

2019 ANNUAL REPORT

Submit the completed document and any additional information identified to the Division by March 31, 2020.

GENERAL INFORMATION

Company Name	PacifiCorp	Mine Name	Deer Creek Mine
Permit Number	C/015/0018	Permit Expiration Date	February 7, 2021
Operator Name	Interwest Mining Company	Phone Number	+1 (801) 220-4632
Mailing Address	1407 West North Temple, Suite 210	Email	dennis.oakley@pacificorp.com
City	Salt Lake City		
State	Utah	Zip Code	84116

DOGM File Location or Annual Report Location

Excess Spoil Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Refuse Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Impoundments	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	See Attachment 1. Includes both Deer Creek and Rilda pond reports.
Other:		

OPERATOR COMMENTS

The Deer Creek sediment pond was drained in the last week of September of 2019 and removed and reclaimed in October 2019. Included with this annual report are the report forms for the 1st, 2nd, and 3rd, quarters of 2019. See Attachment 1. The Rilda pond was inspected in the 1st quarter of 2019. Reclamation of the pond began early in the second quarter and completed by May, 2019. Reclamation of the entire site was completed in June 2019. Attachment 1 includes the Rilda pond report.

REVIEWER COMMENTS Met Requirements Did Not Meet Requirements

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

Title: RAPTORS

Objective: To document the location and activity of nests that could be affected by mining.

Frequency: annually

Status: Ongoing

Reports: Annually in Annual Report

Citation: MRP, Section 322, Subsection Terrestrial Species

OPERATOR COMMENTS

Prior to the start of reclamation at the Deer Creek Mine, ground truthing for raptor activity was conducted by both the company (December 2018 through February 2019) and the USFS wildlife biologist, Jeff Jewkes (January 31, 2019 and February 7, 2019). There exists two nests, 961 and 1287, within a one-half mile radius of the reclamation site. These nests were located and examined through a spotting scope. There were no activity in the nests (no greenery found) and no raptors noted flying in Deer Creek, Deer, or Elk canyons. The DOGM was contacted in January 2019 to discuss the ground truthing findings. PacifiCorp met with Todd Miller during the first week of February 2019. After review of truthing findings and communication with Jeff Jewkes, Mr. Miller gave PacifiCorp the "go ahead" to start mobilizing equipment to the site. On February 25, 2019, equipment began arriving at the Deer Creek Mine and immediately began work towards reclaiming the mine site.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

Title: SUBSIDENCE MONITORING REPORT

Objective: To Determine the effects of subsidence

Frequency: Annually

Status: Ongoing

Reports: Submit in annual report

Citation: Volume 3, Appendix X

OPERATOR COMMENTS

No underground mining activities have occurred since January 7, 2015. An amendment to the MRP was approved January 3, 2019 to remove the commitment for annual subsidence monitoring and reporting. Refer to Task ID #5830.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

Title: WILDLIFE**Objective:** Adhere to wildlife exclusionary periods during reclamation activities**Frequency:** During Reclamation**Status:** Reclamation Pending**Reports:** Not Required**Citation:** MRP, Section 322, page 10; Section 330, page 16 #14; Section 342, page 32, #7**OPERATOR COMMENTS**

Reclamation activities were suspended in Rilda Canyon in December 2018 and did not resume until after April 15, 2019. Reclamation to the Rilda Portal Facilities were completed in June 2019. An "as-built" amendment of the reclamation of the Deer Creek Mine and to remove commitments in the MRP that are no longer applicable is forthcoming.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

Title: DEMONSTRATION OF SELECTED OVERBURDEN AS BEST AVAILABLE MATERIAL IN THE PERMIT AREA FOR USE AS SUBSTITUTE TOPSOIL**Objective:** Monitor chemical quality of identified substitute topsoil to show reduction in sodicity.**Frequency:** Sampling will occur once within each permit term until such time as the soils are found acceptable for substitute topsoil use. The current permit term is 2016-2021.**Status:** To be conducted once in current permit term**Reports:** Annual Report**Citation:** Volume 2, Part 4, section R645-301-233, page 2-3**OPERATOR COMMENTS**

Reclamation of the Deer Creek mine site occurred during the months of February thru October 2019. The Operator conducted a extensive sampling program to ensure the best available soil were used as topsoil. The results of this program will be included in the MRP later in 2020.

As outlined in the permit (Volume 2, Part 4, section R645-301-233) noted soils along the corridor of the Deer Creek buried by-pass culvert would be utilized as a substitute topsoil. These soils were utilized during reclamation for this purpose. An "as-built" amendment of the reclamation of the Deer Creek Mine and to remove commitments in the MRP that are no longer applicable is forthcoming.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

Title: SUBSOIL TESTING**Objective:** Regraded subsoil will be sampled on 500 ft intervals to a depth of 4 ft (three or four samples for the 2,000 linear feet in the facilities area). Samples will be analyzed on site for pH and EC. Problem areas will be further sampled and sent to a laboratory for analysis.**Frequency:** At final regrading**Status:** Ongoing at reclamation**Reports:** Laboratory analysis to be provided to the Division**Citation:** Volume 11, Section R645-301-231.300

OPERATOR COMMENTS

The Operator conducted a extensive sampling program to ensure the best available soils were used in the top 4 feet of the reclaimed surface. The results of this program will be included in the MRP later in 2020.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

Title: TOPSOIL HANDLING TESTING PLAN

Objective: Three composite samples will be taken from the facilities area and sediment pond. Samples will be analyzed for parameters to be compared with baseline information and to determine the need for amendments, including fertilizer.

Frequency: Final Reclamation

Status: Ongoing

Reports: Analysis to be provided to the Division

Citation: Volume 11, Section R645-301-242

OPERATOR COMMENTS

Final reclamation of the Rilda Portal Facility was completed in June 2019. Two samples were taken from the facilities area. However, the operator failed to complete the sampling at the pond. The operator will take the sample in the sediment pond area in the spring of 2020 when weather permits.

REVIEWER COMMENTS

Met Requirements

Did Not Meet Requirements

FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

Title: REFERENCE VEGETATION SAMPLING

Objective: Ensure that veg reference areas remain appropriate for comparison at time of reclamation.

Frequency: Reference area qualitative and quantitative monitoring will continue on a five year interval through mine reclamation and bond release.

Status: Next sampling to be conducted in 2017

Reports: Annual Report

Citation: MRP, Volume 1, Vegetation Monitoring Plan, page 2-174, paragraphs 4 & 5

REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Attachment 1: Impoundment Reports for 1st through 3rd quarters, 2019.
Attachment 2: Deer Creek Hydrologic Monitoring.

REVIEWER COMMENTS Met Requirements

Did Not Meet Requirements

MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual Subsidence Map - Not Applicable		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mine Map - Not Applicable		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Raptor Survey within Permit Boundary - see comments		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REVIEWER COMMENTS Met Requirements Did Not Meet Requirements



Deer Creek Mine – October 2019

2019 Annual Report – Deer Creek Mine

Attachments

Attachment 1

Deer Creek Impoundment Report



Reclaimed Deer Creek Sediment Pond looking down canyon.

