RAÚL R. LABRADOR
Attorney General

SCOTT L. CAMPBELL
Deputy Attorney General
Chief, Energy and Natural Resources Division

Hannah M.C. Young, ISB No. 9781
hannah.young@deq.idaho.gov
Deputy Attorney General
Department of Environmental Quality
1410 N. Hilton, 2nd Floor
Boise, Idaho 83706
Telephone: 208.373.0453

Attorney for Respondent

Krista K. McIntyre, ISB No. 4675
krista.mcintyre@stoel.com
W. Christopher Pooser, ISB No. 5525
christopher.pooser@stoel.com
Wade C. Foster, ISB No. 11105
wade.foster@stoel.com
STOEL RIVES LLP
101 S Capitol Boulevard, Suite 1900
Boise, ID 83702
Telephone: 208.389.9000

Attorneys for Perpetua Resources Idaho, Inc.

BEFORE THE BOARD OF ENVIRONMENTAL QUALITY
STATE OF IDAHO

IN THE MATTER OF AIR QUALITY PERMIT TO CONSTRUCT P-2019.0047

NEZ PERCE TRIBE, IDAHO CONSERVATION LEAGUE, and SAVE THE SOUTH FORK SALMON,

Petitioners,

v.

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY,

Respondent,

and

PERPETUA RESOURCES IDAHO, INC.,

Intervenor-Respondent.

Case Docket No. 0101-22-01
OAH Case No. 23-245-01

DECLARATION OF TIFFANY FLOYD IN SUPPORT OF JOINT MOTION TO SUPPLEMENT RECORD WITH DEQ RESPONSE TO EPA LETTER

I, TIFFANY FLOYD, hereby declare under penalty of perjury and pursuant to the law of the State of Idaho that the following is true and correct:

1. My name is Tiffany Floyd, and I am employed by the State of Idaho, Department of Environmental Quality (the "Department") as the Air Quality Division Administrator ("Air Administrator").

2. I have been working for the Department as the Air Administrator for 11 years.

3. On August 10, 2023, DEQ's Director received a letter from the United States Environmental Protection Agency ("EPA") Region 10 regarding Permit to Construct No. 2019.0047, an air quality preconstruction permit DEQ issued to Perpetua Resources Idaho, Inc. on June 17, 2022.

4. On October 13 and 23, 2023, I and other DEQ staff met with EPA staff to discuss concerns raised in the EPA letter.

5. On November 22, 2023, DEQ's Director formally responded to the EPA letter with a transmittal letter and document entitled "Response to the August 10, 2023 EPA Region 10 Letter to Idaho DEQ," a true and correct copy of which is attached hereto as **Exhibit A.**

DATED: February 7, 2024.

Tiffany Floyd

CERTIFICATE OF SERVICE

I hereby certify that on February 7, 2024, a true and correct copy of the foregoing was served on the following:

Krista K. McIntyre
W. Christopher Pooser
Wade C. Foster
Stoel Rives LLP
101 S Capitol Boulevard, Suite 1900
Boise, ID 83702
krista.mcintyre@stoel.com
christopher.pooser@stoel.com
wade.foster@stoel.com
via electronic service

Ann Yribar
Deputy Attorney General
Energy and Natural Resources Division
Office of the Attorney General
P.O. Box 83720
Boise, ID 83720-0010
Counsel for the Idaho
Board of Environmental Quality
ann.yribar@ag.idaho.gov
via electronic service

Julia Thrower
Mountain Top Law
614 Thompson Ave.
McCall, ID 83638
jthrower@mtntoplaw.com
via electronic service

Bryan Hurlbutt
Laird Lucas
Advocates for the West
P.O. Box 1612
Boise, ID 83701
bhurlbutt@advocateswest.org
llucas@advocateswest.org
via electronic service

Paula J. Wilson, Paralegal
Energy and Natural Resources Division
Office of the Attorney General
1410 N. Hilton
Boise, Idaho 83706
paula.wilson@deq.idaho.gov
via electronic service

Dylan B. Lawrence
Hearing Officer
P.O. Box 1676
Boise, ID 83701
dylan@varinthomas.com
via electronic service

Office of Administrative Hearings
filings@oah.idaho.gov
via electronic service

/s/ Hannah M.C. Young
Hannah M.C. Young

EXHIBIT A

1410 N Hilton Street
Boise, ID 83706 • (208) 373-0502

Brad Little, Governor
Jess Byrne, Director

November 22, 2023

Mr. Casey Sixkiller
Regional Administrator, Region 10
United States Environmental Protection Agency
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

Dear Mr. Sixkiller,

This letter, and its attachment, are a follow-up, and hopefully conclusion, to your letter dated August 10, 2023, regarding Perpetua Resources of Idaho, Inc's ("Perpetua") permit to construct. As my September 8, 2023, letter indicated, the Idaho Department of Environmental Quality (DEQ) takes our responsibility to protect air quality and public health, through implementation of our federally approved state air quality program, very seriously. We are also extremely proud of our history of success in carrying out this responsibility. As such, we do not take the concerns and accusations raised in your letter lightly—which is demonstrated by the thoroughness of the attached information, particularly considering this effort was on top of the multi-year permit development process we undertook when developing the Perpetua permit.

I'd like to take this opportunity to personally recognize and thank the DEQ and Environmental Protection Agency (EPA) staff that participated in the technical meetings held on October 13 & 23, 2023, where EPA's concerns with the Perpetua permit were discussed. I know that DEQ staff went to great lengths to further explain how the Perpetua application was evaluated, and permit conditions developed. The meetings were very productive and collaborative. That said, it is my sincerest hope that we can avoid the need for similar meetings moving forward. I believe there is a mutual recognition of that being possible through better communication during the permit development process.

The attached supporting documentation details the information that staff discussed during the day and a half of meetings. It is our understanding that through those meetings and conversations, DEQ addressed all of EPA's concerns that were identified in your August 10, 2023, letter and that the PTC issued by DEQ to Perpetua Resources on June 17, 2022, is protective of the National Ambient Air Quality Standards and meets the requirement of the Clean Air Act. If you or your staff have any additional questions regarding the materials provided, please reach out to Tiffany Floyd, Air Quality Division Administrator.

I look forward to building upon this experience as both agencies strive to work together to carry out our respective responsibilities.

Sincerely,

Jess Byrne

cc: Tiffany Floyd
Idaho Department of Environmental Quality

Response to the August 10, 2023 EPA Region 10 Letter to Idaho DEQ

Perpetua Resources Idaho, Inc.
Stibnite, Idaho

Facility ID No. 085-00011

Permit to Construct No. P-2019.0047

Project No. 62288

Prepared by:
Kelli Wetzel, Permit Writer
AIR QUALITY DIVISION

EPA Allegation 1. The production limits in the PTC do not restrict the SGP's PTE to below major stationary source permitting thresholds under the prevention of significant deterioration (PSD) or Title V programs

EPA Comment 1a. Underestimation of Emissions from Ore Processing Emission Units

In its prior comment letters, EPA advised IDEQ that the emission factors relied upon in the draft permits were not representative of emissions. For instance, EPA's March 16, 2022, comment letter stated: "Some of the PTE limitations may not be technically accurate because they are not based on emission factors that are representative of the emission sources. For example, AP-42 Section 11.24 Metallic Minerals Processing emission factors applies to the processing of hard ores including gold. However, the application uses AP-42 emissions factors from Section 11.19.2 Crushed Stone Processing that is applicable to non-metallic mineral processing. The permitting record does not provide a reasoned explanation as to why emission factors from Section 11.24 were selected over those from Section 11.19.2."[20]

IDEQ's Response to Comment did not provide any additional information or rationale for decision making. Instead, IDEQ stated, "Representativeness of these parameters was discussed with and reconfirmed by PRI at various points during review and the estimates of emissions and underlying assumptions were supported to the satisfaction of IDEQ."[21]

Even if a permitting authority was unable to find more accurate emission factors than AP-42, the introduction to Section 11.19 states, "The construction aggregate industry covers a range of subclassifications of the nonmetallic minerals industry (see Section 11.24, Metallic Minerals Processing, for information on that similar activity)." IDEQ did not follow the listed instructions to see Section 11.24 for Metallic Minerals Processing.

IDEQ did not state that it performed any analysis of other emission information. IDEQ did not state that it sought out emission factor information of higher quality than AP-42, as required by IDEQ Guidance[22] (Guidance) which states, "When estimating emissions, emissions data that *best* reflects emissions from a stationary source must be used" (emphasis added). IDEQ did not make a determination that the emission factor chosen meets the Guidance. Similarly, the Guidance states "The rating of the AP-42 factor must be considered…" However, IDEQ did not state how it considered the rating of the factor chosen or if IDEQ considered other factors with higher ratings. For reference, AP-42 Section 11.24 has a rating of "77C" for primary crushing emission factor. AP-42 Section 11.19 has no emission factor for primary crushing, but states that tertiary crushing can be used for primary and secondary crushing and the rating for tertiary crushing is "E", the lowest rating assigned by AP-42. Setting aside the choice of using an emission factor for Non-Metallic Minerals instead of the Metallic Minerals, IDEQ has not evaluated the available emission factors based on the rating, as required by its own Guidance.

EPA's document AP-42 Metallic Mineral Processing Plants – Background Information for Proposed Standards Volume 2 Appendices (EPA-450/3-81.009b) lists visits and emission testing at various mineral processing and mining operations. Appendix C – Summary of Test Data includes data on nine plants that processed metallic minerals. Table C-1 specifically includes testing at processing equipment at a gold mine with baghouse control. Thus, the metallic mineral processing plants evaluated and tested to form the basis for the emissions factors in AP-42 Section 11.24 are most similar to the metallic mineral processing emission units at the SGP. These background documents clearly indicate that the emissions factors in Section 11.24 are most appropriate for estimating emissions from the SGP.

Multiplying the emission factor found in AP-42 Section 11.24 by the production limitation on the primary crusher (OC7) results in an emission estimate over 90 tons of PM per year for that unit alone. Similarly, if AP-42 Section 11.24 emission factors are multiplied by the production limits for the remaining emission units OC1 through OC13, potential PM emissions from that collection of units *exceeds 800 tons PM per year*. Given the PSD threshold of 250 tons per year and the fact that even Section 11.24 is an average emission factor (and approximately half of all emission units will emit above an average rate), the PTC fails to restrict emissions below major source thresholds.

Based on the above information, IDEQ did not follow IDEQ Guidance, did not support the use of the chosen emission factor, and was arbitrary when choosing emission factors for the ore processing emission units. Accordingly, the PTC does not restrict the Facility's PTE below major source thresholds as a legal and practical matter.

IDEQ Response

EPA contends that IDEQ did not follow its own guidance in the Emissions Data Hierarchy Guidance document when choosing emission factors for the ore processing emission units located at Perpetua Resources Idaho (PRI) Stibnite site, aka Stibnite Gold Project (SGP). A thorough review of the administrative record reveals that IDEQ did follow its own guidance precisely. IDEQ's guidance states that when estimating emissions, emissions data that best reflects emissions from a stationary source must be used in the following hierarchy:

1. Continuous Emissions Monitoring (CEM) data from the stationary source
2. Performance test data from the stationary source
3. Manufacturer emission guarantee
4. CEM data from a similar stationary source or sources
5. Performance test data from a similar stationary source or sources
6. AP-42 or industry-derived emission factors.

In this case, the data described in numbers 1-5 were unavailable. Therefore, IDEQ employed the AP-42 emission factors to estimate emissions.

Introduction of emission factor selection. IDEQ endeavors to issue legally defensible permits that protect Idaho's air quality to the greatest extent possible. In doing so, IDEQ relies upon permit applicants to supply site-specific data that account for real-world parameters and processes. IDEQ therefore seeks to apply emission factors that actually reflect the permit applicant's plans and processes. In comparing Sections 11.19.2 and 11.24 of AP-42, IDEQ found that applying section 11.19.2 would be most applicable to the SGP proposal. Conversely, Section 11.24 is largely inapplicable – despite its misleading title – and applying it to the SGP would likely be considered arbitrary and capricious. A thorough review of the background materials, underlying AP-42 emission factors, along with the administrative record, demonstrates that EPA's concern is unsupportable and lacks a rational basis.

AP-42 emission factors for ore processing reside in Section 11.19.2 for non-metallic mineral processing and Section 11.24 for metallic minerals processing. Section 11.24 emission factors are from 1982 with primary to tertiary crushing ratings ranging from C to E (with E being the lowest rating). Section 11.24 also only lists emission factors for PM and PM_{10} but not $PM_{2.5}$.

