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February 4, 2021

Eric Scott
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Subj: Adequacy Response to Second Review of a 112c Construction Materials Reclamation Permit Application Package, Kilgore Companies, LLC dba Peak Materials - Peak Ranch Resource, Permit M2020-041

Dear Mr. Scott:

This letter is in response to your letter of January 21, 2021.

EXHIBIT D - Mining Plan (Rule 6.4.4):

The current mining plan states that all material excavated from the proposed Peak Ranch site will be allowed to drain, then be transported off-site to the existing Maryland Creek Ranch site for processing, use, and sale. No material washing or processing is proposed under the Peak Ranch application.

In recent discussions with Summit County representatives, DRMS was informed that Summit County will require Peak Materials to submit and gain approval of a new conditional use permit for the Maryland Creek Ranch site prior to importing any raw material to that site. In addition, if Peak Materials fails to obtain a new CUP for the Maryland Creek Ranch site, the existing Maryland Creek Ranch CUP will remain in effect until its current expiration date. How does the applicant intend to address this issue and how will the process impact proposed activity at the Peak Ranch site? Please also add the new Conditional Use Permit for Maryland Creek Ranch to Exhibit M.

As with any construction materials operation in Colorado, Peak Ranch Resource requires several permits and approvals prior to operations. The 112 Reclamation Permit is only one of the required permits and it is one of the first being pursued by the applicant. Beginning with the 112 Reclamation Permit is the common industry practice and it is often preferred or even required by the local land use agencies (most commonly counties) who benefit from the efficiency of

considering the land use impacts of a fully-designed project that has been approved by the Division of Reclamation, Mining and Safety (the “Division”) and the Mined Land Reclamation Board (the “Board”).

In fact, the Summit County Development Code (the “Code”) requires this approach. The Code permits mining operations in the zoning district for Peak Ranch Resource with approval of a conditional use permit. *See* Code § 3812.03(C). The Code further states that it is not intended to conflict with the Colorado Land Reclamation Act for the Extraction of Construction Materials (the “Act”), *id.* § 3812.04, and to achieve this goal it requires that applicants for county mining permits first obtain approval of a state mining permit from the Division, *id.* § 3812.04(B)(1)(a). More specifically, the Code requires that:

*All applications for mining . . . permit shall **demonstrate compliance** with all State and Federal regulatory schemes applicable to the proposed operation **Such compliance will include:**
a. **Permit approval** from the Colorado Division of Reclamation, Mining and Safety;*

Id. § 3812.04(B)(1)(a) (emphasis added).

This county framework is consistent with the Act. In order to respect the responsibility and authority of both the Division and Board, and the local Board of County Commissioners, and to accommodate for local land use approvals, Section 109 of the Act provides that:

The office is responsible for the enforcement of reclamation permits only and has no authority or duty to enforce other local, state, or federal agency permits; [and]

The operator shall be responsible for assuring that the mining operation and the post mining land use comply with city, town, county, or city and county land use regulations

C.R.S. §§ 34-32.5-104 & -109(3) (emphasis added). The Board’s role as it relates to local land use matters is to provide notice of a mining permit application to the local county:

Upon receipt of an application for a reclamation permit, the board shall provide notice of such application to all counties in which proposed mining operations are located

Id. § 34-32.5-109(4). The Board then issues the mining permit where it complies with the Act and is not contrary to a local ordinance:

In the determination of whether the board . . . shall grant a permit to an operator, the applicant must comply with the requirements of this article The board . . . shall not deny a permit except on one or more of the following grounds: . . .

(c) Any part of the proposed mining operation, the reclamation program, or the proposed future use is contrary to the laws of this article.

(d) The proposed mining operation, the reclamation program, or the proposed future use is contrary to the laws and regulations of this state . . . including but not limited to all . . . local permits, licenses, and approvals

Id. § 34-32.5-115(4), (4)(c) & (4)(d). Here, no component of the proposed Peak Ranch Resource or Maryland Creek Ranch is contrary to the applicable laws or regulations of this state or the United States, or any federal, state or local permits, licenses or approvals, including the Summit County ordinance requiring a county mining permit or Conditional Use Permit for mining activities.

Peak Materials has committed to obtain a Conditional Use Permit (CUP) from Summit County for Peak Ranch Resource and to obtain an updated CUP for Maryland Creek Ranch to allow that site to accept and process the materials from Peak Ranch Resource. Peak Materials attended a pre-application meeting with Summit County about both CUP applications and, in that meeting, the Summit County staff indicated that they wanted Peak Materials to first obtain the 112 Reclamation Permit before submitting the CUP applications.

As required by the Code and requested by the County, the applicant will pursue a CUP for Peak Ranch Resource and a revised CUP for Maryland Creek Ranch following the approval of this 112 Reclamation Permit application. Consistent with its December 11, 2020 response to Summit County's comments, Peak Materials will demonstrate that both operations will be compatible with the Lower Blue Master Plan in their respective CUP applications. Peak Materials acknowledges that CUP approvals for both Peak Ranch Resource and Maryland Creek Ranch will be required before any operations at Peak Ranch Resource can begin.

The existing Summit County Conditional Use Permit for Maryland Creek Ranch places restrictions on the types of material that are allowed to be imported to that site. Specify the materials that will be imported to the existing Maryland Creek Ranch permit and identify the uses of the materials?

The existing Summit County Conditional Use Permit for Maryland Creek Ranch provides, in part, that: "No raw materials may be imported onto the site, with the exception of materials necessary for the production of concrete and asphalt and concrete and asphalt materials to be recycled. Inert fill material, as defined by the Colorado Department of Health in their policy statement dated October 20, 1993, may be brought on to the property provided it is used for the purpose of constructing finished lakeshore slopes and/or finished grades."

Peak Ranch Resource will send sand and gravel to Maryland Creek Ranch. This material will be used to produce a variety of construction material products including, but not limited to, concrete and asphalt, as well as pit run, crushed stone, washed stone, road base, sand, and binder.

Please be aware the processing of material, whether at Maryland Creek Ranch or another location, will be subject to the requirements of a Reclamation Permit as well as any requirements imposed by the local jurisdiction.

The applicant is aware of this requirement as it relates to the proposed Peak Ranch Resource and Maryland Creek Ranch projects. In addition to updating the CUP for Maryland Creek Ranch, Peak Materials will be submitting a Technical Revision application to the DRMS for the Maryland Creek Ranch 112 Reclamation Permit.

EXHIBIT E - Reclamation Plan (Rule 6.4.5):

How does the operator intend to demonstrate at the end of mining that the internal slopes of the exposed groundwater lakes comply with the sloping requirements of the provided reclamation plan? Because the unlined lakes will be full during mining and when complete, a routine visual observation and verification of the internal slopes will not be possible.

The mining cell slopes are installed at their final condition and location using clear staking of the slopes. This provides a target for the dragline operator to excavate to, as discussed in the previous adequacy response. Following mining and reclamation, the underwater slope can be confirmed using a simple depth finder to acoustically map the slope.

EXHIBIT G - Water Information (Rule 6.4.7):

As previously discussed, the recent restoration of the Town of Breckenridge's drainage easement across the site to a functional state may have adverse impacts on the extent of the existing wetland area. Due to the depth to groundwater measured in the area, the existing wetlands are believed to be primary surface-water fed, with a minimal, if any, groundwater component. However, the restored drainage easement will allow surface runoff to return directly to the Blue River as intended, rather than being dispersed across the northeast area of the proposed permit as it has done for the past several years (at least).

DRMS requests that the applicant commit to monitoring groundwater levels in the six existing wetland piezometers along with monitoring wells GW2 and GW5 (or all on-site wells for simplicity and consistency) on a monthly basis, rather than quarterly, as soon as practically possible. This additional water level data may help to identify the impacts, if any, to the wetland area from restoring the required drainage easement vs the proposed mining activity.

Monitoring of the groundwater level in the piezometers and monitoring wells will be conducted on a monthly basis as soon as is practically possible.

EXHIBIT J - Vegetation Information (Rule 6.4.10):

The total extent of the wetland area on site has been noted to vary somewhat over time, as may be expected due to changes in site topography made by the previous owners, precipitation levels, and the amount of surface water seasonally feeding into/through them from the previously discussed drainage easement. DRMS will defer to the US Army Corps of Engineers for the final determination of the extent of jurisdictional wetlands present within the permit area, as well as any subsequent permitting that may be required for any disturbance within jurisdictional wetland areas.

What is the most recent status of the site with respect to the required US ACOE jurisdictional determination and any potentially required permitting?

The US ACOE has assigned file number SPK-2020-00743 to the delineation request that we submitted. US ACOE is reviewing the delineation submittal and will field confirm it in the spring, when weather permits.

At the request of the US ACOE, Peak Materials provided the US ACOE with the wetland delineation under a different submittal type. Therefore, a revised Appendix J-1 has been provided to keep the DRMS application file up to date.

EXHIBIT L - Reclamation Costs (Rule 6.4.12):

DRMS has calculated the required reclamation bond for the proposed operation based on information provided in the application, adequacy response, and DRMS's estimate of the maximum allowed disturbance for the operation as proposed. The DRMS bond estimate was calculated using the CIRCES software based on the following assumptions:

- *Maximum allowed disturbance for the site will be considered to be at the end of Phase I mining, when up to 54 acres may require replacement of overburden and topsoil, final grading, and revegetation. The total area requiring this work will decrease as the size of the proposed unlined lakes increases during Phase II of mining (if approved).*
- *Topsoil and overburden volumes, average haul distances, and equipment (truck, loader, and dozer) as provided in the initial adequacy response have been utilized. A water truck for dust control has also been included for these earthmoving tasks.*
- *All internal slopes for Phase I mining will be mined at 3:1 or flatter.*
- *Revised seed mix/rates, mulching, and tree counts provided have been utilized, and an initial seeding failure rate of 25% has been assumed.*
- *A permanent augmentation plan will be approved by the State Engineer's Office Division of Water Resources prior to exposure of any groundwater on-site*
- *No processing or stockpiling of processed material will take place on site*
- *All on-site support equipment brought to the site during operation— toilets, fuel trailers, etc, will be portable, and be able to be removed from the site by the owner for the amount stated in the provided estimate.*

The total bond required for the proposed permit utilizing the above assumptions is \$364,465.00. If the applicant wishes to implement a "phased bonding" approach, significantly more specific detail will need to be provided for concurrent mining and reclamation plans, as well as commitments to maximum disturbed acreage for each proposed phase of mining/reclamation. A summary of the cost estimate provided has been attached to this letter. Detailed breakdowns for each task listed can be provided upon request.

