



COLORADO
Water Quality Control Division
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

February 14, 2018

The Corporation Company
Registered Agent for Union Pacific Railroad Company
7700 E Arapahoe Rd
Ste 220
Centennial, CO 80112-1268

Certified Mail Number: 7014 2870 0000 7568 9671

**RE: Service of Notice of Violation / Cease and Desist Order / Clean-Up Order,
Number: IO-180214-1**

Dear Registered Agent:

Union Pacific Railroad Company is hereby served with the enclosed Notice of Violation / Cease and Desist Order / Clean-Up Order ("NOV/CDO/CUO"). The NOV/CDO/CUO is issued by the Colorado Department of Public Health and Environment's Water Quality Control Division ("Division") pursuant to authority given to the Division by §§ 25-8-602 and 25-8-605, C.R.S., of the *Colorado Water Quality Control Act* ("Act"). The Division bases the NOV/CDO/CUO upon findings that Union Pacific Railroad Company violated the Act, regulations promulgated pursuant to the Act, and/or a discharge permit, as described in the enclosed NOV/CDO/CUO.

Pursuant to § 25-8-603, C.R.S., Union Pacific Railroad Company is required, within 30 calendar days of receipt of this NOV/CDO, to submit to the Division an answer admitting or denying each paragraph of the Findings of Fact and responding to the Notice of Violation.

This action could result in the imposition of civil penalties. The Division is authorized pursuant to § 25-8-608, C.R.S., to impose a penalty of up to \$10,000 per day for each day during which such violation occurs.

Please be advised that the Division is continuing its investigation into this matter and the Division may identify supplementary violations that warrant amendments to this NOV/CDO/CUO or the issuance of additional enforcement actions.

Should you or representatives of Union Pacific Railroad Company desire to discuss this matter informally with the Division, or if you have questions regarding the NOV/CDO/CUO, please do not hesitate to contact Eric Mink at (303) 692-2312 or eric.mink@state.co.us.

Sincerely,

Eric T. Mink, Enforcement Specialist
Clean Water Enforcement Unit
WATER QUALITY CONTROL DIVISION

Enclosure(s)

cc: Enforcement File



ec: Michael Boeglin, EPA Region VIII
Brene Belew-LaDue, Grand County Public Health
Katherine Morris, Grand County Water Resource Management
Aimee Konowal, Watershed Section, CDPHE
Brad Monson, Grants and Loans Unit, CDPHE
Doug Camrud, Engineering Section, CDPHE
Kelly Jacques, Field Services Section, CDPHE
Michelle DeLaria, Permits Section, CDPHE
Kelly Morgan, Clean Water Enforcement Unit, CDPHE
Tania Watson, Data Management Workgroup, CDPHE





COLORADO

Department of Public Health & Environment

WATER QUALITY CONTROL DIVISION

NOTICE OF VIOLATION / CEASE AND DESIST / CLEAN-UP ORDER NUMBER: IO-180214-1

**IN THE MATTER OF: UNION PACIFIC RAILROAD COMPANY
 CDPS PERMIT NO. CO0047554
 GRAND COUNTY, COLORADO**

Pursuant to the authority vested in the Colorado Department of Public Health and Environment's (the "Department") Division of Administration by §§25-1-109 and 25-8-302, C.R.S., which authority is implemented through the Department's Water Quality Control Division (the "Division"), and pursuant to §§25-8-602, 25-8-605, and 25-8-606 C.R.S., the Division hereby makes the following Findings of Fact and issues the following Notice of Violation / Cease and Desist Order / Clean-up Order ("Order"):

FINDINGS OF FACT AND CONCLUSIONS OF LAW

1. At all times relevant to the alleged violations identified herein, Union Pacific Railroad Company ("Union Pacific Railroad") was a Delaware corporation in good standing and registered to conduct business in the State of Colorado.
2. Union Pacific Railroad is a "person" as defined under the Water Quality Control Act, §25-8-103(13), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2(73).
3. Union Pacific Railroad conducts railroad operations through the Moffat Tunnel. The East Portal of the tunnel is located near 39.90210 N and 105.64618 W, near the Town of Rollinsville, Gilpin County, Colorado and the West Portal is located near 39.88611 N and 105.76667 W, near the Town of Winter Park, Grand County. Groundwater seeps into the tunnel through fractures in the rock and subsequently drains to the portals. Discharge from the East Portal passes through a settling pond for treatment prior to entering South Boulder Creek. Prior to April 30, 2017, discharge from the West Portal was conveyed directly to the Fraser River without treatment. Beginning April 30, 2017, discharge from the West Portal passes through a water treatment system comprised of filtration and precipitation, prior to entering the Fraser River.
4. Beginning May 1, 2008, discharge from both the East Portal and West Portal of the Moffat Tunnel were the subject of the Colorado Discharge Permit System ("CDPS"), Permit No. CO0047554 (the "2008 Permit"). Beginning October 1, 2016, CDPS permit coverage associated with the Moffat Tunnel outfalls was modified. Because each tunnel discharges to a different watershed and is physically located in different counties, the Division issued a new CDPS permit, Permit No.



