE Year 5	1	
Acres of Impact (Acres):	1.12	1	
Wetland Type:	Depressional/Flat Wetlands]	
Date:	December 10, 2019]	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<i>Total WQFC Impact</i>) =			0.56
6. Product of Total WQFC Impact and Acres (<i>Total 2018 Wetland Credits Owed</i>) = 0.63			0.63
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<i>Grandfathered Wetland Credits Owed</i>) = 5.04			5.04
Legend			
Green Cells = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
mpact Wetland Name:	Keystone WAF Year 5	1	
Acres of Impact (Acres):	24.49]	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =			0.38
6. Product of Total WQFC Impact and Acres (<i>Total 2018 Wetland Credits Owed</i>)		<u>ed)</u> =	9.18
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (G		Grandfathered Wetland Credits Owed) =	73.44
	Legend		
	nanually input information.		
Orange Cells = User must select the index choice from the drop-down list.			
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAG Year 5	1	
Acres of Impact (Acres):	1.00	1	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impact and Duration (<i>Total WQFC Impact</i>) =			0.56
6. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed)		<u>ed)</u> =	0.56
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Gra		Grandfathered Wetland Credits Owed) =	4.48
	Legend		
	nanually input information.		
Orange Cells = User must select the index choice from the drop-down list.			
Frey Cells = The calculation	on of these cells is automated.		

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Mine	rals			
Impact Wetland Name:	TIAA WAB Year	5			
Wetland Type:	Depression				
WAA Center Coordinates:		29040			
Date:	12/10/2019				
Water Storage -1					
Answer		Questions			
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
BioGeoChemical Cycling	l - 2				
Answer		Questions			
No		Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Law	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Low				
Maintain Characteristic V	Votland Commun	ity - 2			
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate				
Maintain Faunal Habitat -	· 4				
Answer		Questions			
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No		Is there woody debris in the wetland? (Y/N)			
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low				
WETLAND QUALITATIVE					
FUNCTIONAL CAPACITY					
SCORE					
Groop Coll - Lloor must me	Legend Green Cell = User must manually input information.				
Orange Cells = User must ma					
	Grey Cells = The calculation of these cells is automated. Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.					

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Miner	als		
Impact Wetland Name:	Keystone WAC	/ear 5		
Wetland Type:	Depression			
	30.528524, -82.1	20584		
Date:	12/10/2019			
Water Storage -1				
Answer]	Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
Yes Yes		Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate	Has the vegetative community been adversely allered within the last 20 years? (1/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Vetland Commun	ity - 3		
Answer	7	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	-	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes No		Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low	is the contributing drainage basin at least 50 percent forested? (1/14)		
	2011			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
Legend				
Green Cell = User must ma				
	Orange Cells = User must select the choice from the drop-down list.			
/	Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user inp	populated from the user input to a previous question.			

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Keystone WAD Year 5			
Wetland Type:	Depression			
WAA Center Coordinates:				
Date:	12/11/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage stru ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrolog affecting the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
BioGeoChemical Cycling	-2			
Answer	Questions			
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Characteristic W	lettered Community, 2			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes	Is there woody debris in the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
Legend				
Green Cell = User must ma				
	Orange Cells = User must select the choice from the drop-down list.			
	n of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAE Year 5		
Wetland Type:	Depression		
	30.529949, -82.117363		
Date:	12/11/2019		
Water Storage -1			
Answer	Questions		
Vez	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologic affecting the wetland? (Y/N)		
Yes No	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE			
BioGeoChemical Cycling	- 2		
Answer	Questions		
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate		
Maintain Characteristic W			
Answer	Questions		
Yes No	Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate		
	Widderate		
Maintain Faunal Habitat -	4		
Answer	Questions		
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes	Is there woody debris in the wetland? (Y/N)		
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low		
WETLAND QUALITATIVE			
FUNCTIONAL CAPACITY	Moderate		
SCORE			
	Legend		
Green Cell = User must ma			
V	select the choice from the drop-down list.		
Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.			
bopulated from the user input to a previous question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Keystone WAF	Year 5		
Wetland Type:	Depression			
WAA Center Coordinates:	30.528525, -82.	112067		
Date:	12/10/2019			
Water Storage -1	_			
Answer		Questions		
		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically		
Yes		affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
Die Oee Okensie die die				
BioGeoChemical Cycling	-2]	Questions		
Answer No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
	2011			
Maintain Characteristic W	Vetland Commur	ity - 3		
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	- 4			
Answer		Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N) Is there woody debris in the wetland? (Y/N)		
No No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	LOW			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Low			
SCORE				
Legend				
	Green Cell = User must manually input information.			
	Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user inp	populated from the user input to a previous question.			

	NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT			
Project Name:	Twin Pines Minerals			
Impact Wetland Name:	Keystone WAG Year 5			
Wetland Type:	Depression			
WAA Center Coordinates:	30.527399, -82.107487			
Date:	12/12/2019			
Water Storage -1				
Answer	Questions			
Yes	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structuditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrological affecting the wetland? (Y/N)			
No	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
BioGeoChemical Cycling				
Answer	Questions			
Yes	Is there large woody debris (LWD) in the wetland? (Y/N)			
Yes FUNCTION SCORE	Has the vegetative community been adversely altered within the last 20 years? (Y/N) Moderate			
FUNCTION SCORE	Moderate			
Maintain Characteristic V	/etland Community - 3			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)			
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer	Questions			
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)			
Yes	Is there woody debris in the wetland? (Y/N)			
No FUNCTION SCORE	Is the contributing drainage basin at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
Legend				
Green Cell = User must ma	Green Cell = User must manually input information.			
	select the choice from the drop-down list.			
¥	n of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is				
-	populated from the user input to a previous question.			