Peak Materials accepts the Division's bond calculation of \$364,465.00.

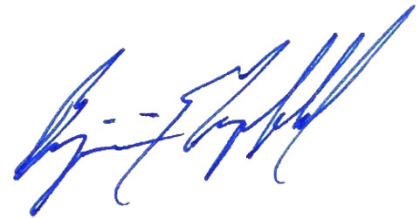
EXHIBIT M - Other Permits and Licenses (Rule 6.4.13):

Please include the new Summit County Conditional Use Permit for Maryland Creek Ranch that will be required for the importation of raw material as previously discussed.

A revised Exhibit M is attached to this letter with the Maryland Creek Ranch CUP added to the list.

Thank you for your consideration. Please contact me if you have any further questions or concerns.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ben Langenfeld", with a stylized flourish at the end.

Ben Langenfeld, P.E.
Greg Lewicki and Associates

APPENDIX J-1: AQUATICS RESOURCE DELINEATION REPORT



Ecological Resource Consultants, Inc.

2820 Wilderness Place Suite A Boulder CO 80301

Transmittal

Date: January 20, 2021

To: Ben Wilson, Project Manager
U.S. Army Corps of Engineers Colorado West Regulatory Section

From: David Blauch, Vice President, Senior Ecologist, P.W.S.
Dave@erccolorado.net, 303-679-4820 x102

Project: Aquatic Resource Delineation, Peak Ranch Resource, Summit County, CO
SPK-2020-00743

On behalf of Peak Ranch Resource, Ecological Resource Consultants, Inc. (ERC) is submitting this Aquatic Resource Delineation (ARD) report to the U.S. Army Corps of Engineers (USACE) for the Peak Ranch Resource Site in Summit County, CO.

This report retracts and replaces the previous ARD report and Request for an Approved Jurisdictional Determination submitted to the USACE dated December 21, 2020. Based upon consultation with you on January 12, 2021, it was determined that the December 21, 2020 Request for an Approved Jurisdictional Determination should be retracted and a resubmittal of a Request for an Aquatic Resources Delineation Verification would be more appropriate for the Site at this time. With this submittal we are requesting an Aquatic Resource Delineation Verification and scheduling of a site visit to review the information as soon as weather permits in the spring of 2021.

This submittal should supersede all information related to the December 21, 2020 submittal.

Thank you for your assistance with this project and feel free to contact me with any questions and to schedule the site visit.

Enclosures:

- Aquatic Resource Delineation Verification Form, USACE Sacramento District
- Aquatic Resource Delineation Report dated January 20, 2021

REQUEST FOR AQUATIC RESOURCES DELINEATION VERIFICATION

OR JURISDICTIONAL DETERMINATION

A separate jurisdictional determination (JD) is not necessary to process a permit. An Approved Jurisdictional Determination (AJD) is required to definitively determine the extent of waters of the U.S. and is generally used to disclaim jurisdiction over aquatic resources that are not waters of the U.S., in cases where the review area contains no aquatic resources, and in cases when the recipient wishes to challenge the water of the U.S. determination on appeal. Either an Aquatic Resources Delineation Verification or a Preliminary Jurisdictional Determination (PJD) may be used when the recipient wishes to assume that aquatic resources are waters of the U.S. for the purposes of permitting. In some circumstances an AJD may require more information, a greater level of effort, and more time to produce. If you are unsure which product to request, please speak with your project manager or call the Sacramento District's general information line at (916) 557-5250.

I am requesting the product indicated below from the U.S. Army Corps of Engineers, Sacramento District, for the review area located at:

Street Address: _____ City: _____ County: _____ State: _____ Zip: _____ Section: _____ Township: _____ Range: _____ Latitude (decimal degrees): _____ Longitude (decimal degrees): _____ The approximate size of the review area for the JD is _____ acres. (Please attach location map)	
Choose one: ☐ I own the review area ☐ I hold an easement or development rights over the review area ☐ I lease the review area ☐ I plan to purchase the review area ☐ I am an agent/consultant acting on behalf of the requestor Other: _____	Choose one product: ☐ I am requesting an Aquatic Resources Delineation Verification ☐ I am requesting an Approved JD ☐ I am requesting a Preliminary JD ☐ I am requesting additional information to inform my decision about which product to request
Reason for request: (check all that apply) ☐ I need information concerning aquatic resources within the review area for planning purposes. ☐ I intend to construct/develop a project or perform activities in this review area which would be designed to avoid all aquatic resources. ☐ I intend to construct/develop a project or perform activities in this review area which would be designed to avoid those aquatic resources determined to be waters of the U.S. ☐ I intend to construct/develop a project or perform activities in this review area which may require authorization from the Corps; this request is accompanied by my permit application. ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district's list of navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and/or is subject to the ebb and flow of the tide. ☐ My lender, insurer, investors, local unit of government, etc. has indicated that an aquatic resources delineation verification is inadequate and is requiring a jurisdictional determination. ☐ I intend to contest jurisdiction over particular aquatic resources and request the Corps confirm that these aquatic resources are or are not waters of the U.S. ☐ I believe that the review area may be comprised entirely of dry land. Other: _____	
Attached Information: Maps depicting the general location and aquatic resources within the review area consistent with Map and Drawing Standards for the South Pacific Division Regulatory Program (Public Notice February 2016, http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/) Aquatic Resources Delineation Report, if available, consistent with the Sacramento District's Minimum Standards for Acceptance (Public Notice January 2016, http://1.usa.gov/1V68lYa)	
By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the review area. Your signature shall be an affirmation that you possess the requisite property rights for this request on the subject property. *Signature: <u>David J. Blauch</u> Date: _____ Name: _____ Company name: _____ Address: _____ Telephone: _____ Email: _____	

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.



Ecological Resource Consultants, Inc.

2820 Wilderness Place, Suite A ~ Boulder, CO 80301 ~ (303) 679-4820

AQUATIC RESOURCE DELINEATION REPORT

**FOR
PEAK RANCH RESOURCE
SUMMIT COUNTY, COLORADO**

JANUARY 20, 2021

Prepared For:

Russell A. Larsen, Chief Operations Officer
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ERC Project #1125-1803

EXECUTIVE SUMMARY

This report summarizes the delineation of aquatic resources completed by Ecological Resource Consultants, Inc. (ERC) for the Peak Ranch Resource Site (survey area). ERC conducted a formal routine onsite delineation of aquatic resources within the 78-acre survey area located on Highway 9 approximately 11.5 miles north of the Town of Silverthorne, Summit County, Colorado on August 28-29, 2018. In total, approximately 7.89 acres of Aquatic Resources were identified within the survey area including approximately 1,675 linear feet of stream channel comprising the main channel of the Blue River. Aquatic resources are identified as Aquatic Resources A, BR (*Blue River*), and ID (*Irrigation Ditch*). Aquatic Resource A comprises approximately 6.68 acres of PEM wetland habitat existing as a wet meadow situated within the northeast portion of the survey area. Aquatic Resource BR comprises approximately 1,675 linear feet or 1.01 acres of the main channel of the Blue River and a narrow (5-10-foot wide) palustrine shrub-scrub (PSS) riparian fringe extending landward from the ordinary high-water mark (OHWM) of the Blue River. Aquatic Resource ID comprises approximately 641 linear feet or 0.2 acres of man-made irrigation ditch located in the northwest portion of the survey area.

In November 2020, following the 2018 delineation by ERC, the Municipality of Breckenridge upgraded a drainage ditch under Nationwide Permit 3 – Maintenance. The ditch, which is maintained by the Municipality of Breckenridge under a decreed water right, was present prior to the 2018 delineation, however was in disrepair and non-functional. This upgraded ditch is likely now to collect hydrology and may alter the wetland characteristics described in this report.

All areas that have been investigated in the field are mapped on the Aquatic Resource Delineation Map (**Appendix A**).



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APPENDIX A

Aquatic Resource Delineation Map

APPENDIX B

Wetland Determination Data Forms



1.0 INTRODUCTION

This report summarizes the delineation of aquatic resources completed by Ecological Resource Consultants, Inc. (ERC) for the Peak Ranch Resource Site. The purpose of this report is to provide a formal delineation of aquatic resources within the approximately 78-acre survey area established for the Site. This report facilitates efforts to document aquatic resource boundary determinations for review by the U.S. Army Corps of Engineers (USACE).

Report Prepared for:

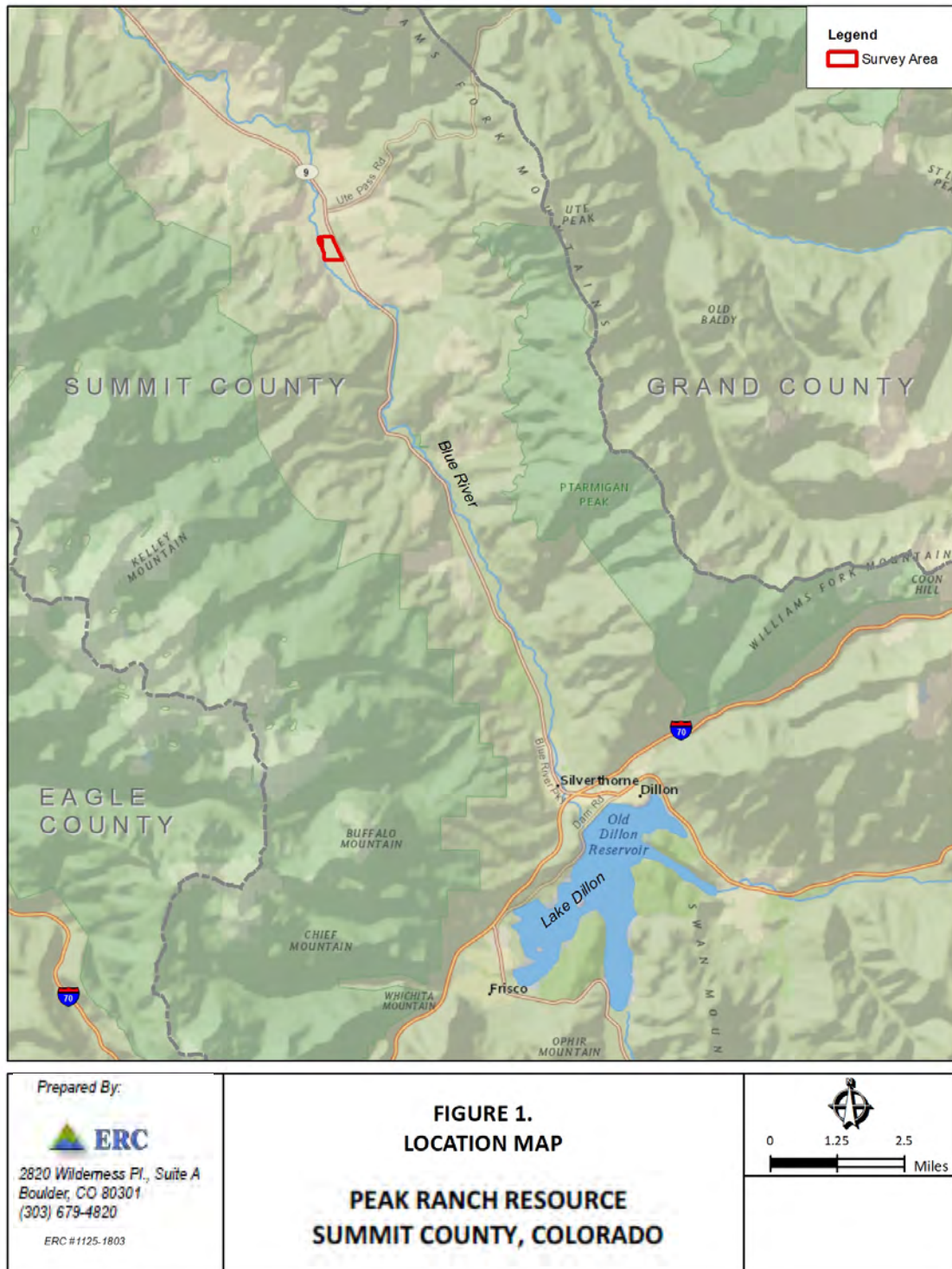
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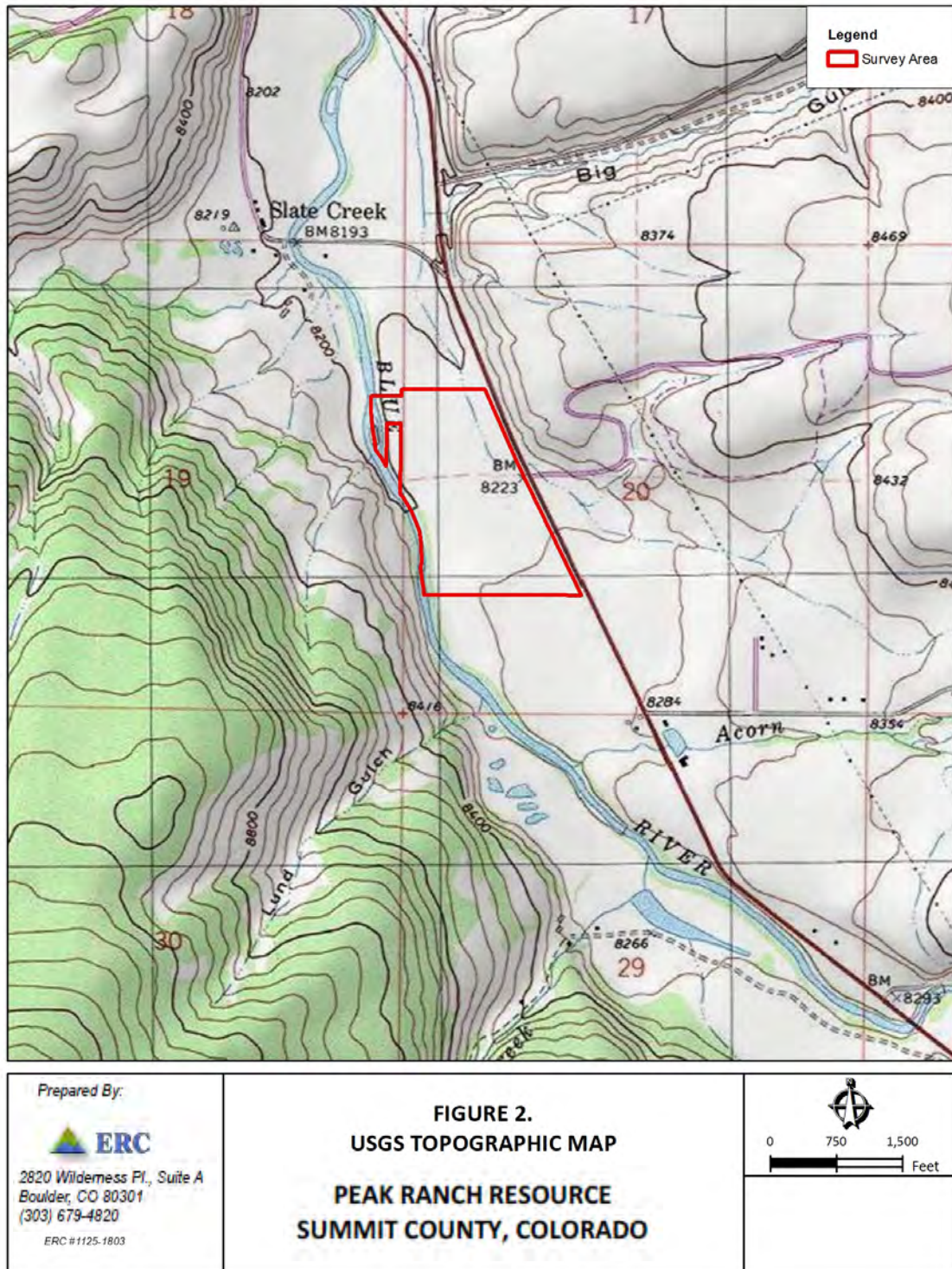
Consultant Contact Information:

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Main: (303) 679-4820
dave@erccolorado.net

2.0 LOCATION

The survey area is located on Highway 9 approximately 11.5 miles north of the Town of Silverthorne, Colorado in the *Middle Blue River* watershed (HUC 1401000205). The survey area is located on the west side of Highway 9 in the Blue River Valley between the Gore Range Mountains to the west, and the Williams Fork Mountains to the east. More specifically, the survey area is located in **Section 19 and 20, Township 3 South, Range 78 West** in Summit County (**Latitude 39.775211° North, Longitude - 106.154839° West**). From the intersection of Interstate 70 and Highway 9 in Silverthorne, the survey area can be accessed by heading north for approximately 11.5 miles on Highway 9. A gravel drive with a locked gate directly on the west side of Highway 9 provides access to the survey area. The survey area comprises 78 acres, including approximately 1,675 linear feet of the Blue River which forms the western boundary of the survey area. Refer to **Figure 1** and **Figure 2** for a location map and U.S. Geological Survey (USGS) topographic map of the survey area.





3.0 METHODOLOGY

The aquatic resource delineation was conducted following the methodology enumerated in the *1987 Corps of Engineers Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (herein referred to as “Supplement”) (Environmental Laboratory 1987, USACE 2010). During the field inspection, dominant vegetation was recorded, representative hydrologic indicators were noted and soil samples were examined for hydric indicators. Delineation field work for the survey area was completed on August 28-29, 2018. The weather during the delineation was sunny and dry at approximately 70 degrees Fahrenheit. At the time of the field evaluation, the conditions observed within the survey area were typical for the region and sufficient indicators of vegetation, soils and hydrology were observed to make a wetland determination.

The USACE and the Environmental Protection Agency (USEPA) jointly define wetlands as: “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [40 CFR 230.3(t)]. Three general environmental parameters define a wetland. These parameters must include the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Except under certain situations, evidence of a minimum of one positive wetland indicator from each of the above parameters must be identified in order to make a positive wetland determination.

In addition, waters of the U.S. are also defined as areas that “include essentially all surface waters such as rivers, streams and their tributaries, all wetlands adjacent to these waters, and all ponds, lakes and reservoirs”. The boundaries of some waters of the U.S. (i.e., such as streams or lakes) are further defined by the ordinary high water mark (OHWM). The OHWM is characterized as “the line on the shores established by the fluctuations of water and indicated by physical characteristics such as: a clear natural line impressed on the bank, shelving, changes in the character of the soil, wetland vegetation, the presence of litter and debris, and other appropriate means that consider the characteristics of the surrounding areas” (USACE 2005). These definitions are the basis of this delineation method.

Areas that do not meet any one of the wetland parameters (hydrophytic vegetation, hydric soils and/or wetland hydrology) or non-vegetated stream channel (OHWM) were classified as a non-wetland (upland) and mapped as such.

Each wetland determination point was recorded using a hand-held Trimble GeoXH global positioning system (GPS) receiver. The resulting GPS data were post processed using GPS Pathfinder Office 5.85 software. Post processing differential correction provided an average horizontal mapping accuracy of +/- 2 feet. Post-processed GPS data were imported into ArcMap Geographic Information Systems (GIS) (Version 10.5) for spatial analysis and mapping. All aquatic resources delineated within the survey area are depicted on the Aquatic Resource Delineation Map (**Appendix A**). Wetland Determination data sheets are provided in **Appendix B**.

4.0 EXISTING CONDITIONS

4.1 LANDSCAPE SETTING

The survey area is situated within the Southern Rocky Mountains ecoregion (Bailey 1976) at an approximate elevation of 8,235 feet above mean sea level (AMSL) within the Blue River Valley. The Blue River flows north parallel to the western boundary of the survey area and occurs within the survey area boundary in three separate areas for a total of 1,675 linear feet. Overall, the majority of the survey area appears to have been used for agricultural purposes and livestock pastures containing two abandoned residential homes, several agricultural outbuildings, and open agricultural land.