CO0048986 for the East Portal discharge. The West Portal discharge remains subject of the 2008 Permit.

5. The 2008 Permit authorized Union Pacific Railroad to discharge wastewater from the Moffat Tunnel through Outfalls 001A and 002A. Outfall 001A is physically located at 39.887568 and -105.761961 near the West Portal of the Moffat Tunnel. Outfall 002A is physically located at 39.902037 and -105.644649 near the East Portal of the Moffat Tunnel.
6. Pursuant to 5 CCR 1002-61, §61.8, Union Pacific Railroad must comply with all the terms and conditions of the Permit, and violations of such terms and conditions as specified in the Permit may make Union Pacific Railroad subject to civil and criminal liability pursuant to §§25-8-601 through 25-8-612, C.R.S.

Failure to Comply with Permit Effluent Limitations

7. Pursuant to Part I.A.1. of the Permit, Union Pacific Railroad's effluent at Outfall 001A shall not exceed the effluent discharge limitations specified in the table below:

Union Pacific Railroad DISCHARGE LIMITATIONS FOR OUTFALL 001A				
Parameter	Limitation			
	30-day Avg.	7-Day Avg	Daily Max	2Type
pH, s.u. (Minimum - Maximum)			6.5 - 9.0	

8. Pursuant to Part I.D.1. of the Permit, Union Pacific Railroad is required to summarize and report the analytical results of its effluent monitoring to the Division via monthly discharge monitoring reports ("DMRs"). Each DMR is to include a certification by Union Pacific Railroad that the information provided therein is true, accurate and complete to the knowledge of Union Pacific Railroad.
9. Union Pacific Railroad's DMRs include, among other information and data, the following pollutant concentration summary data which exceeded the effluent limitations outlined in Part I.A.1. of the Permit:

Union Pacific Railroad's EFFLUENT SELF-MONITORING DATA			
DISCHARGE MONITORING REPORTING PERIOD	SAMPLE MEASUREMENTS FOR OUTFALL 001A		
pH, s.u.	30-DAY AVG. LIMIT= NA	7-DAY AVG. LIMIT= NA	DAILY MAXIMUM= 6.5 - 9.0
9/1/2012 - 9/30/2012	--	--	9.8
6/1/2015 - 6/30/2012	--	--	9.4
7/1/2015 - 7/31/2015	--	--	6.4

10. pH is a "pollutant," or indicator thereof, as defined by §25-8-103, C.R.S. and its implementing permit regulation 5 CCR 1002-61, §61.2(76).

11. The Permit does not authorize the pollutant levels identified above in paragraph 9 above. Division records establish that during the reporting periods identified above, Union Pacific Railroad did not have any other permit authorizing such discharge into State Waters.
12. Union Pacific Railroad's failure to comply with the Permit limitations constitutes violations of Part I.A.1. of the Permit.

Failure to Properly Monitor and Report

13. Pursuant to Part I.B.1. of the Permit, Union Pacific Railroad is required to monitor all applicable effluent parameters at the frequencies outlined in Part I.B.1.a. of the Permit.
14. Pursuant to Part I.D.1. of the Permit, Union Pacific Railroad is required to report all monitoring results on a monthly basis using Division approved DMRs. Union Pacific Railroad is required to ensure the DMRs are received by the Division no later than the 28th day of the month following the reporting period. The Permit specifies that if no discharge occurs during the monitoring period, "No Discharge" shall be reported on the DMR. Each DMR is to include a certification by Union Pacific Railroad that the information provided therein is true, accurate and complete to the knowledge of Union Pacific Railroad.
15. Division records establish that Union Pacific Railroad failed to monitor for the parameters listed below:

Union Pacific Railroad DEFICIENT MONITORING		
DISCHARGE MONITORING PERIOD	OUTFALL	INCOMPLETE PARAMETERS
7/1/2012 - 7/31/2012	001A	TSS (30 Day Avg & Max 7 Day Avg) Total Recoverable Fe (30 Day Avg & Daily Max) Dissolved Fe (30 Day Avg & Daily Max) Dissolved Mn (30 Day Avg & Daily Max) Potential Dissolved Mn (30 Day Avg & Daily Max) Potential Dissolved Cu (30 Day Avg & Daily Max) Potential Dissolved Pb (30 Day Avg & Daily Max) Total Natural U (30 Day Avg & Daily Max)
7/1/2012 - 7/31/2012	MON1	Sulfate (30 Day Avg & Daily Max) Cyanide (Daily Max) Chloride (30 Day Avg & Daily Max) Total As (30 Day Avg & Daily Max) Total Recoverable Cr (30 Day Avg & Daily Max) Potential Dissolved Zn (30 Day Avg & Daily Max) Potential Dissolved Ag (30 Day Avg & Daily Max) Potential Dissolved Cd (30 Day Avg & Daily Max) Potential Dissolved Ni (30 Day Avg & Daily Max) Potential Dissolved Se (30 Day Avg & Daily Max) Total Hg (30 Day Avg & Daily Max)

