Greg Lewicki And Associates, PLLC
3375 W. Powers Circle
Littleton, CO 80123
Phone: (720) 842-5321
Fax (303) 346-6934
E-mail: info@lewicki.biz

December 1, 2020

JT Romatzke
Colorado Parks and Wildlife
Department of Natural Resources
Northwest Regional Office
711 Independent Ave.
Grand Junction, CO 81505

Subj: CPW Comments on DRMS application - Peak Ranch Resource, Permit M2020-041

Mr. Romatzke:

This letter responds to your letter documenting CPW's comments on impacts to wildlife in the 112c Construction Materials Reclamation Permit Amendment Application submitted on August 19, 2020, Permit M2020-041.

Wildlife Habitat

The project area occurs within summer range for moose, elk and mule deer. Additionally, it occurs within mule deer and elk winter range, and along the edge of an elk winter concentration area and a mule deer migration corridor. The Blue River riparian corridor is a mule deer concentration area as well as an important movement corridor for other big game species, small mammals and bird species. The property currently provides limited value to big game species due to forage conditions; however, animals move through the property regularly to access the river and adjacent habitats. This movement occurs year round, with higher activity during the winter months and during spring and fall migrations. Black bears also inhabit the area, and the property is directly adjacent to black bear summer concentration habitat across the river to the west.

Response

The Peak Ranch Resource has been an agricultural operation for several decades. It's premine use, agriculture withlimited water availability, is a primary reason the post mine land use selected is rangeland.

Peak Materials, however, will incorporate as many wildlife friendly mining and reclamation components into its plans and designs as possible as part of its stewardship of the property.

Raptors, including Bald Eagle and Osprey, have been observed on the west end of the property along the Blue River. A Bald Eagle nest previously existed on the property, and the entire stretch of the Blue River from Silverthorne Town Limits north to Green Mountain Reservoir provides summer and winter forage and winter concentration habitat for Bald Eagles. CPW requests that prior to any construction or mining activity on the property, valid raptor nest surveys (before July 31) and migratory bird nest surveys (before July 15) be performed by a certified biologist. CPW requests that trees with active nests be retained, and no disturbance be allowed within a 0.25-mile radius of active raptor nests until fledging has occurred.

Response

Peak Materials will conduct valid raptor nest surveys and migratory bird nest surveys via a certified biologist prior to mining activity onsite.

Traffic

Peak Resources plans to truck aggregate from the property to Maryland Creek Ranch, approximately 7 miles south on State Highway 9 (SH9). This stretch of highway between mileposts 107-114 (approximately) has been identified in the Summit County Safe Passages County-wide Connectivity Plan as a high priority area for mitigating wildlife-vehicle collisions, which occur year-round. Traffic volumes along SH9 through this area have been increasing steadily in recent years, and CPW is concerned that heavy truck traffic between the property and Maryland Creek Ranch may increase wildlife-vehicle collisions.

Peak Resources has agreed to implement modified hours for trucking operations, based on CPW recommendations, to minimize the potential for wildlife-vehicle collisions during the times of day when deer, elk and moose are most active, and specifically during the winter months when wildlife is concentrated at lower elevations closer to the highway. CPW supports the operator's proposed hours for limiting truck traffic to within the daily time period of 9 am to 4 pm from May 1st-Nov 30th, and within the daily time period of 10 am to 3 pm from Dec. 1st-April 30th.

Response

Peak Materials appreciates CPW's guidance and recommendations with regard to traffic timing and management.

Blue River Fishery

The reach of the Blue River between Silverthorne Town Limits and Green Mountain Reservoir previously held Gold Medal status and was delisted in 2016. The quality of this fishery had been in decline due a variety of impacts including unnatural stream flows, sparse aquatic invertebrate populations, low nutrient content and degraded habitat. The Blue River Enhancement Working Group (BREW) has been working cooperatively to monitor the river condition and identify what is causing the decline in quality.

Macroinvertebrates may be sensitive to changes in water quality from the proposed mining activity, and impacts may further degrade this fishery. Possible impacts to macroinvertebrate health was not addressed in the application. CPW suggests for macroinvertebrate impacts be addressed in one of two ways, if not both. Peak Materials could design and implement a robust macroinvertebrate monitoring program on the Blue River; for which, Peak Materials could explore a partnership with the BREW group. Furthermore, Peak Materials could bolster its water quality monitoring to include sites in the Blue River downstream of the mine, as well as the "wet cell" mining pit itself. If water quality impacts are detected in the Blue River or nearby ground water, or if a decline in macroinvertebrate populations is observed in the Blue River, and determined to be associated with the mining operations, CPW requests that the operator address and resolve them immediately.

