1883397

April 3, 2017

Mr. Robert Rob Parker, P.E.
Superfund Remedial Project Manager
U. S EPA, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Re: Richardson Flat Capacity Estimates and United Park City Mines Company comments on the October 9, 2015 Evaluation of UPCM Parcels SS-87 and SS-88 for Siting Waste Disposal Areas.

Rob:

United Park City Mines Company (United Park) is pleased to provide the information in this letter related to the repository capacity at Richardson Flat. You have asked for an order-of-magnitude capacity estimate for Richardson Flat. You have also indicated you would be interested to hear United Park's thoughts on the above entitled Tetra Tech document (Memo) regarding capacity at Richardson. This letter includes both. We have been through the Memo and have prepared the information in this letter. As outlined below, we feel that the capacity information included with this letter and the volume estimate we prepared for the OU's 2 and 3, clearly demonstrate that there is more than enough capacity to reposit the material that could come from OU's 2 and 3 and do so in a manner that is protective of human health and the environment.

The Memo's Additional Capacity Estimate

While United Park agrees that the Memo's additional capacity estimate of at least 1 Million cubic yards (outside of the current physical impoundment) is reasonably accurate, United Park has identified certain items in the Memo that it disagrees with. Notably, United Park takes exception with some of the potential reposited material locations in the Memo. Some of those potential locations do not appear to follow the guidelines and limitations identified in the Memo. United Park believes there are other reposited material locations that are consistent with the criteria in the Memo, but they are different than some of the locations identified in the Memo.

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United Park's Additional Capacity Estimate

United Park's evaluation, which is summarized below, estimates the capacity of additional material that can be accommodated at Richardson Flat (outside of the current physical impoundment) to be between 1,343,000 and 1,825,501 cubic yards as summarized in Tables 1 and 2 (attached). United Park's evaluation follows the same basic premise as the Memo, but more closely follows certain guidelines in the Memo and is discussed in greater detail below. It should be noted that United Park has a better understanding of Richardson Flat than anyone.

Golder's Additional Capacity Estimate

The Golder Evaluation submitted by United Park to the EPA supports an estimated capacity of 3,500,000 cubic yards entirely within the current physical impoundment, which is an area that is intentionally excluded from consideration in the Memo.

Combined Additional Capacity Estimate

The Golder estimate, when combined with the estimate from the Memo, supports a combined capacity estimate of over 4,500,000 cubic yards (or approximately 4,843,000 to 5,325,501 cubic yards if using United Parks estimated range instead of the Memo's estimate).

OU 2/3 Volume Estimate

With regard to the total volume of material that could come to the repository from the OU2/3 project, after extensive sampling United Park provided the EPA with an estimate of just under 2 Million cubic yards of material within OU 2/3. At present, it is not known how much of this material could remain within the OU 2/3 project area rather than be removed to Richardson Flat. That information will be determined as the EE/CA is developed.

Excess Capacity

The Combined Additional Capacity Estimate described above, when coupled with the OU 2/3 Volume Estimate referenced above, demonstrates a potential excess capacity of at least 2.5 Million cubic yards.

United Park has requested EPA's immediate approval to resume the practice of accepting material at Richardson Flat. In light of all available information, capacity is not an issue whatsoever.

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Comments on the Memo

The Memo Does Not Provide References or Support Documentation for Conclusions in the Memo.

With the exception of the photo images that reference the photo's source information, there are no references for any of the materials, technical conclusions or statements made in the body of the Memo. As an example, in the second paragraph on Page 1, there is a statement that "the area occupied by the main impoundment has not been considered for disposal of additional wastes." Yet the Memo does not provide any basis for this determination.

In the paragraph that discusses the geologic slope of native material, there are no references that support the conclusions in this paragraph.

The paragraph that discusses soil composition and hydraulic conductivity contains hydraulic conductivity rates that are not supported with technical references and appear to be contrary to information generated and evaluations conducted during and subsequent to the construction of the Richardson Flat impoundment that have been relied upon and reported for many years.

Graphic Representations Regarding the Suitability of Some Sub-parcels for Repositing Materials Appear Inconsistent with Statements in the Memo.

