ASPHALT SPECIALTIES CO.
10100 Dallas St. • Henderson, CO 80640 • (303) 289-8555 • Fax: (303) 289-7707

March 1, 2021

Wyoming Department of Environmental Quality
Air Quality Division
200 West 17th Street, 3rd Floor
Cheyenne, Wyoming 82002

RE: Revised Permit Application No. A0006524
ASCI - Lone Tree Creek Quarry (F028222)
Laramie County, Wyoming

Mr. Andrew Keyfauver:

Asphalt Specialties Company, Inc. (ASCI) has revised Air Quality Division (AQD) Application No. A0006524 to permit the Lone Tree Creek Quarry (F028222) located approximately two (2) miles southwest of Granite in Laramie County, Wyoming. As previously discussed, the proposed Lone Tree Creek Quarry is a Limited Mining Operation (LMO) 15-acre hard rock quarry. ASCI has provided documentation from Laramie County affirming ASCI is not required to go through the site plan process outlined in the Laramie County Land Use Regulation Section 2-2-133 and regulation of the site will be handled by Wyoming Department of Environmental Quality (DEQ).

Proposed activities at the quarry include topsoil and overburden stripping, stockpiling, blasting, crushing and screening activity, and haul truck activity. No concrete batch plants or hot mix asphalt plants will be located at the quarry. ASCI is committed to reducing fugitive particulate matter and will control particulate emissions from the quarry. The primary emission source at the quarry is the haul road. To control haul road particulate emissions, ASCI will pave the haul road. ASCI anticipates the haul road will be paved within 90 working days from the start of construction (not including shutdowns due to inclement weather). To reduce fugitive particulate emissions, ASCI will apply water as necessary during stripping, stockpiling, crushing/screening, and reclamation activities. In addition, topsoil and overburden stockpiles will be seeded and watered. The portable crushing/screening equipment is permitted separately from the quarry permit (P0024616).

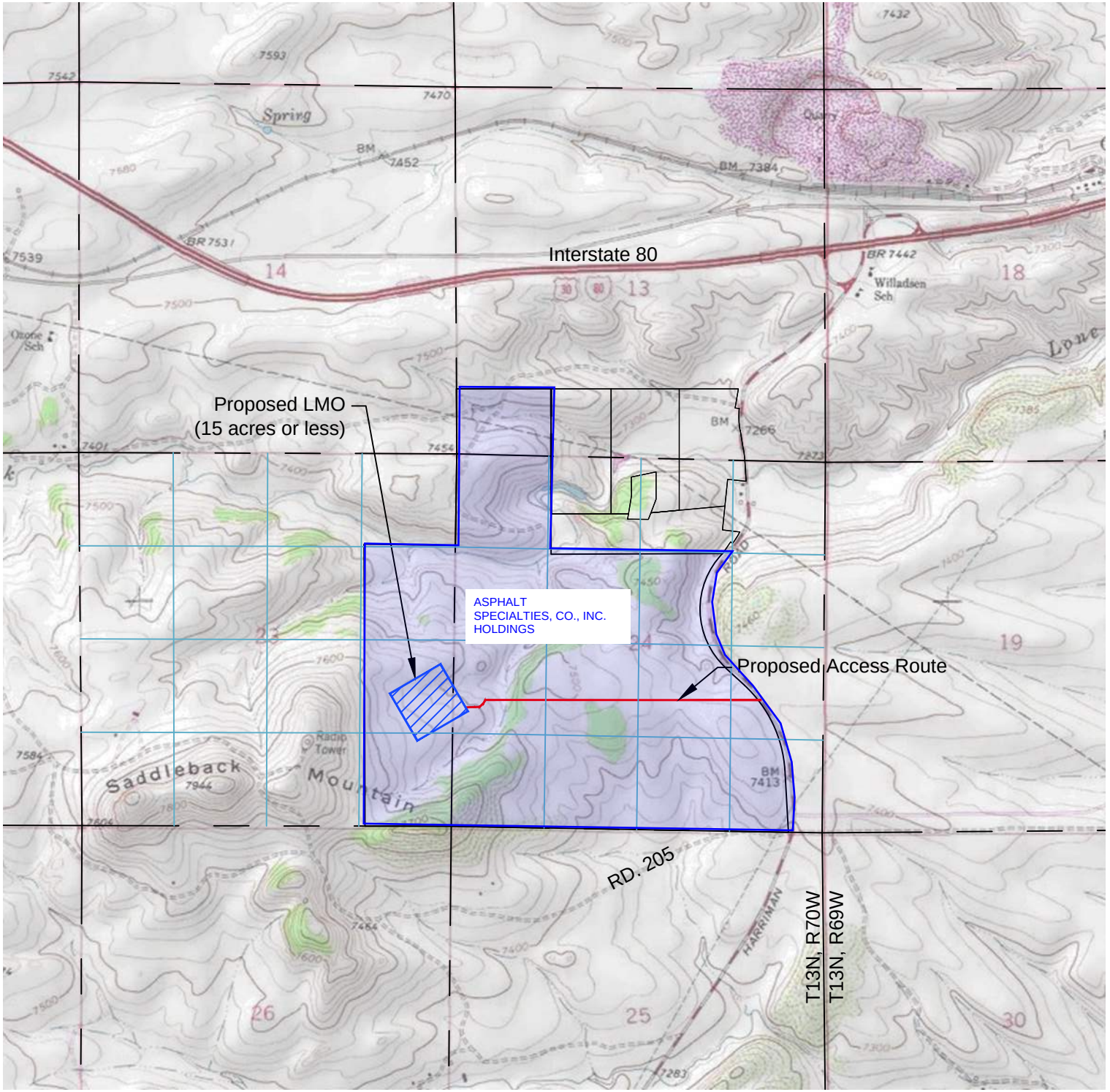
In order to expedite the permitting process, ASCI respectfully requests a public hearing be preemptively scheduled to occur immediately after the 30-day public notice comment period.