16. Division records establish that Union Pacific Railroad failed to submit a DMR to the Division for the reporting period listed below:

Union Pacific Railroad DELINQUENT DMRS	
DISCHARGE MONITORING REPORTING PERIOD	OUTFALLS
Annual 2015 (1/1/2015 - 12/31/2015)	001X, 01YX

17. Division records establish that Union Pacific Railroad failed to submit a complete DMR to the Division by the 28th day of the month following the end of the reporting period identified below:

Union Pacific Railroad DEFICIENT DMRS		
DISCHARGE MONITORING PERIOD	OUTFALL	INCOMPLETE PARAMETER
4/1/2014 - 4/30/2014	001A	Dissolved Iron (Daily Max)

18. Union Pacific Railroad's failure to complete all monitoring at the required frequencies, as identified above in paragraph 15, constitutes violations of Part I.B.1. of the Permit.
19. Union Pacific Railroad's failure to submit complete DMRs to the Division by the 28th day of the month following each reporting period, as identified above in paragraphs 16 and 17, constitutes violations of Part I.D.1. of the Permit.

Failure to Notify of Change in Discharge

20. As noted above, natural groundwater seeps into the tunnel and drains to both portals. The 2008 Permit authorizes Union Pacific Railroad to discharge the groundwater, containing natural concentrations of metals as well as suspended solids and metals associated with coal fines, to South Boulder Creek and/or the Fraser River, in accordance with the terms and conditions of the 2008 Permit.
21. Pursuant to Part II.A.2. of the 2008 Permit, Union Pacific Railroad is required to provide advance notification to the Division, in writing, of any planned alteration or addition that could significantly change the nature or increase the quantity of pollutants discharged.
22. Union Pacific Railroad conducted maintenance activities within the Moffat Tunnel during the months of September 2016 and October 2016 which included but was not limited to track repair, track replacement, and ballast replacement. Discharges associated with tunnel maintenance and repair activities are not contemplated in the 2008 Permit.
23. Records provided by Union Pacific Railroad, summarized in the table below, establish that Union Pacific Railroad began maintenance and repair activities on the Moffat Tunnel on September 1, 2016 and the aforementioned repair work significantly increased the quantity of pollutants being discharged at the outfall.

Union Pacific Railroad's EFFLUENT SELF-MONITORING DATA	
DATE	HIGHEST DAILY TURBIDITY MEASUREMENTS AT OUTFALL 001A
TURBIDITY REPORTED IN NTUs	TURBIDITY RANGE ASSOCIATED WITH NORMAL TUNNEL OPERATIONS = 3 to 150 NTUs
9/1/2016	518.4
9/6/2016	529.4
9/7/2016	325.9
9/8/2016	177.9
9/9/2016	501.64
9/12/2016	740.6
9/13/2016	325.7
9/14/2016	478.1
9/15/2016	507.9

24. Turbidity is a "pollutant" as defined by §25-8-103(15), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (76).
25. Union Pacific Railroad failed to notify the Division, in writing, of the tunnel maintenance and repair activities that significantly increased the turbidity in the discharge, as outlined in the table above.
26. Union Pacific Railroad's failure to notify the Division, in writing, prior to the tunnel maintenance and repair activities, that the tunnel maintenance and repair activities could significantly increase in the quantity of pollutants discharged, as identified above in paragraphs 22 and 23, constitutes violations of Part II.A.2. of the 2008 Permit.

Discharging Without a Permit

27. Pursuant to §25-8-501(1), C.R.S., and 5 CCR 1002-61, §61.3(1)(a), no person shall discharge any pollutant into any state water from a point source without first having obtained a permit from the Division for such discharge, and no person shall discharge into a ditch or man-made conveyance for the purpose of evading the requirement to obtain a permit under this article.
28. On September 23, 2016, the Division received notification from Grand County that sediment laden water was discharging to the Fraser River from a black pipe coming from Union Pacific Railroad's operations near the West Portal of the Moffat Tunnel. Upon investigation, it was discovered that on September 23, 2016, Union Pacific Railroad diverted the West Portal's sediment laden water from Outfall 001 through a filter bag system and into a corrugated metal pipe approximately six (6) inches in diameter that discharged the water directly in to the Fraser River across from the permitted outfall. The water flow from the pipe into the Fraser River was estimated at 200 gallons per minute and lasted until 1:50 PM on September 26, 2016.
29. On October 10, 2016, the Division received notification from Union Pacific Railroad that sediment laden water was discharging to the Fraser River from Union Pacific Railroad's operations near the West Portal of the Moffat Tunnel. Upon investigation, it was discovered that on October 10, 2016, the sediment laden water from the West Portal overflowed Union Pacific Railroad's diversion weir and filter bag system and discharged via a concentrated flow over ground and directly into the Fraser River across from the permitted outfall. The water flow into the Fraser River ranged from

164 to 387 gallons per minute in the times surrounding the incident but was not estimated during the height of the incident. The discharge lasted until at least 3:10 AM on October 11, 2016.