The landscape within the survey area is predominantly characterized by the Inter-Mountain Basins Montane Sagebrush Steppe (Comer et al. 2003). Mountain sagebrush habitats are always dominated by mountain big sagebrush (*Artemisia tridentata*), with a dense grass and herb component. This system shows an affinity for mild topography, fine soils, and some source of moisture in the soil or more mesic sites, zones of higher precipitation and areas of snow accumulation. A smaller percentage of the survey area is characterized by the Rocky Mountain Alpine-Montane Wet Meadow (Comer et al. 2003) vegetation community located in the northeast portion of the survey area. These are high-elevation communities dominated by herbaceous species found on wet sites with very low-gradient surface and subsurface flows. They occur as large meadows in montane or subalpine valleys, as narrow strips bordering ponds, lakes, and streams, and along toeslope steeps. Lastly, the Blue River Corridor occupies a narrow strip of land along the western boundary of the survey area and is characterized as Rocky Mountain Subalpine-Montane Riparian Woodland (Comer et al. 2003). This riparian woodland system is comprised of seasonally flooded forests and woodlands found at montane to subalpine elevations of the Rocky Mountains. This system contains the conifer and aspen woodlands that line montane streams.

4.2 AQUATIC RESOURCES

Delineated aquatic resources were classified according to physical and biological characteristics using the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin Classification System) (Cowardin et al. 1979). The Cowardin Classification System was developed by the US Fish and Wildlife Service (USFWS) as a standardized system to classify or describe wetland habitat types uniformly across the US. Within the survey area, habitat types were classified based on field evaluation. The wetland habitats within the survey that were classified using the Cowardin Classification System are summarized below in **Table 1**.

Table 1. Summary of Aquatic Resources Delineated within the Survey Area.

Aquatic Resource Name	ID	Classification		Acres	Linear Feet
		¹ Cowardin	Location (lat/long)		
BR	BR1	R3/PSS (<i>Blue River</i>)	39.777788°N, -106.159031°W	0.72	835
	BR2	R3/PSS (<i>Blue River</i>)	39.775367°N, -106.157775°W	0.13	228
	BR3	R3/PSS (<i>Blue River</i>)	39.772800°N, -106.157037°W	0.16	612
	Subtotal			1.01	1,675
A	A	PEM	39.776464°N, -106.158611°W	6.68	-
ID	ID	Ditch	39.777899°N, -106.158808°W	0.20	641
TOTAL				7.89	2,316

Notes:

¹ Habitat Type based on Cowardin et al. 1979.

A total of 7.89 acres of aquatic resources and 2,316 linear feet of stream channel (including 641 linear feet of man-made irrigation ditch) were delineated by ERC within the survey area. A description of the aquatic resource habitat types is provided as follows. Refer to **Table 2** for a list of vegetation identified within the survey area. The Aquatic Resource Delineation Map dated September 7, 2018 is provided in **Appendix A**.

AQUATIC RESOURCE A (6.68 ACRES)

Aquatic Resource A comprises PEM wet meadow habitat situated within the northeast portion of the survey area. The boundary of Aquatic Resource A was determined largely based on the presence of hydric soils. The vegetation community throughout the northeast portion of the survey area is very similar exhibiting a dominance of species ranging from OBL-FAC, especially in areas surrounding the south and west delineated boundaries of Aquatic Resource A. Therefore, hydric soils were the most useful indicator in determining the wetland/upland boundary of Aquatic Resource A. It appears that this area has been historically influenced by flood irrigation practices, as discontinuous man-made ditch segments were observed throughout Aquatic Resource A. In addition, the eastern boundary of Aquatic Resource A is formed by a ditch along the west side of Highway 9 that was likely originally built for surface water runoff from Highway 9 and surrounding upslope areas. Two culverts were observed that outlet into Aquatic Resource A from the east side of Highway 9, the culvert outlets on the west side of Highway 9 are where the ditch originates. Hydrology within Aquatic Resource A is likely supported by surface water runoff from surrounding upslope areas, seasonal hydrology from snowmelt, and possible seepage from the ditch that forms the eastern boundary during high flows.

The vegetation community within Aquatic Resource A is dominated by species such as field meadow-foxtail (*Alopecurus pratensis*), Baltic rush (*Juncus balticus*), Canadian thistle (*Cirsium arvense*), leafy tussock sedge (*Carex aquatilis*), small-wing sedge (*Carex microptera*), and annual blue grass (*Poa annua*). The dominant vegetation within the wetland areas consists of hydrophytic species (OBL-FAC).

Soils within the wetland areas are either silt loam or silty clay loam textured meeting the criteria for the hydric soil indicator F6 (Redox Dark Surface) and/or F3 (Depleted Matrix). At the time of the delineation, primary wetland hydrology indicator of C3 (Oxidized Rhizospheres along Living Roots) was observed

throughout the wetland complex. The PEM habitat within Aquatic Resource A meets the criteria for wetland based on the presence of hydrophytic vegetation, hydric soils and wetland hydrology.

Aquatic Resource A comprises a total of 6.68 acres within the survey area. Refer to **Photos 1-6** below for characteristics of Aquatic Resource A.

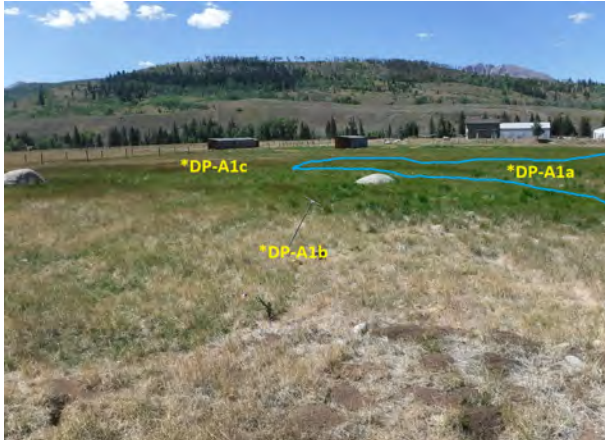


Photo 1. Overview west of the southern portion of Aquatic Resource A (boundary depicted by the blue line). The vegetation community in this area is very similar which is evident in the photo. Wetland data point DP-A1a and paired upland data points DP-A1b and DP-A1c shown above.

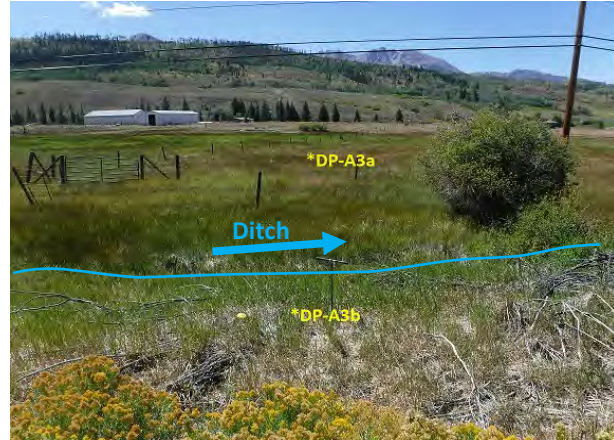


Photo 2. View west at the central portion of Aquatic Resource A. The ditch that forms the eastern boundary (boundary depicted in blue) can be seen in the foreground and typical wet meadow in the background. Wetland data point DP-A3a and paired upland point DP-A3b shown above.



Photo 3. Overview south from the northwestern boundary of Aquatic Resource A (western boundary depicted in blue). A discontinuous ditch likely used for flood irrigation forms the boundary in this area. Similar vegetation communities between the upland wetland boundary are evident in this photo. Wetland data point DP-A5a and paired upland DP-A5b shown above.



Photo 4. Overview north of a typical man-made ditch for flood irrigation and/or a water source for livestock within Aquatic Resource A. This area is still currently in use as a horse pasture which is evident in this photo.

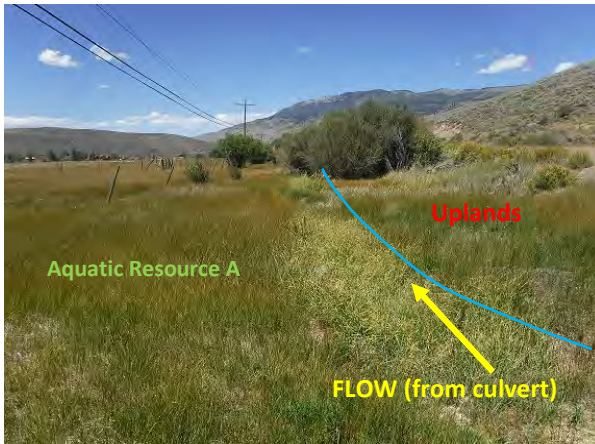


Photo 5. Overview north of the southeastern boundary of Aquatic Resource A where it begins from a culvert under Highway 9. The ditch that forms much of the eastern boundary can be seen at the right of photo (boundary depicted in blue).

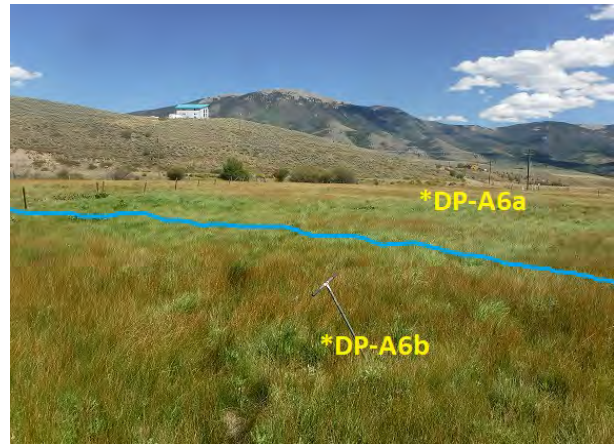


Photo 6. Overview east from the western boundary of Aquatic Resource A (boundary depicted in blue). The vegetation community was very similar in this area, therefore the wetland/upland boundary was determined based on hydric soils. Wetland data point DP-A6a and paired upland data point DP-A6b shown above.