Exhibit DEQ 05

If you should have questions regarding this permit application, please contact me at 303-289-8555.

Sincerely,

Greg Geras
Land Resource Manager
Asphalt Specialties Co., Inc.
10100 Dallas Street
Henderson, CO 80640
Phone: 303-289-8555



Map to Accompany Notification for Proposed Limited Mining Operation:

Lone Tree Creek Quarry

Pit Location:

14.8 acres located in the NW$\frac{1}{4}$ SW$\frac{1}{4}$ of Section 24, T13N, R70W

and the E$\frac{1}{2}$ SE$\frac{1}{4}$ of Section 23, T13N, R70W

OPERATOR:

Asphalt Specialties, Co., Inc.
10100 Dallas Street
Henderson, CO 80640
Daniel Hunt
(303)289-8555

USGS Topo/Quad Base Map:

Granite Canyon, Wyoming

SCALE:

1" = 2,000'

NORTH

Lone Tree Creek Quarry Sources of Criteria Pollutant Emissions

The primary pollutant of concern for the proposed Lone Tree Creek Quarry (LTCQ) is particulate matter (i.e., PM, PM_{10}, and $PM_{2.5}$). Portable generators used to power equipment at the site will result in some emissions of nitrogen oxides, carbon monoxide, and sulfur dioxide. However, due to relatively small emission rates, ambient impacts from these other criteria pollutants will be less than the applicable significant impact levels.

Sources of particulate emissions at the proposed quarry are mostly fugitive in nature and can be characterized as volume, area, or open pit sources with low release heights (i.e., 6 meters or less above grade). Within a short period after commencing operations, mining activities will be conducted below grade where protection against the prevailing winds will mitigate emissions. Dispersion modeling experience indicates maximum impacts in such situations are at the facility fence line with a quick drop-off within short distances.

Most fugitive emission sources will be watered as necessary to control emissions. These sources include product stockpiling, material processing (i.e., crushing/screening), 15-acre disturbed area from mining, topsoil and overburden stockpiling, and haul roads. In addition to watering, topsoil and overburden piles may also be seeded. Blasting emissions will not be controlled but will also be small with concomitant negligible impacts.