30. The water discharged from the West Portal of the Moffat Tunnel into the Fraser River contained, among others, mercury, iron, lead, manganese, uranium, copper, zinc, total dissolved solids ("TDS"), and total suspended solids ("TSS").
31. Mercury, iron, lead, manganese, uranium, copper, zinc, TDS, and TSS are "pollutants" as defined by §25-8-103(15), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (76).
32. The Fraser River is "state waters" as defined by §25-8-103(19), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (102).
33. The discharge pipe and concentrated flow over ground from Union Pacific Railroad's West Portal operations are each a "point source" as defined by §25-8-103(14), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (75).
34. Pursuant to Part II.A.8. of the Permit, any discharge to state waters from a point source, other than the specifically authorized Outfall 001A is prohibited.
35. Union Pacific Railroad does not have any other permits authorizing the discharge of pollutants from the Facility and into the Fraser River.
36. Union Pacific Railroad's discharge of mercury, iron, lead, manganese, uranium, copper, zinc, TDS, and TSS into the Fraser River constitutes a "discharge of pollutants" as defined by §25-8-103(3), C.R.S.
37. Union Pacific Railroad's discharge of mercury, iron, lead, manganese, uranium, copper, zinc, TDS, and TSS from the Moffat Tunnel into the Fraser River from point sources other than Union Pacific Railroad's permitted outfall, constitutes an unauthorized discharge of pollutants from a point source into state waters in violation of §25-8-501(1), C.R.S., 5 CCR 1002-61, §61.3(1)(a), and Part II.A.8. of the Permit.

Failure to Comply with Basic Surface Water Standards

38. Pursuant to 5 CCR 1002-31, §31.11(1)(a), all surface waters of the state shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations, or combinations which: can settle to form bottom deposits detrimental to beneficial uses; produce color, odor, or other conditions in such a degree to create a nuisance or harm existing beneficial uses; or are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
39. Union Pacific Railroad conducted repair activities within the Moffat Tunnel, during the months of September, October, and November 2016, which included but may not be limited to track repair, track replacement, and ballast replacement.
40. Records provided by Union Pacific Railroad, summarized in the table below, establish that Union Pacific Railroad began repair activities on the Moffat Tunnel on September 1, 2016. Upon investigation, the aforementioned repair work significantly increased the turbidity of the discharge.

Union Pacific Railroad's EFFLUENT SELF-MONITORING DATA	
DATE	HIGHEST DAILY TURBIDITY MEASUREMENTS AT OUTFALL 001A
TURBIDITY REPORTED IN NTUs	TURBIDITY RANGE ASSOCIATED WITH NORMAL TUNNEL OPERATIONS = 3 to 150 NTUs
9/1/2016	518.4
9/6/2016	529.4
9/7/2016	325.9
9/8/2016	177.9
9/9/2016	501.64
9/12/2016	740.6
9/13/2016	325.7
9/14/2016	478.1
9/15/2016	507.9
9/16/2016	317.4
9/22/2016	305.87
9/23/2016	374.76
9/24/2016	326.24
9/25/2016	435.8
9/26/2016	407.26
9/27/2016	688.87
10/10/2016	>1,000
10/11/2016	>1,000
10/12/2016	375.83
10/13/2016	289.77
10/14/2016	209.51
11/2/2016	178.15

41. Representatives of the Division conducted site visits on September 26, 2016 and October 11, 2016. The purpose of these site visits was to investigate ongoing issues stemming from the discharge of sediment laden water associated with Union Pacific Railroad's work within the Moffat Tunnel. Observations from both site visits are outlined in a memorandum from Eric Mink dated January 20, 2018 (see Attachment A) and led to the findings described in paragraphs 42 and 43.
42. During the September 26, 2016 and October 11, 2016 site visits, Division representatives observed a significant amount of black deposits on the bottom of the Fraser River. These deposits began at Union Pacific Railroad's permitted outfall and were visible for at least ¼ of a mile downstream. The Division representatives observed no black deposits on the bottom of the Fraser River upstream of the Union Pacific Railroad's permitted outfall.
43. During the September 26, 2016 and October 11, 2016 site visits, Division representatives observed a gray cloudy discharge coming from Union Pacific Railroad's permitted outfall. This discharge entered into the Fraser River turning the river a cloudy gray.
44. Union Pacific Railroad's permitted outfall enters into a segment of the Fraser River that is classified for aquatic life cold 1, recreation E, agriculture, and water supply. These beneficial uses are reserved for water segments with Colorado's highest water quality. The gray cloudy discharge and black deposits associated with Union Pacific Railroad's sediment laden discharge creates a nuisance and is detrimental to the applicable beneficial uses.