Response

Peak Materials is already a stakeholder of the Integrated Water Management Plan headed by Colorado Trout Unlimited and the Blue River Watershed Group. It is through this organization that Peak Materials works to support monitoring and evaluating water quality in the Blue River.

Peak Materials will conduct water sampling within the Phase 2 groundwater lake and report the results to CDRMS.

Peak Materials will facilitate a permanent access for Colorado Trout Unlimited to the Blue River both during and after mining activities to allow for river studies and sampling as desired by the Blue River Watershed Group and the Blue River Enhancement Working Group.

CPW's Water Quality staff has reviewed the application and noted that the bedrock under the proposed gravel mine is Pierre Shale, which contains contaminants including selenium, sulfate, salts, nitrate, and a variety of radionuclides that can be released if crushed by gravel mining operations. Of those, selenium is the biggest concern for aquatic life and birds as it is bioaccumulates and causes deformities in the offspring of all egg-laying organisms, including fish and birds. Exposure of the shale bedrock layer could result in significant impacts to the downstream fishery in the Blue River, as well as riparian bird species. Exhibit D of the application states that the proposed mining will stop at least two feet above the bedrock to prevent its exposure. CPW is concerned that the 2-foot buffer is too narrow to reasonably avoid potential exposure of the bedrock, and recommends a minimum buffer of 4 feet above the bedrock to prevent accidental puncture or exposure of the bedrock and subsequent contamination of the Blue River.

Response

Bedrock will be protected from accidental exposure at the Peak Ranch Resource in the same manner it is protected at Maryland Creek Ranch: operations at the Maryland Creek Ranch find that the size of cobble dramatically increases within 4-6 feet of bedrock. The cobble reaches such a size that the excavator operator is able to feel the change in material. This change in material is used with success at Maryland Creek Ranch to identify the bottom of the minable deposit while staying off of bedrock. Furthermore, water sampling within the Phase 2 pond during mining will tell Peak Materials if any selenium,

sulfates, salts, or other analytes of concern are elevated where mining is occurring. It should be noted that the Maryland Creek Ranch excavation, along with similar sand and gravel excavations near Silverthorne in the same geology as Peak Ranch Resource have not generated water quality concerns or issues.

Riparian Area & Wetlands

The western boundary of the project area borders the Blue River, and the proposed mining plan includes a 200-foot buffer between the mining extent and the river. A majority of the wildlife use of this property occurs along the river corridor. CPW recommends increasing the buffer to a minimum of 300 feet to protect this riparian zone from disturbance. Scientific literature supports a minimum buffer of 300 feet from the river, which is consistent with CPW's recommendations for other land use disturbances as well as several Federal resource management plans in Colorado (Appendix A).

Response

Peak Materials has developed a revised mining pit configuration that will keep mining at least 300 feet from the Blue River. This new configuration fits within the already proposed affected area boundary and setbacks for mining activity. This new configuration is shown conceptually on Figure 1 and now includes two lakes. The mining and reclamation plans proposed for Peak Ranch Resource will be revised to incorporate the 300 foot setback.