Table 11.24-2 (English Units). EMISSION FACTORS FOR METALLIC MINERALS PROCESSING[a,b]

EMISSION FACTOR RATINGS: (A-E) Follow The Emission Factor

Source	Filterable[b,c]			
	PM	RATING	PM-10	RATING
Low-moisture ore[c]				
Primary crushing (SCC 3-03-024-01)[d]	0.5	C	0.05	C
Secondary crushing (SCC 303-024-02)[d]	1.2	D	ND	
Tertiary crushing (SCC 3-03-024-03)[d]	2.7	E	0.16	E
Wet grinding	Neg		Neg	
Dry grinding with air conveying and/or air classification (SCC 3-03-024-09)[e]	28.8	C	26	C
Dry grinding without air conveying and/or air classification (SCC 3-03-024-10)[e]	2.4	D	0.31	D
Drying--all minerals except titanium/zirconium sands (SCC 3-03-024-11)[f]	19.7	C	12	C
Drying--titanium/zirconium with cyclones (SCC 3-03-024-11)[f]	0.5	C	ND	C
Material handling and transfer--all minerals except bauxite (SCC 3-03-024-04)[g]	0.12	C	0.06	C
Material handling and transfer--bauxite/alumina (SCC 3-03-024-04)[g,h]	1.1	C	ND	
High-moisture ore[c]				
Primary crushing (SCC 3-03-024-05)[d]	0.02	C	0.009	C
Secondary crushing (SCC 3-03-024-06)[d]	0.05	D	0.02	D
Tertiary crushing (SCC 3-03-024-07)[d]	0.06	E	0.02	E
Wet grinding	Neg		Neg	
Dry grinding with air conveying and/or air classification (SCC 3-03-024-09)[e]	28.8	C	26	C
Dry grinding without air conveying and/or air classification (SCC 3-03-024-10)[e]	2.4	D	0.31	D
Drying--all minerals except titanium/zirconium sands (SCC 3-03-024-11)[f]	19.7	C	12	C
Drying--titanium/zirconium with cyclones (SCC 3-03-024-11)[f]	0.5	C	ND	
Material handling and transfer--all minerals except bauxite (SCC 3-03-024-08)[g]	0.01	C	0.004	C
Material handling and transfer--bauxite/alumina (SCC 3-03-024-08)[g,h]	ND		ND	

Section 11.19.2 includes major processing for rock types such as limestone, granite, dolomite, traprock (basalt), sandstone, quartz, and quartzite. Section 11.19.2 emission factors are from 2004 which are approximately 20 years newer than those from Section 11.24. The facility's emission inventory includes crushers and conveyors controlled by water sprays. EPA's AP-42 11.19.2 provides representative emission factors for these specific processes and controls for PM, PM_{10}, and $PM_{2.5}$. These emission factors also range from C to E.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)[a]

Source [b]	Total Particulate Matter [r,s]	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Primary Crushing (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Primary Crushing (controlled) (SCC 3-05-020-01)	ND		ND[n]		ND[n]	
Secondary Crushing (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Secondary Crushing (controlled) (SCC 3-05-020-02)	ND		ND[n]		ND[n]	
Tertiary Crushing (SCC 3-050030-03)	0.0054[d]	E	0.0024[o]	C	ND[n]	
Tertiary Crushing (controlled) (SCC 3-05-020-03)	0.0012[d]	E	0.00054[p]	C	0.00010[q]	E
Fines Crushing (SCC 3-05-020-05)	0.0390[e]	E	0.0150[e]	E	ND	
Fines Crushing (controlled) (SCC 3-05-020-05)	0.0030[f]	E	0.0012[f]	E	0.000070[q]	E
Screening (SCC 3-05-020-02, 03)	0.025[c]	E	0.0087[l]	C	ND	
Screening (controlled) (SCC 3-05-020-02, 03)	0.0022[d]	E	0.00074[m]	C	0.000050[q]	E
Fines Screening (SCC 3-05-020-21)	0.30[g]	E	0.072[g]	E	ND	
Fines Screening (controlled) (SCC 3-05-020-21)	0.0036[g]	E	0.0022[g]	E	ND	
Conveyor Transfer Point (SCC 3-05-020-06)	0.0030[h]	E	0.00110[h]	D	ND	
Conveyor Transfer Point (controlled) (SCC 3-05-020-06)	0.00014[i]	E	4.6×10^{-5}[i]	D	1.3×10^{-5}[q]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0×10^{-5}[j]	E	ND	
Truck Unloading -Fragmented Stone (SCC 3-05-020-31)	ND		1.6×10^{-5}[j]	E	ND	
Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		0.00010[k]	E	ND	

A thorough review of the various AP-42 sections was conducted and the AP-42 emission factors that match the PRI ore crushing process equipment and controls was selected. The emission factors selected and resulting minor source designation are entirely consistent with other gold mining permits issued in Region 10 and Nevada.

For further confirmation that use of the newest emission factors are appropriate for PRI to use, additional resources were consulted. The State of Nevada has approximately 30 gold mines that are currently active and permitted by the Nevada Division of Environmental Protection (NDEP). The NDEP Bureau of Air Pollution Control (BAPC) has published a document entitled *Guidance on Emission Factors for the Mining Industry* dated May of 2017. This guidance document provides a compilation of various particulate matter emission factors for common processes in the mining industry. In Table 2.3 of the document, primary crushing and associated transfers in or out use an emission factor from Section 11.19.2 for tertiary crushing. In the Notes/Comments it states that the BAPC has determined that the use of AP-42 Chapter 11.19.2-2 is appropriate for the gold mining industry given the very low fraction of gold contained in the rock and the tertiary crushing emission factor is utilized as a conservative estimate because there is no primary crushing emission factor.

PRI estimated emissions based on metal concentration profiles from approximately 55,000 onsite core samples of ore taken primarily from the more mineralized zones of the SGP pits (i.e., in and around gold ore deposits).[1] The median metal concentration of gold is 0.1 ppm which is a very small fraction of metal contained in the ore.

[1] "Geochemistry Statistics" email R. McCluskey to E. Memon, Stibnite Gold Project, Air Sciences, September 26, 2017. (ref. PRI 2017c; 2020AAG205)

Below is a list of permitted gold mines in both Region 10 and Nevada with throughputs and permitted status. Of the 33 mines found that use some sort of control on the crushing system, 4 are PSD major and all major facilities have either a power plant or ore roasting at the facility. Stibnite would be the only facility to be a potentially major source without either of those sources if emission factors from 11.24 were used in the analysis. Using the emission factor from 11.24 would make 7 more minor sources potentially major sources that are smaller than Stibnite.

Survey of Gold Mining Minor and Major Permits in Region 10 and Nevada

No. of Permits	Source Status	Ore Crushing	Power Plant or Roaster
28	Minor	Yes	No
2	Major	Yes	Yes
3	Major - PSD	Yes	Yes
33			

Survey of Gold Mining Minor and Major Permits in Region 10 and Nevada with Wateer Sprays

No. of Permits	Source Status	Ore Crushing	Crushing Controls	
19	Minor	Yes	Water Sprays	Baghouse, Water Sprays
0	Major	Yes	Water Sprays	Baghouse, Water Sprays
2	Major - PSD	Yes	Water Sprays	Baghouse, Water Sprays
21				

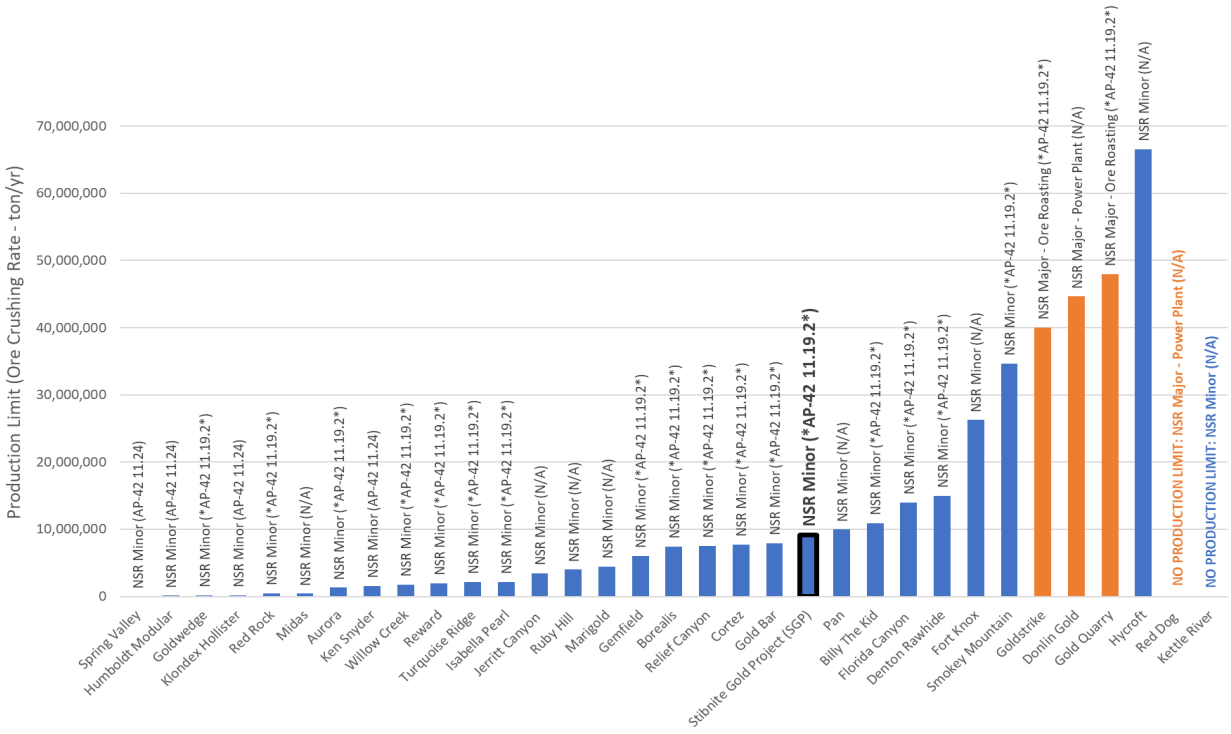
Survey of Gold Mining Permits in Region 10 and Nevada Using Water Sprays

No. of Permits	Ore Crushing	Crushing Controls	AP-42 Section		Min	Max	SGP
17	Yes	Water Sprays	11.19.2	Baghouse, Water Sprays	156,000	48,000,000	9,125,000
4	Yes	Water Sprays	11.24	Baghouse, Water Sprays	26,280	450,000	
21							

State	Company	Facility Name	Facility ID	Industry	Permit No.	Permit Date	Permit Category	Prim Crusher Rate		Control	Sec/Tert Crusher R		Control	Major Comment
AK	Donlin Gold LLC	Donlin Gold Project	-	Gold Ores	AQ0934CPT02	6/1/2023	NSR Major	44,676,000	TPY	Baghouse	5,781,600	TPY	Baghouse	Power Plant
AK	Fairbanks Gold Mining Inc	Fort Knox Mine	-	Gold Ores	AQ0053MSS04	12/17/2012	NSR Minor	26,280,000	TPY	Baghouse	3,504,000	TPY	Baghouse	
AK	Teck-Comico	Red Dog Mine	-	Gold Ores	AQ0290CPT01	12/4/1996	NSR Major	Not listed	-	Baghouse	-	-	-	Power Plant
ID	Perpetua Resources Idaho Inc	Stibnite	085-00011	Gold Ores	P-2019.0047	6/17/2022	NSR Minor	9,125,000	TPY	Water Sprays	10,074,000	TPY	Water Sprays	
NV	Nevada Gold Mines LLC	Cortez District	A0001	Gold Ores	AP1041-4392	8/10/2022	NSR Minor	7,685,000	TPY	Water Sprays	3,500,000	TPY	Water Sprays	
NV	Nevada Gold Mines LLC	Gold Quarry Operations	A0002	Gold Ores	AP1041-0793.02	3/24/20223	NSR Major	48,000,000	TPY	Water Sprays	53,400,000	TPY	Wet Scrubber, Baghouse, Water Sprays	Ore Roasting
NV	Jerritt Canyon Gold LLC	Jerritt Canyon Mine	A0004	Gold Ores	AP1041-3422	3/12/2019	NSR Minor	3,467,500	TPY	Baghouse, Wet Scrubber	2,190,000	TPY	Baghouse	
NV	Barrick Goldstrike Mines Inc	Goldstrike	A0005A	Gold Ores	AP1041-0729.04	5/31/2019	NSR Major	40,011,000	TPY	Baghouse, Water Sprays	23,642,940	TPY	Baghouse, Water Sprays	Ore Roasting
NV	Klondex Hollister Mine	Klondex Hollister Mine	A0006	Gold Ores	AP1041-3127	6/13/2023	NSR Minor	182,500	TPY	Water Sprays	-	TPY	-	
NV	Klondex Mining Operations Inc	Ken Snyder Mine	A0175	Gold Ores	AP1041-0766.02	5/16/2019	NSR Minor	1,545,000	TPY	Baghouse, Water Sprays	450,000	TPY	Baghouse	
NV	Klondex Midas Operations Inc	Midas Mine Site	A0175	Gold Ores	AP1041-3722	2/16/2022	NSR Minor	450,000	TPY	Baghouse	450,000	TPY	Baghouse	
NV	Goldwedge, LLC	Goldwedge Mine	A0373	Gold Ores	AP1041-1457.03	11/4/2019	NSR Minor	156,000	TPY	Water Sprays	156,000	TPY	Water Sprays	
NV	Florida Mining, Inc	Florida Canyon Mine	A0386	Gold Ores	AP1041-0106.05	3/8/2021	NSR Minor	14,000,000	TPY	Water Sprays	28,000,000	TPY	Water Sprays	
NV	Marigold Mining Company	Marigold Mine	A0387	Gold Ores	AP1041-3666	4/21/2020	NSR Minor	4,467,600	TPY	Baghouse	4,467,600	TPY	Baghouse#2	
NV	Nevada Gold Mines LLC	Turquoise Ridge/Getchell Mine	A0389	Gold Ores	AP1041-0292.04	3/14/2022	NSR Minor	2,190,000	TPY	Water Sprays	2,190,000	TPY	Water Sprays	
NV	Hycroft Resources and Development LLC	Hycroft Mine	A0390	Gold Ores	AP1041-0334.05	10/15/2021	NSR Minor	66,576,000	TPY	Baghouse	70,080,000	TPY	Baghouse	
NV	Ruby Hill Mining Company LLC	Ruby Hill Mine	A0399	Gold Ores	AP1041-0713.05	7/3/2023	NSR Minor	4,000,000	TPY	Baghouse	4,000,000	TPY	Baghouse	
NV	Comstock Processing LLC.	Billy The Kid Mine	A0404	Gold Ores	AP1041-4051	2/12/2020	NSR Minor	10,913,500	TPY	Baghouse, Water Sprays	10,971,900	TPY	Baghouse, Water Sprays	
NV	Rawhide Mining LLC	Denton Rawhide Mine	A0406	Gold Ores	AP1041-3977	6/26/2020	NSR Minor	15,000,000	TPY	Water Sprays	5,000,000	TPY	Water Sprays	
NV	Klondex Aurora Mine, Inc.	Aurora Mine	A0408	Gold Ores	AP1041-3858.01	10/19/2022	NSR Minor	1,314,000	TPY	Water Sprays	1,314,000	TPY	Water Sprays	
NV	Borealis Mining Company LLC	Borealis Mining Company LLC	A0675	Gold Ores	AP1041-3901	8/3/2022	NSR Minor	7,446,000	TPY	Water Sprays	7,446,000	TPY	Water Sprays	
NV	Geo-Nevada Inc	Spring Valley Mine	A0715	Gold Ores	AP1041-4391	2/23/2023	NSR Minor	26,280	TPY	Water Sprays	-	TPY	-	
NV	Gold Acquisition Corporation	Relief Canyon Mine	A0904	Gold Ores	AP1041-2441.02	11/16/2022	NSR Minor	7,500,000	TPY	Water Sprays	7,500,000	TPY	Water Sprays	
NV	CR Reward LLC	Reward Mine	A0966	Gold Ores	AP1041-2492.02	2/20/2019	NSR Minor	2,000,000	TPY	None	5,000,000	TPY	Baghouse, none	
NV	Golden Predator Mines US Inc	Humboldt Modular Mill	A1111	Gold Ores	AP1041-2693	7/23/2010	NSR Minor	131,400	TPY	Water Sprays	52,560	TPY	Water Sprays	
NV	GRP Pan LLC	Pan Mine	A1497	Gold Ores	AP1041-3831.01	8/24/2022	NSR Minor	10,000,000	TPY	Baghouse	10,000,000	TPY	Baghouse	
NV	McEwen Mining Inc	Gold Bar Project	A2005	Gold Ores	AP1041-799.01	8/24/2022	NSR Minor	7,884,000	TPY	Water Sprays	-	TPY	-	
NV	Walker Lane Minerals Corporation	Isabella Pearl Mine	A2039	Gold Ores	AP1041-3853	8/30/2017	NSR Minor	2,190,000	TPY	Water Sprays	2,190,000	TPY	Water Sprays	
NV	Gemfield Resources LTD	Gemfield Mine	A2109	Gold Ores	AP1041-3980	7/19/2021	NSR Minor	6,000,000	TPY	Water Sprays	18,000,000	TPY	Baghouse	
NV	Enegix Mining Group LLP	Willow Creek Mine Site	A2287	Gold Ores	AP1041-4309	4/26/2021	NSR Minor	1,752,000	TPY	Water Sprays	-	TPY	-	
NV	Quartz Lake Mining Inc	Red Rock Mill	A2461	Gold Ores	AP1041-4520	7/31/2023	NSR Minor	438,000	TPY	Water Sprays	438,000	TPY	Water Sprays	
NV	Round Mountain Gold Corp	Smokey Mountain Operations	A0394	Gold Ores	AP1041-3955	1/30/2023	NSR Minor	34,669,950	TPY	Baghouse, None	7,033,350	TPY	Baghouse	
OR	No permits found	No permits found	-	-	-	-	-	-	-	-	-	-	-	-
WA	Echo Bay Minerals Company	Kettle River Mill	A0190103	Gold Ores	22AQ-E031	6/28/2022	NSR Minor	Not listed	-	Baghouse	-	-	-	