45. The Fraser River is "state waters" as defined by §25-8-103(19), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (102).
46. Union Pacific Railroad's West Portal Outfall 001 and the unpermitted discharge pipe identified in paragraph 28 above are each a "point source" as defined by §25-8-103(14), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (75).
47. Union Pacific Railroad's discharge of high turbidity water into the Fraser River from a point source constitutes harm to the beneficial uses of a state water in violation of 5 CCR 1002-31, §31.11(1)(a).

NOTICE OF VIOLATION

48. Based on the foregoing Findings of Fact and Conclusions of Law, you are hereby notified that the Division has determined that Union Pacific Railroad has violated the following sections of the Colorado Water Quality Control Act's implementing permit regulations.

Section 25-8-501(1), C.R.S., which states in part, "No person shall discharge any pollutant into any state water from a point source without first having obtained a permit from the Division for such discharge,..."

5 CCR 1002-61 §61.3(1)(a), which states in part, "No person shall discharge any pollutant into any state water from a point source without first having obtained a permit from the Division for such discharge..."

Part II.A.8. of the Permit which states in part: "Any discharge to the waters of the State from a point source other than specifically authorized by this permit is prohibited."

Part I.A.1. of the Permit which states in part: "In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), 5 C.C.R. 1002-61, the permitted discharge shall not contain effluent parameter concentrations which exceed the limitations..."

Part I.D.1. of the Permit which states in part: "Reporting of the data gathered in compliance with Part I.A.... shall be on a monthly basis. Monitoring results shall be summarized for each calendar month and reported on Division approved discharge monitoring report (DMR) forms (EPA forms 3320-1)... If mailed, one form shall be mailed to the Water Quality Control Division... so that the DMR is received no later than the 28th day of the following month... If no discharge occurs during the reporting period, "No Discharge" shall be reported... The DMR forms shall be filled out accurately and completely in accordance with the requirements of this permit and the instructions on the forms."

Part I.B.1. of the Permit which states in part: "In order to obtain an indication of the probable compliance or noncompliance with the effluent limitations specified in Part I.A.1, the permittee shall monitor all effluent parameters at the following frequencies. Such monitoring will begin immediately and last for the life of the permit unless otherwise noted."

Part II.A.2. of the Permit which states in part: "The permittee shall notify the Division, in writing, of any planned physical alterations or additions to the permitted facility. Notice is required only when... the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged."

5 CCR 1002-31 §31.11(1), which states in part, “State surface waters shall be free from substances attributable to human-caused point source discharge or nonpoint source discharge in amounts, concentrations or combinations which....”

REQUIRED CORRECTIVE ACTION

Based upon the foregoing factual and legal determinations and pursuant to §25-8-602, §25-8-605 and 25-8-606, C.R.S., Union Pacific Railroad is hereby ordered to:

49. Cease and desist from all violations of the Colorado Water Quality Control Act, §§25-8-101 through 25-8-803, C.R.S., its implementing regulations promulgated thereto and the Permit.

Furthermore, the Division hereby orders Union Pacific Railroad to comply with the following specific terms and conditions of this Order:

50. Within 30 calendar days of receipt of this Order, Union Pacific Railroad shall submit all delinquent DMRs and completed versions of deficient DMRs, as well as records of its effluent discharge monitoring for the periods corresponding to the delinquent and deficient DMRs. The records shall include all laboratory data reports, all field measurement reports, and all calibration and maintenance records, including all other information required to be retained by (Part I.D.4.) of the Permit. The records shall be summarized in Excel format and shall be clear and understandable.
51. Within 30 calendar days of receipt of this Order, Union Pacific Railroad shall retain the services of an independent third party experienced in habitat and ecological restoration to evaluate what, if any, ongoing and potential future impacts to the Fraser River exist as a result of the discharges that occurred at the West Portal of the Moffat Tunnel from September to November 2016. This evaluation shall, at a minimum, consider the following:
- a. All surface water data that has been collected by Union Pacific Railroad;
 - b. All data submitted by Union Pacific Railroad under the terms of the Permit;
 - c. Any available surface water data collected upstream and downstream of the West Portal outfall;
 - d. Any applicable Fraser River vertebrate and invertebrate data collected by Colorado Parks and Wildlife or any other local organization.
52. Within 30 calendar days of receipt of this Order, Union Pacific Railroad shall retain the services of an individual or entity experienced in applicable wastewater treatment and management to perform an evaluation of the treatment system that began operation in 2017 and determine in the treatment system will be able to effectively treat water from the Moffat Tunnel during any and all repair activities.
53. Within 45 calendar days of receipt of this Order, Union Pacific Railroad shall provide documentation to the Division that it has retained the services of the individual or entity described in paragraphs 51 & 52. The documentation shall include, at a minimum, a copy of the individual or entity’s qualifications and a copy of the written contract or agreement for services, including a copy of the scope of services to be provided. Within 30 days, the Division will approve or disapprove of this individual or entity and scope of services.
54. Within 120 days of receipt of this Order, Union Pacific Railroad shall submit the results of the evaluation required by paragraph 51. If ongoing and potential impacts exist, the report must identify, specific short-term and long-term measures that will be taken by Union Pacific Railroad