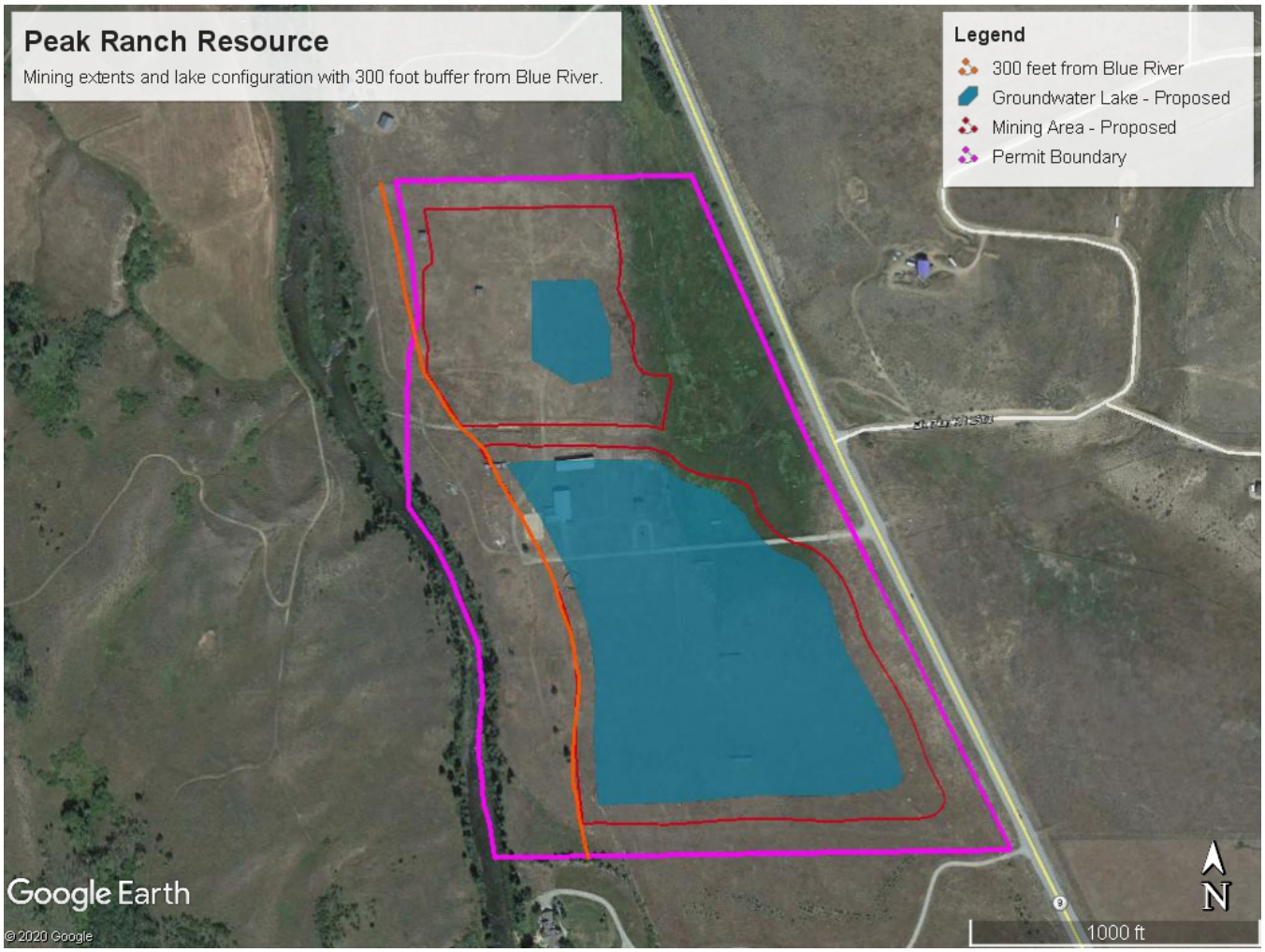

Figure 1 – Conceptual Mining Plans with 300 foot Blue River Buffer

A 16-acre delineated wetland exists at the northeast corner of the property along Highway 9. This area is a wet meadow dominated by grasses and sedges. Wetlands provide many functions including flood control, groundwater recharge and

discharge, water quality improvement, shoreline stabilization and wildlife habitat, serving as seclusion, nesting, feeding, and movement areas for migratory birds and mammal species. No mining is planned in the wetland or within a 50-foot buffer; however, CPW is concerned about the potential draining as a result of the mining. CPW recommends that the wetland is monitored frequently for signs of draining or other degradation and if impacted, CPW recommends that Peak Materials perform wetland mitigation by enhancing or creating comparable wetlands elsewhere in the Lower Blue Valley prior to completion of the mining project.

Response

The 16-acre wetland area on the northeast corner of the Peak Ranch Resource will be monitored for affect by mining through a combination of surface observation and groundwater level monitoring. The ground water level monitoring is achieved through the piezometers in place between the wetland area and the propose mining area. Furthermore, the wetland is surface water supported, based on the depth to local groundwater as well as clear surface water inflows via the culverts under CO-9. Any change to the wetlands will be determined principally by changes in surface water flows from east of CO-9 or from the Town of Breckenridge drainage easement.

A US Army Corps of Engineers wetland delineation is being pursued and will be in place prior to any mining onsite. The USACE is the regulator of jurisdiction with regards to wetlands, and its determinations and requirements will be followed by Peak Materials. Wetland mitigation, if needed, will be based on USACE permits.

Reclamation

Exhibit E of the proposal states that the property will be restored to rangeland with a groundwater lake for the benefit of local wildlife. The proposed 26-acre lake with max 3:1 slopes is relatively steep and not ideal for wildlife. CPW recommends grading the shoreline of the lake with a diversity of slopes from of 3:1 (minimum) to 5:1, which will balance creating optimal habitat for wildlife and minimizing weed growth. An ideal pond for wildlife would be composed of approximately 20-30% shoal area (4-8 ft deep), which is shallow enough for rooted vegetation, provides for invertebrate production and creates physical habitat complexity. This will allow wildlife to better utilize the lake as habitat and will accommodate fluctuations in water level.