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			Page 1 of 2						
Permit Number	C/015/0018	Report Date	Mar. 20, 2019						
Mine Name	Deer Creek Mine								
Company Name	InterWest Mining								
Impoundment Identification	Impoundment Name	Mine Site Pond: Pond:							
	Impoundment Number								
	UPDES Permit Number	UT-0023604-001							
	MSHA ID Number	N/A	N/A						
Inspection Date	3/7/19								
Inspected By	Rick Cullum / Mark Reynolds								
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	1st quarter 2019 Inspection								
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;"><u>Mine Site Pond</u></td> <td style="width: 33%; text-align: center;"><u>Waste Rock Pond</u></td> </tr> <tr> <td>Conditions, Comments Etc.</td> <td style="text-align: center;">No hazards observed.</td> <td style="text-align: center;">No hazards observed.</td> </tr> </table>					<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>	Conditions, Comments Etc.	No hazards observed.	No hazards observed.
	<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>							
Conditions, Comments Etc.	No hazards observed.	No hazards observed.							
Required for an impoundment which functions as a SEDIMENTATION POND.	Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.								
		<u>Mine Site Pond:</u>	<u>Waste Rock Pond:</u>						
	60% Design Storage Capacity	1.87 A.F. at 7213.1 ft.	.59 A.F. at 6312.7 ft.						
	100% Sediment Capacity	3.12 A.F. at 7216.0 ft.	.98 A.F. at 6313.45 ft.						
Principle and emergency spillway elevations.									
	<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>							
Principle Spillway Elevation (F.A.S.L.):	7218.64	6318.0							
Emergency Spillway Elevation	7232.03	6318.0							

Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

Mine Site Pond

Water Elevation 7218.06 Top of Ice
Discharging no
Inlet, Outlet, Spillway Conditions Good
Out slope Conditions No Change

*See "Hydrologic Monitoring Data" report submitted quarterly to DOGM for monitoring information.

Mine Site Pond

Sediment Volume 2.18 @7214.17
Remaining 0.94 A.F. of 100 %
Water impounded 2.00 A.F.

Changes, Comments, etc. Pond had been floated Sept. 2017 and no run off or Major storms have accrued since then, an estimated 0.01 AF of sediment has been established from then.

Qualification Statement



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: [Handwritten Signature] Date: 3-20-19

Signature: Richard Cullum Date: 3-26-19

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/015/0018	Report Date	MAR. 25, 2019
Mine Name	Deer Creek Mine		
Company Name	Interwest Mining Co.		
Impoundment Identification	Impoundment Name	Rilda Canyon Pond	
	Impoundment Number		
	UPDES Permit Number	N/A	
	MSHA ID Number	N/A	N/A
Inspection Date	MAR. 19, 2019		
Inspected By	Rick Cullum / Mark Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	1st Quarter 2019 Inspection		
1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.			
Conditions, Comments Etc.	<p style="text-align: center;"><u>POND</u></p> <p style="text-align: center;">No hazards observed</p>		
Required for an impoundment which functions as a SEDIMENTATION POND.	Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment. <p style="text-align: center;"><u>POND:</u></p> 60% Design Storage Capacity ----- .076 A.F. at 7503.1 100% Sediment Capacity ----- .126 A.F. at 7504.0		
	Principle and emergency spillway elevations. <p style="text-align: center;"><u>POND</u></p> Principle Spillway Elevation (F.A.S.L.): 7516.5 Emergency Spillway Elevation 7516.5		
Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outcrops of embankments, etc.			
Water Elevation in bottom of pond	<u>POND</u> Snow		
Discharging	no		
Inlet, Outlet, Spillway Conditions	Good		
Out slope Conditions	Good		
Sediment A. Volume Remaining Sediment	0.01 A.F. @ 7501.4		
Storage Capacity	.116 A.F.		
Water impounded	0.00 A.F.		
Changes, Comments, etc.	The construction of the pond was completed in early 4 th quarter 2008. The pond is functioning as designed. Reclamation operations were suspended due to cold weather on Nov. 27 th and will resume in the spring of 2019. The fence around the sed pond has been removed in preparation for reclamation.		
Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.		

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT



Signature: *Mark Reynolds*

Date: 3-25-19

Signature: Richard Culham

Date: 3-26-19

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2							
Permit Number	C/015/0018	Report Date	June 7, 2019						
Mine Name	Deer Creek Mine								
Company Name	InterWest Mining								
Impoundment Identification	Impoundment Name	Mine Site Pond:							
	Impoundment Number	Pond:							
	UPDES Permit Number	UT-0023604-001							
	MSHA ID Number	N/A	N/A						
Inspection Date	6/7/19								
Inspected By	Rick Cullum / Mark Reynolds								
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	2nd quarter 2019 Inspection								
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%; text-align: center;"><u>Mine Site Pond</u></th> <th style="width: 35%; text-align: center;"><u>Waste Rock Pond</u></th> </tr> </thead> <tbody> <tr> <td>Conditions, Comments Etc.</td> <td style="text-align: center;">No hazards observed.</td> <td style="text-align: center;">No hazards observed.</td> </tr> </tbody> </table>					<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>	Conditions, Comments Etc.	No hazards observed.	No hazards observed.
	<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>							
Conditions, Comments Etc.	No hazards observed.	No hazards observed.							
Required for an impoundment which functions as a SEDIMENTATION POND.	Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.								
		<u>Mine Site Pond:</u>	<u>Waste Rock Pond:</u>						
	60% Design Storage Capacity	1.87 A.F. at 7213.1 ft.	N.A.*						
	100% Sediment Capacity	3.12 A.F. at 7216.0 ft.	N.A.*						
	Principle and emergency spillway elevations.								
		<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>						
	Principle Spillway Elevation (F.A.S.L.):	7218.64	N.A.*						
	Emergency Spillway Elevation	7232.03	N.A.*						

Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

Mine Site Pond

Water Elevation 7218.06
Discharging yes
Inlet, Outlet, Spillway Conditions Good
Out slope Conditions No Change

*See "Hydrologic Monitoring Data" report submitted quarterly to DOGM for monitoring information.

Mine Site Pond

Sediment Volume 2.18 @7214.17
Remaining 0.94 A.F. of 100 %
Water impounded 2.00 A.F.

Changes, Comments, etc. *Waste Rock Site Permit Transferred to Castle Valley Mining, LLC on November 2, 2018.

Qualification Statement



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: [Handwritten Signature] Date: 6-7-19

Signature: [Handwritten Signature] Date: 6/10/19

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

Permit Number: C/015/0018 Report Date: Sept. 20, 2019

Mine Name: Deer Creek Mine

Company Name: InterWest Mining

Impoundment Identification	Impoundment Name	Mine Site Pond:
	Impoundment Number	Pond:
	UPDES Permit Number	UT-0023604-001
	MSHA ID Number	N/A N/A

Inspection Date: 9/18/19

Inspected By: Rick Cullum / Mark Reynolds

Reason for Inspection: 3rd quarter 2019 Inspection
 (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

	<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>
Conditions, Comments Etc.	No hazards observed.	No hazards observed.

Required for an impoundment which functions as a SEDIMENTATION POND.

Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

	<u>Mine Site Pond:</u>	<u>Waste Rock Pond:</u>
60% Design Storage Capacity	1.87 A.F. at 7213.1 ft.	N.A.*
100% Sediment Capacity	3.12 A.F. at 7216.0 ft.	N.A.*

Principle and emergency spillway elevations.