The below figure shows the AP-42 section used for determining the PM_{10} and PM emissions from each gold mine. The majority of the gold mines used AP-42 Section 11.19.2 (19 of 23). Only 4 gold mines used AP-42 Section 11.24, and in each case, the gold mines had very low primary crushing rates. At these low rates, the use of either AP-42 section characterizes the sources as minor. Note that no AP-42 section is required for baghouse and wet scrubber controlled crushers as these are based on performance data.

Source Designations (NSR Minor or NSR Major) and AP-42 Emission Factors



A comparitive analysis of AP-42 Sections 11.19.2 and 11.24 for emission units OC1 through OC13 is provided below. This analysis compares the key emission parameters of equipment, controls, material, and emission type of the SGP emission units to the emission units in the test programs for the two AP-42 sections.

Analysis of AP-42 Section 11.19.2 vs. 11.24		AP-42 Section 11.19.2		AP-42 Section 11.24		Determination
Source Parameter	SGP	11.19.2 Represetative	11.19.2 Test Program Source Parameter	11.24 Represetative	11.24 Test Program Source Parameter	Emission Factor Detemination
Equipment	Primary Crusher (OC7) and Pebble Crusher (OC12), No Screens	Yes	Tertiary crushing (controlled)	No	Primary crushing operations as a whole: a hopper or ore dump, screen(s), crusher, surge bin, apron feeder, and conveyor belt transfer points	11.19.2, Tertiary Crushing (controlled), is representative. Use of this factor is conservative for primary and secondary crushers 11.24 is determined unrepresentative and does not provide factors for individual units and includes screens
Controls	Water sprays	Yes	Water sprays	No	Baghouse or wet scrubber (measured at inlet)	
Material	Primarily granite, quartzite, and marble, with lesser amounts of quartz, calcareous marl, and slate, containing microscopic gold (0.1 ppm median)	Yes	Limestone, granite, dolomite, traprock, sandstone, quartz, and quartzite. Minor types include calcareous marl, marble, shell, and slate	Yes	Hard (copper, gold, iron, and molybdenum ores) and soft (uranium, bauxite, and titanium/zirconium ores) ores	
Emission Type	Fugitive	Yes	Fugutive	No	Captured, non-fugitive (Method 5 testing conducted at the inlet of the baghouse or wet scrubber)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Published Date		-	8/2004	-	8/1982 (Reformatted 1/1995)	Rating not applicable, only 11.19.2 is representative
Rating			C/E		C/D	

Source Parameter	SGP	11.19.2 Represetative	11.19.2 Test Program Source Parameter	11.24 Represetative	11.24 Test Program Source Parameter	Emission Factor Detemination
Equipment	Conveyor and other transfers (OC1-6, OC8-11, OC13)	Yes	Conveyor transfer point (controlled)	No	Material handling and transfer--all minerals except bauxite The material handling and transfer factors do not apply to small hoppers, surge bins, or transfer points that are integral with crushing, drying, or grinding operations.	11.19.2, Conveyor transfer point (controlled), is representative and provides factors for individual transfers 11.24 is determined unrepresentative, and combined with the 11.24 primary crushing operations emission factors, it would double count emissions
Controls	Water sprays and Moisture carry over, and enclosures for some transfers	Yes	Water sprays and Moisture carry over	No	Baghouse or wet scrubber (measured at inlet)	
Material	Primarily granite, quartzite, and marble, with lesser amounts of quartz, calcareous marl, and slate, containing microscopic gold (0.1 ppm median)	Yes	Limestone, granite, dolomite, traprock, sandstone, quartz, and quartzite. Minor types include calcareous marl, marble, shell, and slate	Yes	Hard (copper, gold, iron, and molybdenum ores) and soft (uranium, bauxite, and titanium/zirconium ores) ores	
Emission Type	Fugitive	Yes	Fugutive	No	Captured, non-fugitive (Method 5 testing conducted at the inlet of the baghouse or wet scrubber)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Published Date		-	8/2004	-	8/1982 (Reformatted 1/1995)	Rating not applicable, only 11.19.2 is representative
Rating			D/E		C	

AP-42 Section 11.19.2 more closely reflects the equipment, controls, material, and emission type of the SGP emission units.

Equipment and Controls

AP-42 Section 11.19.2 provides emission factors for crushers and conveyors, both controlled with water sprays or uncontrolled, which reflect the SGP emission units. In contrast, AP-42 Section 11.24 does not provide emission factors that are similar or representative of SGP equipment and controls. The emission factors in AP-42 Sections 11.24 "are for the process as a whole" which includes screens not utilized by the SGP. Individual emission factors for OC1 through OC13 were necessary for NAAQS compliance modeling because the emission units are spread out over a large area, and each has unique dispersion characteristics. The single "whole process" emission factor in AP-42 Section 11.24 cannot be split between the individual SGP emission units for modeling.

Section 11.24 states that emission factors are provided in Tables 11.24-1 and 11.24-2 for two types of dry grinding operations: those that involve air conveying and/or air classification of material and those that involve screening of material without air conveying. Grinding operations that involve air conveying and air classification usually require dry cyclones for efficient product recovery. The factors in Tables 11.24-1 and 11.24-2 are for emissions after product recovery cyclones. The facility does not have the conditions specified for using the emission factors in Section 11.24.

Material

AP-42 Section 11.19.2 describes the major material types as "limestone, granite, dolomite, traprock, sandstone, quartz, and quartzite" and minor material as "calcareous marl, marble, shell, and slate". The SGP gold deposits are primarily granite, quartzite, and marble, with smaller amounts of calcareous marl, and slate.

At gold mines, microscopic gold is disseminated throughout all the rock types within the pits. The difference between ore (which EPA characterizes as metallic mineral) and development rock (nonmetallic mineral) is simply the value of the microscopic gold contained within the rock. The SGP gold ore concentration is approximately 0.1 ppm. It would be unreasonable, inaccurate, and arbitrary to choose emission factors from AP-42 based simply on the title of the AP-42 section and ignoring other key emission parameters.

Emission Type

The AP-42 Section 11.19.2 test program was specfically designed to accurately measure fugitive emissions "a quasi-stack system" from individual units. This measurement approach reflects the fugitive emissions from the SGP emission units. In contrast, the emission factors in AP-42 Section 11.24 were derived from whole processes ducted and controlled by wet scrubbers or baghouses (non-fugitive emissions). Measurements were taken at the inlet of the control equipment to develop the uncontrolled emission factors published in AP-42 11.24. Because the emissions from these sources are non-fugitive, EPA test Method 5 was used to measure the non-fugitive emissions in the inlet ducting.

EPA contends that applying AP-42 Section 11.24 for the primary and secondary crushing circuit results in over 800 tons per year of PM emissions, and over 90 tons per year from OC7 (the primary crusher). Although EPA did not provide their calculations, it was determined that EPA used AP-42 Section 11.24 emission factors for high moisture ore primary crushing, secondary crushing, and material handling. EPA's application of these factors is incorrect resulting in a significant overestimation of alleged emissions.

Per AP-42 Section 11.24: The emission factors in Tables 11.24-1 and 11.24-2 are for the process operations as a whole. At most metallic mineral processing plants, each process operation requires several types of equipment. A single crushing operation likely includes a hopper or ore dump, screen(s), crusher, surge bin, apron feeder, and conveyor belt transfer points. Emissions from these various pieces of equipment are often ducted to a single control device. The emission factors provided in Tables 11.24-1 and 11.24-2 for primary, secondary, and tertiary crushing operations are for process units that are typical arrangements of the above equipment.

For example, the single primary crushing emission factor estimates emissions from the crusher, screens, and all transfers. EPA applied AP-42 Section 11.24 factors to each piece of equipment resulting in double counting of emissions and also did not backout the emissions predicted by the factor for screens which do not exist at SGP at the primary and secondary crushing circuit. Screens are the largest source of emissions.

Applying AP-42 Section 11.24 emission factors to the equipment at SGP is not representative. If IDEQ tries to apply Section 11.24 emission factors to the process and then uses Section 11.19 for screening emission factors to backout the emissions for screens, total emissions are well below PSD thresholds but not representative of the process at SGP.

Review of Background documents for AP-42 Section 11.24

EPA does not identify a "Background Document" for Section 11.24 on the webpage for AP-42 Chapter 11: Mineral Products Industry, whereas a Background Document is provided for Sections 11.17 Lime Manufacturing, and 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. EPA's Comment 1 references a document *Metallic Mineral Processing Plants – Background Information for Proposed Standards Volume 2 Appendices* (EPA-450/3-81.009b). IDEQ obtained a copy of this document, dated August 1982, which was prepared to support development of a New Source Performance Standard for the Metallic Mineral Processing Industry. This document may be the final version of reference 9 listed in AP-42 Section 11.24. Reference 9 is *Metallic Mineral Processing Plants –*

Background Information for Proposed Standards (Draft). EPA Contract No. 68-02-3063, TRW, Research Triangle Park, NC, 1981.

Documents EPA-450/3-81.009a, and EPA-450/3-81.009b were reviewed. As discussed in document (a), page 3-2, "As shown in Table 3-1, most metallic ores are composed primarily of nonmetallic constituents. The metals and metallic compounds of economic interest are usually less than 10% of the total mined product….Thus the particulate emissions from most metallic mineral processes are composed primarily of nonmetallic constituents".

Document (a), page 3-49, Section 3.2.13, Emission Factors for Related Industries, states, "Engineering estimates of uncontrolled emissions for crushed stone or rock handling facilities have been made (EPA, 1979). These factors, included in Table 3-14, are suggestive of the range of emissions that might be expected from the metallic minerals processing industries that employ similar processes." The uncontrolled Primary crushing emisson factor in Table 3-14 is 0.5 lb PM/ton material entering the primary crusher, which is the same factor currently in AP-42, Table 11.24-2 that EPA Region 10 proposes should be used by PRI.

Table 3-14. PARTICULATE EMISSION FACTORS FOR ROCK-HANDLING PROCESSES[a]

Type of process	Uncontrolled total[b]		Settled out in plant, %	Suspended emission	
	lb/ton	kg/Mg		lb/ton	kg/Mg
Dry crushing operations					
Primary crushing	0.5	0.25	80	0.1	0.05
Secondary crushing and screening	1.5	0.75	60	0.6	0.3
Tertiary crushing and screening (if used)	6	3	40	3.6	1.8
Recrushing and screening	5	2.5	50	2.5	1.25
Fines mill	6	3	25	4.5	2.25
Miscellaneous operations					
Screening, conveying, and handling	2	1			
Storage pile losses					

[a] U.S. EPA, 1979.