Response

Peak Materials will grade the slope of the proposed groundwater lakes to be variable, with a minimum being 3H:1V. These shallow slopes will be maintained to 10 feet below the water line at a minimum.

The post mine land use for Peak Ranch Resource is rangeland, not wildlife habitat. Enhancements to the reclamation plan that improve the quality of life for wildlife will be implemented as long as they do not interfere with the successful mining and reclamation of the site to rangeland with groundwater lakes.

Additionally, CPW is concerned that the current proposed depth of the reclamation lake will cause stratification of the water layers. This may lead to formation an anoxic hypolimnion concentrated with heavy metals from the mining operations, which could then leach into the groundwater that will be feeding the lake. CPW recommends that Peak Materials modify their reclamation plan to include a pond design that will avoid potential water quality issues and contour the surrounding area to enhance the existing wetlands on the property. Additionally, CPW recommends using a native vegetation seed mix in the topsoil to enhance winter forage for wildlife.

Response

The Peak Ranch Resource lakes (see Figure 1), as groundwater lakes, will see the water within it constantly replaced by upland flows through the local aquifer. Its chemistry will be predominated by the incoming groundwater flows. Anoxic hypolimnion occurs mostly in water bodies that are isolated from area groundwater flows (reservoirs, stock ponds, etc.). The Peak Ranch Resource lakes will not have these conditions.

No heavy metals will be introduced into the Peak Ranch Resource site from offsite sources and the alluvium being mined has long since finished oxidizing or leaching available metals from the rocks within the deposit. Peak Materials will have a

groundwater monitoring point within the active pit during mining. This sample point will be under the same sampling and analysis plan as the groundwater wells onsite. Peak Materials will thus provide comprehensive data on the upgradient, mid-gradient (lake), and down-gradient groundwater quality for the site.

Peak Materials will use the seed mix attached to this letter to enhance the winter forage properties of this rangeland site.

Fencing

CPW notes that the proposal includes fencing of the perimeter, as well as the wetland. CPW requests that all fences on the property be designed to be permeable and friendly to wildlife. Please reference CPW's Fencing With Wildlife in Mind document for fence specifications:
https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifelnMind.pdf

Response

Peak Materials will install wildlife friendly fencing in consultation with local CPW officials.

Thank you for your consideration. If you have any questions or need any additional information, please let me know.

Sincerely,

Ben Langenfeld, P.E.
Greg Lewicki and Associates

Enclosures:

cc: Eric Scott, DRMS
Jeromy Huntington, Area Wildlife Manager, CPW
Jacob Kay, District Wildlife Manager, CPW
Elissa Slezak, Northwest Region Land Use Specialist, CPW
Lori Martin, Senior Aquatic Biologist, CPW
Jon Ewert, Aquatic Biologist, CPW

O:\Projects\Longmont\0509\117-0509415\Deliverables\DRMS\DRMS Adequacy Response\GLA Response Letters\M2020-041 Peak Ranch Resource_CPW Response.docx

Peak Ranch Seed Mixture (Revised November 2020)

Species	Plant Type (Percentage of Grasses based on number of seeds)	Project Seed Mix Drill Rate (pounds PLS per acre)
Grasses		
Mountain brome	Bunchgrass (10%)	2.7
Priarie junegrass	Bunchgrass (10%)	0.1
Muttongrass	Bunchgrass (10%)	0.2
Bottlebrush squirreltail	Bunchgrass (10%)	0.9
Indian ricegrass	Bunchgrass (10%)	1.2
Thickspike wheatgrass (Critana)	Sodformer (25%)	2.8
Western wheatgrass (Arriba)	Sodformer (25%)	4.0
	Total for grass species	**11.9**
Forbs and Shrubs		
Lewis flax	Forb – annual	0.8
Rocky Mountain penstemon	Forb – perennial	0.5
Mountain big sagebrush	Shrub	0.4
	Total for forb and shrub species	**1.7**
TOTAL SEED MIX – POUNDS PLS PER ACRE		**13.6**

Notes:

1. PLS = Pure Live Seed
2. The seed mixture design process follows NRCS guidance in Plant Materials Technical Note No. 59 (revised), March 2012: (a) Native species are selected based on suitability within the NRCS MLRA E-48B and elevation range; (b) Species appropriate for range and/or pasture are included in the selected grasses (along with species identified on site); (c) Critical Area Planting rates for grasses are used for mined land conditions, with sodformers comprising a minimum of 50% of the grasses.
3. The seed mixture also incorporates input from Colorado Parks and Wildlife (CPW) on appropriate grass, forb, and shrub species.