	<u>Mine Site Pond</u>	<u>Waste Rock Pond</u>
Principle Spillway Elevation (F.A.S.L.):	7218.64	N.A.*
Emergency Spillway Elevation	7232.03	N.A.*

Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Mine Site Pond

Water Elevation

7218.06 7217.7 M

Discharging

no

Inlet, Outlet, Spillway Conditions

Good

Out slope Conditions

No Change

*See "Hydrologic Monitoring Data" report submitted quarterly to DOGM for monitoring information.

Mine Site Pond

Sediment Volume

2.18 @7214.17

Remaining

0.94 A.F. of 100 %

Water impounded

2.00 A.F.

Changes, Comments, etc.

Pond had been floated Sept. 2017 and no run off or Major storms have accrued since then, an estimated 0.01 AF of sediment has been established from then.

Qualification Statement



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature:

[Handwritten Signature]

Date:

9-30-19

Signature:

[Handwritten Signature]

Date:

9-25-19

To whom it may concern: The sed-pond at Deer Creek mine was pumped and drained
9/11/19 - 9/19/19 and the reclamation of the pond was started on the pond site
Shortly thereafter.

Richard Culburn

9-25-19

Attachment 2

Deer Creek Hydrology Monitoring Report



PACIFICORP TECHNICAL SERVICES - HYDROLOGIC MONITORING

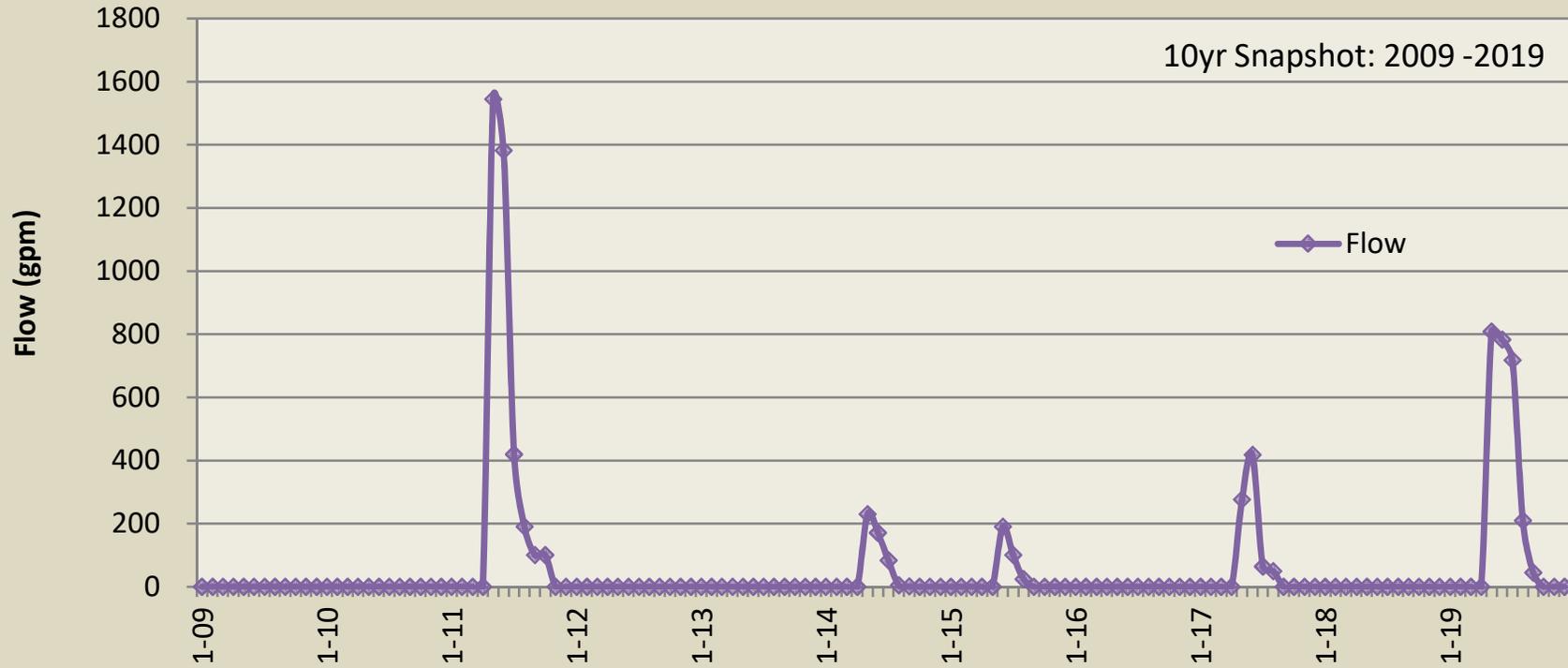
DEER CREEK FLOW & QUALITY

ABOVE THE MINE - DCR01

Date	Time	Field Measurements ----->				Cond. (uS)	Weather
		Temp. (°C)	Flow ft.	GPM	pH		
1/9/2019	1410		Inaccessible snow				cloudy20's
2/12/2019	1338		Inaccessible snow				ptcloudy20's
3/19/2019	958		Inaccessible snow				clear30's
4/5/2019	1305		Inaccessible snow				ptcloudy50's
5/6/2019	1140			808.59			ptcloudy60's
6/24/2019	1236	10.8		783	8.62	572	clear60's
7/8/2019	1130			717.77			ptcloudy70's
8/7/2019	1109			210			cloudy80's
9/10/2019	1120	10.6		45	8.66	801	ptcloudy70's
10/8/2019	1230			DRY			clear40's
11/7/2019	1445			DRY			clear50's
12/5/2019	1343		Inaccessible snow				ptcloudy30's