to rectify impacts identified by the evaluation. For each short-term and long-term measure identified, Union Pacific Railroad shall also submit a time schedule for completion of each measure. The measures and time schedule submitted shall become a condition of this Order, and Union Pacific Railroad shall implement the measures and time schedule as submitted unless notified by the Division, in writing, that alternate measures and/or time schedules are appropriate. If the Division imposes alternate measures and/or time schedules, they shall also become a condition of this Order.

55. Within 120 days of receipt of this Order, Union Pacific Railroad shall submit the results of the evaluation required by paragraph 52. If further treatment options are required, Union Pacific Railroad shall submit a plan detailing what treatment options will be completed to ensure compliance with the Permit and all applicable regulations, prior to conducting any repair activities. The plan shall include but not be limited to; specifics regarding the type of treatment options that will be implemented, a detailed timeline for implementation, and when the next repair activities are planned.
56. Within 120 days of receipt of this Order, Union Pacific Railroad shall develop and implement an operations and maintenance plan for management of wastewater during any/all track maintenance activities. The plan shall take in to account the significant issues faced during past track maintenance activities as well as the constraints associated with current treatment facility, the location and purpose of the tunnel, and any possible resource constraints. The plan shall include but not be limited to how Union Pacific Railroad plans to meet all regulations and permit requirements during any/all track maintenance activities, the personnel involved, the proposed contingency plans, and when/how Union Pacific Railroad will notify the Division of repair activities.
57. Beginning September 30, 2017, and every calendar month thereafter, Union Pacific Railroad shall submit monthly progress reports to the Division by the last day of each calendar month. At a minimum, each report shall outline activities undertaken during the current month and activities planned for the next month to remain in compliance with this Order. The monthly progress reports shall be required until the issuance of written notice from the Division indicating that the reports are no longer necessary occurs.
58. If Union Pacific Railroad becomes aware of any situation or circumstances that cause Union Pacific Railroad to become unable to comply with any condition or time schedules set forth by this Order, Union Pacific Railroad shall provide written notice to the Division within five calendar days of becoming aware of such circumstances. Union Pacific Railroad's notice shall describe what, if any, impacts will occur on Union Pacific Railroad's ability to comply with the Colorado Water Quality Control Act or Permit CO0047554 and any impacts on the remaining conditions and/or time schedules specified by this Order, and what steps are being taken to mitigate the impacts.
59. All documents submitted under this Order shall use the same titles as stated in this Order, and shall reference both the number of this Order and the number of the paragraph pursuant to which the document is required. Within 30 calendar days of receiving Division comments on submitted documents, Union Pacific Railroad shall revise the submitted document(s) to properly address the Division's comments and resubmit the document(s) for Division review.

NOTICES AND SUBMITTALS

For all documents, plans, records, reports and replies required to be submitted by this Notice of Violation/Cease and Desist Order, the Union Pacific Railroad shall submit an original and an electronic copy to the Division at the following address:

Eric Mink
 Colorado Department of Public Health and Environment
 Water Quality Control Division
 Mail Code: WQCD-CWE-B2
 4300 Cherry Creek Drive South
 Denver, Colorado 80246-1530
 Telephone: (303) 692-2312
 Email: eric.mink@state.co.us

For any person submitting documents, plans, records and reports pursuant to this Notice of Violation / Cease and Desist Order, that person shall make the following certification with each submittal:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

OBLIGATION TO ANSWER AND REQUEST FOR HEARING

Pursuant to §25-8-603, C.R.S. and 5 CCR 1002, §21.11 you are required to submit to the Division an answer affirming or denying each paragraph of the Findings of Fact and responding to the Notice of Violation. The answer shall be filed no later than thirty (30) calendar days after receipt of this action.

Section 25-8-603, C.R.S. and 5 CCR 1002, §21.11 also provide that the recipient of a Notice of Violation may request the Division to conduct a public hearing to determine the validity of the Notice, including the Findings of Fact. Such request shall be filed in writing with the Division and include the information specified in 5 CCR 1002, §21.4(B)(2). Absent a request for hearing, the validity of the factual allegations and the Notice of Violation shall be deemed established in any subsequent Department proceeding. The request for hearing, if any, shall be filed no later than thirty (30) calendar days after issuance of this action. The filing of an answer does not constitute a request for hearing.

