



OGMCOAL DNR <ogmcoal@utah.gov>

Fwd: Information Concerning the Water Issues at the Deer Creek Mine Site

2 messages

Steve Christensen <stevechristensen@utah.gov>

Mon, Sep 21, 2020 at 3:04 PM

To: OGMCOAL DNR <ogmcoal@utah.gov>, Kendra Hinton <khinton@utah.gov>, Priscilla Burton <priscillaburton@utah.gov>, Todd Miller <toddmiller@utah.gov>, Justin Eatchel <jeatchel@utah.gov>

fyi-

----- Forwarded message -----

From: **Oakley, Dennis (PacifiCorp)** <Dennis.Oakley@pacificorp.com>

Date: Mon, Sep 21, 2020 at 2:50 PM

Subject: Information Concerning the Water Issues at the Deer Creek Mine Site

To: Jeff Studenka (jstudenka@utah.gov) <jstudenka@utah.gov>

Cc: Steve Christensen <stevechristensen@utah.gov>, Karl Houskeeper (karlhouskeeper@utah.gov) <karlhouskeeper@utah.gov>, Owen, James (PacifiCorp) <James.Owen@pacificorp.com>

Jeff,

Attached is the letter from PacifiCorp to DEQ outlining the water flow issues we are have at the Deer Creek Mine site. As we discussed last week over the phone, it is PacifiCorp's belief that the flow emanating from the culvert we found while conducting some investigative excavating is not related in any way to mine water. We believe it's origins are tied to the many springs found in the canyon. Please review the letter. I am hopeful is covers all information you need to make a final determination of whether or not to require a permit for this flow into the Deer Creek drainage. Please let me know if you have any questions or concerns regarding this issue.

I hope you will be able to join DOGM on their field visit to the site this next Thursday at 10am.

Best Regards,

Dennis Oakley**Senior Mine Engineer****Thermal Generation Environmental Services****1407 West North Temple, STE 210****Salt Lake City, Utah 84116****801.220.4632 Office**

435.650.9233 Cell

801.220.4895 Fax

dennis.oakley@pacificorp.com

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 **Letter to DEQ9_2020.pdf**
1351K

Steve Christensen <stevechristensen@utah.gov> Mon, Sep 21, 2020 at 3:09 PM
To: OGMCOAL DNR <ogmcoal@utah.gov>, Justin Eatchel <jeatchel@utah.gov>, Priscilla Burton
<priscillaburton@utah.gov>, Todd Miller <toddmiller@utah.gov>, Kendra Hinton <khinton@utah.gov>

Another fyi. . .

----- Forwarded message -----

From: **Jeff Studenka** <jstudenka@utah.gov>
Date: Mon, Sep 21, 2020 at 3:06 PM
Subject: Re: Information Concerning the Water Issues at the Deer Creek Mine Site
To: Oakley, Dennis (PacifiCorp) <Dennis.Oakley@pacificorp.com>
Cc: Steve Christensen <stevechristensen@utah.gov>, Karl Houskeeper (karlhouskeeper@utah.gov)
<karlhouskeeper@utah.gov>, Owen, James (PacifiCorp) <James.Owen@pacificorp.com>

Dennis,

Thank you for the follow up letter to our call last week. Upon initial review, the letter adequately describes the situation for us to concur that a UPDES Permit would only be required for the off site discharge of any water encountered during the construction activities. This type of temporary UPDES permit (UTG070000) is specifically for Construction Dewatering and can be easily obtained anytime online as we discussed previously. After the site visit on Thursday, I will prepare a letter for DWQ signature to more formally respond to your letter. Thanks again and I should be able to make it Thursday for the site visit. See you all then...Jeff



Jeff Studenka

Environmental Scientist | UPDES Surface Water

Division of Water Quality

P: (801) 536-4395

waterquality.utah.gov



Emails to and from this email address may be considered public records and thus subject to Utah GRAMA requirements.

On Mon, Sep 21, 2020 at 2:50 PM Oakley, Dennis (PacifiCorp) <Dennis.Oakley@pacificorp.com> wrote:

Jeff,

Attached is the letter from PacifiCorp to DEQ outlining the water flow issues we are have at the Deer Creek Mine site. As we discussed last week over the phone, it is PacifiCorp's belief that the flow emanating from the culvert we found while conducting some investigative excavating is not related in any way to mine water. We believe it's origins are tied to the many springs found in the canyon. Please review the letter. I am hopeful is covers all information you need to make a final determination of whether or not to require a permit for this flow into the Deer Creek drainage. Please let me know if you have any questions or concerns regarding this issue.

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Best Regards,

Dennis Oakley

Senior Mine Engineer

Thermal Generation Environmental Services



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PacifiCorp
Thermal Generation Environmental Services
1407 West North Temple, Suite 210
Salt Lake City Utah, 84116

September 21, 2020

Electronic Submitted

Utah Department of Environmental Quality
Division of Water Quality
P.O. Box 144870
194 North 1950 West
Salt Lake City, Utah 84114-4870

Subj: Information Concerning the Water Issues at the Deer Creek Mine Site in Emery County, Utah

Dear Jeff Studentka:

PacifiCorp is a holder of UPDES permit number UT0023604 for two discharge point sources at its reclaimed Deer Creek Mine site in Emery County; 002 (mine water discharge in Deer Creek Canyon), and 003 (mine water discharge into Huntington Creek). This permit was re-issued on February 6, 2020. Final reclamation of the Deer Creek Mine, which included sealing all portals, was completed in November 2019.

Background:

In May of this year, PacifiCorp staff discovered an inadvertent flow of water emanating from a reclaimed side hill near the bottom end of the mine site. The flow from the side hill appeared to be of an equal quantity of the runoff flow found disappearing into the channel bottom approximately 1500 feet up the canyon. This inadvertent flow from the side hill brought concerns of creating an instability issue of the reconstructed and reclaimed slope.