[b] All values are based on raw material entering primary crusher, except those for recrushing and screening, which are based on throughput for that operation.

Document (a), page 4-3, states, "In order to broaden the range of conditions considered for the performance of the control equipment, test data for non-metallic mineral processing facilities are also included in the data base discussed in this chapter." "Data from the non-metallic mineral industries may be appropriately transferred to the metallic mineral industries for several reasons. As noted in Chapter 3, much of the process equipment of interest in this document is similar in the metallic and non-metallic processing industries. Because the ores from which metallic elements are extracted are primarily non-metallic in character, the emissions from metallic mineral processing operations are primarily non-metallic mineral constituents. Furthermore, the similarity of emissions from metallic and non-metallic processes in

key parameters such as particle size distribution and mass loading provide additional evidence of similarity between the two industries. These measurements were routinely made during the testing of both metallic and non-metallic processing facilities and form the basis for extrapolating control efficiency from one industry, whether metallic or non-metallic, to another."

Document (a), page 4-78, Section 4.10, Conclusions from Test and Modelling Data states, "Several conclusions are justified after a review of the test data in this chapter. A comparison of particle size ranges for the metallic and non-metallic facilities indicates similar distributions."

Document (b), Appendix C, Summary of Test Data – indicates that Emissions data included in Appendix C were gathered from 17 mineral processing plants. Of the 17, nine process metallic minerals and eight process non-metallic minerals. The test summary tables indicate Method 5 particulate sampling was conducted at the inlet and outlet of scrubber and baghouse control equipment. Fugitive emissions were evaluated for opacity using Method 9.

Review of Background documents for AP-42 Section 11.19.2

The background document for Section 11.19.2, available on EPA's AP-42 web page, is dated May 12, 2003, and presents the background information that was used to develop the revised AP-42, Section 11.19.2 on crushed stone processing and pulverized mineral processing. As noted in the document introduction, emission data from nine emission tests conducted at stone (granite and limestone) processing plants were used to develop emission factors for various, crushing, screening, and conveying operations. For several tests, the uncontrolled emission data from crushers, screens and conveyor transfer points was measured by using EPA reference test methods on the exhaust of a track-mounted hood system that was used to capture fugitive emissions, which is described as a "quasi-stack system". The date of the emission tests is not directly provided in the background document, though the references in background document indicate that many of the tests were conducted between 1992 and 2001.

Section III. Results of Data Analysis, states, "Emission factors were developed for conveyer transfer points, screening, tertiary crushing, fines crushing, and fines screening operations. The only data available for secondary crushing were of questionable quality and were not consistent with the emission tests included in this review. Therefore, the revised AP-42 section does not include emission factors for primary and secondary crushing of stone. However, the emission factors for tertiary stone crushing can be used as an upper limit to primary and secondary crushing."

Page 19 states that, "All of the PM emission factors have been rated as E due to the limited test data and the need to estimate emission factors using extrapolations of the $PM_{2.5}$ and PM_{10} data. The $PM_{2.5}$ emission factors for tertiary crushing screening, conveyor transfer, and fines crushing (all controlled using wet suppression) were assigned an E rating because data from a single A-rated test were used for each source."

After a thorough review of the various AP-42 sections, background document, and administrative record, the AP-42 emission factors that match the PRI ore crushing process equipment and controls was selected. The emission factors selected and resulting minor source designation are entirely consistent with other gold mining permits issued in Region 10 and Nevada.

EPA Comment 1b. Underestimation of Emissions from Lime Plant Emission Units

EPA previously commented that IDEQ's emission estimates for the lime production emission units are not technically accurate because they do not appear to be based on emission factors that are representative of the emission sources. For example, EPA commented that AP-42 Section 11.17 Lime Manufacturing

emission factors applies to the processing of lime derived from marble. However, IDEQ used AP-42 emissions factors from Section 11.19.2 Crushed Stone Processing. In addition, the limestone excavating emission estimates (Material Load & Unload) appear to use emission factors from Section 11.19.2 Crushed Stone Processing instead of Section 11.9 Western Surface Coal Mining emission factors that are representative and specific to mining excavation activities. The permitting record does not explain why emission factors from AP-42 Section 11.19.2 were selected over those from Sections 11.17 and 11.9. If IDEQ does not have a good technical reason for their selection of emission factors, the most conservative emission factor should be used for emission units.[23]

IDEQ responded to EPA and other commenters that: "As described previously in the Representativeness and Uncertainty of Emissions section, although some degree of uncertainty is present in all emission factors used in estimating emissions, all emission factors were adequately supported and the approach of estimating potential to emit (PTE) at design capacity was considered a conservative approach. Emission factors with control efficiencies built into them were adequately supported by that corresponding control device listed in the permit. Representative emission factors from EPA's AP-42 Section 11.17, 11.19.2 and 11.9 were used to estimate emissions from the lime plant, lime plant support equipment, and marble overburden mining, respectively. The facility's emission inventory includes crushers, screens, and conveyors controlled by water sprays. EPA's AP-42 11.19.2 (08/2004) provides representative emission factors for these specific processes and controls."[24]

Consistent with the evaluation in Section 1.a., above, IDEQ failed to apply appropriate emission factors to the lime plant emission units, did not follow IDEQ guidance specific to emission factor use in permits and failed to create an enforceable restriction on the lime plant's potential to emit below major source thresholds (e.g., 100 tons PM per year).

IDEQ's selection of emissions factors for the lime plant and basis therefore suffer from the same deficiencies as the ore processing units evaluated in Section 1.a., above. IDEQ relied upon sections of AP-42 that are not specific to the process units being permitted. For instance, IDEQ relied upon non-metallic mineral processing emission estimates in EPA's AP-42 Section 11.19 instead of evaluating EPA's emission factors for lime manufacturing, Section 11.17. A single example of how important it is to accurately estimate emissions is illustrated by a process unit in the Lime Plant, LS3/LS4 (primary Screen/Secondary Crusher). If the emission factor for secondary crushers (0.62 lb/ton) in Section 11.17 is applied to those production units, potential emissions would exceed 100 tons PM per year from those units alone. The same result applies to emission unit LS5 (secondary screen), resulting in an additional 128 tons PM per year. These two simple examples highlight the importance of accurately estimating future emissions from the proposed SGP.

Based on the above and corresponding issues highlighted in Section 1.a., IDEQ did not follow IDEQ Guidance, did not support the use of the chosen emission factor and was arbitrary when choosing emission factors for the lime processing emission units, and did not restrict the lime plant's PTE below major source thresholds.

IDEQ Response

EPA contends that emission factors from AP-42 Section 11.19.2 are not accurate for lime production emission units and that IDEQ should have selected emission factors from AP-42 Section 11.17. PRI used emission factors from Section 11.17 for the lime kiln, lime silo loading, and lime silo discharge. PRI used emission factors from Section 11.19.2 for the crushers, screens, and conveyors used in the lime production process.

IDEQ seeks to apply emission factors that actually reflect the permit applicant's plans and processes. In comparing Sections 11.19.2 and 11.17, IDEQ found that applying 11.19.2 would be most applicable to

the PRI proposal for the limestone crushing process and applying 11.17 would be most applicable for the lime kiln, lime silo loading, and lime silo discharge. A thorough review of the background materials, underlying AP-42 emission factors, along with the administrative record, demonstrates that EPA's concern is unsupportable and lacks a rational basis.

AP-42 emission factors for Section 11.17 are from 1998 with primary crushing ratings listed as E (with E being the lowest rating). Section 11.17 also only lists emission factors for PM with no emission factors listed for PM_{10} or $PM_{2.5}$. Additionally, there are no emission factors listed for secondary or tertiary crushing.

Table 11.17-3 (Metric Units). EMISSION FACTORS FOR LIME MANUFACTURING RAW MATERIAL AND PRODUCT PROCESSING AND HANDLING[a]

Source	Filterable[b]			
	PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING
Primary crusher[c] (SCC 3-05-016-01)	0.0083	E	ND	
Scalping screen and hammermill (secondary crusher)[c] (SCC 3-05-016-02)	0.31	E	ND	
Primary crusher with fabric filter[d] (SCC 3-05-016-01)	0.00021	D	ND	
Primary screen with fabric filter[e] (SCC 3-05-016-16)	0.0030	D	ND	
Crushed material conveyor transfer with fabric filter[f] (SCC 3-05-016-24)	4.4×10^{-5}	D	ND	
Secondary and tertiary screen with fabric filter[g] (SCC 3-05-016-25)	6.5×10^{-5}	D	ND	
Product transfer and conveying (SCC 3-05-016-15)[h]	1.1	E	ND	
Product loading, enclosed truck (SCC 3-05-016-26)[h]	0.31	D	ND	
Product loading, open truck (SCC 3-05-016-27)[h]	0.75	D	ND	

In the process description for Section 11.19.2, crushed stone processing includes major processing for rock types such as limestone, granite, dolomite, traprock (basalt), sandstone, quartz, and quartzite.

A thorough review of the various AP-42 sections was conducted and the AP-42 emission factors that match the PRI lime plant equipment was selected. The emission factors selected and resulting minor source designation are entirely consistent with other lime plants issued in Utah and Nevada.

A search was conducted for permitted lime plants in surrounding states. The Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control (BAPC) has permitted Graymont Western US Pilot Peak Plant, a lime manufacturing facility. The facility uses emission factors from AP-42 Section 11.19.2 for most transfers and conveyors that are uncontrolled at the facility but uses the guidance default grain loading emission factors for crushers and screens with baghouse control. No emission factors from AP-42 Section 11.17 were found to be used in the application.

Utah Department of Environmental Quality has permitted Graymont Western US Incorporated – Cricket Mountain Plant, a lime processing plant. This facility also uses emission factors from AP-42 Section 11.19.2 for most transfers and conveyors that are uncontrolled at the facility.

A comparitive analysis of AP-42 Sections 11.19.2 and 11.17 for emission units LS1 through LS12, LSBM, and LCR is provided below. A comparitive analysis of AP-42 Sections 11.19.2 and 11.9 is also provided. This analysis compares the key emission parameters of equipment, controls, material, and

emission type of the PRI emission units to the emission units in the test programs for the two AP-42 sections.

Analysis of AP-42 Section 11.19.2 vs. 11.17		AP-42 Section 11.19.2		AP-42 Section 11.17		Determination
Source Parameter	**SGP**	**11.19.2 Representative**	**11.19.2 Test Program Source Parameter**	**11.17 Representative**	**11.17 Test Program Source Parameter**	**Emission Factor Determination**
Equipment	**Primary Crusher (LS2) and Secondary Crusher (LS4)**	Yes	Tertiary crushing (uncontrolled)	Yes	Primary crusher	11.19.2, tertiary crushing (uncontrolled), is representative. The use of this factor is conservative for primary and secondary crushers.
Controls	Uncontrolled	Yes	Uncontrolled	No	Fabric filter (inlet)	11.17 is determined unrepresentative.
Material	Limestone	Yes	Limestone and other rock types	Yes	Limestone	11.17 recommends the use of 11.19: "Section 11.19, Construction Aggregate Processing, also includes stone processing emission factors that are based on more recent testing, and, therefore, may be more representative of emissions from stone crushing, grinding, and screening." (EPA 1998.02, p. 11.17-4)
Emission Type	Fugitive	Yes	Fugitive	No	Captured non-fugitive (Method 5 testing conducted at the inlet of the fabric filter)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		2/1998		Rating not applicable, only 11.19.2 is representative
Rating		C/E		E		

Source Parameter	**SGP**	**11.19.2 Representative**	**11.19.2 Test Program Source Parameter**	**11.17 Representative**	**11.17 Test Program Source Parameter**	**Emission Factor Determination**
Equipment	**Primary Screen (LS3), Secondary Screen (LS5), and Fines Screening (LS11)**	Yes	Screening (uncontrolled)	No	Scalping screen and hammermill (secondary crusher)	11.19.2, screening (uncontrolled), is representative
Controls	Uncontrolled	Yes	Uncontrolled	No	Fabric filter (inlet)	11.17 is determined unrepresentative and includes a hammermill
Material	Limestone	Yes	Limestone and other rock types	Yes	Limestone	11.17 recommends the use of 11.19: "Section 11.19, Construction Aggregate Processing, also includes stone processing emission factors that are based on more recent testing, and, therefore, may be more representative of emissions from stone crushing, grinding, and screening." (EPA 1998.02, p. 11.17-4)
Emission Type	Fugitive	Yes	Fugitive	No	Captured non-fugitive (Method 5 testing conducted at the inlet of the fabric filter)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		2/1998		Rating not applicable, only 11.19.2 is representative
Rating		C/E		E		

Source Parameter	**SGP**	**11.19.2 Representative**	**11.19.2 Test Program Source Parameter**	**11.17 Representative**	**11.17 Test Program Source Parameter**	**Emission Factor Determination**
Equipment	**Ball Mill (LSBM)**	Yes	Grinding (dry) with fabric filter control	No	Primary crusher with fabric filter	11.19.2, grinding (dry) with fabric filter control, is representative
Controls	Baghouse (BH3)	Yes	Fabric filter	Yes	Fabric filter	11.17 is determined unrepresentative. There are no factors for milling or grinding.
Material	Limestone (crushed)	Yes	Limestone, and other rock types (crushed)	No	Limestone (uncrushed)	11.17 recommends the use of 11.19: "Section 11.19, Construction Aggregate Processing, also includes stone processing emission factors that are based on more recent testing, and, therefore, may be more representative of emissions from stone crushing, grinding, and screening." (EPA 1998.02, p. 11.17-4)
Emission Type	Captured non-fugitive	Yes	Captured non-fugitive	Yes	Captured non-fugitive (Method 5 testing conducted at the inlet of the fabric filter)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		2/1998		Rating not applicable, only 11.19.2 is representative
Rating		B/D		D		