	Qualitative Worksheet Summary For Wetland Adverse Impacts					
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Grandfathered Credits
1	Keystone WAH Year 6	Depressional/Flat Wetlands	0.38	Less than 1 Year	0.14	1.12
2	Keystone WAI Year 6	Depressional/Flat Wetlands	3.99	Less than 1 Year	2.25	18.00
3	Keystone WAJ Year 6	Depressional/Flat Wetlands	19.69	Less than 1 Year	11.08	88.64
4			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
5			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
6			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
7			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
8			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
9			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
10			0.00	Choose Duration	Credits Owed	Grandfathered Credits Owed
	Summary of Cre	edits Owed	1		•	
Wetland Type	Acres of Impact (ac.)	2018 Credits	Grandfathered Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			

Depressional/Flat Wetlands	24.06	13.47	107.76	
Open Water/Ditch/Canal	0.00	0.00	0.00	

0.00

0.00

Riverine/Lacustrine Fringe Wetlands

Slope Wetlands

0.00

0.00

0.00

0.00

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAH Year 6		
Acres of Impact (Acres):	0.38		
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 12, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.50
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.38
6. Product of Total WQFC	. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 0.14		
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<i>Grandfathered Wetland Credits Owed</i>) = 1.12			
	Legend		
Green Cells = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAI Year 6	1	
Acres of Impact (Acres):	3.99	4	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019	1	
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	ctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Descri	otion (<i>Impact Category</i>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impa	ct and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC	. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 2.25		
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 18.00			
	Legend		
Green Cells = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 2: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals		
Impact Wetland Name:	Keystone WAJ Year 6		
Acres of Impact (Acres):	19.69]	
Wetland Type:	Depressional/Flat Wetlands		
Date:	December 10, 2019		
Impact Factors		Index Description	Index Value
1. Wetland Qualitative Fur	nctional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (Impact Category)		Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =			0.75
4. Duration of Impact (<i>Duration</i>)		Less than 1 Year	0.75
5. Product of WQFC Impac	ct and Duration (<i>Total WQFC Impact</i>) =		0.56
6. Product of Total WQFC	. Product of Total WQFC Impact and Acres (Total 2018 Wetland Credits Owed) = 11.08		
Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (Grandfathered Wetland Credits Owed) = 88.64			
	Legend		
Green Cells = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			

Worksheet 3: Qualitative Worksheet for Wetland Adverse Impacts

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT				
Project Name:	Twin Pines Mine	rals		
Impact Wetland Name:	Keystone WAH	Year 6		
Wetland Type:	Depression			
WAA Center Coordinates:	30.531127, -82.	123412		
Date:	12/12/2019			
Water Storage -1	_			
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
	• · · · · · · · · · · · · · · · · · · ·			
BioGeoChemical Cycling	<u>-</u> 2			
Answer		Questions		
No		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Low			
Maintain Characteristic V	Vetland Commur	-		
Answer		Questions		
Yes No		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
	Moderate			
Maintain Faunal Habitat -	· 4			
Answer	ר ר	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY				
SCORE	LOW			
Legend				
Green Cell = User must ma				
	Orange Cells = User must select the choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				

		NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	Twin Pines Minera	als		
Impact Wetland Name:	Keystone WAI Ye	ar 6		
Wetland Type:	Depression			
WAA Center Coordinates:		7180		
Date:	12/10/2019			
Water Storage -1	_			
Answer		Questions		
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
BioGeoChemical Cycling	- 2			
Answer		Questions		
Yes		Is there large woody debris (LWD) in the wetland? (Y/N)		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Characteristic W	Vetiand Communit	y - 3 Questions		
Answer Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)		
FUNCTION SCORE	Moderate			
Maintain Faunal Habitat -	4			
Answer]	Questions		
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)		
Yes		Is there woody debris in the wetland? (Y/N)		
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Low			
WETLAND QUALITATIVE				
FUNCTIONAL CAPACITY	Moderate			
SCORE				
Groop Coll - Lloor must me	Legend	ation		
	Green Cell = User must manually input information.			
	Orange Cells = User must select the choice from the drop-down list. Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding value is				
populated from the user input to a previous question.				
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT		
Project Name:	win Pines Minerals	
Impact Wetland Name:	Keystone WAJ Year 6	
Wetland Type:	Depression	
WAA Center Coordinates:	0.530362, -82.112451	
Date:	2/10/2019	
Water Storage -1		
Answer	Questions	
	Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically	
Yes	affecting the wetland? (Y/N)	
No	Is the contributing drainage basin at least \$	0 percent forested? (Y/N)
FUNCTION SCORE	Low	
BioGeoChemical Cycling		
Answer	Questions	
Yes Yes	Is there large woody debris (LWD) in the wetland? (Y/N) Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
FUNCTION SCORE	Moderate	
I GNOTION SECILE	moderate	
Maintain Characteristic W	tland Community - 3	
Answer	Questions	
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
No	Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)	
FUNCTION SCORE	Moderate	
Maintain Faunal Habitat -		
Answer	Questions	
Yes	Has the vegetative community been adversely altered within the last 20 years? (Y/N)	
Yes	Is there woody debris in the wetland? (Y/N) Is the contributing drainage basin at least 50 percent forested? (Y/N)	
No FUNCTION SCORE	Low	
I UNCTION SCORE	LOW	
WETLAND QUALITATIVE		
FUNCTIONAL CAPACITY	Moderate	
SCORE		
Legend		
Green Cell = User must manually input information.		
Orange Cells = User must select the choice from the drop-down list.		
Grey Cells = The calculation of these cells is automated.		
Dark Grey Cells = These cells do not require input. The corresponding value is		
populated from the user input to a previous question.		