FALSIFICATION AND TAMPERING

Be advised, in accord with §25-8-610, C.R.S., that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Colorado Water Quality Control Act or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this article is guilty of a misdemeanor and, upon conviction thereof, shall be



punished by a fine of not more than ten thousand dollars, or by imprisonment in the county jail for not more than six months, or by both such fine and imprisonment.

POTENTIAL CIVIL AND CRIMINAL PENALTIES

You are also advised that any person who violates any provision of the Colorado Water Quality Control Act (the "Act"), §§25-8-101 to 803, C.R.S., or of any permit issued under the Act, or any control regulation promulgated pursuant to the Act, or any final cease and desist order or clean-up order issued by the Division shall be subject to a civil penalty of not more than ten thousand dollars per day for each day during which such violation occurs. Further, any person who recklessly, knowingly, intentionally, or with criminal negligence discharges any pollutant into any state waters commits criminal pollution if such discharge is made without a permit, if a permit is required by the Act for such discharge, or if such discharge is made in violation of any permit issued under the Act or in violation of any Cease and Desist Order or Clean-up Order issued by the Division. By virtue of issuing this Notice of Violation / Cease and Desist Order, the State has not waived its right to bring an action for penalties under §§25-8-608 and 609, C.R.S., and may bring such action in the future.

RELEASE OR DISCHARGE NOTIFICATION

Pursuant to §25-8-601, C.R.S., you are further advised that any person engaged in any operation or activity which results in a spill or discharge of oil or other substance which may cause pollution of the waters of the state, shall notify the Division of the discharge. If said person fails to so notify, said person is guilty of a misdemeanor, and may be fined or imprisoned or both.

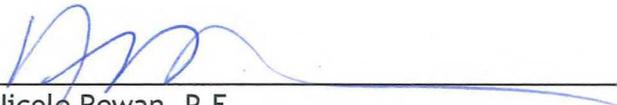
EFFECT OF ORDER

Nothing herein contained, particularly those portions requiring certain acts to be performed within a certain time, shall be construed as a permit or license, either to violate any provisions of the public health laws and regulations promulgated thereunder, or to make any discharge into state waters. Nothing herein contained shall be construed to preclude other individuals, cities, towns, counties, or duly constituted political subdivisions of the state from the exercise of their respective rights to suppress nuisances or to preclude any other lawful actions by such entities or the State.

For further clarification of your rights and obligations under this Notice of Violation / Cease and Desist Order you are advised to consult the Colorado Water Quality Control Act, §§25-8-101 to 803, C.R.S., and regulations promulgated thereunder, 5 CCR 1002.

Issued at Denver, Colorado, this 14th day of February 2018.

FOR THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT


 Nicole Rowan, P.E.
 Clean Water Program Manager
 WATER QUALITY CONTROL DIVISION

Attachment A



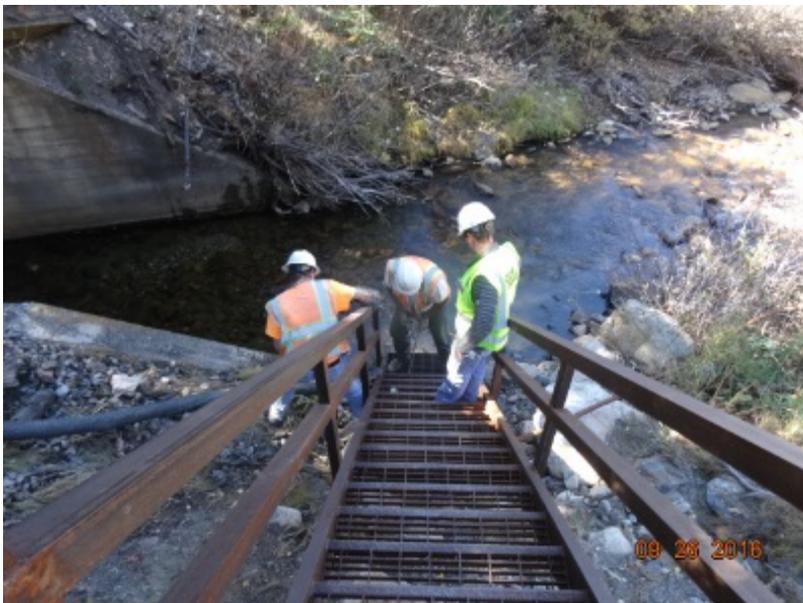
MEMORANDUM

DATE: January 30, 2018
 TO: Clean Water Enforcement Unit
 FROM: Eric Mink, Workgroup Leader
 RE: Site Visit Findings - CO0047550 Moffat Tunnel (Union Pacific Railroad)

This memo serves to identify observations made during site visits at the above referenced facility on September 26, 2016 and October 11, 2016. The September 26, 2016 site visit was conducted by Eric Mink of the Water Quality Control Division's ("WQCD") Clean Water Enforcement Unit. The October 11, 2016 site visit was conducted by Eric Mink and Kelly Jacques of the WQCD's Field Services Unit.