Source Parameter	**SGP**	**11.19.2 Representative**	**11.19.2 Test Program Source Parameter**	**11.17 Representative**	**11.17 Test Program Source Parameter**	**Emission Factor Determination**
Equipment	**Conveyor and other transfers (LS1, LS6-10, LS12)**	Yes	Conveyor transfer point (uncontrolled)	No	Product transfer and conveying "13 product transfer and drop points to a fabric filter" (EPA 1994, p. 35)	11.19.2, conveyor transfer point (uncontrolled), is representative and provides factors for individual transfers
Controls	Uncontrolled	Yes	Uncontrolled	No	Fabric filter (inlet)	11.17 is determined unrepresentative and does not provide factors for individual transfers
Material	Limestone	Yes	Limestone and other rock types	No	Lime product	11.17 recommends the use of 11.19: "Section 11.19, Construction Aggregate Processing, also includes stone processing emission factors that are based on more recent testing, and, therefore, may be more representative of emissions from stone crushing, grinding, and screening." (EPA 1998.02, p. 11.17-4)
Emission Type	Fugitive	Yes	Fugitive	No	Captured non-fugitive (Method 5 testing conducted at the inlet of the fabric filter)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		2/1998		Rating not applicable, only 11.19.2 is representative
Rating		D/E		E		

Source Parameter	SGP	11.19.2 Representative	11.19.2 Test Program Source Parameter	11.17 Representative	11.17 Test Program Source Parameter	Emission Factor Determination
Equipment	Mill Lime Crusher (LCR)	Yes	Grinding (dry) with fabric filter control	Yes	Primary crusher with fabric filter	11.19.2, grinding (dry) with fabric filter control, is representative 11.17 is determined unrepresentative. There are no factors for product (lime) crushing. The closest factors are for limestone primary crusher with fabric filter. However, these factors are less conservative than the 11.19.2 factors (e.g., PM: 0.00043 vs. 0.0404 lb/ton)
Controls	Baghouse (BH5)	Yes	Fabric filter	Yes	Fabric filter	
Material	Lime	Yes	Limestone, and other rock types (crushed)	No	Limestone (uncrushed)	
Emission Type	Captured non-fugitive	Yes	Captured non-fugitive	Yes	Captured non-fugitive (Method 5 testing conducted at the inlet of the fabric filter)	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		2/1998		Rating not applicable, only 11.19.2 is representative
Rating		B/D		D		

Analysis of AP-42 Section 11.19.2 vs. 11.9		AP-42 Section 11.19.2		AP-42 Section 11.9		Determination
Source Parameter	SGP	11.19.2 Representative	11.19.2 Test Program Source Parameter	11.9 Representative	11.9 Test Program Source Parameter	Emission Factor Determination
Equipment	Haul Truck Loading and Unloading	Yes	Truck loading - conveyor, crushed Truck unloading - fragmented stone	No	Truck loading by power shovel (batch drop)[c] Bottom dump truck unloading (batch drop)[c] [c]"Predictive emission factor equations, which generally provide more accurate estimates of emissions, are presented in Chapter 13." (EPA 1998.10, p. 11.9-11)	11.19.2, truck loading - conveyor, crushed and truck unloading - fragmented stone are representative 11.9 is determined unrepresentative because it is geographic area specific and does not reflect the material at the SGP. Additionally, 11.9 recommends using Chapter 13 instead of the provided factors. However, Chapter 13 requires material moisture, which is not available for the SGP.
Controls	Uncontrolled	Yes	Uncontrolled	Yes	Uncontrolled	
Material	Limestone	Yes	Limestone and other rock types	No	Overburden - Mine V (N.E. Wyoming), Surface soil type: "Loamy, sandy, clayey, and clay loamy"	
Emission Type	Fugitive	Yes	Fugitive	Yes	Fugitive	
If more than one emission factor is representative, then consider the date and rating for each factor						
Date Published		8/2004		7/1998		Rating not applicable, only 11.19.2 is representative
Rating		E		E		

The use of AP-42 Section 11.19.2 for the PRI limestone processing units (LS1 through LS12) conforms with the guidance provided in both AP-42 sections. AP-42 Section 11.17 specifically recommends the use of Section 11.19.2 for stone crushing, grinding, and screening over Section 11.17: “Section 11.19, Construction Aggregate Processing, also includes stone processing emission factors [11.19.2 Crushed Stone Processing] that are based on more recent testing, and therefore, may be more representative of emissions from stone crushing, grinding, and screening.”

AP-42 Section 11.19.2 was also used for lime product crushing unit (LCR). Use of 11.19.2 factors for the LCR unit is highly conservate compared to Section 11.17 factors.

The use of AP-42 Section 11.19.2 for limestone excavation, specifically haul truck loading and unloading, conforms with the guidance provided in both Sections 11.19.2 and 11.9. The loading and unloading emission factors in AP-42 Section 11.9, Table 11.9-4 were developed for a specific geographical area, and use of these factors is not recommended for other locations unless they have very similar characteristics. These factors were developed from source testing at Mine V in northeast Wyoming, with a surface soil type described as: “Loamy, sandy, clayey, and clay loamy”. This is not similar to the limestone excavated at the SGP for the lime plant.

Review of Background documents for AP-42 Section 11.17

The background document provided on the AP-42 web page for Emission Factor Documentation for Lime Manufacturing is dated April 28, 1994. The document notes, on page 15, that the emission factor quality rating system is somewhat subjective and depends to an extent on the individual reviewer. Table 4.1, Summary of Emission Test Reports used to Develop Emission Factors, identifies one test (reference 2) for “Primary crusher, screens, hammermill, and final sizing screens” conducted in 1974 at J.M. Brenner Company in Lancaster, PA. Of the approximately 30 tests listed in the table, that is the only test that identifies a crusher and screens as being the source tested. The vast majority of the tests were on lime plant rotary kiln emissions. One report (reference 50) also identifies the source as “six raw material processing sources”, conducted in 1993 at Chemstar Lime in Bancroft, Idaho. The document includes analysis of Reference 2, on page 33. The analysis includes, in part, “The sources tested include a primary crusher, final sizing screens, and combination of scalping screens and a hammermill. The tests were

conducted in 1974 and were sponsored by EPA as part of the information gathering effort for an NSPS for stone crushing. Emissions from the primary crusher, scalping screens, and hammermill are controlled with a common fabric filter. Emissions from the final sizing screens are controlled with a separate fabric filter." "Method 5 (front and back halves) was used to measure PM emissions. Although back half PM catches are reported in the results, these processes operate at ambient temperature and should not emit condensable PM. Therefore, it is assumed that the back half catches are the result of an anomaly in the sampling and analytical procedures used. The test report does not include adequate information to determine the origin of this apparent anomaly. Three runs were conducted on the outlets of the two fabric filters, but only two inlet runs were conducted." "Emission factors were developed for filterable PM emissions from all of the sources tested."

"The emission factors for uncontrolled emissions from the primary crusher are rated C because only two test runs were conducted, and the emission factors for uncontrolled emissions from the scalping screens/hammermill are rated D because only two runs were conducted and the filterable PM data varied by more than three orders of magnitude."

Regarding test Reference 50, "This report documents measurements of emissions of filterable PM from six raw material processing sources…" The raw material processing sources tested included: primary crushing, including the scalping screen, scalping screen discharges, primary crusher discharges: primary screening including the screen feed, screen discharge, and surge bin discharge; two conveyor transfer points on the conveyor from the primary crusher to the primary stockpile; secondary and tertiary screening, including the conveyor transfer point for the primary stockpile underflow to the secondary screen, and tertiary screening. "Fabric filters are used to control emissions from each of the sources tested, and only controlled emissions were tested."

The emission factor provided in Table 4-5 for Primary Crushing (uncontrolled) for the Reference 2 test is 0.017 lb/ton of filterable PM. This is the same emission factor provided in AP-42 Table 11.17-4 for Lime Manufacturing primary crusher emissions. Therefore, it appears the current AP-42 emission factor for uncontrolled lime plant primary crusher PM emissions is based on one test (consisting of two runs) conducted in 1974 on the inlet side of a baghouse.

After a thorough review of the various AP-42 sections, background documents, and administrative record, the AP-42 emission factors that match the PRI lime production equipment and controls were selected. The emission factors selected and resulting minor source designation are entirely consistent with other lime plants in EPA Region 9.

EPA Comment 1c. Lack of Emission Limits

IDEQ's permit imposes only production limits for the ore processing units while relying on the unrepresentative emission factors that significantly underestimate emissions. While use of production limits alone to limit PTE may be acceptable in certain circumstances, such as when the limits are derived from conservative emission factors, this is not the case here.

In addition to inadequate production limits derived from unrepresentative emission factors, the Final Permit lacks emissions limits for several emission units, including the ore crushers, screens, and conveyors. This further undermines the enforceability of the synthetic minor limits. EPA advised IDEQ of this problem in its March 19, 2021, letter (Comments 1-4). Despite these comments, the Final Permit does not contain either source-wide emission limits applicable to all emission units or unit-specific limits on the mining and ore processing emission units.[25] As a result, enforcement of the synthetic minor limits is constrained to the inaccurate production limits with no corresponding limitation on the emissions from those units. As discussed above, IDEQ used emission factors that significantly underestimate the emissions from the ore processing units as well as the lime plant units. Based on the analysis above,

IDEQ's permit does not restrict the SGP's PM PTE to below PSD or Title V major source thresholds as a legal and practical matter.

IDEQ Response

IDEQ believes that the appropriate emission factors were used in representing PRI's emissions and that emissions were not underestimated. Likewise, the production limits and emission limits established in the permit were appropriate to limit the facility's PTE to below major source thresholds.

EPA contends that the permit lacks emission limits for several emission units including the ore crushers, screens, and conveyors. Permit condition 3.7 is the primary crusher limit in the Mining and Ore Processing section of the permit. The primary crushing process is limited to 25,000 tons per day. Permit condition 3.8 limits the pebble crusher to 27,600 tons per day. As shown below in the screen capture from the emissions inventory spreadsheet, subsequent equipment from both crushers do not need an individual limit because no new ore is introduced at these points and the same throughput is conservatively used to estimate emissions from the crushers and conveyors. The annual PTE, as shown in the statement of basis, is calculated using the daily throughput limit, emission factor, and 8,760 hours per year.

SOURCE DESCRIPTION		OPERATING LIMITS					
Model	Source Description	Design Throughput					
ID		unit/hr	unit/day	unit/yr	units	Material	hr/yr
OC1	Loader Transfer of Ore to Grizzly	1,042	25,000	9,125,000	ton	Ore	8,760
OC2	Grizzly to Apron Feeder	1,042	25,000	9,125,000	ton	Ore	8,760
OC3	Apron Feeder to Dribble Conveyor	1,042	25,000	9,125,000	ton	Ore	8,760
OC4	Apron Feeder to Vibrating Grizzly	1,042	25,000	9,125,000	ton	Ore	8,760
OC5	Dribble Conveyor to Vibrating Grizzly	1,042	25,000	9,125,000	ton	Ore	8,760
OC6	Vibrating Grizzly to Primary Crusher or Coarse Ore Stockpile Feed Conveyor	1,042	25,000	9,125,000	ton	Ore	8,760
OC7	Primary Crusher and Associated Transfers out to Coarse Ore Stockpile Feed Conveyor	1,042	25,000	9,125,000	ton	Ore	8,760
OC8	Coarse Ore Stockpile Feed Conveyor Transfer to Stockpile	1,042	25,000	9,125,000	ton	Ore	8,760
OC9	Stockpile Transfers to Reclaim Conveyors	1,150	27,600	10,074,000	ton	Ore	8,760
OC10	Reclaim Conveyors to SAG Mill Feed Conveyor	1,150	27,600	10,074,000	ton	Ore	8,760
OC11	SAG Mill Feed Conveyor Transfer to SAG Mill	1,150	27,600	10,074,000	ton	Ore	8,760
OC12	Pebble Crusher and Associated Transfers in (from SAG Mill) and out (to Pebble Discharge Conveyor)	1,150	27,600	10,074,000	ton	Ore	8,760
OC13	Pebble Discharge Conveyor to SAG Mill Feed Conveyor	1,150	27,600	10,074,000	ton	Ore	8,760

The same is true for the limestone crushing process. The primary crushing process is limited to 1,130 tons per day. No new limestone is introduced in the process at subsequent points and the same throughput is conservatively used to estimate emissions from secondary crushing and conveyors. It should be noted that hourly emission limits exist in the permit for the lime, aggregate, and concrete production plants.

The potential to emit (PTE) for all emission units at the site is calculated using continuous throughput and the design throughput for the equipment with a few exceptions as noted below.

Emission unit ACB, the POX boiler, is limited to autoclave start-up operation only (Permit condition 4.7) and PTE is calculated at 30 hours per year. POX boiler operation monitoring is required in Permit condition 4.20. Emission units MR and MF, the mercury retort and induction melting furnace, use a batch

process and the PTE is calculated for 21 batches per year. The mercury retort and induction melting furnace are limited to 1,000 pounds per batch and 21 tons per year in Permit conditions 4.9 and 4.10. Monitoring and recordkeeping is described in Permit conditions 4.22 and 4.23.

The PTE for the emergency generators and fire pump are calculated at 100 hours per year. Permit condition 6.3 limits these units to 100 hours per year for non-emergency purposes.

The mine site gasoline and diesel tanks (TG1, TG2, TD4 – TD10) PTE is calculated using design throughput and EPA Tanks 4.0.9d.