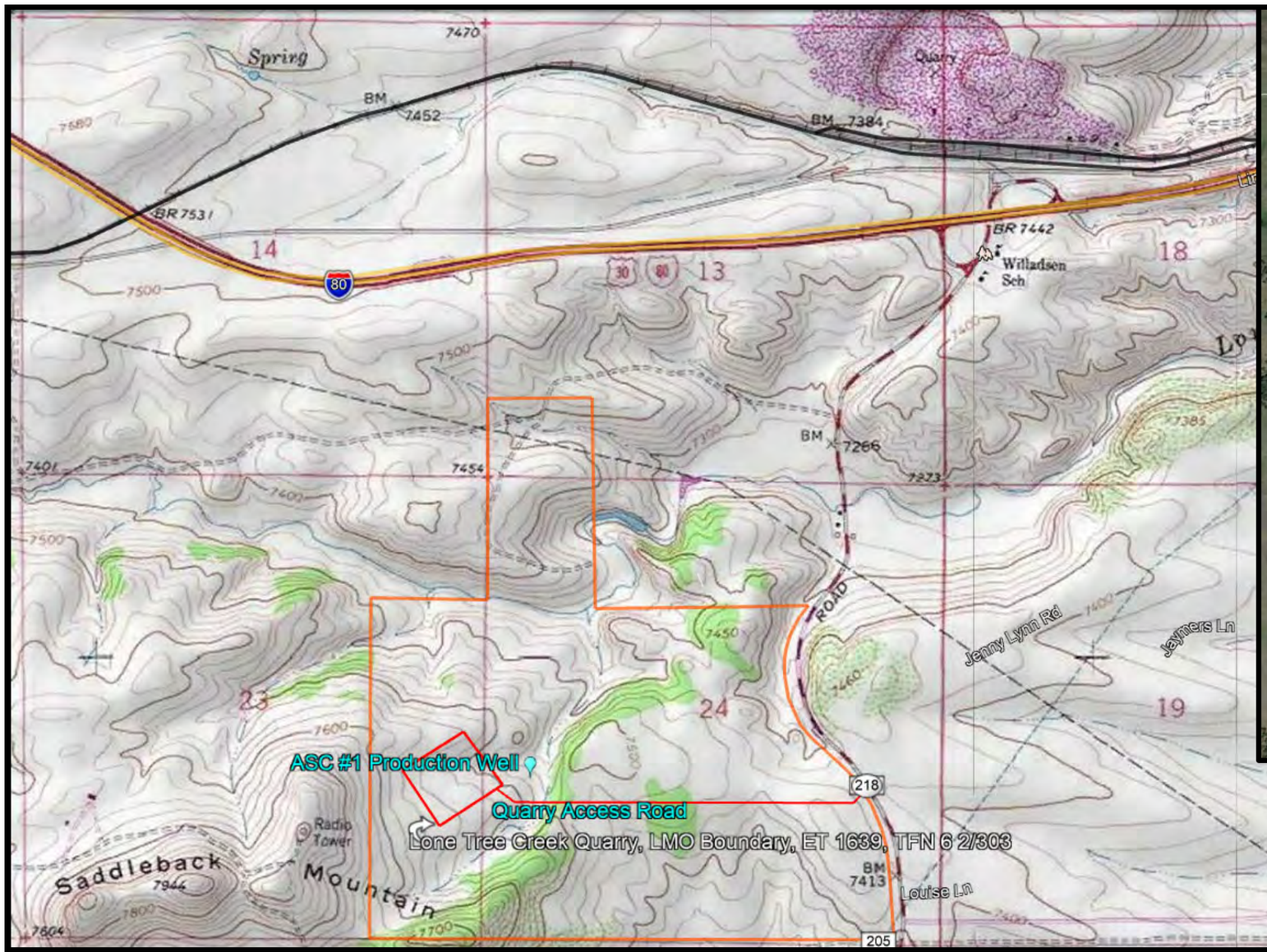
The only point source of particulate will be fossil-fueled portable generators that provide power to the scales, pumps, and crusher/screens. These emissions are expected to be very small with maximum impacts at the facility fence line.