During the site visits, the WQCD representatives investigated ongoing issues stemming from the discharge of sediment laden water associated with Union Pacific Railroad's work within the Moffat Tunnel. The WQCD representatives viewed/walked the entire site (including but not limited to the discharge locations, the bag filtration area, and the permanent treatment facility that was under construction) and the Fraser River up and down stream of the site.

The following photographs were taken and observations were made during the September 26, 2016 site visit.



Upon arrival at the site, Union Pacific Railroad representatives were observed moving a discharge pipe to the permitted outfall location. Beginning September 23, 2016, Union Pacific Railroad discharged through this pipe from an unpermitted outfall location.

Attachment A



COLORADO
Water Quality Control Division
Department of Public Health & Environment

MEMORANDUM



Photograph showing the completed installation of discharge pipe to the permitted outfall location (metal culvert pipe).



Photograph showing the color of the discharge at the permitted outfall location at the time of the site visit.

Attachment A



MEMORANDUM



Photograph looking upstream from permitted outfall location showing the normal color/clarity of the Fraser River compared to the color/clarity of the discharge.

Attachment A



MEMORANDUM

The following photographs were taken and observations were made during the October 11, 2016 site visit.



Photograph showing evidence of the overflow discharge that occurred on October 10, 2016 from the filtration units stationed on the hill across from the permitted outfall location.



Photograph showing the amount of sediment in the overflow discharge that occurred on October 10, 2016 from the filtration units stationed on the hill across from the permitted outfall location.

Attachment A



MEMORANDUM



Photograph showing where the overflow discharge that occurred on October 10, 2016 entered into the Fraser River.

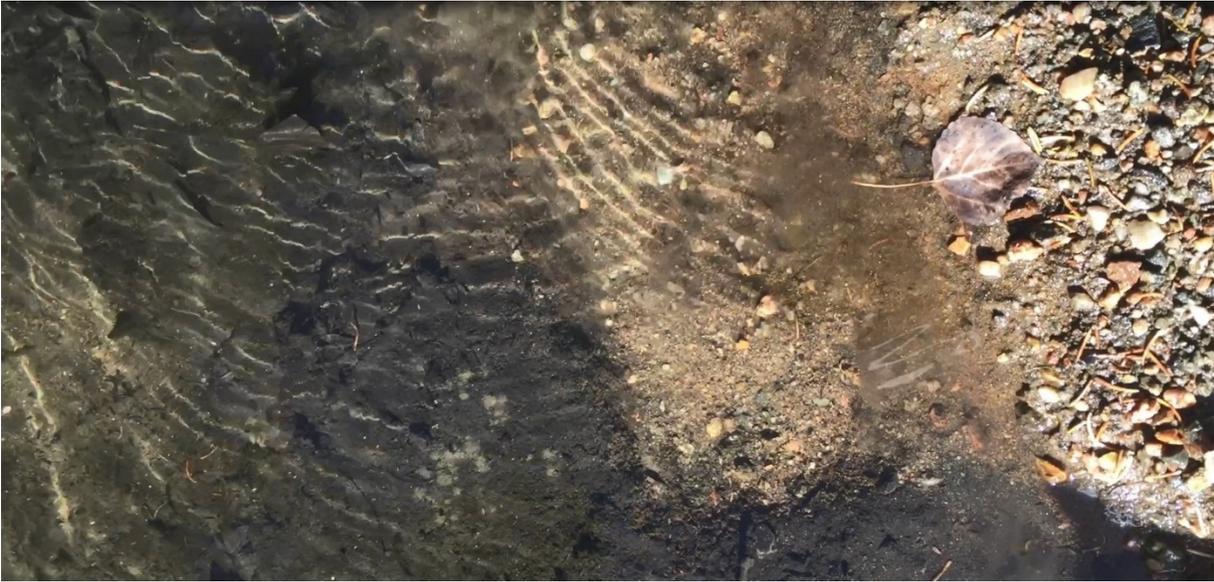


Photograph taken just downstream of the permitted outfall location showing the buildup of black sediment at the bottom of the Fraser River.

Attachment A



MEMORANDUM



A video was taken just downstream of the permitted outfall location to show what the color of the bed of the Fraser River was once the black sediment had been removed by hand. This photograph is a screen shot of the video showing the color differentiation after the sediment was removed.



Photograph taken approximately 500 feet downstream of the permitted outfall location showing the buildup of black sediment at the bottom of the Fraser River.