AQUATIC RESOURCE BR (1.01 ACRES, 1,675 LINEAR FEET)

Aquatic Resource BR comprises the main channel of the Blue River, defined by OHWM and the associated 5-10 feet wide PSS riparian fringe extending landward from the OHWM. Aquatic Resource BR was mapped as occurring within the survey area in three separate areas identified as BR1, BR2, and BR3 for a total of 1,675 linear feet. The main channel of Blue River through this area is approximately 50 feet wide with varying depths. The stream channel itself is unvegetated within the OHWM and mainly comprises larger boulder and cobble material. Vegetation within the PSS riparian fringe is dominated by midstory shrub species such as speckled alder (*Alnus incana*), Drummond's willow (*Salix drummondiana*), geyer willow (*Salix geyeriana*), and an herbaceous understory dominated by reed canary grass (*Phalaris arundinacea*), black bent (*Agrostis gigantea*), dagger-leaf rush (*Juncus ensifolius*), and sedges (*Carex spp.*). Soils/substrate within the riparian fringe comprise boulders, cobbles, and gravels near the active channel, and moving landward mostly coarse sands and gravels. Some areas with dense herbaceous understory exhibit a dark organic layer at the surface, but soils through the riparian fringe are shallow and sandy with no hydric soil indicators observed. Generally, the Blue River corridor along the southern portion of the western boundary of the survey area is deeply entrenched with a much narrower riparian fringe. Moving north the river becomes wider and shallower with a wider riparian fringe and more established midstory shrub and herbaceous understory vegetation. Hydrology within the riparian fringe appears to be solely supported by flows from the Blue River during periods of high flows and/or capillary fringe.

Aquatic Resource BR comprises a total of 1.01 acres and/or 1,675 linear feet within the survey area. Refer to **Photos 7-10** below for characteristics of Aquatic Resource BR.



Photo 7. View north of the east bank of the Blue River in the northern portion of the survey area (BR1). The blue line depicts approximate OHWM and a PSS riparian fringe dominated by midstory shrubs and an herbaceous understory is evident in the background of this photo.



Photo 8. View west from the east bank looking down at the Blue River corridor. The OHWM of the Blue River is depicted in blue and the yellow line depicts the extents of the 5-10-foot-wide PSS riparian fringe.



Photo 9. View north of the southern portion of the Blue River along the western boundary of the survey area (BR3). This portion of the Blue River is steeper and more entrenched with a narrow (if any) PSS riparian fringe.

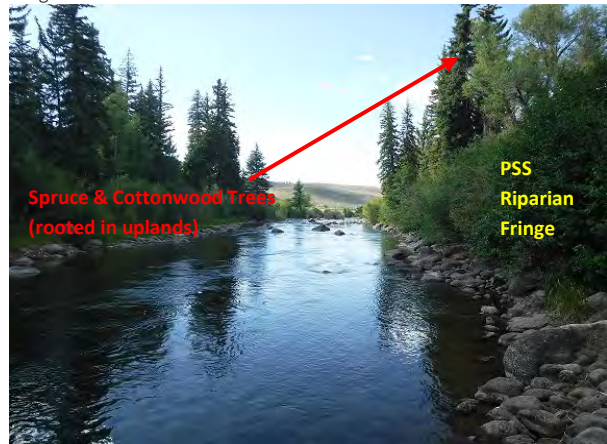


Photo 10. View north at the central portion of the Blue River along the western boundary of the survey area (BR2). A steep bank abuts the narrow PSS riparian fringe in this area that abruptly transitions to uplands indicated by overstory canopy trees that are rooted in uplands (right side of photo).

AQUATIC RESOURCE ID (0.2 ACRES, 641 LINEAR FEET)

Aquatic Resource ID comprises an unnamed, man-made irrigation ditch within the northwest portion of the survey area. The ditch is approximately 6 feet wide and 6 feet deep on both banks with an OHWM at approximately 2 feet up on the banks defined by OHWM indicators such as scour and lack of vegetation. Vegetation along the bank is dominated by midstory shrub species such as Drummond's willow with an herbaceous understory dominated by reed canary grass. The ditch substrate is primarily small cobbles and gravels, approximately 4 inches of surface water in localized depressions was observed in portions of the ditch at the time of the delineation.

Aquatic Resource ID comprises a total of 0.2 acres and/or 641 linear feet within the survey area. Refer to **Photos 11-12** below for characteristics of Aquatic Resource B.



Photo 11. View north at Aquatic Resource ID within the survey area. The OHWM at approximately 2 feet above the ditch bottom is depicted above in blue.



Photo 12. View south at Aquatic Resource ID within the survey area. Midstory shrubs and herbaceous vegetation along the ditch banks, and cobble substrate is evident in this photo.

4.3 UPLAND HABITAT

The aquatic resource delineation identified approximately 70 acres of upland habitat within the survey area characterized as Inter-Mountain Basins Montane Sagebrush Steppe and Rocky Mountain Alpine-Montane Wet Meadow (Comer et al. 2003). Overall, the majority of land within the survey has been used for agriculture (mainly livestock) and may be somewhat overgrazed and/or degraded. Topography across upland habitats is relatively flat throughout a majority of the survey area. A summary of upland habitat within the survey area is provided as follows.

Inter-Mountain Basins Montane Sagebrush Steppe

This vegetation community occupies the majority of the survey area and includes lands that are currently used for horse pasture, as much of this community is fragmented by fences for rotational grazing. In general, this community exhibits more shrub species and more established herbaceous vegetation along the southern and western portions, due to it not being used as pasture in recent time. The central and northern portions of the community have been subject to heavy grazing and represents a more degraded form of this vegetation community. Vegetation across this community is dominated by small (typically less than 2 feet in height) shrub species such as big sagebrush and rubber rabbitbrush (*Ericameria nauseosa*) intermixed with a herbaceous understory dominated by species such as rocky mountain fescue (*Festuca saximontana*), mountain brome (*Bromus marginatus*), common yarrow (*Achillea millefolium*), and varileaf cinquefoil (*Potentilla diversifolia*) comprising approximately 50%-60% ground cover with the remaining ground cover comprised of exposed surface soil and rock. The western extents of this upland community within the survey area comprise the shoulder slope and partially down the slope to the riparian corridor of the Blue River. This shoulder slope/hillslope area is entirely uplands with a similar vegetation community, however, exhibits overstory canopy tree cover of Engelmann spruce (*Picea engelmannii*) and narrowleaf cottonwood (*Populus angustifolia*), with sparse shrub cover of species such as woods' rose (*Rosa woodsii*), intermixed with smaller percentages of the species described above. Soils within this community are silt loam to loam textured, dry, loamy, and light colored underlain by larger rock. An upland ditch exists within

this community in the central western portion of the survey area. The ditch appears to be man-made, excavated in uplands, and used in the past for agricultural purposes. The ditch is fragmented by a farm road without a culvert and no indicators of OHWM or regular flow were observed. See wetland determination data form *DP-U3* in **Appendix B** and *Photo 15* for characteristics of the upland ditch.

Rocky Mountain Alpine-Montane Wet Meadow

This vegetation community occupies a much smaller percentage of uplands within the survey area located surrounding the western and southern boundaries of Aquatic Resource A. The vegetation community of uplands surrounding Aquatic Resource A is very similar to Aquatic Resource A dominated by hydrophytic species such as field meadow-foxtail, baltic rush, Canadian thistle, mountain brome, and slender wild rye (*Elymus trachycaulus*). While these areas have a vegetation community dominated by hydrophytes, they lack any positive indicators for hydric soils and wetland hydrology thus do not meet the parameters for wetland per USACE technical guidelines and procedures (Environmental Laboratory 1987, USACE 2010). Additionally, these areas lack a defined bed, bank, OHWM or indicators of relatively permanent flow thus do not meet the criteria for stream channel. Baltic rush (FACW) does not appear to be a good wetland indicator species in this area as it is growing in both wetlands and uplands throughout the northeast portion of the survey area, and most other dominant species in uplands dominated by hydrophytes have an indicator status of FAC, indicating only seasonally moist conditions. Soils throughout uplands in this community are mostly silt loam textured, dry, and light colored.

The upland habitats across the survey area are dominated by FACW-UPL species with dry, light colored silt loam soils. Hydric soils and wetland hydrology were not present in the upland habitats across the survey area.

Refer to **Photos 13-18** below for characteristics of these upland habitats.



Photo 13. View east across the central portion of the survey area comprising the sagebrush steppe vegetation community. This photo represents a degraded form of this community with a decreased shrub component due to heavy grazing.



Photo 14. View east across the northern portion of the survey area. This area appeared to be the most overgrazed and/or degraded as herbaceous and shrub cover was low. Approximate location of upland data point DP-U2 shown above.



Photo 15. View west at the upland ditch in the central portion of the survey area. The ditch was fragmented and discontinuous with no indicators of OHWM and/or regular flow observed. Approximate location of upland data point DP-U3 shown above.



Photo 16. View west from the southeast corner of the survey area comprising the sagebrush steppe vegetation community. Low shrubs and exposed rock are evident in this photo. Approximate location of upland data point DP-U5 shown above.



Photo 17. View west across the central portion of the survey area. This photo is representative of an upland area dominated with hydrophytes in the wet meadow vegetation community. Approximate location of upland data point DP-U6 shown above.



Photo 18. View south at the sagebrush steppe vegetation community along the shoulder slope to the Blue River riparian corridor. Overstory canopy spruce trees can be seen in the background.

Table 2. Plant Species Found Within the Survey Area.

