

APPENDIX F – SOP WORKSHEETS

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 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 Credits 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	13.79	8.19	65.52
Open Water/Ditch/Canal	0.00	0.00	0.00

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.25
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		2.00

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:	TIAA WN Area 2
Acres of Impact (Acres):	0.36
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.18
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		1.44

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:	TIAA WO Area 3
Acres of Impact (Acres):	0.78
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.39
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		3.12

Legend

Green Cells = User must manually input information.
 Orange Cells = User must select the index choice from the drop-down list.
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Worksheet 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAH Area 4
Acres of Impact (Acres):	0.04
Wetland Type:	Depressional/Flat Wetlands
Date:	August 27, 2018

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.02
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.16

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 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAI Area 5
Acres of Impact (Acres):	0.06
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.05
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.40

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 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAJ Area 6
Acres of Impact (Acres):	0.62
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.46
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		3.68

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 7: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAA Area 7
Acres of Impact (Acres):	4.18
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		3.13
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		25.04

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 8: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		1.09
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		8.72

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 9: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		2.51
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		20.08

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 10: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.11
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.88

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.

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 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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		1.03
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		8.24

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 Area 12
Acres of Impact (Acres):	0.04
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.03
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.24

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 Area 13
Acres of Impact (Acres):	0.92
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.69
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		5.52

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
Impact Wetland Name:	Keystone Area 14
Acres of Impact (Acres):	2.38
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		1.78
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		14.24

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 5: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		1.73
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		13.84

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 6: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		1.22
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		9.76

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 7: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Adirondack Area 17
Acres of Impact (Acres):	0.65
Wetland Type:	Depressional/Flat Wetlands
Date:	March 22, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		0.32
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		2.56

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 8: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Choose WQFC	WQFC Index
2. Impact Category Description (<u>Impact Category</u>)	Choose Primary Impact	Impact Index
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =		WQFC Impact
4. Duration of Impact (<u>Duration</u>)	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 (<u>Total 2018 Wetland Credits Owed</u>) =		Credits Owed
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		Grandfathered Credits Owed

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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WA Area 1
Wetland Type:	Depression
WAA Center Coordinates:	30.519893, -82.134301
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 Wetland 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., cumulative 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	Moderate
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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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WN Area 2
Wetland Type:	Depression
WAA Center Coordinates:	30.523083, -82.132441
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 Characteristic Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAI Area 5
Wetland Type:	Depression
WAA Center Coordinates:	30.531296, -82.116540
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 Wetland 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., cumulative 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	Moderate
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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 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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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	Has the vegetative community been adversely altered within the last 20 years? (Y/N)
FUNCTION SCORE	Moderate

Maintain Characteristic Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 - 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 Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 Characteristic Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Adirondack WA Area 10
Wetland Type:	Depression
WAA Center Coordinates:	30.521885, -82.102912
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 Wetland 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., cumulative 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

Low

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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
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 Wetland 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., cumulative 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	Moderate
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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 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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone Area 13
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	Has the vegetative community been adversely altered within the last 20 years? (Y/N)
FUNCTION SCORE	Moderate

Maintain Characteristic Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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	Has the vegetative community been adversely altered within the last 20 years? (Y/N)
FUNCTION SCORE	Moderate

Maintain Characteristic Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 - 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 Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone Area 16
Wetland Type:	Depression
WAA Center Coordinates:	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 Characteristic Wetland 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., cumulative 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

Low

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Adirondack Area 17
Wetland Type:	Depression
WAA Center Coordinates:	30.519003, -82.092487
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 Wetland 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., cumulative 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

Low

Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Adirondack Area 18
Wetland Type:	Depression
WAA Center Coordinates:	30.520001, -82.097031
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 Wetland 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., cumulative 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	Low
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Legend

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Worksheet 1: Qualitative Worksheet for Stream Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional Capacity Score (<i>SQFC</i>)	Moderate	0.75
2. Type of Impact (<i>Impact</i>)	Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impact (<i>SQFC Impact</i>) =		0.75
4. Duration of Impact (<i>Duration</i>)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and Duration (<i>Total SQFC Impact</i>) =		0.75
6. Product of Total SQFC Impact and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) =		133.65
7. Conversion of Total 2018 Stream Compensation to Grandfathered Credits (<i>Grandfathered Stream Credits Owed</i>) =		1,603.80

Legend

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 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 Stream Adverse Impacts