After a thorough review of the various AP-42 emission factors and the production limits and emission limits established in the permit, it is determined that the production and emission limits established in the permit are appropriate to limit the facility's PTE to below major source thresholds.

EPA Comment 1d. Lack of Sufficient Monitoring, Recordkeeping and Reporting

EPA previously commented that the Draft Permit lacked sufficient monitoring, recordkeeping and reporting (MRR) to ensure the production and emission limits are enforceable as a practical matter.[26] EPA commented that the Final Permit did not include core monitoring, recordkeeping, and reporting (MRR) requirements directly, but rather allowed the permittee to develop these MRR requirements post permit issuance in an Operations and Maintenance Manual (O&M Manual). EPA, as well as many other commenters, raised procedural and substantive concerns with IDEQ's approach to incorporating MRR requirements into the permit. Procedurally, EPA commented that the O&M Manual ought to be developed and available for public comment prior to permit issuance and that any changes to the O&M Manual ought to be reviewed and approved by IDEQ prior to the change. Substantively, EPA commented that the permit condition specifying the minimum requirements for the O&M Manual lacked the necessary specificity to ensure the permit includes adequate MRR.

IDEQ's RTC included some responses to EPA's comments. IDEQ revised PTC Condition 2.20 from draft to final to require that the O&M Manual be developed 30 days prior to startup of any process equipment. Condition 2.20 also states: "The requirements in the O&M Manual shall be incorporated by reference to this permit and shall be enforceable permit conditions." In addition, PTC Condition 2.21 requires: "The O&M manual shall be submitted for approval to DEQ 30 days prior to startup of any ore processing, ore concentration and refining, lime production, or aggregate production emission source regulated by this permit (as identified in Table 1.1) at the address provided (Permit Condition 2.26), and shall remain onsite at all times. Any changes to the O&M manual shall be submitted to DEQ for review, comment, and approval 30 days prior to the change."[27]

These conditions in the Final PTC and Idaho's RTC do not fully address EPA's concerns regarding the development and approval of the O&M Manual. IDEQ did not require the applicant to develop and submit the O&M Manual as part of its application. Accordingly, the O&M Manual will not be subject to public review and comment, even though the Manual will establish enforceable conditions in the permit. In addition, Conditions 2.20 and 2.21 do not mandate IDEQ *approval* prior to startup or a change to the O&M Manual, only that the Permittee submit the O&M Manual to IDEQ for approval. Finally, Condition 2.20 specifies that the O&M Manual shall be incorporated by reference into the permit. However, this condition does not make clear whether only the approved O&M Manual is incorporated by reference or any version of the O&M Manual submitted by the permittee. Moreover, given that the O&M Manual establishes permit conditions that bear on emission and compliance, revisions to the O&M Manual constitute permit revisions that ought to be subject to public review and comment.[28]

Condition 2.20 contains the minimum content requirements for the O&M Manual. In response to commenters questioning the sufficiency of these minimum requirements, IDEQ reasserted that Condition

2.20 contains the minimum requirements for the O&M Manual and that Condition 2.20 requires the permittee to describe various methods, procedures, and schedules to monitor emission units and control equipment.[29] Neither the Final Permit nor IDEQ's RTC adequately address EPA's concerns.

At the outset, these minimum requirements are vague and may not compel specific, enforceable conditions in the ultimate O&M Manual. For many critical monitoring and operational requirements, Condition 2.20 merely requires the permittee to "describe" the procedures and/or schedule. In addition, the requirement to "Describe the schedule and procedures for routine inspection (Permit Condition 2.10), maintenance, repair, and replacement of control equipment" does not specify any particular method (e.g. EPA Test Methods 9, 22) for visual observation of opacity or fugitive emissions. Accordingly, this vague condition will not lead to sufficient MRR in the O&M Manual.

In addition to these overarching concerns with Condition 2.20, numerous permit conditions reference the O&M Manual to satisfy MRR requirements. However, as illustrated in Table 1, below, Condition 2.20 does not mandate specific MRR for all of these corresponding production or emission limits.[30]

In addition, the Permit does not require testing for the ore processing or lime production emission units to confirm the accuracy of emission factors. As discussed above, IDEQ used inaccurate emission factors to derive production limits for ore processing and lime production emission units. In its RTC, IDEQ acknowledges the uncertainty present in emission factors. However, IDEQ did not require initial or routine testing to confirm the accuracy of the emissions factors used to establish production and emission limits. Given the low quality of the emissions factors used, such testing is critical to ensuring the adequacy of the synthetic minor limits. However, the Final Permit does not require any testing.

Given the absence of sufficient MRR requirements for the corresponding production limits, emission limits, and control equipment requirements, many of the synthetic minor emission limits are not enforceable as a practical matter.

IDEQ Response

The permittee is required to develop an O&M manual per permit condition 2.20. The purpose of the O&M manual is to ensure that the permittee has a detailed manual for complying with the PTC conditions for all sources and control devices. The PTC conditions for monitoring, recordkeeping, and reporting makes PTE limitations enforceable as a practical matter. There are numerous recordkeeping and monitoring requirements and the minimum requirements are contained. Specific equipment operations are not known at this time because equipment hasn't been procured by the permittee. There has to be flexibility for brand of equipment, specific operating requirements, etc. according to the manufacturer recommendations. In addition, requiring a source test on ore processing and lime production emission units when they are fugitive in nature is not practical.

EPA Comment on Permit Conditions 2.20, 3.11-3.12 (From Table 1)

The MRR for drill rigs and rock crushing equipment is inadequate. The O&M manual contains no provisions regarding water sprays. While Condition 2.20 does require incorporation of certain manufacturer's guarantees, this requirement is specific to certain control devices: wet scrubber, vent gas cleaning tower, venturi scrubber, carbon filter, baghouse and bin vent filter cartridge control device.

IDEQ Response

The MRR for drill rigs, rock crushing equipment, water sprays, etc. is contained within the O&M manual. Permit condition 2.6 contains the requirements that water sprays must be used for control of fugitive dust. Permit condition 3.12 contains the requirement that the permittee shall install, operate, and maintain water

sprays in accordance with the O&M manual (Permit Condition 2.20) to control PM emissions from each ore processing crusher and conveyor. Water sprays shall operate according to the FDCP (Fugitive Dust Control Plan) when this equipment is operated to ensure compliance with Fugitive Dust requirements (Permit Conditions 2.1–2.6).

In addition, drill rig requirements are contained in Permit Condition 3.11 which states that the permittee shall install and operate dust collection systems with a minimum control efficiency of 90% on all drilling rigs in accordance with the O&M manual (Permit Condition 2.20). The dust collection systems shall be in operation at all times when the drilling rigs are operated.

EPA Comment on Permit Conditions 2.20, 3.16-3.20 (From Table 1)

This condition lacks specificity with respect to the scale used to determine the weights of materials, particularly daily ore loading conditions in 3.16-3.20. In order for these daily limits to be practically enforceable, the permit must contain monitoring, recordkeeping and reporting of total daily weights of ore. This necessitates use of an accurate scale. Condition 2.20 does not mandate the use of any particular scale, or that the permittee maintain the scale within a certain percent accuracy. Without these minimum conditions in Condition 2.20, IDEQ has limited grounds to disapprove an O&M Manual that allows for inappropriate or inaccurate scales. See the regulation at 40 CFR 63.11646(a)(8)-(10) for detailed requirements for the measuring and recording of weights.

Neither Condition 2.20 nor Conditions 3.16-3.20 contain required calculations for summing daily weights to demonstrate continuous compliance.

In its response to comments, IDEQ stated that the permittee will use a weighometer to measure weights.[31] While this may be true, no condition in the permit requires the use of a weighometer.

IDEQ Response

In Permit Condition 2.20, the requirements for the O&M manual, it specifically states to describe each monitoring device and methodology used to measure weight rates of materials to demonstrate compliance with each material throughput limit (Permit Conditions 3.5–3.9, 4.8–4.11, and 5.4–5.8). Procedures for proper installation, calibration, and maintenance shall be included. In Permit Condition 2.21, the O&M manual shall be submitted for approval to IDEQ 30 days prior to startup. Any changes to the O&M manual shall also be submitted for IDEQ review, comment, and approval 30 days prior to the change.

EPA Comment on Permit Conditions 2.20, 4.13-4.17 (From Table 1)

No conditions specify any specific methods for see-no-see inspections, e.g. Method 22 observations. Without referencing the method, the compliance determination is subjective and likely unenforceable.

IDEQ Response

Permit condition 2.10 requires a facility-wide inspection of potential sources of visible emissions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. To perform a see/no see evaluation, no specific reference method is required. If any visible emissions are present from any point of emission the permittee is to take appropriate corrective action as expeditiously as possible and/or perform a Method 9 opacity test in accordance with IDAPA 58.01.01.625. Method 9 opacity test does require certification to perform this test.

EPA Comment on Permit Conditions 2.20, 4.8, 4.13, 4.21-4.23 (From Table 1)

Condition 2.20 does not contain MRR requirements specific to Venturi Scrubber (VS1), Vent Gas Cleaning Tower (ST1), or Vent Gas Steam Condensation Tower (CT1) used to control emissions from the Autoclave.

Condition 2.20 contains a requirement to describe the schedule for taking corrective action if visible emissions are present, but does not mandate any specific corrective actions.
NESHAP Subpart EEEEEE contains detailed MRR requirements at 40 CFR 63.11646(a)(8)-(10), including maintenance and calibration requirements. However, Condition 4.21 does not require maintenance or calibration in accordance with NESHAP Subpart EEEEEE, only installation in accordance with NESHAP Subpart EEEEEE.

IDEQ Response

Permit condition 4.13 contains the requirements to install, operate, and maintain venturi scrubber (VS1), vent gas cleaning tower (ST1), vent gas steam condensation tower (CT1), and carbon filter (CA5) systems in accordance with the O&M manual (Permit Condition 2.20) and consistent with manufacturer's recommendations.

As described in the previous response, Permit Condition 2.10 requires a facility-wide inspection of potential sources of visible emissions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission the permittee is to take appropriate corrective action as expeditiously as possible and/or perform a Method 9 opacity test in accordance with IDAPA 58.01.01.625.

The detailed MRR requirements contained in NESHAP Subpart EEEEEEE will be included in the required Title V operating permit that the facility will apply for within 12 months of operation. All of the requirements of Subpart EEEEEEE are incorporated into the permit by reference in Permit condition 2.22.

EPA Comment on Permit Conditions 2.20, 5.11-5.16 (From Table 1)

Condition 2.20 does not contain any specific minimum requirements for water sprays. Thus, the permit lacks sufficient MRR for these conditions.

IDEQ Response

As described previously, Permit condition 2.6 contains the requirements that water sprays must be used for control of fugitive dust. Permit condition 3.12 contains the requirement that the permittee shall install, operate, and maintain water sprays in accordance with the O&M manual (Permit Condition 2.20) to control PM emissions from each ore processing crusher and conveyor. Water sprays shall operate according to the FDCP when this equipment is operated to ensure compliance with Fugitive Dust requirements (Permit Conditions 2.1–2.6).

EPA Comment on Permit Condition 5.3 (From Table 1)

The permit does not contain any requirements to calculate emissions to demonstrate ongoing compliance with these emission limits. The permit does not contain any formulas, data reduction methods, or periodic calculation requirements to demonstrate continuous compliance with these emission limits.

IDEQ Response

The monitoring and recordkeeping requirements to demonstrate compliance with the emission limits listed in Permit Condition 5.3 are contained in Permit Conditions 5.17 through 5.26.

EPA Comment on Permit Conditions 5.17-5.26 (From Table 1)

Same evaluation as Conditions 3.16-3.20. (This condition lacks specificity with respect to the scale used to determine the weights of materials, particularly daily ore loading conditions in 3.16-3.20. In order for these daily limits to be practically enforceable, the permit must contain monitoring, recordkeeping and reporting of total daily weights of ore. This necessitates use of an accurate scale. Condition 2.20 does not mandate the use of any particular scale, or that the permittee maintain the scale within a certain percent accuracy. Without these minimum conditions in Condition 2.20, IDEQ has limited grounds to disapprove an O&M Manual that allows for inappropriate or inaccurate scales. See the regulation at 40 CFR 63.11646(a)(8)-(10) for detailed requirements for the measuring and recording of weights.

Neither Condition 2.20 nor Conditions 3.16-3.20 contain required calculations for summing daily weights to demonstrate continuous compliance.)
In its response to comments, IDEQ stated that the permittee will use a weighometer to measure weights. While this may be true, no condition in the permit requires the use of a weighometer.)

IDEQ Response

As stated in a previous response, in Permit Condition 2.20, the requirements for the O&M manual, it specifically states to describe each monitoring device and methodology used to measure weight rates of materials to demonstrate compliance with each material throughput limit (Permit Conditions 3.5–3.9, 4.8–4.11, and 5.4–5.8). Procedures for proper installation, calibration, and maintenance shall be included. In Permit condition 2.21, the O&M manual shall be submitted for approval to DEQ 30 days prior to startup. Any changes to the O&M manual shall also be submitted for DEQ review, comment, and approval 30 days prior to the change. As stated in Permit Condition 2.20, the requirements in the O&M manual are incorporated by reference into the permit and are enforceable.

Permit Conditions 5.17 through 5.22 all include the specific language that the devices and methodologies used to measure weights shall be identified in the O&M Manual.

EPA Comment on Testing Ore Processing and Lime Production

EPA's Evaluation: In addition, the Permit does not require testing for the ore processing or lime production emission units to confirm the accuracy of emission factors. As discussed above, IDEQ used inaccurate emission factors to derive production limits for ore processing and lime production emission units. In its RTC, IDEQ acknowledges the uncertainty present in emission factors. However, IDEQ did not require initial or routine testing to confirm the accuracy of the emission factors used to establish production and emission limits. Given the low quality of the emissions factors used, such testing is critical to ensuring the adequacy of the synthetic minor limits. However, the Final Permit does not require any testing.