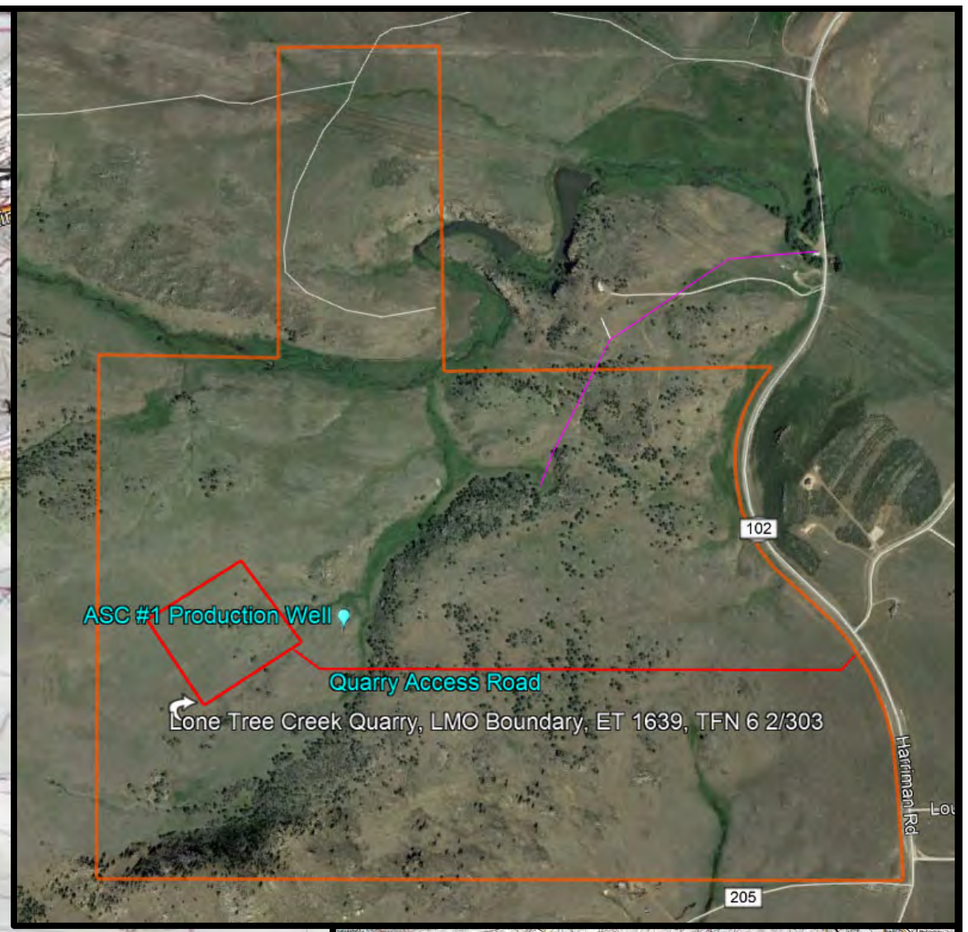
Construction and Paving of the Haul Road

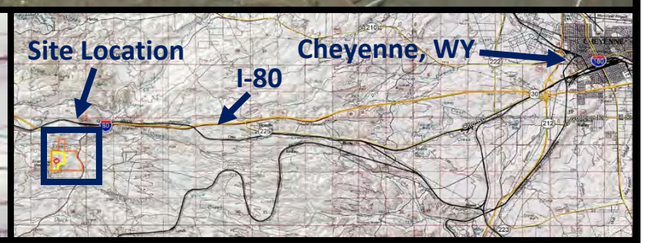
In addition to the 15-acre mine area, an approximate 24 ft x 4,700 ft (i.e., 2.59-acre) haul road traversing ASCI's property will be constructed to connect the quarry to Harriman Road. The location of the haul road is presented in Figure 1. ASCI has agreed to pave this haul road to minimize particulate emissions during the operational life of the quarry.