Project Name:	Twin Pines Heavy Minerals Mine
Impact Reach Name:	SB
Linear Feet of Impact (<u>Feet</u>):	115
Stream Type:	Intermittent/Ephemeral Streams
Date:	March 9, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional 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 Impact (<u>SQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and Duration (<u>Total SQFC Impact</u>) =		0.75
6. Product of Total SQFC Impact and Linear Feet (<u>Total 2018 Stream Credits Owed</u>) =		51.75
7. Conversion of Total 2018 Stream Compensation to Grandfathered Credits (<u>Grandfathered Stream Credits Owed</u>) =		621.00

Legend

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Orange Cells = User must select the index choice from the drop-down list.
Grey Cells = The calculation of these cells is automated.

COASTAL PLAIN QUALITATIVE STREAM ASSESSMENT

Project Name:	Twin Pines Heavy Minerals Mine		
Impact Reach Name:	SA		
Stream Type:	Ephemeral/Intermittent		
Catchment Size (in Acres):	74.00	Sq. Mi.:	0.12
SAR Center Coordinates:	30.529917, -82.108970		
Date:	8/27/2018		

Hydrology - 1

Value	Questions
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., 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

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
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following: riffles, pools, steps, overhangs, leaf packs, 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 FUNCTIONAL CAPACITY SCORE	Moderate
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Legend

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COASTAL PLAIN QUALITATIVE STREAM ASSESSMENT

Project Name:	Twin Pines Heavy Minerals Mine		
Impact Reach Name:	SB		
Stream Type:	Ephemeral/Intermittent		
Catchment Size (in Acres):	158.00	Sq. Mi.:	0.25
SAR Center Coordinates:	30.519636, -82.101238		
Date:	3/9/2019		

Hydrology - 1

Value	Questions
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., 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)
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
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following: riffles, pools, steps, overhangs, leaf packs, 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 FUNCTIONAL CAPACITY SCORE	Moderate
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Legend

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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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		2.78
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		22.24

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:	TIAA WB Year 1
Acres of Impact (Acres):	9.59
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		5.39
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		43.12

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 3: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		7.18
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		57.44

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
Impact Wetland Name:	Keystone WD Year 1
Acres of Impact (Acres):	25.13
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		14.14
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		113.12

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 5: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		2.22
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		17.76

Legend

Green Cells = User must manually input information.
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 Grey Cells = The calculation of these cells is automated.

Worksheet 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WF Year 1
Acres of Impact (Acres):	15.09
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		8.49
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		67.92

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 7: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.43
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		3.44

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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WA Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.519878, -82.133651
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WB Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.520178, -82.129812
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WC Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.519479, -82.119908
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 Wetland 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., cumulative 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	Low
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Legend

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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 Minerals
Impact Wetland Name:	Keystone WD Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.519052, -82.113594
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WE Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.518176, -82.110553
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WF Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.519081, -82.106358
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WG Year 1
Wetland Type:	Depression
WAA Center Coordinates:	30.518084, -82.103292
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 Wetland 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., cumulative 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	Moderate
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Legend

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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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.05
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.40

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:	TIAA WI Year 2
Acres of Impact (Acres):	20.48
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		11.52
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		92.16

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 WJ Year 2
Acres of Impact (Acres):	1.42
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.80
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		6.40

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
Impact Wetland Name:	Keystone WK Year 2
Acres of Impact (Acres):	0.08
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.05
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		0.40

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 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WL Year 2
Acres of Impact (Acres):	21.13
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		11.89
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		95.12

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 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WM Year 2
Acres of Impact (Acres):	47.13
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		26.51
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		212.08

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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WI Year 2
Wetland Type:	Depression
WAA Center Coordinates:	30.520917, -82.130479
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WJ Year 2
Wetland Type:	Depression
WAA Center Coordinates:	30.522453, -82.121487
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WK Year 2
Wetland Type:	Depression
WAA Center Coordinates:	30.520494, -82.121314
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WL Year 2
Wetland Type:	Depression
WAA Center Coordinates:	30.52521328, -82.117695
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WM Year 2
Wetland Type:	Depression
WAA Center Coordinates:	30.521045, -82.109510
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 Wetland 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., cumulative 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	Moderate
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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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		1.36
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		10.88

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:	TIAA WO Year 3
Acres of Impact (Acres):	1.29
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.48
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		3.84

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:	TIAA WP Year 3
Acres of Impact (Acres):	0.53
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.20
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		1.60

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
Impact Wetland Name:	Keystone WQ Year 3
Acres of Impact (Acres):	0.51
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.29
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		2.32