DEER CREEK (DCR01) ABOVE MINE DISCHARGE RECEPTION CURVE

10yr Snapshot: 2009 -2019



PACIFICORP TECHNICAL SERVICES - HYDROLOGIC MONITORING

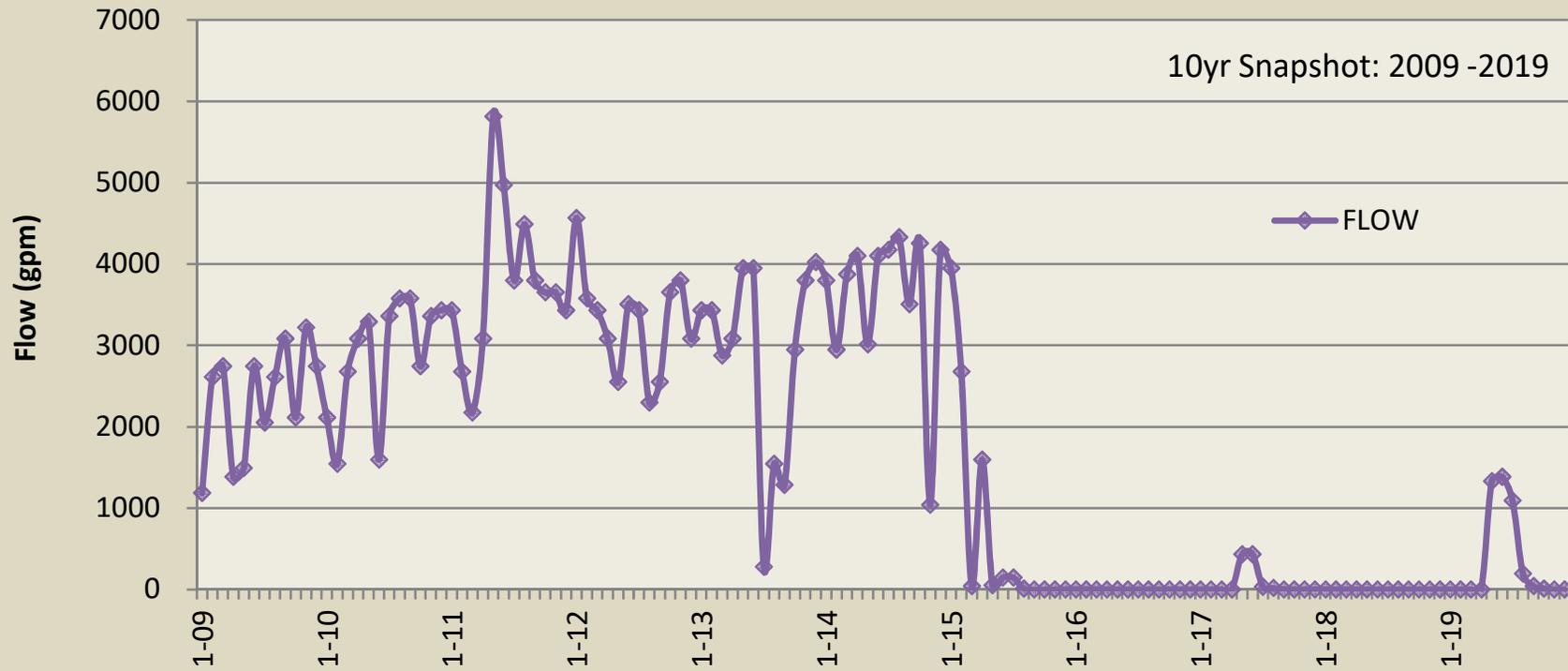
DEER CREEK FLOW & QUALITY

@ PERMIT BOUNDARY - DCR04

Date	Time	Field Measurements ----->				Cond. (uS)	Weather	Comments
		Temp. (°C)	Flow ft.	GPM	pH			
1/9/2019	1435			Dry			cloudy20's	
2/12/2019	1345			Dry			ptcloudy20's	
3/19/2019	1029			Dry			clear30's	
4/5/2019	1335			Dry			ptcloudy50's	
5/6/2019	1149			1332.93			ptcloudy60's	
6/24/2019	1330	12.9		1384.6	8.92	595	clear60's	
7/8/2019	1155			1092.4			ptcloudy70's	
8/7/2019	1154			190			cloudy80's	
9/10/2019	1147	11.2		41	8.79	810	ptcloudy70's	
10/8/2019	1235			9.96			clear40's	
11/7/2019	1500			Dry			clear50's	
12/5/2019	1343			Inaccessible snow			ptcloudy30's	

DEER CREEK (DCR04) AT PERMIT BOUNDARY DISCHARGE RESSION CURVE

10yr Snapshot: 2009 - 2019



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

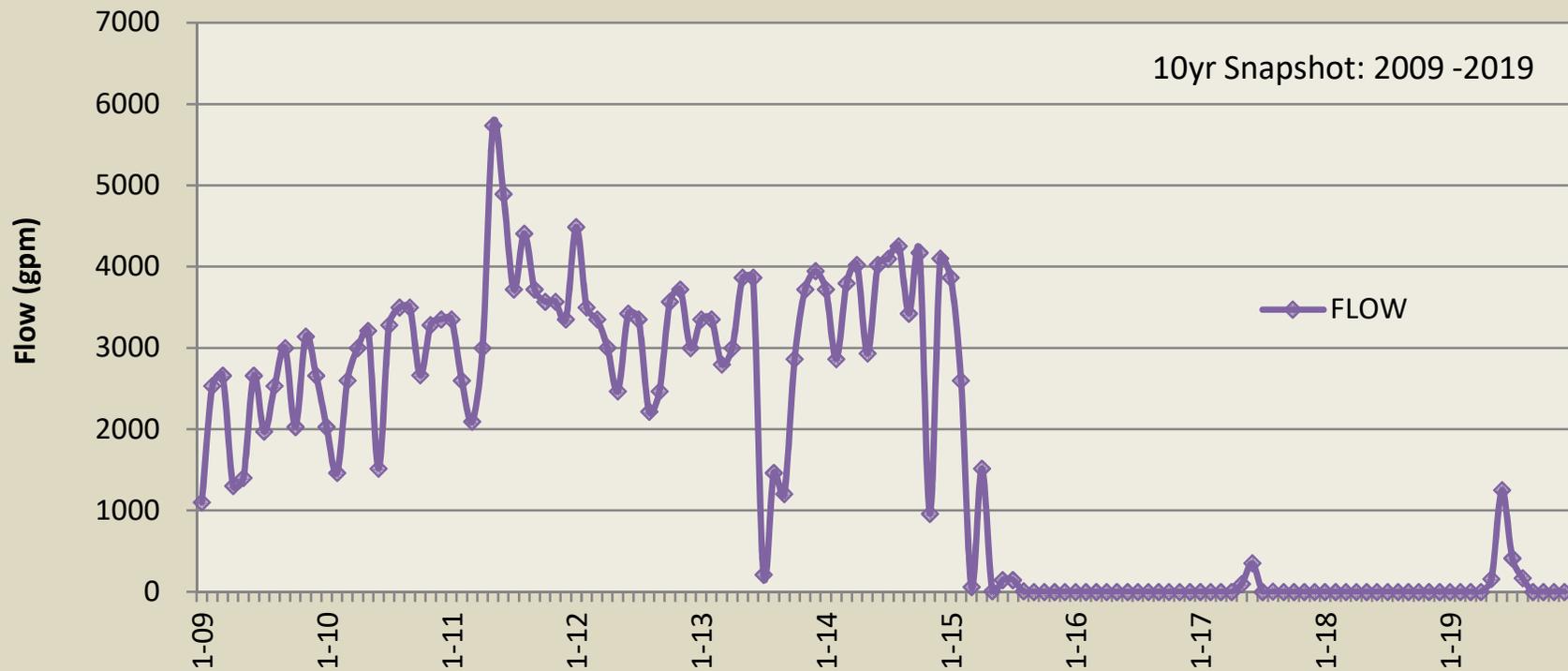
DEER CREEK FLOW & QUALITY

BELOW THE MINE - DCR06

<----- Field Measurements ----->							Weather
Date	Time	Temp. (oC)	Flow ft.	GPM	pH	Cond. (uS)	
1/9/2019	1440			Dry			cloudy20's
2/12/2019	1354			Dry			ptcloudy20's
3/19/2019	1033			Dry			clear30's
4/5/2019	1340			Dry			ptcloudy50's
5/6/2019	1205			157.89			ptcloudy60's
6/24/2019	1400	16.1		1250	8.58	876	clear60's
7/8/2019	1203			414.86			ptcloudy70's
8/7/2019	1202			167			cloudy80's
9/10/2019	1159			Dry			ptcloudy70's
10/8/2019	1242			Dry			clear40's
11/7/2019	1506			Dry			clear50's
12/5/2019	1348			Dry			ptcloudy30's