Scientific Name	Common Name	WIS*
<i>Achillea millefolium</i>	Common Yarrow	FACU
<i>Agrostis gigantea</i>	Black Bent	FAC
<i>Alnus incana</i>	Speckled Alder	FACW
<i>Alopecurus arundinaceus</i>	Creeping Meadow-Foxtail	FAC
<i>Alopecurus pratensis</i>	Field Meadow-Foxtail	FAC
<i>Artemisia tridentata</i>	Big Sagebrush	UPL
<i>Bromus marginatus</i>	Mountain Brome	UPL
<i>Calamagrostis canadensis</i>	Bluejoint	FACW
<i>Carex aquatilis</i>	Leafy Tussock Sedge	OBL
<i>Carex microptera</i>	Small-Wing Sedge	FACU
<i>Chamaenerion angustifolium</i>	Narrow-Leaf Fireweed	FACU
<i>Cirsium arvense</i>	Canadian Thistle	FAC
<i>Descurainia incana</i>	Mountain Tansy-Mustard	FACU
<i>Elymus trachycaulus</i>	Slender Wild Rye	FAC
<i>Ericameria nauseosa</i>	Rubber Rabbitbrush	UPL
<i>Erigeron caespitosus</i>	Tufted Fleabane	UPL
<i>Festuca saximontana</i>	Rocky Mountain Fescue	UPL
<i>Juncus balticus</i>	Baltic Rush	FACW
<i>Juncus biglumis</i>	Two-Flower Rush	OBL
<i>Juncus ensifolius</i>	Dagger-Leaf Rush	FACW
<i>Phalaris arundinacea</i>	Reed Canary Grass	FACW
<i>Picea engelmannii</i>	Engelmann's Spruce	FAC
<i>Poa annua</i>	Annual Blue Grass	FAC
<i>Populus angustifolia</i>	Narrow-leaf Cottonwood	FACW
<i>Potentilla diversifolia</i>	Varileaf Cinquefoil	UPL
<i>Rosa woodsii</i>	Woods' Rose	FACU
<i>Rumex crispus</i>	Curly Dock	FAC
<i>Salix drummondiana</i>	Drummond's Willow	FACW
<i>Salix geyeriana</i>	Geyer's Willow	FACW
* Wetland Indicator Status (WIS) – Western Mountains, Valleys and Coast Region: OBL = occurs in aquatic resources > 99% of time FACW = occurs in aquatic resources 67-99% of time FAC = occurs in aquatic resources 34-66% of time FACU = occurs in aquatic resources 1-33% of time UPL = occurs in uplands > 99% of time		

4.4 BRECKENRIDGE PROJECT WORK

In November 2020, following the 2018 delineation by ERC, the Municipality of Breckenridge upgraded a drainage ditch under Nationwide Permit 3 – Maintenance. This ditch is likely to collect hydrology and may alter the wetland characteristics described in this report. The Aquatic Resources Map (**Appendix A**) shows the location of this ditch as it crosses the survey area. Refer to **Photos 19-25** below for the easement completed by the Municipality of Breckenridge (location of ditch indicated by blue arrow). Photos 19-20 show conditions prior to excavation of the ditch; photos 21-25 show the ditch following trenching and excavation activities.



Photo 19 .



Photo 20.



Photo 21.



Photo 22.



Photo 23.



Photo 24.



Photo 25.

This report has been prepared by:

ECOLOGICAL RESOURCE CONSULTANTS, INC.

Reviewed and approved by:

A handwritten signature in black ink, appearing to read 'David J. Blaich'.

**David J. Blaich, V.P., Senior Ecologist
(PWS # 2130)**

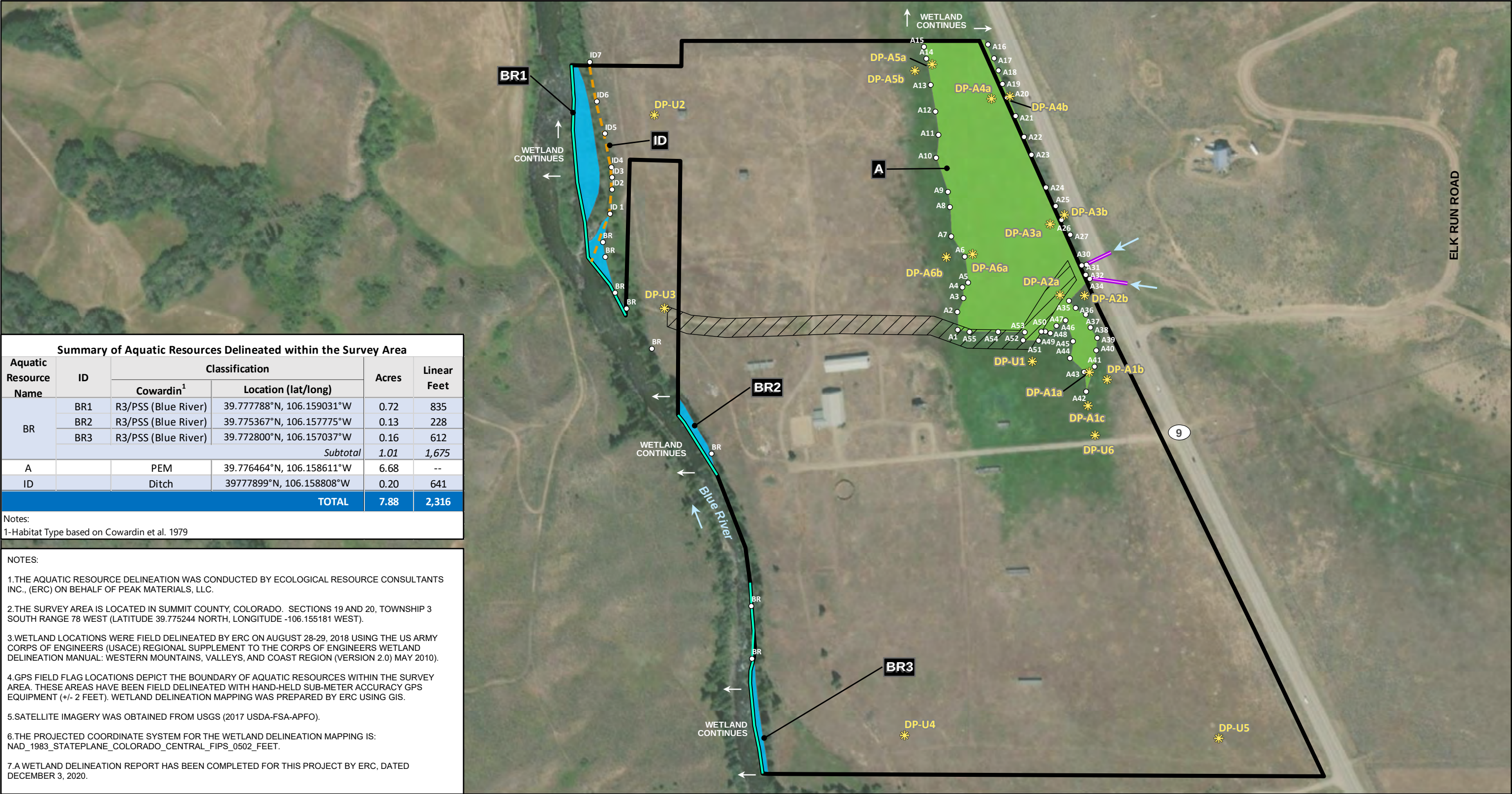


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APPENDIX A



Summary of Aquatic Resources Delineated within the Survey Area					
Aquatic Resource Name	ID	Classification		Acres	Linear Feet
		Cowardin ¹	Location (lat/long)		
BR	BR1	R3/PSS (Blue River)	39.777788°N, 106.159031°W	0.72	835
	BR2	R3/PSS (Blue River)	39.775367°N, 106.157775°W	0.13	228
	BR3	R3/PSS (Blue River)	39.772800°N, 106.157037°W	0.16	612
	Subtotal			1.01	1,675
A		PEM	39.776464°N, 106.158611°W	6.68	--
ID		Ditch	39.777899°N, 106.158808°W	0.20	641
TOTAL				7.88	2,316

Notes:
1-Habitat Type based on Cowardin et al. 1979

NOTES:

1.THE AQUATIC RESOURCE DELINEATION WAS CONDUCTED BY ECOLOGICAL RESOURCE CONSULTANTS INC., (ERC) ON BEHALF OF PEAK MATERIALS, LLC.

2.THE SURVEY AREA IS LOCATED IN SUMMIT COUNTY, COLORADO. SECTIONS 19 AND 20, TOWNSHIP 3 SOUTH RANGE 78 WEST (LATITUDE 39.775244 NORTH, LONGITUDE -106.155181 WEST).

3.WETLAND LOCATIONS WERE FIELD DELINEATED BY ERC ON AUGUST 28-29, 2018 USING THE US ARMY CORPS OF ENGINEERS (USACE) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: WESTERN MOUNTAINS, VALLEYS, AND COAST REGION (VERSION 2.0) MAY 2010).

4.GPS FIELD FLAG LOCATIONS DEPICT THE BOUNDARY OF AQUATIC RESOURCES WITHIN THE SURVEY AREA. THESE AREAS HAVE BEEN FIELD DELINEATED WITH HAND-HELD SUB-METER ACCURACY GPS EQUIPMENT (+/- 2 FEET). WETLAND DELINEATION MAPPING WAS PREPARED BY ERC USING GIS.

5.SATELLITE IMAGERY WAS OBTAINED FROM USGS (2017 USDA-FSA-APFO).

6.THE PROJECTED COORDINATE SYSTEM FOR THE WETLAND DELINEATION MAPPING IS: NAD_1983_STATEPLANE_COLORADO_CENTRAL_FIPS_0502_FEET.

7.A WETLAND DELINEATION REPORT HAS BEEN COMPLETED FOR THIS PROJECT BY ERC, DATED DECEMBER 3, 2020.

Prepared By:

2820 Wilderness Place, Suite A
Boulder, CO 80301
(303) 679-4820

ERC #1125-1803

MAP LEGEND

Project Area

Field Flag Location & ID

Data Point Location & ID

Breckenridge Easement

Ditch

Stream

Culvert

Delineated Aquatic Resource Habitat Type (Cowardin)

PEM

PSS

OVERVIEW

AQUATIC RESOURCE DELINEATION MAP

PEAK RANCH RESOURCE

SUMMIT COUNTY, COLORADO



APPENDIX B

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A1a
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.775914° N Long: -106.153321° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: PEM wetland, wet meadow located in horse pasture. Pair with upland data points DP-A1b and DP-A1c.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Alopecurus pratensis</u> 50 Yes FAC 2. <u>Juncus balticus</u> 25 Yes FACW 3. <u>Poa annua</u> 15 No FAC 4. <u>Juncus biglumis</u> 10 No OBL 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Vegetation community is typical of the southern portion of Aquatic Resource A as well as surrounding uplands, wetland/upland boundary determined based on the presence of hydric soils. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A1a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/2	80%	7.5YR 4/4	20%	C	PL, M	Silt loam	Distinct concentrations
5-20	10YR 3/2	75%	7.5YR 4/4	25%	C	M	Silty clay loam	Distinct concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☒ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☒ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils are typical of hydric soils found in the southern portion of Aquatic Resource A. Vegetation communities across this area were very similar; therefore the presence of hydric soils was largely used to establish the wetland/upland boundary of Aquatic Resource A. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

- | | | |
|------------------------|---|-----------------------|
| Surface Water Present? | Yes ☐ No ☒ | Depth (inches): _____ |
| Water Table Present? | Yes ☐ No ☒ | Depth (inches): _____ |
| Saturation Present? | Yes ☐ No ☒ | Depth (inches): _____ |
- (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