Given the absence of sufficient MRR requirements for the corresponding production limits, emission limits, and control equipment requirements, many of the synthetic minor emission limits are not enforceable as a practical matter.

IDEQ Response

The emission factors used in the ore processing and lime production are from AP-42 Sections 11.19.2 and 11.17. These emission factors are for fugitive emissions that are either uncontrolled or incorporate water sprays. Requiring a source test on ore processing and lime production emission units when they are fugitive in nature is not practical or reasonable.

IDEQ contends the permit does require sufficient monitoring, recordkeeping and reporting (MRR) to ensure the production and emission limits are enforceable as a practical matter. The purpose of the O&M manual is to ensure that the permittee has a detailed manual for complying with the PTC conditions for all sources and control devices. The PTC conditions for monitoring, recordkeeping, and reporting makes PTE limitations enforceable as a practical matter. The O&M manual, along with other plans such as the Fugitive Dust Control Plan (FDCP), Haul Road Capping Plan (HRCP), and Access Management Plan (AMP), will be posted to IDEQ's website with the final permit and statement of basis when completed.

EPA Allegation 2. The SGP, as permitted, will cause or contribute to a violation of the PM10 NAAQS

EPA Comment 2a. Unsubstantiated estimates of fugitive dust control

EPA, as well as several other commenters, questioned the basis for IDEQ's determination that PRI could achieve a 93.3% control efficiency to control fugitive dust from haul roads at the SGP. Specifically, EPA commented that IDEQ did not provide a reasoned analysis demonstrating that the studies showing that 90% control efficiency is achievable using magnesium chloride reflect conditions at the SGP. EPA also commented that IDEQ did not include specific details necessary to support such a demonstration in the permitting record.[32]

In its RTC, IDEQ responded stating that 93.3% is an aggressive level of control and that PRI has committed to undertaking all measures to achieve this level of control. IDEQ further stated that, based on a review of test studies, the 93.3% level of control can be achieved using water and magnesium chloride dust suppressants (citing PRI's application). IDEQ explained that chemical and water dust suppressants are used in combination for the control of dust from haul roads, and that achieving the target combined control efficiency of 93.3% is ultimately important to ensure compliance with applicable standards. According to IDEQ, it is for this reason that the combined control efficiency was listed in the permit in lieu of separate chemical (90% control) and water (33.3%) dust suppressant control efficiencies.[33]

IDEQ's responses do not adequately address EPA's comments. IDEQ did not proffer further evidence that conditions at the SGP are comparable to areas where studies indicating a 90% control efficiency on fugitive dust is achievable. Even so, these studies do not support IDEQ's contention that a control efficiency of *93.3%* is achievable. Ultimately, IDEQ appears to have back-calculated the control efficiency necessary to demonstrate NAAQS compliance, rather than determine a control efficiency that is achievable in practice.[34]

IDEQ Response

The EPA allegation that IDEQ has back-calculated the control efficiency necessary to demonstrate NAAQS compliance is simply unfounded and presumptuous. As answered in the Response to Comments, IDEQ relied on chemical (90% control) and water (33.3%) dust suppressant control efficiencies.

The 90% chemical control efficiency is found to be both achievable and conservative based on EPA's AP-42 13.2.2 referenced test reports, which show that a chemical dust suppressant alone can achieve 90 to

99% control efficiency for PM_{10}. The control efficiency of 33% for watering was found to be both achievable and conservative based on EPA's AP-42 Section 13.2.2, which states 95% control for increasing the surface moisture by only 1%. The AP-42 section contains no discussions regarding potential parameters or other aspects of unpaved roads that must be quantified for the purpose of estimating the control efficiency from chemical suppressants.

An exhaustive review was conducted based on the best available information. The references listed in Appendix G, Table 10 from the EPA's own RBLC database were provided as additional supporting information of approved control technologies and control efficiencies. The references illustrate that a control efficiency of 90% is achievable by treating unpaved roads with chemical suppressant in various states.

Listed Facilities in Appendix G, Table 10
AK Donlin Gold Project AK-0084
AR Turk Power Plant AR-0094
CO Rio Grande Portland Cement Corp. CO-0043
IN Nucor Steel IN-0034
LA Nucor Steel Louisiana LA-0239
MO Lafarge Corp. MO-0048
NV Sloan Quarry NV-0045
NV Nellis Air Force Base NV-0047
OH Unlimited Concrete OH-0126
OH Unlimited Concrete OH-0131

A permit issued within EPA Region 10, The Alaska Donlin Gold Project highlighted above, specifically uses a 90% control efficiency for chemical suppressants with additional control for water (precipitation) in the emission factor equation for unpaved roads which similarly reflects a 93.3% control efficiency. In reviewing EPA's comments on the recently issued permit (7/1/2023), EPA did not submit a comment regarding the control efficiency of water and chemical suppression used for the project. EPA did comment that the annual precipitation correction factor is not appropriate for 24-hour PM_{10} assessments. Alaska DEC responded that "Donlin applied corrective factors in estimating their PM-10 impacts to account for the use of both chemical dust suppression and watering of unpaved roads. They indicate that a single corrective factor of 35-percent was observed to address surface watering by both naturally occurring precipitation and direct-mechanical application. The net reduction in estimated short- and long-term PM-10 impacts attributable to assumed chemical and wet suppression together is greater than 90-percent." In addition, Alaska responded with "A review of literature, however, suggests that watering may be assumed to ensure greater than 90-percent control efficiencies, with other conditions remaining the same. Assumed control efficiencies are likely to rise when taken in context along with the contemporaneous use of environmentally persistent chemical dust suppressants. It is worth noting that Table 13.2.2-2 of AP-42 Section 13.2.2 indicates nearly 95-percent of control from watering is realized with a surface moisture content of approximately 2.5-percent."

IDEQ seeks to apply a control efficiency that can actually be achieved, reflects the permit application, and can demonstrate compliance with the PM_{10} NAAQS. After a thorough review of the background materials, RBLC database, and AP-42 guidance, along with the administrative record, IDEQ contends that a 93.3% control efficiency along with a robust FDCP is achievable.

EPA Comment 2b. Underestimation of Fugitive Dust Emissions

With respect to demonstrating NAAQS compliance, EPA commented that IDEQ's use of a median silt content of 4.0% underestimates fugitive dust emissions from haul roads. EPA commented that the arithmetic average silt content for haul roads based on Perpetua's site-specific data is 4.3%. Use of the

4.3% average value results in about 7% more fugitive dust emissions from the haul roads than estimated using the median value. IDEQ's modeling sensitivity study showed values just below the NAAQS, such that an 7% increase in fugitive dust from haul roads would have resulted in 24-hour PM_{10} NAAQS violations.[35]

In response, IDEQ stated the use of site-specific median values for silt content is commonly accepted by IDEQ, and the values used in calculations were supported by PRI.[36] This response does not adequately justify why a median value rather than the arithmetic average is more appropriate taking into consideration the site-specific sampling. Given that a small difference in the silt content will result in an exceedance of the NAAQS, IDEQ's insistence on using a median silt content appears arbitrary and unreasonable and indicates that PRI has not demonstrated that the emissions will not cause or contribute to a NAAQS violation. On the contrary, operation of the SGP will likely cause or contribute to a violation of the PM_{10} NAAQS.

IDEQ Response

The median value of silt content of 4% was determined to be appropriate and representative for the unpaved road emission factor equation. This value is slightly more conservative than the geometric mean of 3.5% and similar to the arithmetic mean of 4.3%. The geometric mean and arithmetic mean both round to 4%, consistent with the precision of the raw data. In general, the arithmetic mean is used when the data has a normal number of distributions which have a low amount of outliers. The median is used to return the central tendency for skewed number distributions. With the silt data at SGP being skewed, it is appropriate to use the median value. EPA has routinely used median, geomean, and arithmetic mean in analyzing environmental data. For example, EPA's AP-42 Section 11.9, Western Surface Coal Mining, recommends the use of the geometric mean for silt content.

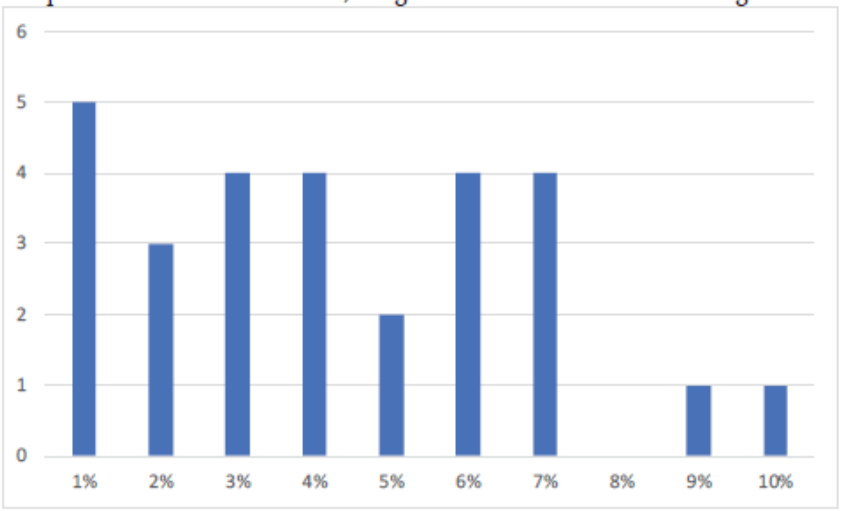
As described in Appendix A (page 336) of PRI's application: The silt value is derived from site-specific soil data: a geomean of 3.5% and a median value of 4.0% (Midas Gold 2015). As noted in the background documentation for EPA AP-42 Section 13.2.2, EPA uses the geomean to average environmental measurements, as these measurements vary widely and do not yield a normal distribution curve (MRI 1998) (MRI 2006); however, this application uses the higher median value for a more conservative estimate. Below is a capture of PRI's silt data.

Soil Resources Baseline Study (Midas Gold 2015)
Stibnite Gold Project
Midas Gold, Inc.
Apr-2015

	<#200
PT1-1019	2%
PT1-1042	7%
PT1-1062	10%
PT1-1080	3%
PT1-1096	3%
PT1-1107	7%
PT1-1121	4%
PT1-1154	7%
1174	3%
1196	1%
1407	2%
1420	5%
1676	6%
1685	7%
1698	6%
1433	1%
1475	6%
1522	4%
1530	1%
1549	1%
1554	1%
1577	4%
1912	9%
1931	6%
1948	4%
1956	2%
1978	5%
1992	3%
Median	4.0%
Count	28
Geomean	3.5%

Frequency Distribution	
1%	5
2%	3
3%	4
4%	4
5%	2
6%	4
7%	4
8%	0
9%	1
10%	1

Graph illustrates skewed dataset; use geomean or median for the average silt.



Applying a median silt content value of 4.0% is neither arbitrary or unreasonable. After a thorough review of the background materials and statistical analysis, along with the administrative record, IDEQ contends that a 4.0% silt content value is reasonable and conservative.

EPA Comment 2c. Lack of Conditions to Ensure Continuous Compliance with PM_{10} NAAQS

EPA, along with several other commenters, commented that the permit lacks conditions sufficient to ensure continuous compliance with the PM_{10} NAAQS. Specifically, EPA raised concerns with the adequacy and practical enforceability of the Fugitive Dust Control Plan (FDCP). Specifically, EPA raised concerns that the permit did not contain specific conditions necessary to ensure continuous compliance with the 93.3% control efficiency, but rather allowed the permittee to develop these conditions as part of an FDCP after permit issuance and allowed the permittee to change the FDCP without IDEQ approval. EPA also commented that the permit lacks conditions necessary to make the 93.3% control efficiency

practically enforceable, such as frequency of dust suppression, requirements for when to use chemical dust suppression, amount of dust suppression that must be applied, vehicle weight, vehicle speed, vehicle daily miles traveled, and road silt content.[37] With respect to Condition 2.5 requiring PRI to apply fugitive dust control measures such that visible emissions are below 10% opacity, EPA also commented that permitting record does not support a correlation of the 10% opacity requirement in Condition 2.5 with a 93.3% control efficiency.[38]

In response to these comments, IDEQ updated permit condition 2.8 to require IDEQ approval of the FDCP 30 days prior to startup and after any subsequent changes. IDEQ also responded that the permit contains activity rate limits that serve as surrogate limits for fugitive sources. IDEQ also stated that it typically does not include vehicle speed, type, and miles traveled in permits. IDEQ also asserted that Conditions 2.1-2.6 contain the minimum requirements for the contents of the fugitive dust plan.[39] Finally, IDEQ responded that "An instantaneous 10% opacity limit for vehicle traffic on haul roads is considered a very conservative control trigger level to ensure that an appropriate control measure is taken to reasonably control emissions of fugitive dust (Permit condition 2.5)."[40]

These responses do not fully address EPA's comments with respect to the practical enforceability of emission limits necessary for NAAQS compliance. Condition 2.8 does not require that IDEQ approve the FDCP prior to startup, only that the permittee submit the FDCP 30 days prior to startup. Similarly, Condition 2.8 does not clearly require IDEQ approval of FDCP changes prior to the permittee making the changes.

Conditions 2.1 through 2.6 are insufficient to ensure the permittee achieves 93.3% fugitive dust control efficiency on haul roads. First, the permitting record indicates that application of magnesium chloride is necessary to achieve up to 90% control of fugitive dust. However, Conditions 2.1 through 2.6 do not require the permittee to use magnesium chloride for dust suppression. Rather, Condition 2.6 merely requires that the FDCP contain reasonable precautions including: "apply water or suitable dust suppressant (e.g. magnesium chloride, calcium chloride) to disturbed areas, haul roads, equipment staging areas, parking areas, and storage piles during the dry season and at other times as necessary to control fugitive dust." Moreover, magnesium chloride degrades over time. However, the permit does not require the permittee to reapply magnesium chloride at regular intervals.