DEER CREEK (DCR06) BELOW MINE DISCHARGE RECESSON CURVE

10yr Snapshot: 2009 -2019



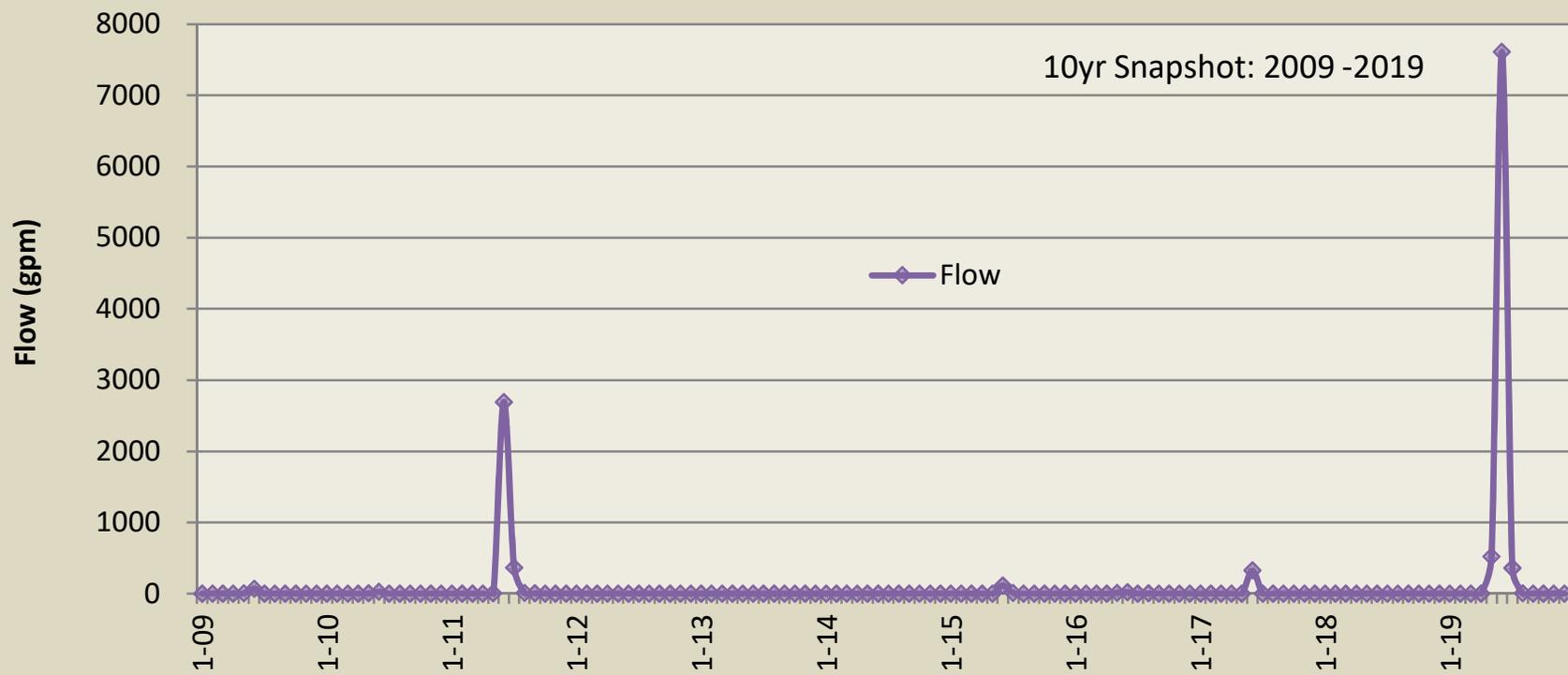
**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

RILDA CANYON FLOW & QUALITY

RILDA CANYON - LEFT FORK (RCLF1)

Date	Time	<----- Field Measurements ----->				Cond. (uS)	Weather
		Temp. (oC)	Flow ft.	GPM	pH		
1/9/2019	1331		INACCESSIBLE				cloudy20's
2/1/2019	1430		INACCESSIBLE				ptcloudy10's
3/19/2019	900		INACCESSIBLE				clear20's
4/5/2019	1235		INACCESSIBLE				ptcloudy50's
5/6/2019	950			519.24			ptcloudy50's
6/24/2019	955	9.2		7610.84	8.81	632	clear60's
7/8/2019	1018			359.02			ptcloudy70's
8/6/2019	940			2.78			clear70's
9/10/2019	1012			Dry			ptcloudy60's
10/8/2019	1212			Dry			clear40's
11/7/2019	1402			Dry			clear50's
12/5/2019	1255		INACCESSIBLE				ptcloudy30's

RILDA CANYON (RCLF1) LEFT FORK BELOW BREAKOUTS DISCHARGE RESSION CURVE



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

RILDA CANYON FLOW & QUALITY

RILDA CANYON - LEFT FORK (RCLF2)

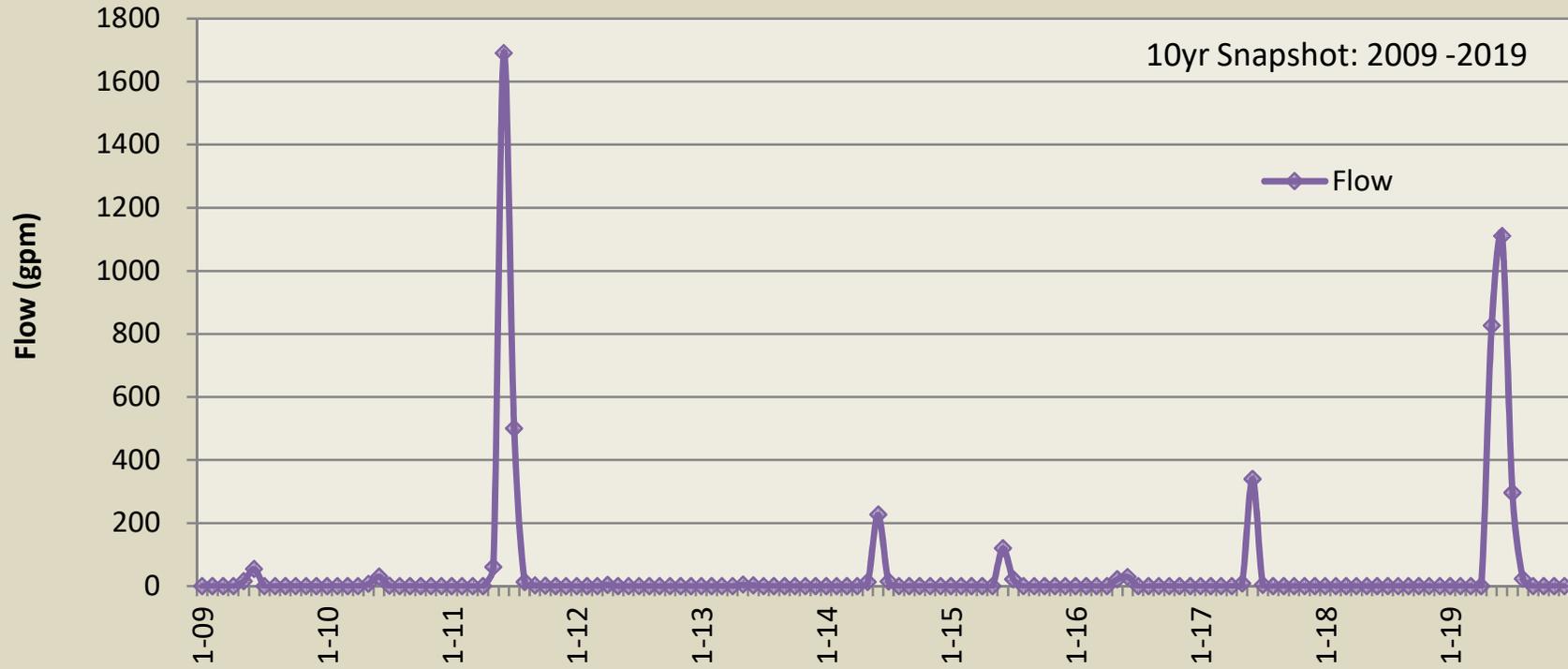
<----- Field Measurements ----->							Weather	Comments
Date	Time	Temp. (oC)	Flow ft.	GPM	pH	Cond. (uS)		
1/9/2019	1331		INACCESSIBLE				cloudy20's	
2/1/2019	1430		INACCESSIBLE				ptcloudy10's	
3/19/2019	900		INACCESSIBLE				clear20's	
4/5/2019	1235		INACCESSIBLE				ptcloudy50's	
5/6/2019	1005			826.27			ptcloudy50's	
6/24/2019	1020	9.7		1109.59	8.8	608	clear60's	
7/8/2019	1032			296.1			ptcloudy70's	
8/6/2019	958			23.35			clear70's	
9/10/2019	1015			Dry			ptcloudy60's	
10/8/2019	1220			Dry			clear40's	
11/7/2019	1412			Dry			clear50's	
12/5/2019	1255		INACCESSIBLE				ptcloudy30's	