The first bullet point on Page 5 indicates that putting a waste disposal area on a sub-parcel adjacent to a 100 year floodplain would create problems. Conversely, however, Figure 3 in the Memo shows a disposal location on sub-parcel P2 located adjacent to a floodplain. United Park does not disagree with siting a location for reposited materials adjacent to a floodplain because it generally believes any issues associated with doing so can be properly controlled and managed. The particular floodplain area next to P2, as well as the floodplain at P3, has been excavated and deepened on its downstream end during the remediation process which facilitates a better drainage scenario for the immediate area and lessens the potential risk of a floodplain being adjacent to reposited material. Portions of the Memo, however, appear inconsistent on this point.

The Memo infers that reposited materials should not be located within wetlands. However, Parcel 5 as shown on Figure 6 of the Memo covers two wetland areas. The wetland along the west end of Parcel 5 contains a large meadow that is frequented by cranes, and a small ponded area adjacent to the south side of the Richardson Flat Road. This ponded area is frequented by ducks and shore birds. Water from this feature drains through a culvert under U. S. 40 and is collected in a ditch before spilling into the wetland feature. Water is also generated from the wetland upstream of the small pond. Along the easternmost portion of Parcel 5 is a small wetland that

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drains the area south of Richardson Flat Road and adjacent to another road that was originally constructed as a landing strip. This wetland feature flows water in early summer.

The northern end of parcel 2A occupies a grassy wetland that is used by migratory waterfowl for nesting purposes. The south half of Parcel 1A also lies within a wetland used by migratory waterfowl for nesting.

Parcel 1B lies almost entirely in a wetland.

The Summary Tables on Page 11 Are Not Clear. There Appear to be Substantial Errors in These Tables.

It is not possible to confirm or replicate the calculation of the numerical volume estimates in Tables 2 and 3 of the Memo. When calculating the estimated volumes of material that can be reposited, it appears the Memo has overstated the volumes listed in Table 3, and that the actual calculations are approximately 40% of the amounts in Table 3. The apparent miscalculations in the Memo seem to be the result of an inaccurate conversion of surface area square feet to cubic yards at specific depths.

Evaluation by United Park

Exhibit A is a depiction of the Richardson Flat area. United Park has outlined 8 areas where it believes materials could be reposited. These areas have been located consistent with the same guidelines as those described in the Memo. Table 1 summarizes the storage potential for these 8 areas. Table 2 summarizes the storage potential of these same areas with a 3 to 1 slope as depicted in Exhibit B. Following are brief descriptions of each area.

Area A

This area occupies the same general location as the portions of the sub-parcels identified as 2A and 2B in Figure 6 of the Memo. This area contains the same underlying clay-rich soil as described in the Hydrologic Review of the Richardson Flat Tailings Site prepared by Montgomery Watson Harza in March of 2002. It is described as being 312,820 square feet in size. A reposited material depth of 15 feet will accommodate 173,788 cubic yards. Looking at this area with three 10' lifts and a 3 to 1 slope would yield 243,643 cubic yards. The southerly 4/5 of this parcel lies outside of the Study Area boundary.

Area B

This area lies just north of the Richardson Flat Road and south of the Rail Trail. The ground under this area contains both tailings and native materials. It is identified as being 303,017 square feet in size and a reposited material depth of 25 feet would accommodate 280,571 cubic yards. Looking at this area with five 10' lifts and a 3 to 1 slope would yield 304,561 cubic yards. It is entirely within the RD/RA Study Area boundary.

Area C

This area is in the central part of the site, outside of the main impoundment dike system, and is entirely within the RD/RA Study Area boundary. It is underlain entirely by tailings and is 107,920 square feet in size. A reposited material depth of 25 feet would accommodate 99,925 cubic yards. Looking at this area with four 10' lifts and a 3 to 1 slope would yield 83,792 cubic yards.

Area D

This area sits southeast of the intersection of the Richardson Flat Road and the airstrip road. It is entirely within the Study Area boundary, and is underlain by undisturbed native material. There is a channel just to the north that carries water from the wetlands west of the airstrip road to the wetlands in the southeastern part of the site. A 100 year floodplain has been located along its southeastern edge. However, the downstream portion of this floodplain area was excavated during remediation which generally changed the way water flows through the area. The area is 144,969 square feet in size and would accommodate 107,384 cubic yards at a reposited material depth of 20 feet. This area would yield 136,935 cubic yards with five 10' lifts and a 3 to 1 slope.