Similarly, IDEQ assumed a combined control efficiency of water and chemical dust suppression to achieve 93.3%. However, Conditions 2.1 through 2.6 contain no explicit requirements that the permittee use both water and chemical dust suppression in a manner necessary to achieve the 93.3% control efficiency. Magnesium chloride does not perform as a dust suppressant in dry conditions. Therefore, supplemental watering will be necessary. However, the permit does not require supplemental watering to ensure the magnesium chloride performs as a dust suppressant.

With respect to vehicle weight and vehicle miles traveled, compliance with the NAAQS is dependent on vehicle miles traveled staying at or below 7,758 per day.[41] However, the permit contains no such limit. IDEQ also did not make clear how the activity limits, including Condition 2.4 (Blasting Limits) and Condition 3.5 (Daily Hauling and Excavating Limits), would necessarily restrict vehicle miles traveled to at or below 7,758 per day. There are no requirements or restrictions on the manner the permittee uses the haul roads.

Regarding the silt content, the permit does not contain conditions to ensure the silt content on haul roads remains at or below 4%. Condition 3.13 contains the minimum requirements for the Haul Road Capping Plan (HRCP). According to IDEQ, Condition 3.13 limits maximum silt content to 4.0%. This is not accurate. Condition 3.13 states that "The permittee shall use capping material with a maximum of 4.0% silt content." This condition does not require the permittee to maintain the haul road silt content to at or below 4.0%. Nor does the requirement account for mixing of the capping material with the base or wearing of the

cap over time. Condition 3.13 also contain no explicit sampling or compliance demonstration methods. Rather, Condition 3.13 allows the permittee to develop a "silt content sampling plan including standard operational procedure for sampling, frequency of sampling, and ASTM (or equivalent) method of analysis for silt content."

Finally, IDEQ's response to EPA's comment on the basis for the 10% opacity limit in Condition 2.5 does not provide additional basis for a correlation between opacity and the 93.3% control.

The permit contains no testing requirements to establish a correlation between fugitive dust control and opacity. Nor does the permit contain any specific method for determining opacity or the frequency or location of opacity observations.

IDEQ Response

The Fugitive Dust Control Plan (FDCP) as required by permit condition 2.6, states that at a minimum, the FDCP shall contain a list of all potential sources of fugitive dust emissions and reasonable precautions to minimize fugitive dust emissions with a bulleted list encompassed in the permit condition. One of the bullets is to develop specific criteria to determine what frequency and type (water and/or chemical) of dust suppressant must be applied, and appropriate suppressant application rates. Chemical dust suppressants shall be applied consistent with manufacturer's instructions and recommendations. Permit condition 2.5 is but one of the monitoring methods required to ensure effective dust control of the unpaved roads. The 10% opacity threshold is an aggressive threshold for prompting corrective action.

Permit condition 2.8 does require approval of the FDCP as stated: Copies of the FDCP and AMP shall be submitted to IDEQ for approval 30 days prior to startup at the address provided (Permit Condition 2.26) and shall remain onsite at all times. Any changes to the FDCP or the AMP shall be submitted to IDEQ for review, comment, and approval 30 days prior to the change.

Similar to the FDCP, the Haul Road Capping Plan (HRCP) is also a permit required plan and incorporated into the permit with some minimum requirements included in the permit as existing permit conditions with IDEQ approval. Permit Condition 3.13 includes the frequency of inspection of the haul roads and maintenance procedures. These maintenance procedures include the wearing of the haul roads over time which will be developed in the HRCP.

With respect to vehicle weight and vehicle miles traveled (VMT), the facility and IDEQ have modeled a very conservative scenario of 20 CAT 789D trucks and 12 CAT 740B trucks with a weighted average of 182.6 tons. The daily hauling limit of 180,000 tons per day inherently limits the amount of truck loads per day and VMT. An analysis was done to ensure that the most conservative approach was taken. VMT was calculated by using the farthest distance that a truck will travel (3.07 miles between the West End Pit and the West End DR Storage Facility), the daily hauling limit of 180,000 tons per day, the payload of both small and large trucks, and the number of large and small trucks throughout the life of mine. Actual VMTs will decrease over time as mining locations change. When increasing the number of large trucks, emissions decrease and when increasing the payload for both large and small trucks, emissions decrease ensuring that the most conservative approach was used in the analysis for SGP. Therefore, specific VMT limits do not need to be placed in the permit nor is this a common practice in IDEQs evaluation of all other gold mine permits in Nevada and Region 10.

IDEQ contends that the permit as issued ensures continuous compliance with the PM_{10} NAAQS with the development of a IDEQ approved FDCP and HRCP. Both the FDCP and the HRCP are practically enforceable and incorporated into the permit as enforceable requirements.

EPA Allegation 3. Neither the permit record nor permit conditions demonstrate that the entirety of the SGP ought to be excluded from the scope of "ambient air."

"Ambient air" is defined as that portion of the atmosphere, external to buildings, to which the general public has access."[42] General public includes "any person(s) other than those who are permitted access to the property as employees or business invitees of a specific stationary source (including trespassers)."[43] EPA interprets access to encompass two key concerns: legal access and physical or practical access.[44] Legal access concerns whether the general public has the right or permission to enter a specific property. Physical access addresses whether the general public is able to, under actual circumstances, enter a particular parcel of land. In order to preclude physical access to a parcel of land, the source must employ measures, which may include physical barriers, that are effective in precluding access to the land by the general public.[45] Such measures can include video surveillance, monitoring, clear signage, and routine security patrols.[46] Measures can be effective even if there is not 100 percent certainty that they will prevent public access.[47] Measures must be reasonable taking into consideration the nature of the measure used, source location, type and size of source and property to be excluded, and surrounding area.[48]

EPA Comment 3a. Legal Right to Exclude General Public

As stated above, legal access concerns whether the general public has the right or permission to enter a specific property. IDEQ asserts in the SOB and RTC that PRI has "complete and sole authority to control access to or through the facility, granting access at their discretion to anyone wishing to visit the site or pass through the site."[49] Neither the SOB nor the RTC, however, evaluate PRI's claims. In light of the fact that the SGP encompasses the East Fork South Fork Salmon River and is located within National Forest lands, the permitting record ought to contain a more thorough evaluation of PRI's legal authority and members of the general public's right of access to the SGP area of operations.

IDEQ Response

IDEQ's standard practice is to review asserted conditions and proposed methods, data, and procedures in the permit application to a degree that ensures that the general public are not exposed to unacceptable levels of air pollution, and then to establish requirements that reasonably assure implementation of those methods. It is not IDEQ's standard practice to verify all details of an applicant's assertion of property rights in a permitting action unless there are questionable claims and those claims are key to ensuring NAAQS compliance. PRI asserted in their permit application that modeling receptors were included in all areas that could be considered as ambient air. Although the application focused on roadway and trail access because of the unique circumstance these represent, IDEQ's upcoming review of the permit-required Access Management Plan (AMP) will provide for a more detailed assessment and ultimate assurance of both the legal and practical ability to preclude public access from all areas excluded from ambient air. Considering the quantity and characteristics of potential emissions, the conservatism of analyses supporting permit issuance, and the probability for public exposure to air pollutant levels in excess of NAAQS for a duration that endangers health and safety, IDEQ strongly disagrees with EPA's criticism that the permitting record ought to contain a more thorough evaluation of PRI's legal authority to preclude public access to the site. Perpetua asserted in their permit application that modeling receptors were included in all areas that could be considered as ambient air. Although the application focused on roadway and trail access, IDEQ's review of the permit-required Access Management Plan (AMP) will provide a more detailed review of both the legal and practical ability to preclude public access from all areas excluded from ambient air.

EPA Comment 3b. Measures to Exclude General Public as a Practical Matter

EPA commented that the permit lacks conditions to ensure PRI employs sufficient measures such that the entirety of the SGP is appropriately excluded from the definition of ambient air. Specifically, EPA raised

concerns that the general public may be able to access the SGP, regardless of their legal right to do so.[50] The basis for EPA's comment was that the permit does not contain specific measures the permittee will take to exclude members of the public from the SGP. Rather, the permit allows the permittee to develop an Access Management Plan ostensibly designed to exclude members of the public. In response, IDEQ asserted that Condition 2.7 contains the requirements for the ACP, including adequately informing anyone approaching an access point that travel beyond the established gate involves entering an active mine site as a guest of the permittee and providing verbal and written requirements that must be followed while on the SGP site.[51] The SOB also states that the primary and secondary access points are controlled by adjacent natural features, such as streams and creeks, steep topography, and areas of thick vegetation and undergrowth.[52] In addition, the SOB states that PRI will place boulders across trails and adjacent to the train to prevent vehicle access.[53] Finally, according to the SOB, PRI security personnel will routinely patrol mine facilities and roadways for unauthorized individuals.[54]

IDEQ's responses and statements in the SOB do not adequately address EPA's concerns. As permitted, the general public will likely have physical or practical access to portions of the SGP. The SGP operations area boundary covers 2,372 acres of land within the Payette and Boise National Forests. The SGP is located in Valley County, Idaho. The nearest settlement is the village of Yellow Pine, Idaho, approximately 14 miles by road.[55] The Payette National Forest includes the Frank Church River of No Return Wilderness. The Salmon River runs through the Payette National Forest. The SGP is surrounded by numerous recreation areas in the Payette and Boise National Forests.[56] National Forest roads 374, 440, and 640 provide vehicle access to the site.[57]

Given the scale of the SGP, proximity to recreation opportunities, and multiple access points, the permittee should employ multiple measures to preclude public access. However, condition 2.7 is vague and leaves the permittee considerable latitude on the methods used to exclude members of the general public. While the SOB indicates that placement of boulders on secondary roadways is necessary to prevent access, Condition 2.7 contains no such requirement. Also, Condition 2.7 does not specify a minimum patrol frequency or minimum signage requirements. Nor does Condition 2.7 require the permittee to post or monitor the vast operations boundary to effectively preclude recreators from entering the site. Condition 2.7 only requires the permittee to employ measures to "discourage" access to secondary roadways and trails. This does not meet the standard to effectively exclude members of the general public. Similarly, EPA questions whether the entire boundary surrounding the operations area incorporates natural features that preclude access. Given the numerous recreational opportunities in the surrounding wilderness areas, access by recreators off trail appears possible. Therefore, the Final PTC does not ensure that the entirety of the SGP is appropriately excluded from the definition of ambient air. This implicates IDEQ's determination that the SGP will not cause or contribute to a violation of the PM_{10} NAAQS.

IDEQ Response

Perpetua has certified in their permit application materials their legal authority to preclude public access to areas excluded from ambient air. This certification by the applicant establishes the air impact analyses supporting issuance of the PTC. To ensure adequate measures are in place to effectively preclude access to areas excluded from ambient air, the PTC requires submission and approval of an Access Management Plan (AMP). Adequacy of measures will depend on the following factors: 1) likelihood of the public to attempt access; 2) physical ease of access; 3) potential for specific area to expose the public to impacts exceeding NAAQS or TAP increments; 4) extent to which the area is obviously not public; 5) effectiveness of access preclusion measures taken.

The IDEQ Ambient Air Quality Impact Analyses Review Memorandum (Modeling Review Memorandum), included as Appendix B of the IDEQ Statement of Basis, provides a description of general measures that will be taken to preclude public access. This description will guide the development of the AMP. The Modeling Review Memorandum lists the following measures:

- Primary Access Points: The Stibnite Road (north) and Burntlog Route (south) access points will include locked gates. Guard shacks will be located at each gate to monitor all vehicle ingress/egress. Each gate also will include appropriate adjacent barriers (i.e., fencing, bollards, boulders, or other barriers) to prevent any vehicle from circumventing the gate and gaining site access. These primary access points are also controlled by adjacent natural features, such as streams and creeks, steep topography, and areas of thick vegetation and undergrowth that serve as natural barriers or impediments to access.

- Secondary Access Points: Other potential access points, such as secondary roadways and trails, will include posted signs warning the public against entry into the site. At these locations, boulders will be placed across the trail and at an appropriate width adjacent to the trail to prevent any vehicle from circumventing the barrier. These secondary access points also incorporate adjacent natural features, such as streams and creeks, steep topography, and areas of thick vegetation and undergrowth that serve as natural barriers or impediments to access. Some mine features, such as the TSF and process plant areas, will include perimeter fencing.

- Surveillance: PRI security personnel will routinely patrol mine facilities and roadways for unauthorized individuals. In addition, all onsite personnel will be trained on the necessity of restricting public access to areas within the operations boundary. Any suspected trespassing by unauthorized individuals will be reported immediately to security, and trespassers will be escorted off the site.

The Modeling Review Memorandum also provides general measures to manage access through the site on the Stibnite Road access route, stating the following:

Persons wishing to traverse the SGP site on the Stibnite Road access route will be required to check in at the security gate to receive a safety briefing and to alert mine staff of their presence. Travelers will be required to check out upon exiting the site to ensure passage through the site in a safe and timely manner. Travelers will not be allowed to stop or loiter while traveling though the operations area. Along its full length, the Stibnite Road access route would have appropriate signage to direct travelers and would be separated from mine haul roads and areas of mine operations by fencing, berms, or gates to prevent travelers from straying from the route. When possible and to the degree practicable, anticipated public access restrictions will be communicated to the public in a timely manner so that they may plan appropriately.

The Access Management Plant will be developed and approved by IDEQ prior to mining operations. It will establish more detailed methods and procedures to manage and monitor access to the site at an appropriate level to preclude public access to areas exclude from consideration as ambient air.