In addition to hydrology indicator C3, wetland hydrology is assumed to be present given that the delineation was performed late in the growing season when the water levels are low and hydric soils and hydrophytic vegetation are present. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A1b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-3%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.775852° N Long: -106.153117° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks:		
Upland data point located in a horse pasture. This area exhibits hydrophytic vegetation, but underlying hydric soils are not present, therefore considered upland. Pair with wetland data point DP-A1a.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Alopecurus pratensis</u> 50 Yes FAC 2. <u>Juncus balticus</u> 30 Yes FACW 3. <u>Bromus marginatus</u> 10 No UPL 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes ☒ No ☐				
Vegetation community is typical of areas around the south and west Aquatic Resource A boundary. Even though the area exhibits hydrophytic vegetation, hydric soils are not present. Further, the vegetation community in this area appeared to be stressed and/or dead indicating a lack of sufficient water to support these species. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A1b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100%					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Coarse Rock Fragments
Depth (inches): 12"+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Soils were dry and loamy with a rock layer at 12". Rock layer is not as prominent in nearby hydric soils within Aquatic Resource A boundary. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐ No ☒	Depth (inches): <u> </u>
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): <u> </u>

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland area exhibiting a dominance of hydrophytic vegetation, no hydrology indicators were observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A1c
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.775622° N Long: -106.153335° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks:		
Upland data point in a horse pasture. This area exhibits hydrophytic vegetation, but underlying hydric soils are not present, therefore considered upland. Pair with wetland data point DP-A1a.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Alopecurus pratensis</u> 40 Yes FAC 2. <u>Juncus balticus</u> 40 Yes FACW 3. <u>Rumex crispus</u> 10 No FAC 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ 5 - Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Even though a dominance of hydrophytic vegetation is present, most species are FAC and underlying hydric soils are not present. <u>Juncus balticus</u> (FACW) does not appear to be a good indicator species in this area as it is growing in sporadic patches throughout the survey area, often in uplands next to FACU-UPL species as well as in wetland areas. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A1c

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/3	100%					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Coarse Rock Fragments
Depth (inches): 10"+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Soils were dry and loamy underlain by rock. This characteristic is typical of upland areas around Aquatic Resource A that exhibit a hydrophytic vegetation community similar to Aquatic Resource A without hydric soils. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A2a
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-4%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776587° N Long: -106.153661° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: PEM wetland, wet meadow located in horse pasture. Pair with upland data point DP-A2b.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Carex aquatilis</u> 80 Yes OBL 2. <u>Cirsium arvense</u> 20 Yes FAC 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
There are several areas throughout Aquatic Resource A that exhibit nearly monocultures of sedge (Carex spp.) species, this vegetation community is typical of those localized areas. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A2a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/2	65%	7.5YR 4/6	35%	C	PL, M	Silty clay loam	Prominent concentrations
14-20	10YR 4/2	60%	7.5YR 4/6	40%	C	M	Silty clay loam	Prominent concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)	☐ Sandy Redox (S5)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☒ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☒ Redox Dark Surface (F6)
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils were depleted in matrix color with mottling throughout the profile. This profile description appears to be typical soil conditions throughout the majority of Aquatic Resource A. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology appears to be supported by surface water runoff from surrounding upslope areas, seasonal hydrology from snowmelt, and influenced by past flood irrigation practices (small man-made ditches, depressions, etc). There are several man made ditches and micro-depressions throughout Aquatic Resource A that convey surface water flows/ponding during spring runoff and during extreme precipitation events. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A2b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-4%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776584° N Long: -106.153382° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks: Upland data point in horse pasture at a slightly higher landscape position than surrounding area to the north and west (Aquatic Resource A). Pair with wetland data point DP-A2a.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Juncus balticus</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Cirsium arvense</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Alopecurus pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks: Even though the vegetation community meets the dominance test for hydrophytic vegetation; it is mostly because of the presence of Baltic Rush (FACW) which does not seem to be a good indicator in this area given that it was observed growing in conjunction with FACU-UPL species and in wetlands. Further, underlying hydric soils and/or wetland hydrology are not present. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A2b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/3	100%					Silt loam	
10-20	10YR 3/3	95%	7.5YR 4/4	5%	C	M	Silt loam	Faint concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were dry and loamy, with some faint redox concentrations lower in the profile likely due to location in close proximity to Aquatic Resource A boundary. The boundary of Aquatic Resource A was largely established based on the presence of hydric soils since the vegetation community is similar. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present?	Yes _____ No ☒	Depth (inches): _____
Water Table Present?	Yes _____ No ☒	Depth (inches): _____
Saturation Present?	Yes _____ No ☒	Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in a horse pasture at a microtopographic high point, no hydrology indicators were observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A3a
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.777207° N Long: -106.153776° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	
Remarks: PEM Wetland, wet meadow located in horse pasture. Pair with upland data point DP-A3b.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Carex aquatilis</u> 35 Yes OBL 2. <u>Alopecurus pratensis</u> 20 Yes FAC 3. <u>Juncus balticus</u> 20 Yes FACW 4. <u>Cirsium arvense</u> 20 Yes FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ 5 - Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Vegetation community is typical of the central portion of Aquatic Resource A, which appears to be frequently grazed. Bare ground consists of exposed surface soil and/or thatch. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A3a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-10	10YR 3/2	70%	7.5YR 4/6	30%	C	PL, M	Prominent concentrations
10-20	10YR 3/2	60%	7.5YR 4/6	40%	C	M	Prominent concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☒ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☒ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils are typical of the majority of Aquatic Resource A. The boundary of Aquatic Resource A was defined largely based on the presence of hydric soils exhibiting similar characteristics to the above. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology appears to be supported by surface water runoff from surrounding upslope areas, seasonal hydrology from snowmelt, and possible seepage from the ditch to the east during high flows. The water table appears to lie well below the surface in this area. Hydrology can also be assumed given the delineation was performed late in the growing season when the water levels are low and hydrophytic vegetation and hydric soils persist. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A3b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Roadside Terrace Local relief (concave, convex, none): Convex Slope (%): 4-6%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.777287° N Long: -106.153617° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks:			
Upland data point on the roadside terrace/berm of Highway 9 at a higher landscape position than the wet meadow (Aquatic Resource A) to the west. Pair with wetland data point DP-A3a.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Ericameria nauseosa</u>	25	Yes	UPL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus marginatus</u>	75	Yes	UPL	
2. <u>Elymus trachycaulus</u>	20	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☐ No ☒
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u>				
Remarks:				
Vegetation community is typical of the roadside along the eastern boundary of Aquatic Resource A. This area is 4-5' higher in elevation and is generally a different (upland) vegetation community than surrounding area to the west. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A3b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 2 cm Muck (A10) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ Red Parent Material (TF2) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Other (Explain in Remarks) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) | |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) | |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) | |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were loamy, dry, light-colored, and gravelly likely due to location on the roadside. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except |
| ☐ High Water Table (A2) | MLRA 1, 2, 4A, and 4B) |
| ☐ Saturation (A3) | ☐ Salt Crust (B11) |
| ☐ Water Marks (B1) | ☐ Aquatic Invertebrates (B13) |
| ☐ Sediment Deposits (B2) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Drift Deposits (B3) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Surface Soil Cracks (B6) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? Yes ☐ No ☒ Depth (inches):