RILDA CANYON

(RCLF2) RIGHT FORK ABOVE BREAKOUTS

DISCHARGE RESSION CURVE

10yr Snapshot: 2009 -2019



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

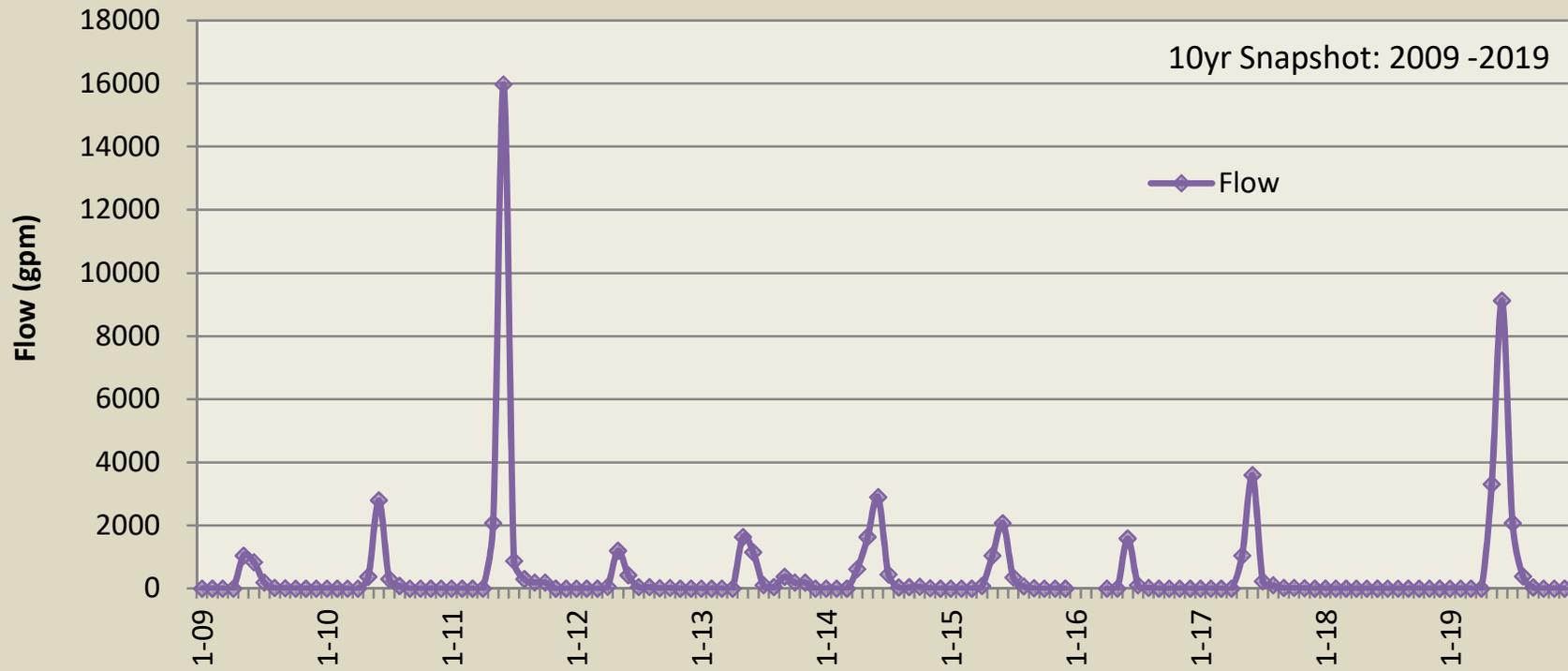
RILDA CANYON FLOW & QUALITY

RILDA CANYON - FLUME #1(RCF1)

<----- Field Measurements ----->

Date	Time	Temp. (oC)	Flow ft.	GPM	pH	Cond. (uS)	Weather	Comments
04-17-89	1120		DRY				PC 60's	
1/9/2019	1331			INACCESSIBLE			cloudy20's	
2/1/2019	1430			INACCESSIBLE			ptcloudy10's	
3/19/2019	900			INACCESSIBLE			clear20's	
4/5/2019	1235			INACCESSIBLE			ptcloudy50's	
5/6/2019	930			3299.06			ptcloudy50's	
6/24/2019	916	7.1		9119.1	8.85	468	clear60's	
7/8/2019	950			2066.53			ptcloudy70's	
8/6/2019	910			380			clear70's	
9/10/2019	948	8.7		30.5	8.72	476	ptcloudy60's	
10/8/2019	1154			1.1			clear40's	
11/7/2019	1340			Dry			clear50's	
12/5/2019	1255			INACCESSIBLE			ptcloudy30's	

