COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

January 13, 2022

John Holliday
Colorado Quarry I, LLC
901 S County Road 31
Berthoud, CO 80513

RE: Meadow Hollow Quarry, Permit No. M-2009-006, Technical Revision No. 1 (TR-1), Adequacy Review No. 1

Mr. Holliday:

On December 15, 2021, the Division of Reclamation, Mining and Safety (Division) received your Technical Revision application (TR-1) for the Meadow Hollow Quarry, addressing the following:

Blasting Plan

After reviewing the materials submitted, the Division has identified the following adequacy item(s) that must be addressed before an approval of TR-1 can be issued:

1) Please review the enclosed "Attachment A – Key Elements of a Blasting Plan" (Attachment A) which outlines the information required for a typical blasting plan. Please use this attachment as a guide to develop a blasting plan for the site. The Division realizes the type of blasting to occur at this flagstone quarry will most likely be conducted at a significantly smaller scale than the type of blasting that occurs at larger aggregate quarries. Therefore, all requirements for a typical blasting plan may not be applicable to this site. However, additional information on the proposed blasting activities is needed in order for the Division to determine which requirements do apply.

2) In addition to providing all applicable information from Attachment A, the Division has the following questions:

    a. Please state if blasting activities at the site will be conducted only by a Colorado licensed blasting professional.

    b. Please specify the maximum number of blasts anticipated per week.

    c. Will the operator need to temporarily close off a portion of Co Rd 31 during blasting? If so, please describe how this will be done.

    d. Will explosives be stored on site at any time? If so, please describe how they will be stored in a safe manner and provide an updated mining plan map showing the proposed storage location(s).

e. Please provide a list of all structures (e.g., buildings, wells, underground pipe lines) located within ½ mile of the proposed blast area, and identify the owners(s) of each structure (see enclosed Google Earth image showing ½ mile radius from center of site).

This completes the Division's preliminary adequacy review of the materials submitted for TR-1. The decision date for TR-1 is currently set for **February 14, 2022**. If additional time is needed to address the adequacy items, an extension request must be received by our office prior to the decision date.

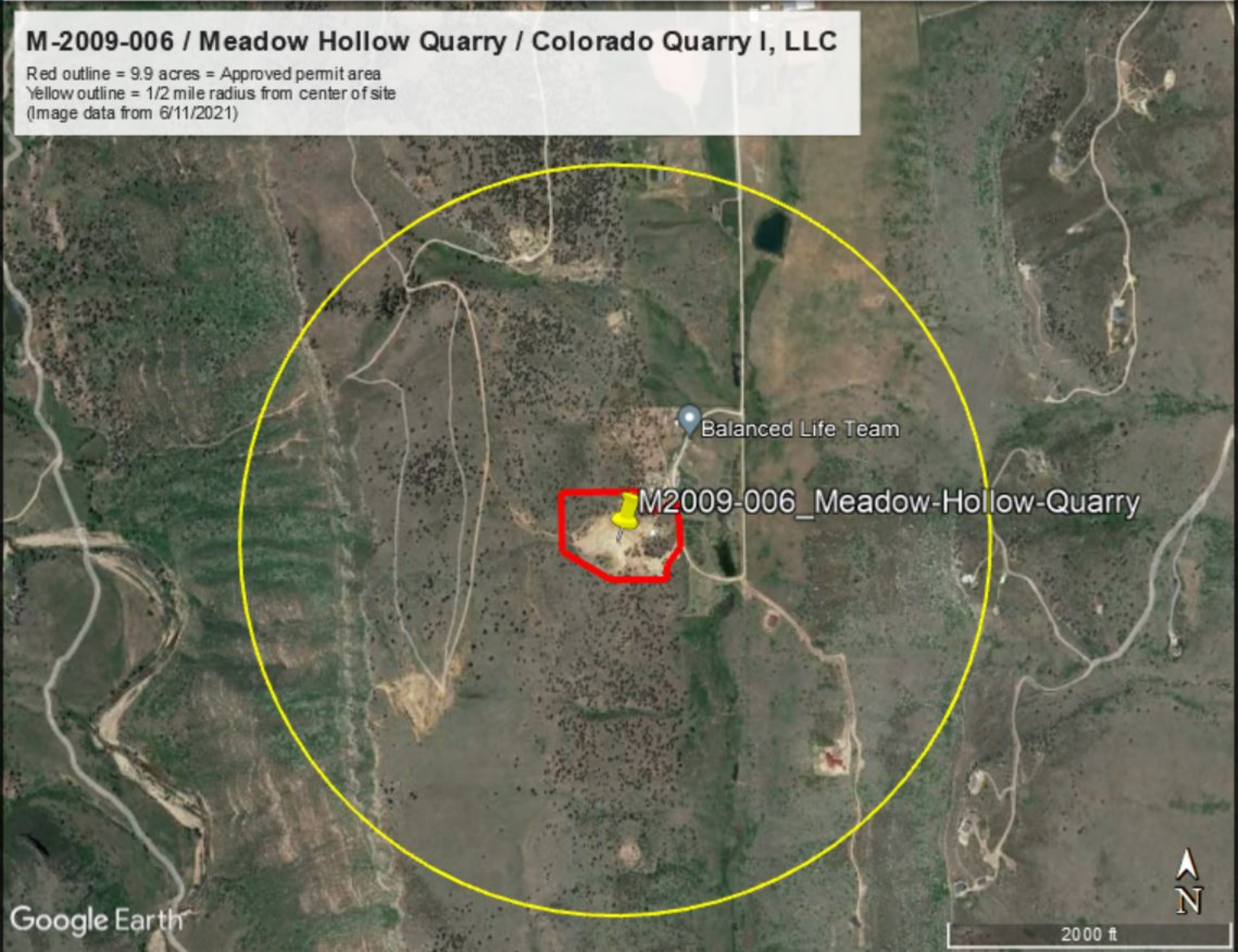
If you have any questions, you may contact me by telephone at (303) 866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