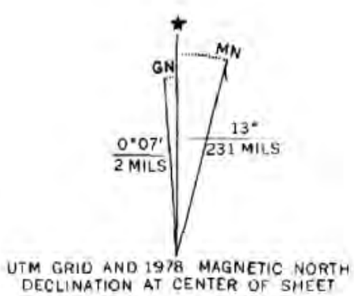
Initial mine construction and mining activities will be conducted prior to the haul road being paved as ASCI will utilize aggregate material and soils from the site to build and pave the haul road. These activities will include the stripping of topsoil/overburden, blasting, and crushing/screening of rock. The first material hauled off-site will be transported to an ASCI asphalt plant for use in the production of asphalt used to pave the haul road. This initial off-site material transport period will occur concurrently with haul road paving activities. ASCI anticipate it will take one-week to complete pavement the haul road.

A start date to commence activity at the quarry has not been determined, but ASCI anticipates the haul road will be paved within 90 working days from the start of construction (not including shutdowns due to inclement weather). It is in ASCI's best interest to complete the haul road as soon as possible which will minimize fugitive dust generated during the initial construction period. A start date for construction to begin will be determined once all permits required have been obtained.









UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

1 0 1/2 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

FIGURE 1

SITE LOCATION AND HAUL ROAD MAP

LONE TREE CREEK QUARRY
ASPHALT SPECIALTIES CO., INC.

DATE: 2/12/2021

Expected Ambient Impacts from Operations at the LTCQ

LTCQ Estimated Emissions Compared to Harriman Quarry Data (PM_{10} Annual Averaging Period)

A May 2018 permit modification for the Harriman Quarry, which is located approximately 2 km north northeast of the proposed LTCQ, included an air dispersion modeling analysis. The Harriman Quarry is permitted to mine 1,500,000 tons per year of material on a 244-acre quarry site. A comparison of this source with the proposed LTCQ is shown below.

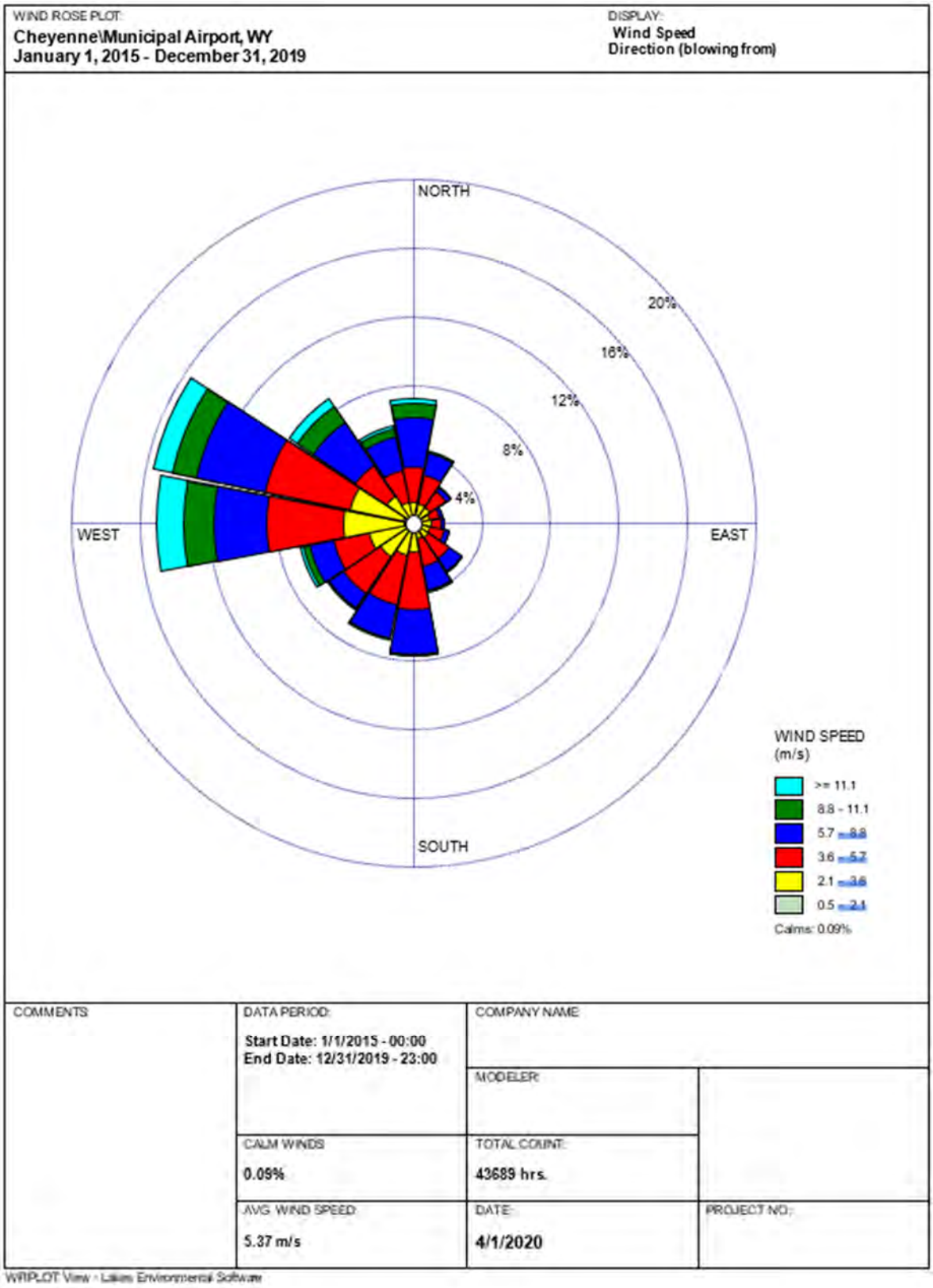
Table 1. Comparison of LTCQ and Harriman Quarry