RILDA CANYON (RCF1) RIGHT FORK DISCHARGE RESSION CURVE



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

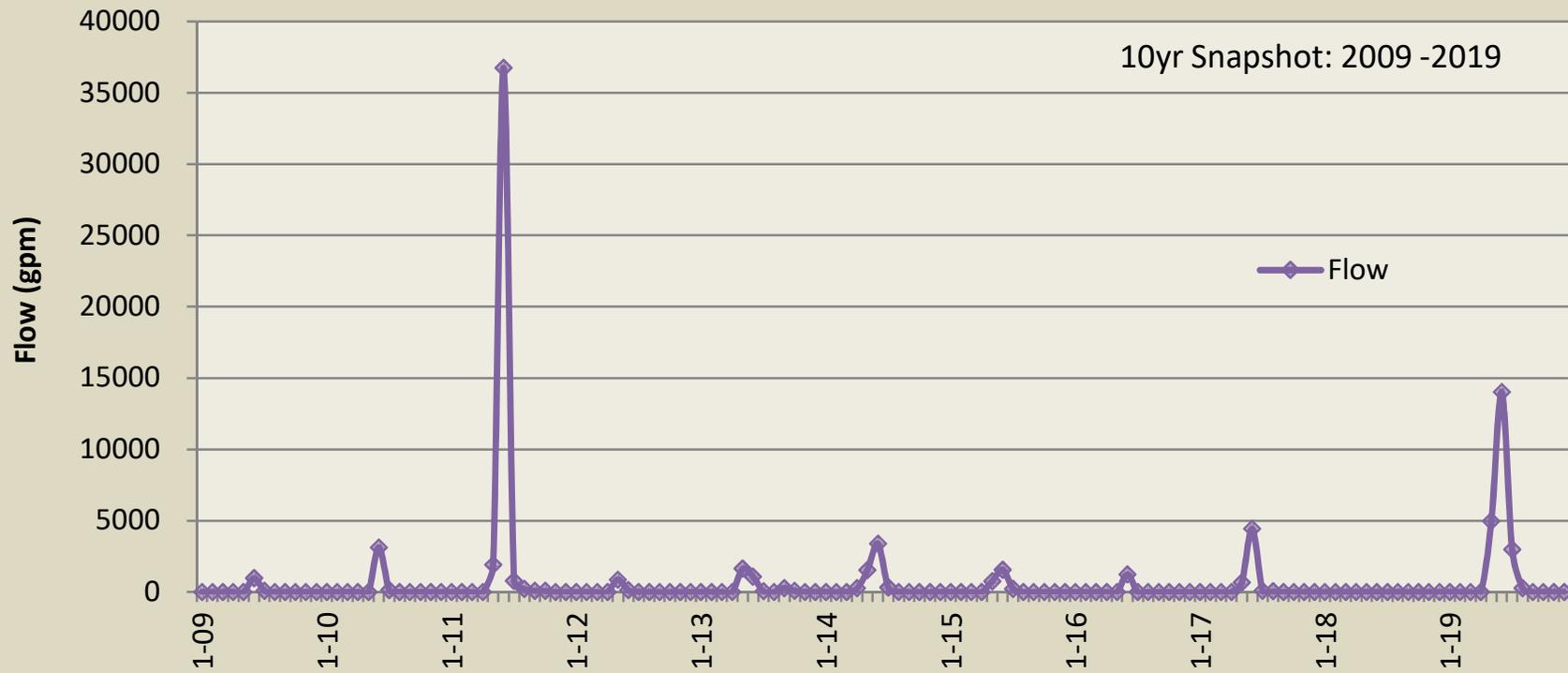
RILDA CANYON FLOW & QUALITY

RILDA CANYON - FLUME #2 (RCF2)

Date	Time	Field Measurements ----->				Cond. (uS)	Weather	Comments
		Temp. (oC)	Flow ft.	GPM	pH			
1/9/2019	1334			Dry			cloudy20's	
2/1/2019	1430			Dry			ptcloudy10's	
3/19/2019	900			Dry			clear20's	
4/5/2019	1233			Dry			ptcloudy50's	
5/6/2019	1020			4968.58			ptcloudy50's	
6/24/2019	1047	7.7		14010.27	8.78	492	clear60's	
7/8/2019	1044			2968.39			ptcloudy70's	
8/6/2019	1100			277.59			clear80's	
9/10/2019	1021			Dry			ptcloudy60's	
10/8/2019	931			Dry			clear50's	
11/7/2019	1415			Dry			clear50's	
12/5/2019	1255			INACCESSIBLE			ptcloudy30's	

RILDA CANYON (RCF2) ABOVE NEWUSSD SPRINGS DISCHARGE RECESSION CURVE

10yr Snapshot: 2009 -2019



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

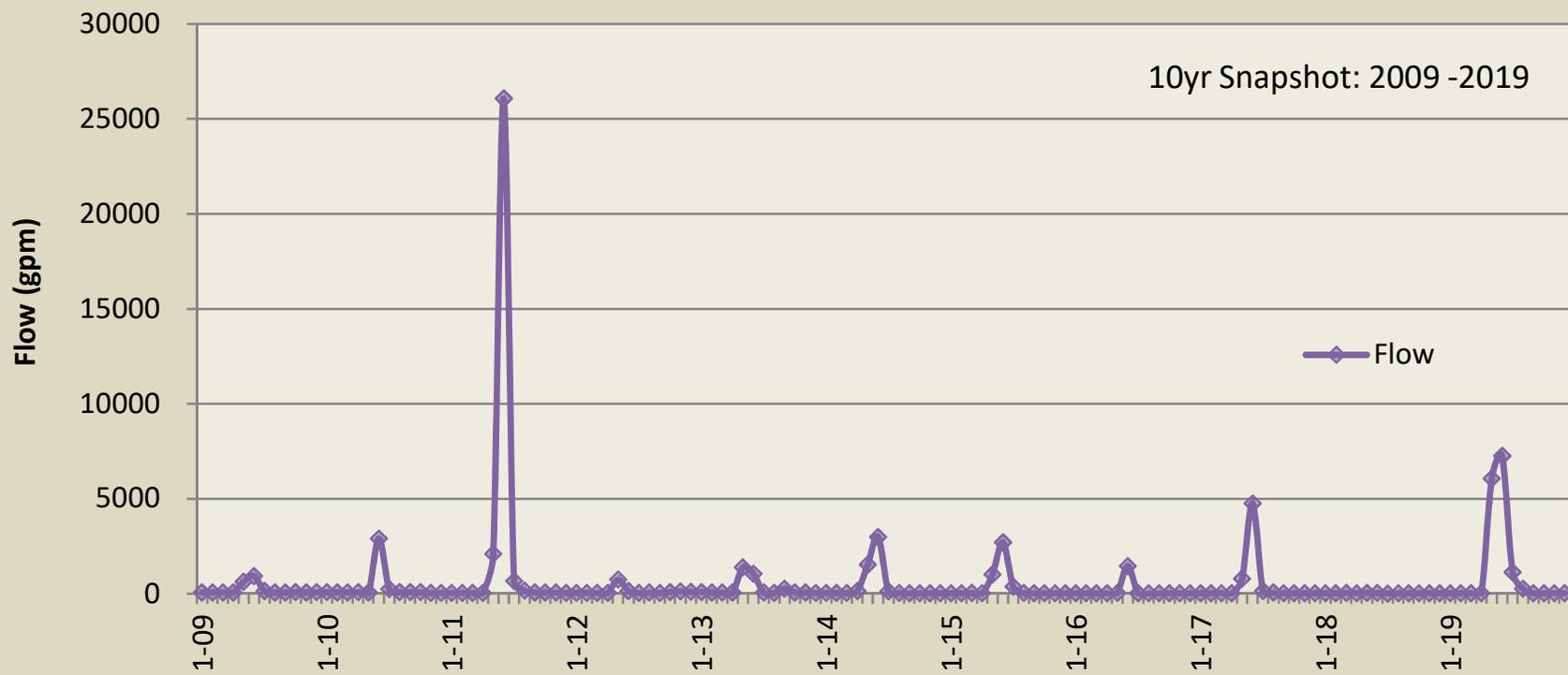
RILDA CANYON FLOW & QUALITY

RILDA CANYON - FLUME #3 (RCF3)