Amy Eschberger
Environmental Protection Specialist

Encls: Google Earth image showing ½ Mile Radius from Center of Site
Attachment A – Key Elements of a Blasting Plan

Cc: Wayne Dorband, Colorado Quarry I, LLC
Michael Cunningham, DRMS


M-2009-006 / Meadow Hollow Quarry / Colorado Quarry I, LLC
Red outline = 9.9 acres = Approved permit area
Yellow outline = 1/2 mile radius from center of site
(Image data from 6/11/2021)
Balanced Life Team
M2009-006_Meadow-Hollow-Quarry
Google Earth
N
2000 ft

ATTACHEMENT A

Key Elements of a Blasting Plan

I. Blast Schedule Notification:
   a. Name, address & phone number of Operator;
   b. Identify where blasting will occur;
   c. Day(s) and time(s) of blasting;
   d. Methods used to control access;
   e. Outline warning signals (e.g., sirens, horns, etc.);
   f. Schedule distribution (who is notified: e.g., workers, residents, local governments, etc.).

II. Pre-Blast Surveys – where agreed to and approved by structure owners:
   a. Generally for structures within one half mile of the blast area;
   b. Establish a pre-blasting record of existing structure(s) condition;
   c. ID structures or contents sensitive to blasting.

III. Blast Plan:
   a. Limits on ground vibration;
   b. Limits on airblast;
   c. Methods used to control adverse effects of blasting;
   d. Description of monitoring systems to be used and where to be set up;
   e. Blasting protocol/procedure;
   f. Anticipated typical blast design (this information can have a range so as not to require a specific design for each blast:
      i. Blast purpose – what product is expected (e.g., riprap, crushed aggregate, etc.);
      ii. Number, spacing, diameter and depth of holes;
      iii. Type and amount of stemming material;
      iv. Blasting agent and amount per hole; and
      v. Type of delay detonator and delay periods expected.
   g. Location(s) of blast monitoring.

IV. Commit to Generating and Filing a Blast Report - The DRMS requires all Operators using explosives to complete a blasting report for each shot. The report must be retained by the Operator for at least 3 years and be available for inspection by the DRMS on demand. The record shall contain the following data, but should not be submitted as part of the Blasting Plan:
   a. Location date and time of blast;
   b. Name, signature and license number of blaster-in-charge;
   c. Identification, direction and distance in feet from the nearest blast hole to the nearest potentially affected structure, such as any dwelling, school, church, or community or institutional building either:
      i. not located in the permit area; or
      ii. Not owned nor leased by the person who conducts the mining operations.
   d. Weather conditions, including: temperature, wind direction, and approximate velocity;
   e. Type of material blasted;
   f. Sketches of the blast pattern including number of holes, burden spacing, and delay pattern. Sketches shall also show decking, if holes are decked to achieve different delay times within a hole;

g. Diameter and depth of holes;
h. Types of explosives used;
i. Total weight of explosives used per hole and maximum weight of explosives used per 8-millisecond period;
j. Initiation system;
k. Type and length of stemming;
l. Mats or other protections used;
m. Type of delay detonator and delay periods used;
n. Number of persons in the blasting crew; and
o. Seismographic records where required including:
    i. Type of instrument sensitivity and the calibration signal of the gain setting or certification of annual calibration;
    ii. Exact location of instrument, the blast date and time, and the instrument distance from the blast;
    iii. Name of the person and firm taking the reading;
    iv. Name of the person and firm analyzing the seismographic record; and
    v. The vibration level recorded