Metric	LTCQ	Harriman Quarry
Annual throughput (tpy)	500,000	1,500,000
Quarry Area (acres)	15	60
Property Area (acres)	555	244
Facility Total Annual PM_{10} (tpy)	~ 9	~ 50

The recent dispersion modeling for the Harriman Quarry indicates that maximum cumulative impacts, including background concentration, predicted maximum impacts that were approximately 93% of the annual PM_{10} Wyoming Ambient Air Quality Standard (WAAQS)/National Ambient Air Quality Standard (NAAQS).

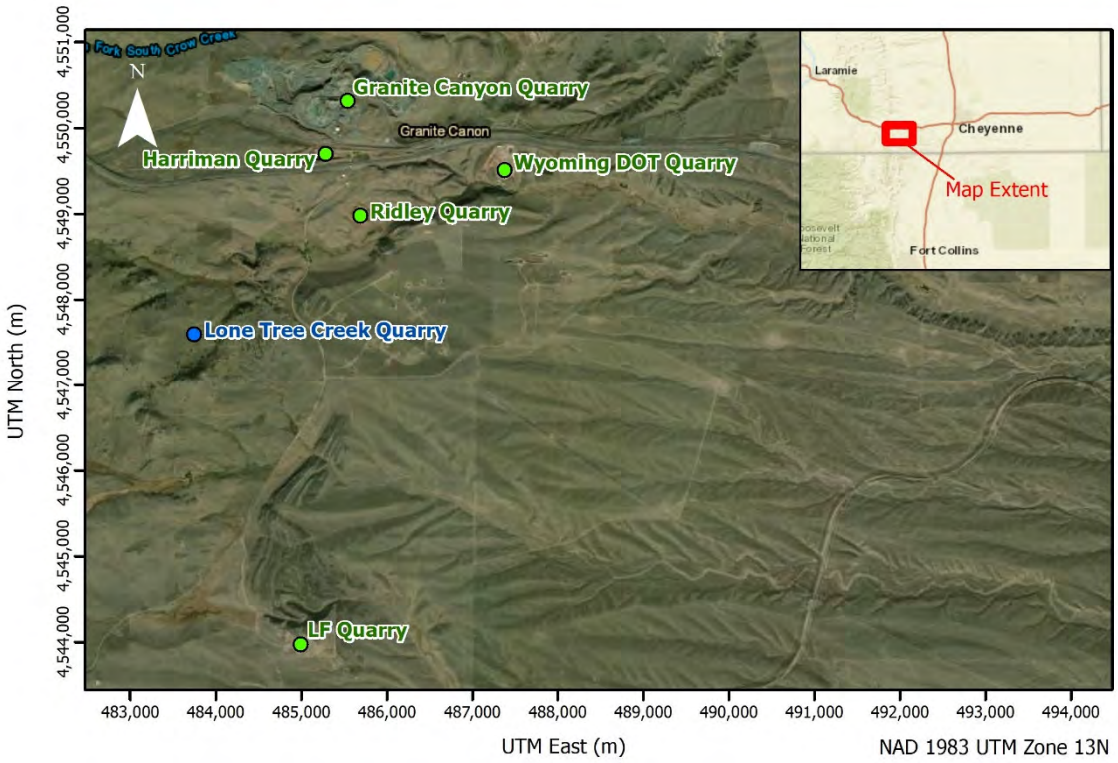
The wind rose derived from the meteorology used in the Harriman model (shown in Figure 2, below) shows the predominant winds are from the west. As expected, based on the wind rose, the maximum modeled impacts from the Harriman Quarry are located near the western edge of the Harriman Quarry fenceline.