Date	Time	Field Measurements					Weather	Comments
		Temp. (oC)	Flow ft.	GPM	pH	Cond. (uS)		
1/9/2019	1340			18.9				cloudy20's
2/8/2019	1433			18.7				ptcloudy10's
3/19/2019	905	2.7		19.93	8.76	855		clear20's
4/5/2019	1239			20.4				ptcloudy50's
5/6/2019	1045			6064				ptcloudy50's
6/24/2019	1115	9.3		7245	8.73	517		clear60's
7/8/2019	1056			1134				ptcloudy70's
8/6/2019	1109			260				clear80's
9/10/2019	1031	10		24.84	8.5	1045		ptcloudy60's
10/8/2019	938			22.83				clear40's
11/7/2019	1417			27				clear50's
12/5/2019	1300	5		27.73	8.32	1109		ptcloudy30's

RILDA CANYON (RCF3) BELOW NEWUSSD SPRINGS DISCHARGE RECESSON CURVE

10yr Snapshot: 2009 -2019



**PACIFICORP
TECHNICAL SERVICES - HYDROLOGIC MONITORING**

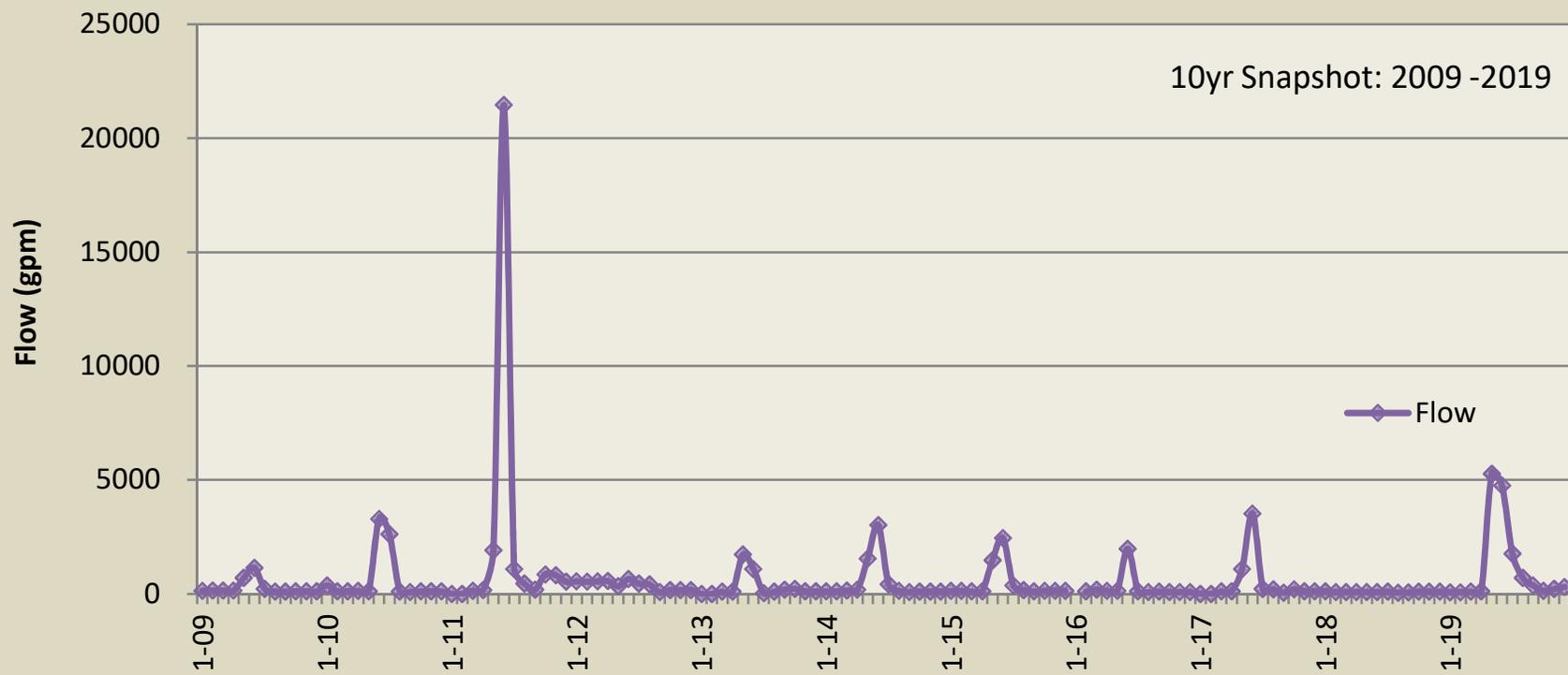
RILDA CANYON FLOW & QUALITY

RILDA CANYON - WEIR #4 (RCW4)

Date	Time	Field Measurements				pH	Cond. (uS)	Dis. Oxygen	Weather	Comments
		Temp. (oC)	Flow ft.	GPM						
1/9/2019	1355			73.8						cloudy20's
2/8/2019	1450			73.8						ptcloudy10's
3/19/2019	935	1.8		97.4	8.81	1720				clear20's
4/5/2019	1251			110.7						ptcloudy50's
5/6/2019	1120			5275						ptcloudy50's
6/24/2019	1127	10.2		4755	8.81	622				clear60's
7/8/2019	1103			1762						ptcloudy70's
8/6/2019	1118			707.7						clear80's
9/10/2019	1055	10.2		372.3	8.7	1096				ptcloudy60's
10/8/2019	944			140.5						clear40's
11/7/2019	1425			213.4						clear50's
12/5/2019	1330	4.5		305.1	8.74	1548				ptcloudy30's

RILDA CANYON (RCW4) NEAR HUNTINGTON CANYON DISCHARGE RESSION CURVE

10yr Snapshot: 2009 - 2019



DEER CREEK MINE - DISCHARGE WATER QUALITY*

Deer Creek Mine portals sealed in April 2015.

<i>Parameters</i>	2019**				Historical - (1976-2015)			
	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>No. of Analysis</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>No. of Analysis</i>
<i>Acidity</i>	No flow in 2019				0.10	97.00	13.28	266
<i>Chloride</i>					0	285.00	18.63	464
<i>Conductivity (umhos/cm)</i>					480.00	1900.00	898.05	478
<i>Iron - Total</i>					0.01	7.53	0.61	475
<i>Oil & Grease</i>					0.00	48.80	3.19	240
<i>pH (units)</i>					6.52	8.51	7.48	466
<i>Sulfate</i>					13.00	518.00	169.70	472
<i>TDS</i>					289.00	1111.00	569.39	484
<i>TSS</i>					0	2784.00	43.87	413

* Quality parameters reported as mg/l unless otherwise noted.

** Data: Database input restricted to values greater than laboratory minimum detection limit.

Note: No Discharge into Deer Creek drainage from 001 or into Huntington Creek from 003

Sites 001 and 003 are UPDES source point identifications. See reports in EPA's NetDMR online site.