It was first believed that the entire runoff flow coming from the higher elevations of the canyon was finding a subterranean flow path within and under the mine site area. To test this idea, PacifiCorp directed its contractor to install a pump to collect and by-pass all water flow in the channel to below the area of the leak. When the water flow was by-passed, the leak in the side hill stopped. When operation of the pump ceased, flow at the leak area reoccurred. There was a definite hydraulic connection in the disappearing channel flow and the leak. PacifiCorp then had directed the contractor to excavate the leak area to investigate how and why the water was surfacing at this point. Upon excavation, a historic culvert was discovered approximately 14 feet below the reclaimed surface. Once the culvert was exposed, it was found that a small flow of approximately 20 gpm continued to flow from the culvert even though the pump was by-passing channel flow.

The culvert is thought to be dated pre-1971 by evaluating historic photos of Deer Creek Canyon. The mine pad was constructed post-1971 by cast blasting the north facing slope above the mine down into the canyon bottom. The mine pad was constructed on top of this material. A survey of

the culvert was ordered by 1) sending a sewer camera up the culvert and videoing the interior of the culvert, and 2) inserting a gyroscopic probe up the culvert and collecting x, y, and z coordinates of its location from the leak area to its end.

It was found that the extent of the culvert was approximately 650 feet in length up the canyon (the termination point was a crushed out or excavated point of the culvert). Video showed what looked like boulders at the termination point with water flowing out of the rock and into the culvert. The surveyed x, y, z coordinate found the culvert approximately 70 feet below the reclaimed surface and 1200 feet away from any portal. With this discovery, it was determined that it would be impractical to excavate out the culvert. Water quality parameters were taken of both the runoff in the channel as well as the water discharge from the pipe, and spring flow that is evident near the channel and above the bathhouse area of the mine site.

At this point, PacifiCorp hired a geotechnical engineering firm to test the existing materials on site and develop a channel sealing plan for a 1000 foot section of the reclaimed channel. The plan calls for utilizing the existing soil material which have a high clay content. The clayey materials will be compacted into a two foot channel foundation that will seal and prevent water from infiltrating further into the subsurface. A fabric liner will be installed on top of this foundation, as well as a gravel filter and the riprap protective covering.

Facts:

- 1) A mine water discharge from the portals in Deer Creek Canyon was constructed by installing two French drains in two of the four portals that were located on the mine pad. The French drains are installed behind a solid concrete block seal at least 25 feet in by the portal opening. The portal is backfilled with earth material. The piping is installed through the seal and connects perpendicular to a main trunk line. This trunk line is routed south and will discharge into the reclaimed channel. This outfall is identified by the state as UPDES discharge #002. There has be no discharge from this outfall.
- 2) Throughout the Deer Creek Canyon, there exists ground water seepage to the surface. These “springs” are evident on the south side of the canyon above the mine site, within the mine site area, and below the mine site predominately in areas where the earth has been excavated. Most springs flow < 1 gpm however, there are a couple of the springs that flow up to approximately 5 gpm. The flow quickly disappears into the ground shortly below the discharge point. The water quality of these springs is noted to deteriorate the further down canyon sampling is taken.
- 3) Water quality of the runoff shows a pH of approximately 8.0, and an electrical conductance of 400 uS. The pH of the mine discharge historically was approximately 7.3 and an electrical conductance of approximately 900 uS. The pH of the culvert flow was 8.2 and the electrical conductance was 1100 uS. The quality of the canyon springs along the channel near the area where the bathhouse was located compared to the quality of the culvert flow.
- 4) The rock fill in the canyon consists of multiple layers of cast blasted materials with a high mineral content. Subsurface hydrology flows easily through this material.

Determination:

Through its investigations, PacifiCorp has determined that the reclaimed channel has failed and must be excavated and rebuilt for a length of approximately 1000 feet. Construction will be of native clay materials and installed/compacted with two feet thick of spec clay containing material, installing the gravel filter material and riprap armoring over the top of the engineered channel bottom.

Because the historic culvert is buried approximately 70 feet below the surface, it cannot practically be removed. PacifiCorp believes that; 1) the water emanating from this culvert is spring water from the many springs in the canyon that finds its way into the culvert; 2) it is unlikely that the flow from the culvert is related to any water emanating from the mine since there is no flow from UPDES site 002, nor is there be any evidence found of a hydraulic connection between mine water and surface water flows; 3) if the culvert was plugged off, it is believed that the flow would find an alternate path to the surface; 4) since the culvert seems to be in relative good condition and is collecting subsurface flow, it should be left in place. An HDPE pipe with similar or higher flow capacities should be installed and extended to direct the flow back into the channel.

These determinations come after extensive investigations of the associated water flows on the surface and subsurface, as well as the ground structure below the reclaimed channel and elsewhere. Multiple surveys, mapping, channel and surface excavations, ground proofing, examination of water flow for quantity and quality have all been completed since May, 2020. It is our belief that these determinations are correct.

In reference to our telephone conversation on September 17, 2020, PacifiCorp agrees with DEQ in that it will apply for a Construction Dewatering Permit to cover any discharges of encountered water during reconstruction of the leakage area. PacifiCorp pledges to comply with the requirement of the permit during the reconstruction period. At the end of this period, PacifiCorp will terminate this permit with DEQ.

If you have any questions or concerns regarding the above provided information, please contact me at 801-220-4632. I appreciate any input from DEQ regarding this matter as we move forward in our remediation process.

Sincerely,



Dennis Oakley
Sr. Mine Engineer

Cc: Steve Christensen – Division of Oil, Gas, and Mining
James Owens – PacifiCorp
Karl Houskeeper - DOGM
File