Figure 2. Wind Rose for Cheyenne ASOS Met Data (2008-2012)



As shown in Figure 3, below, other sources of particulate matter located near the proposed LTCQ are located to the north and south of the proposed facility. Since winds in the area are from the west, fugitive particulate plumes from nearby sources are not expected to overlap with those from the proposed LTCQ. As such, it is expected that the proposed LTCQ would not cause or contribute to an exceedance of the annual PM_{10} WAAQS/NAAQS.

Figure 3. Nearby Particulate Matter Source Locations



LTCQ Estimated Emissions Compared to Coal Mine Data (PM_{10} 24-hour averaging period, $PM_{2.5}$ 24-hour and annual averaging periods)

Monitor data from coal mines located in other regions of Wyoming can be used to demonstrate that impacts from the proposed LTCQ will not cause or contribute to an exceedance of WAAQS/NAAQS for particulate matter. Average annual coal production for 2017 to 2019 from the Black Thunder & South Black Thunder Mine located near Gillette, Wyoming was approximately 71 million tpy (i.e., more than 140 times that of the requested production for the proposed LTCQ), which resulted in estimated average annual PM_{10} emissions of 6,732 tpy (more than 700 times the estimated PM_{10} emissions from the proposed LTCQ).

$PM_{2.5}$ emissions from the coal mine are also expected to be significantly higher than those from the proposed LTCQ. There are also large coal mines located in the Gillette area that would likely contribute to particulate concentration levels in the area. Nevertheless, the reported highest second high concentrations of PM_{10} on a 24-hour averaging period in 2017 – 2019 for the fenceline monitors at the Black Thunder Mine were less than 115 µg/m³ (~77% of the NAAQS). Similarly, monitored design concentrations for $PM_{2.5}$ in the period of 2017-2019 at the Black Thunder Mine were 18

µg/m³ and 4.4 µg/m³ for the 24-hour and annual averaging periods, respectively (i.e., 51% and 37% of the 24-hour and annual averaging periods, respectively). Based on these monitored values from facilities with similar source types but much higher emissions of particulate, it is reasonable to conclude that ambient air concentrations from the proposed Lone Creek Quarry would be lower and thus in compliance with applicable annual and 24-hour standards.

Conclusions

In conclusion, given the nature of LTCQ particulate emissions, the expectation of maximum impacts at the LTCQ 555-acre property fence line, the predominate winds in the area, and a comparison to modeling results and monitor data from facilities with similar source types, the cumulative impacts from the operations at the LTCQ are reasonably expected to be less than the applicable annual and 24-hour NAAQS and WAAQS.