Saturation Present:
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland area on the roadside in a convex landscape position, no hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A4a
Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 1-2%
Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.778295° N Long: -106.154450° W Datum: NAD83
Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: PEM Wetland, wet meadow in horse pasture near the northern boundary of the survey area. The wetland continues offsite to the north. Pair with upland data point DP-A4b.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Alopecurus pratensis</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Juncus balticus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Carex aquatilis</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Calamagrostis canadensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
5. <u>Rumex crispus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
100% = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks: Vegetation community is representative of the northern portion of Aquatic Resource A and continues offsite to the north. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A4a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	80%	7.5YR 4/6	20%	C	PL, M	Silt loam	Prominent concentrations
8-20	10YR 4/2	70%	7.5YR 4/6	30%	C	M	Silty clay loam	Prominent concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☒ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☒ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils were deep with consistent mottling throughout the profile and higher clay content lower in the profile, which is typical soil conditions for a majority of Aquatic Resource A. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☒ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology appears to be supported by surface water runoff from surrounding upslope areas, seasonal hydrology from snowmelt, and possible seepage from a roadside ditch that forms the eastern boundary of Aquatic Resource A. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A4b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4-6%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.778318° N Long: -106.154240° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks:			
Upland data point on the roadside berm of Highway 9 at a higher landscape position than surrounding area to the west. Pair with wetland data point DP-A4a.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Ericameria nauseosa</u>	25	Yes	UPL	
2. <u>Salix drummondiana</u>	10	No	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
35% = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>Bromus marginatus</u>	60	Yes	UPL	
2. <u>Cirsium arvense</u>	20	Yes	FAC	
3. <u>Chamaenerion angustifolium</u>	10	No	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
90% = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>				
Remarks:				
Vegetation is representative of the roadside along the west side of Highway 9. Some willow (Salix spp.) are present along the roadside; however, the herbaceous understory is predominantly FAC-UPL species and underlying hydric soils are not present. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A4b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 4/3	100%					Gravelly loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were dry, loose, and loamy with some gravel likely due to location on the roadside berm. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located on a roadside berm at a higher landscape position than surrounding area to the west. No hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A5a
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): None Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.778592° N Long: -106.155122° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	
Remarks: PEM Wetland, wet meadow located in horse pasture. Pair with upland data point DP-A5b.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Juncus balticus</u> 40 Yes FACW 2. <u>Alopecurus pratensis</u> 25 Yes FAC 3. <u>Carex microptera</u> 20 Yes FACU 4. <u>Cirsium arvense</u> 10 No FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: DP-A5a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	80%	7.5YR 4/6	20%	C	PL, M	Silt loam	Prominent concentrations
10-20	10YR 3/2	70%	7.5YR 4/6	30%	C	M	Silty clay loam	Prominent concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☒ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☒ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils are representative of a majority of Aquatic Resource A. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology appears to be supported by surface water runoff from surrounding upslope areas, seasonal hydrology from snow melt, and influenced by past flood irrigation practices. The western boundary in this area is formed by a man-made, discontinuous ditch that influences surface water flows and ponding. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A5b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.778533° N Long: -106.155316° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks: Upland data point located in horse pasture. Data point does exhibit a dominance of hydrophytic vegetation; however, is considered upland because underlying hydric soil are not present. Pair with wetland data point DP-A5a.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Bromus marginatus</u>	<u>25</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Juncus balticus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Cirsium arvense</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Alopecurus pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
5. <u>Elymus trachycaulus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>15%</u>				
Hydrophytic Vegetation Present? Yes ☒ No ☐				
Remarks: Even though a dominance of hydrophytic vegetation is present, this area is considered upland. The vegetation community in uplands surrounding the wetland/upland boundary of Aquatic Resource A is very similar, and the boundary was determined by the presence of hydric soils. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A5b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/3	100%					Silt loam	
12-20	10YR 4/4	100%					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were dry, loamy, and light-colored which is typical of uplands surrounding Aquatic Resource A exhibiting a dominance of hydrophytic vegetation. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in horse pasture, no hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A6a
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776939° N Long: -106.154648° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: PEM Wetland, wet meadow located in horse pasture. Pair with upland data point DP-A6b.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Alopecurus pratensis</u> 40 Yes FAC 2. <u>Juncus balticus</u> 25 Yes FACW 3. <u>Poa annua</u> 20 Yes FAC 4. <u>Alopecurus arundinaceus</u> 10 No FAC 5. <u>Rumex crispus</u> 5 No FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
The vegetation community is representative of wetland areas within the southwestern boundary of Aquatic Resource A. A similar vegetation community is present in uplands along the western boundary of Aquatic Resource A; however, hydric soils were not present in the upland areas. The western boundary of Aquatic Resource A was delineated largely based on the presence of hydric soils. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A6a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	75%	7.5YR 4/6	25%	C	PL, M	Silt loam	Prominent concentrations
10-20	10YR 3/2	60%	7.5YR 4/6	40%	C	M	Silty clay loam	Prominent concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☒ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☒ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils are representative of the majority of Aquatic Resource A. The western boundary of Aquatic Resource A was determined largely based on the presence of hydric soils given that the vegetation community is similar throughout wetlands/uplands in this portion of the survey area. Meets the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology is present in the form of oxidized rhizospheres along living roots; however, hydrology is also assumed given that the delineation was performed late in the growing season when water levels are generally low. Meets the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-A6b
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-4%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776910° N Long: -106.154945° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Upland data point located in horse pasture. Pair with wetland data point DP-A6a.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>Juncus balticus</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Cirsium arvense</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Alopecurus pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☒ No ☐
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks: Even though hydrophytic vegetation is present, this area has been considered upland. The vegetation community along the wetland/upland boundary of Aquatic Resource A is very similar so the boundary was determined based on the presence of hydric soils. Hydric soils and/or wetland hydrology were not observed at this location. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-A6b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR 3/3	100%					Silt loam	
8-20	7.5YR 3/4	100%					Gravelly silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were dry and light colored with some gravel lower in the profile. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland horse pasture, no hydrology indicators were observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U1
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-3%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776006° N Long: -106.153965° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks:			
Upland data point located in an open meadow in horse pasture. This area exhibits a dominance of hydrophytic vegetation; however, underlying hydric soils were not present therefore has been considered upland.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Alopecurus pratensis</u> 50 Yes FAC 2. <u>Juncus balticus</u> 40 Yes FACW 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes ☒ No ☐
Vegetation community comprises a dominance of hydrophytic species; however, this is common in this area and underlying hydric soils are not present therefore this area has been considered upland. Bare ground consists of exposed surface soil. Meets the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100%					Silt loam	
8-20	10YR 4/3	95%	7.5YR 4/4	5%	C	M	Silty clay loam	Faint concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Redox concentrations present lower in the profile, however the soil is light colored with faint redox concentrations likely due to close proximity and similar landscape position as adjacent wet meadow habitat (Aquatic Resource A). Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland meadow adjacent to PEM wet meadow habitat (Aquatic Resource A). No hydrology indicators were observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U2
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-1%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.778132° N Long: -106.158260° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Upland data point in horse pasture within the northwest portion of the survey area.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Artemisia tridentata</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Ericameria nauseosa</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>Bromus marginatus</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Festuca saximontana</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
3. <u>Potentilla diversifolia</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30%</u>				
Remarks: Vegetation was mostly overgrazed, dead grass species assumed to be bromus species. Some small 1-2' high shrub species observed. bare ground was entirely exposed surface soil. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-U2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 4/3	100%					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were very dry, light-colored, and compacted throughout the profile. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in upland pasture, no hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U3
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3-5%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.776449° N Long: -106.158127° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Upland data point in a upland ditch, the ditch appears to have used in the past for agriculture but has since been unused and fragmented by a farm road with no culvert. No indicators of OHWM and/or regular flow observed.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Artemisia tridentata</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Ericameria nauseosa</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus marginatus</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Festuca saximontana</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
3. <u>Achillea millefolium</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Erigeron caespitosus</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☐ No ☒
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>50%</u>				
Remarks: Vegetation community is representative of the entire upland ditch. Bare ground comprises exposed soil/rock. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-U3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100%					Gravelly loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Coarse Rock Fragments

Depth (inches):

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were loose and unstructured with gravels. Coarse rock fragments refusal at 12"+. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches):Water Table Present? Yes _____ No ☒ Depth (inches):Saturation Present? Yes _____ No ☒ Depth (inches):
(includes capillary fringe)Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland ditch, no hydrology indicators, OHWM, or indicators of regular flow observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U4
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.772740° N Long: -106.155378° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Upland data point in horse pasture within the southwest portion of the survey area.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Artemisia tridentata</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>Bromus marginatus</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Potentilla diversifolia</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>	
3. <u>Festuca saximontana</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4. <u>Descurainia incana</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes ☐ No ☒
5. <u>Alopecurus pratensis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>35%</u>				
Remarks: Vegetation community is typical of pasture lands in the southwest portion of the survey area. Bare ground is comprised of exposed surface soil. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-U4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 4/3						Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Coarse Rock Fragments
Depth (inches): 10"+

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Soils were dry, light-colored, and compacted with coarse rock fragment refusal at 10"+. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland pasture, no hydrology indicators observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U5
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.772730° N Long: -106.151829° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks: Upland data point located in horse pasture in the southeast portion of the survey area.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. <u>Ericameria nauseosa</u> 40 Yes UPL 2. <u>Artemisia tridentata</u> 20 Yes UPL 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Festuca saximontana</u> 30 Yes UPL 2. <u>Bromus marginatus</u> 20 Yes UPL 3. <u>Achillea millefolium</u> 10 Yes FACU 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>40%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Vegetation community is representative of the southeast portion of the survey area. This area contains the most concentrated small shrub community of the entire survey area. Bare ground is comprised of exposed surface soil and rock. Does not meet the criteria for hydrophytic vegetation.				

SOIL

Sampling Point: DP-U5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100%					Gravelly silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1) ☐ Sandy Redox (S5)
☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6)
☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)
☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Coarse Rock Fragments

Depth (inches): 12"+

Hydric Soil Present? Yes _____ No ☒**Remarks:**

Soils were dry and unstructured with Coarse rock fragment refusal at 12"+. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
☐ High Water Table (A2) ☐ Salt Crust (B11)
☐ Saturation (A3) ☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Stunted or Stressed Plants (D1) (**LRR A**)
☐ Surface Soil Cracks (B6) ☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (**LRR A**)
☐ Frost-Heave Hummocks (D7)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland horse pasture, no hydrology indicators were observed. Does not meet the criteria for wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Peak Ranch Resource City/County: Summit County Sampling Date: 8/29/2018
 Applicant/Owner: Peak Materials State: CO Sampling Point: DP-U6
 Investigator(s): K. Medash Section, Township, Range: Section 20, Township 3 South, Range 78 West
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 1-2%
 Subregion (LRR): Rock Mountain Range and Forest Region (LRR E) Lat: 39.775366° N Long: -106.153252° W Datum: NAD83
 Soil Map Unit Name: Handran gravelly loam, 0 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? **NO** Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? **NO** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Upland data point located in horse pasture. Data point exhibits hydrophytic vegetation; however, has been considered upland due to lack of hydric soils and wetland hydrology.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Juncus balticus</u> 70 Yes FACW 2. <u>Alopecurus pratensis</u> 30 Yes FAC 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u>				
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: DP-U6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100%					Gravelly loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (except MLRA 1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Matrix (F3) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Dark Surface (F6) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| ☐ 2 cm Muck (A10) |
| ☐ Red Parent Material (TF2) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soils were dry and light colored with a fair amount of gravel, likely due to location adjacent to the gravel driveway that accesses the survey area. Does not meet the criteria for hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| ☐ High Water Table (A2) | ☐ Salt Crust (B11) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Iron Deposits (B5) | ☐ Stunted or Stressed Plants (D1) (LRR A) |
| ☐ Surface Soil Cracks (B6) | ☐ Other (Explain in Remarks) |
| ☐ Inundation Visible on Aerial Imagery (B7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | |

Secondary Indicators (2 or more required)

- | |
|---|
| ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ Shallow Aquitard (D3) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Raised Ant Mounds (D6) (LRR A) |
| ☐ Frost-Heave Hummocks (D7) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located in an upland horse pasture, no hydrology indicators observed. Does not meet the criteria for wetland hydrology.

EXHIBIT M – OTHER PERMITS AND LICENSES

In addition to obtaining a 112 Reclamation Permit from the DRMS, before the Peak Ranch Resource site can be mined, the following permits will also need to be obtained:

1. Summit County Conditional Use Permit(s)
 - a. Peak Ranch Conditional Use Permit
 - b. Maryland Creek Ranch Conditional Use Permit
2. Colorado Air Pollution Control Division Fugitive Dust Permit and Air Pollution Emission Notice (APEN)
3. Water Quality Control Commission Stormwater Discharge Permit
4. Colorado Department of Transportation Access Permit
5. Colorado Department of Transportation Work in the ROW Permit
6. Colorado State Engineer's Office approved substitute water supply plan, and water augmentation plan (prior to Phase 2)
7. Colorado State Engineer's Office Gravel Well Permit
8. US Army Corps of Engineers nationwide permit (crossing of the wetlands with the access road)

Note: A Summit County Floodplain Permit will not be required because the operations will not take place in or impact the floodplain.