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 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WR Year 3
Acres of Impact (Acres):	46.53
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		17.45
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		139.60

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 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WS Year 3
Acres of Impact (Acres):	29.75
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		16.74
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		133.92

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 7: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.64
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		5.12

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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WN Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.523545, -82.131234
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 Wetland 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., cumulative 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	Low
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 Wetland 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., cumulative 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	Low
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WP Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.525469, -82.126256
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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WQ Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.525256, -82.124546
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WR Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.523756, -82.119246
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 - 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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WS Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.523235, -82.110207
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 Wetland 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., cumulative 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	Moderate
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Legend

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- Orange Cells = User must select the choice from the drop-down list.
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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 Minerals
Impact Wetland Name:	Keystone WT Year 3
Wetland Type:	Depression
WAA Center Coordinates:	30.522435, -82.109515
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 Wetland 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., cumulative 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	Moderate
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Legend

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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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		8.71
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		69.68

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 WV Year 4
Acres of Impact (Acres):	11.09
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		6.24
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		49.92

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 WW Year 4
Acres of Impact (Acres):	6.94
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		2.60
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		20.80

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
Impact Wetland Name:	Keystone WX Year 4
Acres of Impact (Acres):	12.96
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		7.29
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		58.32

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 5: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		3.81
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		30.48

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 6: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		5.22
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		41.76

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 7: 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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		11.99
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		95.92

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.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WU Yr 4
Wetland Type:	Depression
WAA Center Coordinates:	30.527059, -82.128451
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAA Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.522594, -82.110055
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WV Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.526418, -82.123650
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WW Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.527247, -82.120403
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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WX Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.525341, -82.118114
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WY Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.526593, -82.116411
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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WZ Year 4
Wetland Type:	Depression
WAA Center Coordinates:	30.526391, -82.112146
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 Wetland 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., cumulative 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	Low
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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 Credits 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

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		10.31
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		82.48

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 WAC Year 5
Acres of Impact (Acres):	21.85
Wetland Type:	Depressional/Flat Wetlands
Date:	December 11, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		12.29
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		98.32

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 WAD Year 5
Acres of Impact (Acres):	8.93
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		5.02
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		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 4: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAE Year 5
Acres of Impact (Acres):	1.12
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.63
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		5.04

Legend

Green Cells = User must manually input information.
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 Grey Cells = The calculation of these cells is automated.

Worksheet 5: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAF Year 5
Acres of Impact (Acres):	24.49
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		9.18
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		73.44

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 6: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAG Year 5
Acres of Impact (Acres):	1.00
Wetland Type:	Depressional/Flat Wetlands
Date:	December 12, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.56
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		4.48

Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	TIAA WAB Year 5
Wetland Type:	Depression
WAA Center Coordinates:	30.529024, -82.129040
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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAC Year 5
Wetland Type:	Depression
WAA Center Coordinates:	30.528524, -82.120584
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAD Year 5
Wetland Type:	Depression
WAA Center Coordinates:	30.527911, -82.116313
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAE Year 5
Wetland Type:	Depression
WAA Center Coordinates:	30.529949, -82.117363
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 Wetland 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., cumulative 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	Moderate
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Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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
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 Wetland 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., cumulative 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	Low
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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 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 Wetland 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., cumulative 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	Moderate
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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 Credits 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	24.06	13.47	107.76
Open Water/Ditch/Canal	0.00	0.00	0.00

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

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

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Low	0.50
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.38
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		0.14
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		1.12

Legend

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 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 WAI Year 6
Acres of Impact (Acres):	3.99
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		2.25
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		18.00

Legend

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 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 WAJ Year 6
Acres of Impact (Acres):	19.69
Wetland Type:	Depressional/Flat Wetlands
Date:	December 10, 2019

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	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 Impact and Duration (<u>Total WQFC Impact</u>) =		0.56
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		11.08
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (<u>Grandfathered Wetland Credits Owed</u>) =		88.64

Legend

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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
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 - 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 Wetland 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., cumulative 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	Low
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAI Year 6
Wetland Type:	Depression
WAA Center Coordinates:	30.530632, -82.117180
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 Wetland 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., cumulative 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	Moderate
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NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Twin Pines Minerals
Impact Wetland Name:	Keystone WAJ Year 6
Wetland Type:	Depression
WAA Center Coordinates:	30.530362, -82.112451
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 Wetland 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., cumulative 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	Moderate
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