Area E

This area is located south of Area D. It lies completely outside of the Study Area. It is underlain by undisturbed native material. There is a wetland about 150 feet away along its southerly edge. The northeastern portion of this wetland has been identified as a 100 year floodplain. However, the area downstream of this wetland was excavated during the Richardson Flat remediation work which changed the hydraulics of this particular feature. The area is 466,505 square feet and would accommodate 345,559 cubic yards at a reposited material depth of 20 feet. With 10' lifts the site could contain 619,547 cubic yards.

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Area F

This area sits about 1,300 feet south of the Richardson Flat Road and is entirely outside of the RD/RA Study Area boundary. It is an elongated parcel with a slight dogleg turn to the east on its northern end, and is underlain by undisturbed native material. It is 256,181 square feet and would accommodate about 142,322 cubic yards at a reposited material depth of 15 feet. With seven 10 foot lifts and a 3 to 1 slope the area yields 211,949 cubic yards.

Area G

This area is the westerly extension of the Memo's parcel 5. It is adjacent to U.S.40 to the west and the Richardson Flat Road to the north. It is outside of the RD/RA Study Area Boundary, and is underlain by undisturbed native material. It is about 50 feet from a large wetland to the east. The area is 145,306 square feet and would accommodate about 80,175 cubic yards at a reposited material depth of 15 feet, and 116,168 cubic yards if constructed using three10' lifts and a 3 to 1 slope.

Area H

This area is located outside of the RD/RA Boundary and is the westernmost area sited. It is underlain by undisturbed native material. A piezometer installed in 2000 placed groundwater at a depth of over 15 feet. The area is 152,618 square feet and would accommodate about 113,050 cubic yards at a reposited material depth of 20 feet and 111,906 cubic yards if constructed with three10' lifts and a 3 to 1 slope.

Conclusion

In recent dialogue, United Park was informed that to approve its requests to the EPA to allow third party contaminated materials to come to Richardson Flat, the agency wanted to ensure there is available space for the floodplain tailings (assuming Richardson is a likely destination for at least some of those tailings), and that granting those requests is an easy decision if there is excess disposal volume at Richardson.

Although the Memo appears to have a few problems, the evaluations related to Richardson Flat (including the Golder Evaluation, the United Park Evaluation, and other information), together with the December 2016 volume estimate for the OU2/3 Project, clearly support the conclusion that Richardson Flat has more than ample capacity for materials from the OU 2/3 project, and that there is substantial excess capacity.

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United Park is happy to further discuss this letter and the accompanying information, and renews its request for immediate EPA approval to resume accepting materials at Richardson Flat.

Sincerely,

Kerry C. Gee, Vice President

CC: Mo Slam DERR

Attachments

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Table 1
See Exhibit A

Various Storage Areas With Single Thickness

Parcel	Area	Thickness	Volume in Cubic Yards	
A	312,820	15	173789	
B	303,017	25	280571	
C	107,920	25	99926	
D	144,969	20	107384	
E	466,505	20	345559	
F	256,181	15	142323	
G	145,306	15	80726	
H	152,618	20	113050	
Total			1343329	YDS^3

Table 2
See Exhibit B

Various Storage Areas With Multiple Lifts of 10' Thickness

Parcel	Number of 10' Lifts	Volume in Cubic Yards	
A	3	243643	
B	5	304561	
C	4	83792	
D	5	136935	
E	7	619547	
F	4	211949	
G	3	116168	
H	3	111906	
Total		1828501	YDS^3

United Park City Mines Company

Exhibit A

Richardson Flat /OU 1
Repository Areas

No Lifts

Golder Evaluation Area

Study Area Boundary

Property Boundary

United Park Evaluation Areas

Draft - Estimate

Boundaries/Areas/Quantities Are Approximate

United Park City Mines Company

Exhibit B

Richardson Flat /OU 1
Repository Areas

Showing Lifts

Golder Evaluation Area

Study Area Boundary

Property Boundary

United Park Evaluation Areas

Draft - Estimate

Boundaries/Areas/Quantities Are Approximate